IRAS

Human Meaning in a Technological Culture

Program and Schedule

Institute on Religion in an Age of Science

48th Annual Star Island Conference, July 28 to August 4, 2001

CONFERENCE STATEMENT

Human Meaning in a Technological Culture

We live in a technological culture. Our identities, our responsibilities, the communities we belong to, our hopes, dreams, and nightmares are shaped by rapidly evolving technology. This conference explores how our technologies, especially information technology and biotechnology, affect our visions of meaningful human life. What is it to be human if we are dependent upon (or in the service of, or even replaced by) a web of technological artifacts and systems? What concepts of "the natural" and "the sacred" are invoked by the accusation of "playing God?" In what ways will our religious and humanistic traditions be transformed? What drives apocalyptic and utopian expectations? Whereas discussions on technology often concentrate on ethical issues, this conference will be unique in exploring and evaluating how these powerful technologies redefine, for better and for worse, human identity and meaning, as well as ideas about reality and God.

WELCOME TO STAR ISLAND!

Whether you are new here or an "Old Shoaler", I am so glad that you have come to IRAS's 48th conference on Star Island.

I won't be the only one to point out that there might be something incongruous about reflecting on a technological culture here; and yet, is there? The low tech aspects of our island living are more obvious than the high tech ones, for it is the former that modify our usual routines.

We learn to be careful about from which faucet we drink, about the danger of naked flame, and some must discover how to fill in the hours without television. Ah! Perhaps the small challenges of living on Star Island will be quite helpful to our reflections on the conference theme. I hope you find this so and actually come to enjoy the island lifestyle -- for a week!

There is another, obvious resource for reflecting on our conference theme: each other. The input from invited speakers and the leaders of workshops is certainly vital to our reflections, but so is the opportunity to find "human meaning" through understanding each other's embodiment of this. So I welcome casual sessions on the porch and over mealtimes, and I trust you will too.

Then there is the peace of an island 10 miles out to sea. Even with seemingly so many people on so small a plot, there are spots to enjoy solitude and to find inspiration and creativity. We can renew our inner resources for another year.

So, I wish you a wonderful week, in whatever way suits you best. Do let me know if I can help you enjoy it more thoroughly.

Chris Corbally

Christopher Corbally, S.J.
President of IRAS

Contents

ORIGIN AND PURPOSE OF IRAS

In the late 1940s 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 Szantho 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: at universities and theological schools, and at meetings of 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. IRAS, the Center for Advanced Study in Religion and Science (CASIRAS--successor to CASTS), and Rollins College became 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 (renamed the Zygon Center for Religion and Science in 1999). During the past quarter century, *Zygon* has been the chief international voice for the scholarly community in science and religion, and has greatly strengthened 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.

IRAS is a non profit membership organization. Governance is by a volunteer Council whose members are elected from the entire membership. New IRAS members and tax-deductible contributions are always welcome.

IRAS ON STAR ISLAND

Star Island, first settled by Captain John Smith in the early 1600s, is situated in what was known as the best fishing grounds in the Colonial world. Today one can still see the lobstermen setting their traps. A small museum and island tours allow one to recapture this early human history; and tours of the local flora and fauna, tide walks, and a marine biology lab help one appreciate the local environment.

Because it is ten miles off shore from Portsmouth, New Hampshire, Star Island's temperature is usually ten degrees cooler than on the mainland. It thus became an ideal resort setting for one of the premier late-nineteenth century hotels on the east coast. Today the hotel, along with several cottages and motel-type units, is a conference center run by the Unitarian-Universalist Association and the United Church of Christ; these two religious organizations have formed the Star Island Corporation. Although IRAS is not affiliated with any particular religious organization, we have enjoyed the hospitality of the Star Island Corporation since our first IRAS conference in 1954.

The nineteenth century hotel and other facilities provide both the charm and the amenities of that period. Rooms are provided with wash basins and water buckets, and in most cases the toilet is down the hall. The Star Island management and its staff of mostly college students--called Pelicans--are first rate in meeting the various needs of guests from infants to octogenarians. A highlight of the week is the Pelican Talent show--a delightful "extra" from the hard-working staff. And in recent years IRAS conferees have returned the favor with their own talent show on the final night of the conference.

Star Island and other islands in the Isles of Shoals are excellent examples of the rocky New England coast. There are no roads, no cars, no bicycles, no TVs, and one public phone. (A cellular phone, 603-534-2190, is for emergencies only.) But there are rocks, bushes, grasses, nesting sea gulls, crashing ocean waves, sometimes fog horns, and sometimes crystal clear night skies to explore through telescopes with some of our professional astronomers (IRAS's first president was astronomer Harlow Shapley). There are opportunities for swimming, rowing, tennis, and ballroom dancing. And the Star Island Book Store and Gift Shop offer books related to the conference theme and other items to remember the week on the island.

Then there are the people who come to IRAS conferences--more than 200, from a variety of academic and professional fields as well as many well-educated "lay persons." Many belong to IRAS, which has about 300 members. Others come because they are interested in how liberal religion relates to science and in the particular topic. There is active dialogue in lectures, discussion groups, conversation on the porch overlooking the harbor and on the rocks, and at the social hour before dinner. For those interested, there are opportunities to meditate and worship together in the stone chapel on a high point of the island, at the gazebo, or in the reflective evening candlelight services.

Those who have been coming for a long time to IRAS conferences believe that the natural setting, the island history, and the people provide a unique opportunity for rigorous meaningful dialogue regarding religion and values in relation to contemporary science.

GENERAL CONFERENCE INFORMATION

Plenary session lectures and discussion are scheduled in the *morning* (starting at 10 am) and *evening* (starting at 7:30 pm). The speakers will develop the theme of the conference as they address different issues and questions from their own disciplines and perspectives. The porch bell will be rung (a single stroke) five minutes before the beginning of the morning and evening sessions, at 9:55 a.m. and 7:25 p.m. We hope this advance warning will enable everyone to reach his/her seat in time to allow a prompt start at 10:00 a.m. and 7:30 p.m.. A coffee/hot chocolate/bouillon break is scheduled for 10:55 - 11:15 a.m. each morning. When you hear the bell at the end of this break, please return quickly to the auditorium. *Afternoons* offer a variety of optional concurrent activities.

The **IRAS seminar** this year will be on the manuscript *Darwin and Design* by Michael Ruse. It will be on Monday and Tuesday, 1:40 to 2:40 pm. Further information may be found on page 15.

"Free University" sessions, from 1:40 to 2:40 pm each day except Thursday, provide conferees with an opportunity to present their ideas and discuss them with others. We expect that some conferees will, as in past years, volunteer to conduct these sessions, which will be announced in the *Star Beacon* and posted on the chalkboard. For those planning to organize a free university session, please check with Nancy Anschuetz the day before for a space assignment and, after doing so, give a written note to Jilana Ordman, editor of the *Star Beacon*.

Workshops and **Discussion Groups** will be offered during the afternoon from 2:50 to 3:50 and 4:00 to 5:00 pm. Leaders and workshop locations are listed in the schedule on the back page of this program booklet, and workshop descriptions are on pages 16 to 24.

"**Happy Hour"** takes place at the end of afternoon activities, from 5:30-6:30 pm. We gather informally in Newton Centre for an hour of libations, snacks, and socializing. Contributions to cover the cost are needed and appreciated. The Happy Hour in Newton Centre on Tuesday will be a reception sponsored by IRAS and Zygon. It will be an opportunity to learn more about IRAS and Zygon as well as to enjoy an hour of free libations, snacks and socializing. Newcomers are especially welcome. Oldtimers will be there to welcome you.

Recreation: Afternoons are also opportunities for recreation: talking, thinking, napping, reading, walking, and playing. You can visit the Marine Laboratory of the University of New Hampshire on Appledore Island on Monday afternoon. (Please sign up at the front desk in advance – the boat capacity is limited.) Various tours by the Star Island staff will be announced or posted.

Swimming: The hardy (or masochistic) can enjoy a polar bear swim each morning.

Special meals: There will be a traditional lobster dinner on *Wednesday* (tickets *must* be purchased by Monday noon). The traditional IRAS banquet will be on *Friday*.

Shows: The Pelican show (organized by the Pelicans, the young people who do all the hard work to make our stay on Star Island so delightful) will be on Thursday evening, and the IRAS talent show on Friday. If you would like to participate in the Talent Show, especially if you have talent (this is an optional requirement — all hams are welcome), Bill Stone, the talent show coordinator, will be happy to hear from you.

Newspaper: The *Star Beacon* is an IRAS tradition. This conference newspaper will appear at breakfast each morning and will give you up-to-date information on the conference and its participants. It provides opportunities for you to respond to lectures and conference theme, challenge ideas, publish poetry, commentary, and other forms of artistic expression, including humor — all at the discretion of the editor and as space is available.

Candlelight services allow time for quiet reflection and winding down at the close of each day. These have been arranged by Betty Lau.

The **snack ba**r, open until 11 pm, is a favorite place for congregating and socializing after the candlelight service.

An informal **farewell party** will be held on Friday night. This will be an opportunity for final conversations with old and new friends in a pleasant, noisy setting before "packing up," and for using up any refreshing substances left over from the social hours.

For sharing a **bus** on Saturday morning at the end of the conference, from the dock to Logan Airport (Boston), please see Michael Cavanaugh.

Children must participate in the children's program unless Nancy Anschuetz receives a signed waiver.

Discrimination and abuse: The Star Island Corporation has requested that all conferences formulate guidelines for the prevention of child and adult discrimination and abuse. The IRAS Council has adopted such guidelines. Information about the policy is available from IRAS President, Chris Corbally.

If you have any questions or suggestions concerning the conference, please bring them up with Nancy Anschuetz, Wim Drees or Bruce Naylor.

ARCHI PELAGOS: IRAS CONFERENCE YOUTH PROGRAM

While parents cogitate, their children play, create, explore Star Island, and develop friendships under the guidance of professional teachers and counselors. Our goal is to enjoy together stimulating games, opportunities for creative expression, crafts, stories and song. Our hope is to deepen our connection with Star Island and each other. We explore marine biology and island flora and fauna directly out and about and in the science center with island staff. We row over to Smuttynose Island for a close-up of intertidal life and feast on fresh seaweed mussels on the beach. We have access to the island historian and marine lab assistants.

We meet each morning at 9:00 am in age specific groups until 12:15 pm. The morning session is structured with both energetic and quiet activities. Older groups integrate conference themes. This year's senior group is our largest ever with eighteen youths fifteen to seventeen. Many of these young adults have been attending the youth program its full six years. Afternoons are free and youth are under the supervision of parents and guardians until the social hour (5:15-6:15 pm).

Snacks are offered in the well house at the bottom of the front porch stairs at 5:00 pm. Choices for social hour include playground, juggling, field games, island exploration, a tea party and preparation for the dance and talent show.

Following supper we offer a sunset program (7:30-8:30 pm) featuring bonfires with singing and s'mores on Saturday evening, music (including a Wednesday evening dance), storytelling, mysteries and games, and our own chapel service on Thursday (8:00-8:30 pm). Parents and friends are requested to accompany their young children in these evening activities. The activities are thoughtfully but not rigidly prepared and inspiration is appreciated in this vibrant place where we discover and nurture our collective being.

After six years, many returning staff as well as children have found in Star Island a spirit home. We are grateful.

Sandra Woodworth, Coordinator

Archi Pelagos Special events

Saturday Evening:	Bonfire, down on rocks left of summer gazebo (bring flashlight)
Sunday, 8:30 am:	Youth photo
Tuesday, 4:40-6:20 pm:	Field games
Wednesday, 7:30-9:30 pm:	Dance in Brookfield — open to everyone!
Thursday, 8:00-8:30 pm:	Chapel service
Friday, 5:15-6:15 pm:	Talent Show in Brookfield

Please check the bulletin board on the porch for daily details and notices of changes or additions.

There will be a meeting for parents, children, and staff on Saturday at 5:15 pm in Brookfield, immediately after the Star Island Orientation Meeting. All parents with children in the Archi Pelagos program are required to attend.

IRAS expresses its gratitude to the Grants program of the Isles of Shoals Association (Unitarian Universalist) for support for the children's program. If this support inspires someone to consider supporting the children's program this year or in the future, feel free to speak to the IRAS treasurer or president. The program is very valuable to the children, and thereby to their parents who can come and participate, and thus via such participants and speakers to the whole conference. Hence, thanks to ISA (UU) and, in advance, hopefully, to all others who become inspired by their good example.

Willem B. Drees, Conference Co-chair

LECTURE ABSTRACTS AND BIOSKETCHES

SATURDAY EVENING

HUMAN MEANING IN A TECHNOLOGICAL CULTURE — AN INTRODUCTION

Willem B. Drees

ABSTRACT

The first evening introduces the conference theme and the speakers. Whereas many discussions in religion and science focus on *understanding* the ways in which the sciences enrich or threaten a religious understanding of the world (e.g. in sociobiology, design, cosmology, the evolutionary epic), sciences such as chemistry are also about *transforming* the world. It is this side of science, expressed in technology, that is the focus for the conference.

History: The technological attitude reaches at least as far back as the beginnings of the human species itself. Among the earlier stages one may think of tool making and the ability to make fire (millions – hundreds of thousands of years ago) and, since about 10,000 BCE, the rise of agriculture (potter's wheel, copper and iron, writing, wind mills). More recent is "the first machine age," marked by time keeping (medieval clocks) and printing, followed by the first intimations of automation in minting and the emergence of the factory system with more standardization. Recent stages may be distinguished, from an engineer's point of view, by the role of steam, the shift to the internal combustion engine (cars, planes), and the control of electrons and life processes – up to computers and biotechnology, the two main areas we will focus on in this conference.

Technology is machines, artifacts, devices, but it refers also to a physical and social infrastructure (no cars without roads, gas stations, and traffic regulations) and to skills. Attitudes may be technological, focusing on problems to be solved rather than as fate to be accepted. Technology is not a segment of culture; our culture is technological. Antibiotics and anti-conception have not only solved problems – they have changed relationships and experiences of finitude. Central heating and the refrigerator not only make food available; they change the structure of the family.

Three responses may be distinguished: optimism (technology liberates us from burdens, enhances communication, increases standards of living), pessimism (technology as a threat to authentic human lives, "enslavement to the machine"; often with a fatalistic "technological determinism"), and a contextual, constructivist view of technology as the work of humans. In this context, one may argue that utopian and dystopian visions which are primarily social in character (Thomas More; George Orwell's *Animal Farm*) are far more problematical than those that are technological in kind (Francis Bacon's *New Atlantis*; Aldous Huxley's *Brave New World*).

The impact of technology has two forms. It transforms reality, enhances our powers, etc., and it affects our views, including our self-images and religious images. Our image of God as "the great architect" changes. We humans find ourselves "under pressure" and need to "let off steam" on a remote island in the Atlantic.

BIOSKETCH

Wim Drees (1954) studied theoretical physics at Utrecht University in the Netherlands. While teaching physics and mathematics, he studied theology at Groningen University, completing a Ph.D. with an analysis of responses to modern cosmology, titled *Beyond the Big Bang Theory: Quantum Cosmologies and God* (Open Court, 1990). In 1987-1988 he lived one year in the USA as a Fulbright Scholar, dividing his time between CTNS in Berkeley and the Chicago Center for Religion and Science (now Zygon Center). He worked for over eleven years at the Vrije Universiteit in Amsterdam, organizing interdisciplinary projects, especially on philosophical, social and religious issues related to the natural sciences. As of 1995, he became part time professor at the University of Twente on the Nicolette Bruining Chair for philosophy of nature and of technology from a liberal-protestant perspective. Early 2001 he became executive director of ALLEA – ALL European Academies, the federation of 47 national academies of sciences and humanities from 38 European countries. As of September he will shift from administration to teaching and research as professor of philosophy of religion, ethics and encyclopedia of religion at Leiden University, the Netherlands. His publications include *Religion, Science and Naturalism* (Cambridge UP, 1996) and for a less academic audience, to appear late September, *Creation: From Nothing until Now* (Routledge, 2001). While one daughter, Esther, is away to an international summer camp, he assumes that two older children, Johannes and Annelot, will be out of his sight but on the island during the conference, while he enjoys the company of his wife Zwanet, a prison chaplain and mediator.

SUNDAY MORNING

THE REAL INTERACTIONS BETWEEN SCIENCE TECHNOLOGY AND SOCIETY

Rustum Roy

ABSTRACT

The "science-religion" dialogue, which has been through many cycles of boom and bust (in activity), is certainly in a boom cycle. But this dialogue should be appropriately set in the broader Science – Technology - Society (S-T-S) matrix.

Triggered by Jacques Ellul's "The Technological Society", and built on Robert Merton's academic insights in the thirties, "STS" which started as a kind of movement has evolved, with zero financial push, into an established, albeit anemic part of academia. It is the only possible, appropriate permanent base for "science and religion" in the pedagogical enterprise.

The author will describe the background and history and present status of STS, and of "science and religion" within it. Key points to be made are:

1. American (and most other) universities remain the most intellectually and structurally conservative institutions in

society. Interdisciplinarity is intrinsically rejected by this institution which is both still fervently disciplinary, and the last refuge for such separatism. Hence "STS" must remain an anomaly for some time.

2. Religion as a major component of society should be prominent in STS teaching and research but rarely is. The religious institutions as a whole have (along with the general population) remained illiterate and clueless about Technology and Science.

3. In spite of a federal intervention with roughly $ 1 billion extra money in the last 15 years for "science education", the general population remains incredibly ignorant of the absolute minimum of science. Yet these CEO's, Senators, Presidents manage life perfectly well, demonstrating the utter irrelevance of formal "science" to humanity.

These data will serve as the platform to separate clearly, the two separate interactions between "science and theology" on the one hand (for professionals in each) and "technology and religion" for a much broader (albeit limited) public clientele.

BIOSKETCH

Newsweek has described him as "the leading contrarian" among U. S. scientists. Rustum Roy is a practicing scientist who has studied and written critically about U. S. science policy *from the inside*. His criticisms of U.S. policy, regarded as far out a decade ago, are now called "prescient."

Rustum Roy is a leading *materials scientist*, author of over 700 papers, from glass ceramics to sol-gel technology to diamond films and nanocomposites and microwave and laser processing of materials. He is a member in the U.S. National Academy of Engineering and foreign member of the Swedish, Japanese, Indian and Russian National Academies.

Rustum Roy had been a champion of *interdisciplinarity and integrative learning*. In materials science and engineering, the prototype of interdisciplinarity in the science disciplines, Roy established degree programs and research and led the campaign to institutionalize "materials", e.g. by the establishment of a new professional society - *the Materials Research Society*. A decade later, Roy became the prime mover in the *Science, Technology, and Society (STS)* movement, which between 1970 and 1990, established itself on 100 university campuses and had a foothold in 2000 colleges and has successfully infiltrated into the K-12 system.

Since 1998 he has championed the scientific, social, and philosophical underpinning of complementary (or alternative) medicine. He founded and chairs 'Friends of Health', supporting what he has called: "Whole Person Healing", where he is actively studying its interface with science. Rustum Roy has helped start one of the oldest ecumenical house churches in the country, and was for 30 years on the board of the national ecumenical retreat center, Kirkridge. He chaired the National Council of Churches Committee on Science – Technology – and the Church in 1962. He has become a spokesman for a "radical pluralist" integration among the world's cultures and religions, including technology. He is as equally at home among the world's leading theologians, clergy and healing "gurus" as he is among scientists/engineers from industry or academe, and among social reformers or activists in entrepreneurial business innovation.

Rustum Roy is Evan Pugh Professor of the Solid State Emeritus, Professor of Geochemistry Emeritus, Professor of Science, Technology, and Society Emeritus at The Pennsylvania State University; Visiting Distinguished Professor of Materials at Arizona State University; Visiting Professor of Medicine at the University of Arizona.

SUNDAY EVENING

COLLABORATION BETWEEN HUMANS AND INTELLIGENT AGENT-BASED SYSTEMS

Alice Mulvehill

ABSTRACT

The computer has found a place in today's standard household, providing entertainment, facilitating human to human communication, and allowing people to work away from the office. In the home, computers can be used to command and control the operation of common household appliances like the heating system, security system, etc. While users have readily accepted the ability to control physical devices via their computers, mixed-initiative methods that facilitate the communication between humans and sophisticated computer processes, called software agents are being investigated.

Agent-based systems are rapidly emerging to support users as the knowledge and complexity of computer-based information systems increases. The rapid growth of interest in and research and development about agent-based software systems has resulted in a growing concern about how human users will control the activities of agents, especially teams of agents that must collaborate to achieve user objectives. Software agents are currently being used to monitor data sources, bringing back only the information that is of relevance to a particular user. Interfaces are being developed to allow human users to view, control, task and create the software agents.

In this talk, some of the issues involved in the design, development, and control of intelligent agent-based systems will be presented. We will focus on some recent research issues involved in the development of mixed-initiative collaboration approaches that support planning between humans and one or more software agents. We will also highlight some recent efforts in developing communication between humans and physical agents (robots).

BIOSKETCH

Alice Mulvehill received an undergraduate degree in Psychology from the University of Pittsburgh, and an MS and PhD in Information Science with a concentration in Cognitive Science and Pattern Recognition from the Interdisciplinary Department of Information Science, Graduate School of Library and Information Science, University of Pittsburgh. Currently, Dr. Mulvehill is a Principal Scientist at BBN Technologies where she is involved in the research and development of tools in the following areas: Advanced Technologies, Planning, Distributed Systems and Distributed Collaborative Planning. Her particular focus is centered on how each of these areas can benefit from the use of pure and/or hybrid Artificial Intelligence techniques. She is also involved in several projects associated with the use of software agents to support mixed-initiative planning and in a project associated with developing intelligent interfaces that enable humans to communicate with agent-based systems. Prior to joining

BBN Technologies, Dr. Mulvehill worked at the MITRE Corporation where she participated in the development of a number of knowledge-based (planning, scheduling, and diagnostic) systems for the Air Force, DARPA and NASA.

MONDAY MORNING

TECHNOLOGY/RELIGION SCIENCE/THEOLOGY

Rustum Roy

ABSTRACT

The present increased national interest in "science and religion" is a phenomenon, stimulated by externally funded activity in academia and a burst of media interest. Much of it is, characteristically, devoid of any social context or impact.

I have made the case for some decades that the Western-originated contemporary "technology" system functions in quantifiable fact as a full-fledged religion. It has a theology (science), major denominations (information, health, transportation, materials etc. etc), a priesthood, rituals, and most significantly billions of unquestioning believers in it as a basically beneficent agent of salvation, and the final arbiter of truth.

Science, by contrast, is a theology, which has mainly a priesthood and a set of dogmas (the value of reductionism and peer review, the linear theory of development, a narrow view of society and a papal exclusivity on possessing the truth).

Clearly the discussion among different theologies: scientific, Buddhist, Christian, Muslim, Jewish, etc. is very appropriate, but it still should be clear that with respect to Society it is technology and religion that matters. The aberrant period 1950-2000 during which the public was misled into assigning societal and commercial value to science instead of to technology led to the development of a robust "Scientism" among many practitioners. With the empirically established asymptomatic slowing of fundamental science itself, the community has turned to a marketing emphasis including a claim linking it to "religion" although the major issues dealt with by religion are totally ignored.

BIOSKETCH

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MONDAY EVENING

THE REALITY OF VIRTUAL REALITY

Bruce Naylor

ABSTRACT

In the early 1990's, the concept of Virtual Reality was first introduced to and rapidly caught the imagination of the general public. However, the fascination with Virtual Reality is based largely on a vision, or fantasy, painted by Hollywood. The epitome of this is Star Trek's Hollodeck where "holographic projection technology" is used to create an experience that is by and large indistinguishable from Physical Reality. Nonetheless, Virtual Reality (VR) originated not from scriptwriters but from research labs and rests on a sound technical foundation. As with many such futuristic ideas, Virtual Reality raises some very interesting questions. To what extent is VR technologically possible? If it were, what impact would it have on human experience? And what are the philosophical implications? Does this call into question what exactly we mean by Reality? Could not Physical Reality just be the result of some mega-machine analogous to a computer-created Virtual Reality?

In this talk, we will introduce the various technical components involved in recent efforts in VR, and discuss both the current state-of-the-art and where the push in VR technology is currently taking place. This will be followed by some speculation as to when the futuristic version of VR could become possible and what impact it might have on human experience and human meaning. We will then shift from technology to philosophy and present a trinitarian ontology that may help us understand what is real about Virtual Reality and to explore the question of how the Physical Reality differs from the virtual one. This will then provide an entrée into an approach to evolving a religious perspective that is more compatible with Science.

BIOSKETCH

Bruce Naylor is a Computer Scientist who has worked for over twenty years in Computer Graphics and Computational Geometry. His efforts have resulted in technology used in various training and entertainment applications based on interactive 3D graphics (the core computational machinery required for Virtual Reality).

Bruce received his B.A. in Philosophy in 1975 from the University of Texas at Austin, and an M.S. and Ph.D. in Computer Science from the University of Texas at Dallas in 1979 and 1981 respectively. He joined the Computer Science faculty at the Georgia Tech in 1981 where he taught and conducted research in various aspects of computer graphics. In 1986, he moved to the research division of Bell Labs (Murray Hill). During his ten years at Bell, he worked on computer graphics, computational geometry, parallel architectures, image/video compression, interactive TV, and wireless communications. In 1996, he left to start a company to commercialize the technology he developed while at Bell. Most recently, he has been a co-founder of a Silicon Valley startup building infrastructure for shared virtual environments over the Internet.

TUESDAY MORNING

BIOTECHNOLOGY AND IMMORTALITY

Ursula Goodenough

ABSTRACT

Our definitions of human identity and meaning have always been framed in the context of our mortality. Living as we do today in the midst of the biotechnologies associated with the health and reproductive sciences, we carry a heightened understanding of our bodies and brains and gonads as objects that depend on mechanisms that can succeed or fail. Many persons mitigate this understanding with the belief that a non-carnal life lies ahead. Others base their hopes on the belief that biotechnology will somehow provide something along the lines of immortality.

While I will have nothing to say about the hereafter, I will take on the notion that our mortality represents a problem to be solved. I will look at two biotechnologies – neither yet available but both now feasible – that offer facets of immortality: 1) human cloning, and 2) manipulations of the aging process that could extend human lifespans by several centuries. I will explain the science behind these technologies and will then attempt to defend the religious claim that they are immoral on the grounds that the natural course of our human life cycle is sacred.

BIOSKETCH

Ursula Goodenough received a Ph. D. in Biology from Harvard University and has for 20 years been Professor of Biology at Washington University in St. Louis. She and her research colleagues study the molecular basis for the evolution of sex in a lineage of eukaryotic green algae. She teaches cell biology to undergraduate biology majors and a course on evolution to non-science-major undergraduates. She has served in many capacities in the IRAS leadership, and is currently Vice-President for Development. Much of her time is now spent exploring the dimensions of religious naturalism.

TUESDAY EVENING

BIOTECHNOLOGY, BUDDHISM, AND THE ROLE OF PRUDENCE

William R. LaFleur

ABSTRACT

As is well-known, attempts to define religion in terms of reference to a deity run into a snag when the case of Buddhism comes up. How can there be a tradition so obviously religious but without any notion of God? Or without a distinction between creation and Creator? Can Buddhists get along without any sense that someone or something "beyond" mankind might have placed limits on what we as humans may allow ourselves to do in terms of research on and changes made in the conditions and nature of our humanity?

Specifically, can Buddhists be expected to have any religious reasons for expressing caution about the current course of biotechnology? The discussion here will suggest that they do have such reasons and why these may have importance even for the thinking and decisions of people in the West. Some Buddhist thinkers, I will try to show, have articulated a religiously important viewpoint based not so much upon theology in the usual sense but, rather, upon what we already know about ourselves, upon what Buddhists refer to as the "inexhaustible desires" of human beings, and upon awareness of our capacity for self-deception and a repression of thinking about unintended consequences. I suggest that a deep reflection on the implications of their own specific tradition has led at least some of Japan's Buddhists to a sense of close affinity with the perspective of the philosopher Hans Jonas. This is a perspective that forefronts the role of prudence. At the same time it expresses skepticism about the utopian rhetoric used to promote some biotechnological trajectories.

Interestingly, whereas most religions in the West have readily approved of transplanting organs from "brain dead" persons, Japan's Buddhists and even Japan's Christians have had much more difficulty accepting that medical procedure. The reasons for this reaction will be explored. Moreover, the claim will be made that the extensive debates about such matters in Japan have over the long run provided the Japanese, living as they do within a technologically developed society, with interesting and important insights into the ethical dimensions of contemporary biotechnology. Examples will also be drawn from discussions of genetic manipulation and human cloning.

BIOSKETCH

Bill LaFleur studies Japanese society, especially how its religions and philosophies get expressed in discussions of ethics. He has done research on earlier periods, such as in his *The Karma of Words: Buddhism and the Literary Arts in Medieval Japan* (U of California Press) but in recent years has turned his attention to contemporary society. He wrote *Liquid Life: Abortion and Buddhism in Japan* (Princeton UP) and is nearing completion of a book tentatively titled *The Scalpel and the Sword: Japanese Critics of America's Biotech Trajectory.* He is the E. Dale Saunders Professor in Japanese Studies at the University of Pennsylvania, has a joint appointment in Religious Studies, and is also a Fellow in the Center for Bioethics at Penn. Bill looks forward very

much to the interactions at Star Island and will be accompanied by a daughter (Jeannemarie), her children (two of his grandchildren) Matthew and Katlyn, and his younger daughter, Kiyomi.

WEDNESDAY MORNING

SEEING THE UNIVERSE: VISUAL MEANING THROUGH TECHNOLOGICAL EYES

Tom Rockwell

ABSTRACT

In the last 200 years, visual technologies designed to extend and entertain the human eye have radically altered what and how we see. Photography, electric lighting, printing, microscopy, telescopes, movies, television, and computers have transformed our visual environment. Other technologies, such as automobiles and plastics, while not directly optical, have also profoundly altered the visual, spatial landscape. Together, these technologies have created an entirely new backdrop upon which humans lead their lives and pursue meaning. Who we think we are, how we perceive reality and how we think we fit into the Universe are deeply influenced by the world of technologically produced images.

One particular challenge presented by the contemporary visual field relates to the image of the universe, the scale of its parts and our proportional place within it. A host of different imaging techniques have presented a cosmological landscape that is simultaneously much larger and of smaller parts than previously imagined. A bewildering array of images at vastly different size-scales feeds a modern sense of disorientation. Standing between diagrams of subatomic particles and maps of galaxies it is hard to find our place. The sheer variety of technologies used leads to a disjointed picture of the whole. The resulting visual confusion is only worsened when it is set in the context of technologically amplified commercial and artistic imagery. This confusion although visual in origin resonates at a spiritual level compounding the common perception that science and technology are sources of alienation.

Given the visual origin of this problem it is in the visual realm that solutions can be created. Starting with the classic educational video, *Powers of Ten* by Eames and Morrison, this presentation will explore creative strategies for making visual sense of the Universe and its parts. These strategies include possible forms of artistic practice that orient artist and viewer within the Cosmos. In addition, a hypothetical "omniscience machine" will provide a techno-theological thought experiment through which the ambitions and desires that drive visual technologies will be considered. Together, these examples will provide a sampling of how the arts can both stretch technology as well as extract meaning from its powerful presence in the visual landscape.

BIOSKETCH

Tom Rockwell is president and founder of Painted Universe Inc., a design firm specializing in exhibits and art about the sciences. Current projects include designs for a 6000 square feet of hands-on exhibits for an Art and Science Museum in McAllen Texas. Previous projects include: science playgrounds (in collaboration with Leathers and Associates) in Salem OR, Boca Raton FL and Enid OK, exhibits for the Materials Research Society and Liberty Science Center, and illustrations about string theory for *The Elegant Universe* by Brian Greene. Many of these exhibit and playground projects, in addition to focusing on art and science, involve a "community-built" process in which volunteers participate in the design and construction. Tom was born and raised in Rome, Italy, as the child of American expatriates. He received a Bachelor's in Studio Art from Brown University and then worked as an educator at the Franklin Institute Science Museum and Academy of Natural Sciences in Philadelphia. He currently lives in Ithaca NY with his wife and son, where they run a movement studio, fix up old houses and spend time dancing whenever possible.

WEDNESDAY EVENING

CYBERPSYCHOLOGY, HUMAN RELATIONSHIPS, AND OUR VIRTUAL INTERIORS

John Teske

ABSTRACT

Contemporary data from the emerging discipline of cyberpsychology suggest that there is an "internet paradox," that a communicational technology widely touted to increase social interaction and interconnection in fact reduces social involvement and may have a negative impact on psychological well-being. The present talk will examine some of the communicational and emotional limitations of current internet communication, in terms of the absence of nonverbal behavior and the limitations of metacommunicational and relational interaction. The internet contains many well-known perils having to do with honesty and authenticity in communication, and with the potential superficialities of interchange. Nevertheless, there are a range of less well understood but potentially more profound limitations in terms of access, choice, medium, and presentation, which bear on relationship formation and maintenance, and also on the wider social units on which we depend for sustenance, including families and wider communities of interchange.

Issues having to do with communication/information technologies and their impact need to be understood within a range of broader historical developments, including population density, energy use, and the architectures of social complexity and social coherence. My talk will focus on a set of issues central to human meaning in a technological culture, that of the history of the self, of individuality, and of human relationships, and how contemporary developments build on and extend these "sources of the self." We live in a world in which we are increasingly interdependent with a global society, an interdependence mediated by informational and communicational technologies. Nevertheless, we also live in a world in which social forces, technological and otherwise, have increasingly moved us in directions which erode our social connectedness, and even produce psychological fragmentation. Here I will present historical data and attempt to provide some theoretical understanding of the role of informational, and specifically communicational, technology in this process.

Finally, the talk will look at some of the patterns of historical, social, and developmental interiorization which produce the "virtual interiors" of mind by considering the psychology of privacy, subjectivity, and intimacy within the previously sketched historical and theoretical context. Understanding our "virtual interiors" may be a crucial step in the direction of understanding the relationship between human meaning and technological culture, as the form and pattern of our virtual interiors, and the means by which they are produced,

may provide opportunities as well as dangers for the growth of our spirituality, our ethics, and our humanity.

BIOSKETCH

John A. Teske received his Ph.D. in Psychology from Clark University in 1981, where he was an NSF Fellow, and is currently Professor at Elizabethtown College, in Elizabethtown, PA, where he has taught since 1986. He has published in multiple subfields of psychology, including philosophical, environmental, nonverbal behavior, cognitive developmental, and close relationships. His recent scholarly efforts have focused on the contribution of cognitive and neuroscientific research to understanding human spirituality, and have been published in *Zygon* and presented at meetings of the European Society for the Study of Science and Theology, and elsewhere. His teaching at Elizabethtown has focused on personality and social psychology, but he has also taught courses in artificial intelligence, cognition, development, neuroscience, the history of psychology, narrative and identity, and the philosophy of mind. He currently teaches a Templeton Award course on "Brain, Mind, and Spirit," and recently collaborated in teaching "Dramatis Personae: Psychology through Shakespeare." On sabbatical this Fall Term, John hopes to finish a book tentatively entitled "Constituence of Spirit: Neuropsychological Parts and Social Wholes." He has been formally involved with the Science/Religion community since a global consultation on Cyprus in 1987, but probably was socialized to it at his late father's knee, during grad/faculty discussions at University of Wisconsin at Madison in the late 60's. With his children Johanna and Jacob, John is becoming a more regular shoaler, and was nominated for IRAS council this year.

THURSDAY MORNING

"PLAYING GOD? YES!" RELIGION IN THE LIGHT OF TECHNOLOGY

Willem B. Drees

ABSTRACT

There is a significant difference as to what we expect of a doctor and of a chaplain in the hospital. This illustrates the way we put our trust in professional, technical competence, and fall back upon prayer only when technology fails. There is as much a 'God-of-the-gaps' in our dealings with technology as there is with respect to scientific explanations. If we desire to avoid such an inadequate response, which separates religious life from technological culture, we not only need new words, but we also need to rethink our views of reality, of human nature, and of God. With respect to ideas regarding God, I will argue that an old tension within the Christian heritage, giving rise to the first and most fundamental heresy (Marcion, second century CE.), continues to be relevant, namely the tension between thinking of God as creator or as redeemer, and, also tensions between realist and non-realist theologies. Technology, the active and intentional transformation of the world we live in and the beings we are, is best envisaged in a theology which does not emphasize the world as given (as many doctrines of creation do), but rather emphasizes the longing for this world better. The enormous power we acquire may bring us to question the intellectual and moral adequacy of images of God and humanity that emphasize God's power and human dependence. Perhaps we need to accept that we do play God – and develop this as a metaphor for creativity, responsibility, and ultimacy.

BIOSKETCH

Wim Drees (1954) studied theoretical physics at Utrecht University in the Netherlands. While teaching physics and mathematics, he studied theology at Groningen University, completing a Ph.D. with an analysis of responses to modern cosmology, titled *Beyond the Big Bang Theory: Quantum Cosmologies and God* (Open Court, 1990). In 1987-1988 he lived one year in the USA as a Fulbright Scholar, dividing his time between CTNS in Berkeley and the Chicago Center for Religion and Science (now Zygon Center). He worked for over eleven years at the Vrije Universiteit in Amsterdam, organizing interdisciplinary projects, especially on philosophical, social and religious issues related to the natural sciences. As of 1995, he became part time professor at the University of Twente on the Nicolette Bruining Chair for philosophy of nature and of technology from a liberal-protestant perspective. Early 2001 he became executive director of ALLEA – ALL European Academies, the federation of 47 national academies of sciences and humanities from 38 European countries. As of September he will shift from administration to teaching and research as professor of philosophy of religion, ethics and encyclopedia of religion at Leiden University, the Netherlands. His publications include *Religion, Science and Naturalism* (Cambridge UP, 1996) and for a less academic audience, to appear late September, *Creation: From Nothing until Now* (Routledge, 2001). While one daughter, Esther, is away to an international summer camp, he assumes that two older children, Johannes and Annelot, will be out of his sight but on the island during the conference, while he enjoys the company of his wife Zwanet, a prison chaplain and mediator.

THURSDAY EVENING

BIOCULTURAL EVOLUTION IN THE 21ST CENTURY: LAMARCKIAN WILD CARDS, DISTRIBUTED SYSTEMS, AND COMPLEXITY HORIZONS

Billy Grassie

ABSTRACT

We live at a remarkable moment in the natural history of our planet and the cultural evolution of our species. Human culture is increasingly dominated by Lamarckian evolutionary processes. These powerful human creative processes are best understood as distributed systems. Like other complex distributed systems in nature, we increasingly confront a complexity horizon beyond which predictive capacities and causative analyses fail. As we genetically and technologically reengineer other species and ourselves in the 21st century, we need a more humble appreciation of our finitude. Faith figures prominently in our civilization's sundry quests for progress, however defined. Religion, broadly understood, will provide the metaphors and motivations for our biocultural evolution in the 21st century and beyond.

BIOSKETCH

William (Billy) Grassie is the founder and executive director of the Philadelphia Center for Religion and Science <http://www.pc4rs.org> and the founder and executive editor of Metanexus: The Online Forum on Religion and Science <http://www.metanexus.net>.

Grassie specializes in the philosophy of science and religion. He received his doctorate from Temple University in 1994

and his BA from Middlebury College in 1979. Formerly an assistant professor in the Intellectual Heritage Program at Temple University, Grassie teaches as a visiting lecturer in the Department of Religious Studies at the University of Pennsylvania and at Swarthmore College.

Prior to graduate school, Grassie worked for ten years in social service and advocacy organizations in Washington, D.C.; Philadelphia, Pennsylvania; Jerusalem, Israel; and Berlin, Germany. He is the recipient of a number of academic awards and grants from the American Friends Service Committee, the Roothbert Fellowship, and the John Templeton Foundation. He is also known as an innovator in the uses of computers in education and publishes on a variety of issues in academic and popular journals. He serves as vice-president for interdisciplinary affairs for the Institute on Religion in an Age of Science (IRAS), which co-publishes *Zygon: Journal of Science and Religion*. Grassie is a member of the Religious Society of Friends (Quakers). More information on Dr. Grassie can be obtained on the World-Wide Web at <http://www.grassie.net/billy>.

FRIDAY MORNING

HUMAN MEANING IN A TECHNOLOGICAL CULTURE

Closing Panel

All participants and speakers are invited to review together:

- the impact of Technology on Culture and Society,
- the impact of Culture and Society on Technology,
- Religion in an Age of Technology,
- and whatever else may have arisen in the course of this conference.

IRAS SEMINAR

In the IRAS Seminar, seminar leaders comment on a manuscript or recent book by a member (or members) of IRAS, followed by open discussion by all who would like to participate.

The book being reviewed this year is

Darwin and Design: Science, Philosophy, Religion

by Michael Ruse. The two seminar sessions, on Monday and Tuesday from 1:40 to 2:40 pm in Marshman, will be moderated by Bill Stone. Invited responders will be Michael Cavanaugh and Ward Goodenough.

DESCRIPTION

Darwin and Design looks at the significance of Charles Darwin's theory of evolution through natural selection for our thinking about teleology. Partly historical, and partly contemporary, it covers the issues as they arise in science, philosophy, and religion. "It is a lot easier to read than to describe," (says the author) "and while not exactly a million laughs is pretty interesting -- or, more modestly, covers a lot of pretty interesting topics." The writing of the manuscript has been supported by a Templeton book award.

BIOSKETCHES

Michael Ruse is Lucyle T Werkmeister Professor of Philosophy at Florida State University. The author of many books, his more recent include *Mystery of Mysteries* (Harvard University Press), *The Evolution Wars* (ABC CLIO), and *Can a Darwinian be a Christian?* (Cambridge University Press).

Michael Cavanaugh is an attorney who took early retirement to concentrate on atudying the science/religion interaction, and soon determined that IRAS was a natural "home" for him. He has written several articles in *Zygon: Journal of Religion & Science* and is the author of *Biotheology: A New Synthesis of Science and Religion* (University Press of America, 1996).

Ward H. Goodenough is University Professor Emeritus of Anthropology, University of Pennsylvania, where he taught for forty years. Hs ethnographic research has been in Micronesia and Papua New Guinea. He is a member of the National Academy of Sciences and a past president of IRAS and occasional contributor to ZYGON. His latest book *Under Heaven's Brow: Pre-Christian Religious Tradition in Chuuk* is now in press with the American Philosophical Society.

Bill Stone, the moderator, teaches speech and philosophy at Northeast Mississippi Community College. He has a PhD. in communication studies from LSU. This is his 2nd year at Star Island, and his 3rd year as a member of IRAS. He enjoys flower gardening and competing in rose shows. He is interested in this year's topic, but has gotten out of touch with it professionally. Ten years ago, he studied and published in the area of communication technologies and organizational dynamics.

IRAS WORKSHOPS

In IRAS Workshops, topics related to the conference or of continuing general interest are explored and discussed in small groups. To assist your choice-making, a number appears in brackets after the workshop title to designate one of the four workshop categories: (1) Humans and Technology; (2) Philosophy and Science; (3) Leading Our Lives; (4) Art, Music, and Dance

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THE SORCERER'S APPRENTICE (1)

Wednesday and Thursday, 2:50-3:50
Newton Front

Robert Bercaw

Humanity has historically often gotten itself into trouble by adopting technology it doesn't understand. Problems range from the loss of millions of lives to the destruction of the environment. In this age of science and technology, has humanity has been able to put these sorts of problems behind it? The answer is mixed. Comfort and life expectancy have continuously improved, but we are haunted by the specter of ever more dangerous technologies over which we seem to have less and less control. The goal of the workshop is to understand what it is about technology that makes it difficult to accurately forecast the outcomes of specific developments. It will look at various classes of problems and try to identify signatures that may alert us when a technology may lead to a future problem.

BIOSKETCH

Robert Bercaw received a degree in Engineering Physics and a doctorate in nuclear physics (1962) from Washington University in St. Louis. Afterward, he was a research supervisor at NASA's John Glen Research Center for 32 years. The first ten years were devoted to basic research on nuclear reaction and pion physics. Since then, he worked on the development of technologies deemed critical to national and NASA programs including: computerized data acquisition systems, coal-fired magneto-hydrodynamic power generation, space nuclear reactors, lunar and planetary power systems, advanced energetics and advanced electrical systems for spacecraft and airplanes. A major part of his responsibilities was to devise technology programs that would provide solutions to the perceived needs of NASA and the nation. This involved establishing a dialog among the political, corporate and programmatic leaders who set priorities, and the various technical experts who can envision and develop solutions. The various options identified in this process were then evaluated and refined by conducting a variety of preliminary experiments and system studies. His current interest is in trying to understand the "Epic of Evolution," what it says about human nature, and what are its implications for the future of humanity.

THE SPIRITUAL SITUATION IN OUR TECHNICAL SOCIETY (1)

Sunday and Tuesday, 2:50-3:50
Newton Front

Paul H. Carr

We will compare the spiritual situation of the 1950s, as described by Paul Tillich, with that of the present, expressed by Houston Smith in his book : "Why Religion Matters: The Fate of the Human Spirit in an Age of Disbelief." We will hear and discuss audiotapes of the spirited dialogue (confrontation?) between Smith, sage of the world religions, who is critical of scientism and evolution, and Ursula Goodenough's and Ian Barbour's defense of evolution. These talks at the American Academy of Religion Meeting on 19 November 2000 were published in the June 2001 issue of *Zygon*. Theologian Paul Tillich was well known enough in 1959 to make the cover of *Time Magazine*. In Tillich's 1958 *Saturday Evening Post* article "The Lost Dimension in Religion," he lamented the loss of the transcendent "vertical" dimension of religious meaning and purpose to the "horizontal" dimension, which enables us to control the physical world. We will examine the relevance of his thinking to the spiritual situation in our own time.

BIOSKETCH

Paul H. Carr won a Templeton Foundation Grant for the philosophy course "Science and Religion: Cosmos to Consciousness" he teaches at University of Massachusetts, Lowell. He organized the Science and Religion Session of the International Paul Tillich Conference published in the June 2001 Issue of ZYGON. In his former life, he led the Component Technology Branch of the Air Force Research Laboratory, which did research and development on microwave ultrasound, surface acoustic waves, superconductors, and laser activated antennas. He earned his Ph.D. in Physics from Brandeis University and his M.S. and B.S. from MIT.

UNDERSTANDING "A THEORY OF JUSTICE" BY JOHN RAWLS (2)

Sunday, 2:50 – 5:00 (double session)
Sandpiper

Michael Cavanaugh and Ted Laurenson

Since the publication of John Rawls's landmark book "A Theory of Justice" in 1971, it has become almost impossible to talk knowledgeably about public philosophy without grasping the basic concepts in his book. Indeed, there have now been more than 5000 articles and books written in response to Rawls, and his ideas may be more influential today than ever. Fortunately it is not hard to grasp the basic concepts, because Rawls is a clear writer and hangs his ideas on some fairly straightforward (and almost delightful) metaphors. For example he wonders what laws and institutions people in "the original position" would agree to in advance if they had no idea what station in life they would be born into.

This workshop is designed to meet the needs of a wide range of participants, from those who have never heard of Rawls but would like an introduction, to those who may be Rawls scholars. To meet such a wide range of interests, the two leaders will each spend about 15 minutes, Cavanaugh giving a brief overview of "A Theory of Justice" and Laurenson presenting some of the objections that have been raised to Rawls's ideas. The rest of the time will be spent in group dialogue, fleshing out Rawlsian notions as we go, and perhaps discussing some of Rawls's latest work.

BIOSKETCHES

Michael Cavanaugh took early retirement from practicing law in order to try to understand the relation between science and religion. He is the author of several *Zygon* articles, and of the book *Biotheology: A New Synthesis of Science and Religion* (University Press of America, 1996). He has been married to his college sweetheart Carolyn McGinnis Cavanaugh since 1965.

Ted Laurenson practices corporate and securities law in New York City. At Amherst College he started out in psychology but became an anti-war political activist, sharpened his interest in philosophy and public policy, and spent his last year doing an independent study project focusing on the intersection of political and ethical philosophy and psychology. Although he ultimately decided to go into the private practice of law, at Yale Law School he focused primarily on public policy issues and legal philosophy. He has always had a deep interest in science and, having fallen away from theism and Catholicism by the time he was 15, became a Unitarian Universalist in his mid-twenties. He found IRAS a natural home when he first started coming in 1990. From 1993 to 1996 he did the conference write-ups for the Newsletter, and after a couple of false starts on other conference ideas, he co-chaired the 1999 Human Sexuality conference. He has served on the IRAS Council since 1997, has been legal counsel to IRAS since 1996, and became the Newsletter Editor in February 2000. IRAS is one of the centers of his life.

NEW ANGLES ON PSYCHIATRIC TREATMENT (3)

Monday 4-5, Tuesday 2:50-3:50, Wednesday 4-5
Parker

Henry Everett

On the medical side: Problems have arisen with conventional psychiatric treatments, for which new angles have been developed. So-called "typical" antipsychotic medications, used for decades in the treatment of schizophrenia, are mostly obsolete because of unacceptable side effects. The newer "atypical" drugs are an improvement, but they, too, have their problems. Medications for depression have been a godsend for the victims of this killer condition, but some cause sexual disability, sedation and weight gain. A number of possible solutions will be described. For bipolar disorder ("manic-depressive illness") there has been considerable progress beyond traditional lithium.

On the social side: There is light at the end of the nightmarish tunnel called "Managed Care." Support groups for every problem can now be found on the Internet. The discussion of psychotherapy, as is the tradition in this workshop, will be interactive around the theme of "self-management strategies." Come and share with us the strategies you have invented to overcome internal and external obstacles.

BIOSKETCH

Henry C. Everett, M.D. attended Harvard College and Johns Hopkins Medical School. He received his psychiatric training at Johns Hopkins. He has taught at the University of Wisconsin and Harvard Medical School. He has published papers on psychopharmacology, neurology, and group psychotherapy. He has just completed a new self-help book, in collaboration with a professional illustrator, called "Adversity to Invincibility."

WHAT DOES IT MEAN THAT ELECTROMAGNETISM UNDERLIES ALMOST ALL OF TECHNOLOGY? (1)

Wednesday and Friday, 4-5
Elliott

Lawrence Fagg

Our search for meaning could be significantly broadened and enriched by realizing that electromagnetic interactions have activated virtually all of modern technology and our entire biological evolution. Myriads of quantum electrodynamic events drive the operations of all of chemistry and biology, and thus energize all of earthly nature from rocks to plants and animals, including humans and their brains. Almost all of today's technology, from the use of laser beams for eye surgery to the massive motor generators furnishing electric power to our homes, also depends on the electromagnetic force for its operation and will do so into the indefinite future. In a real sense this technology, and our constant interaction with it and dependence on it, can be seen as a vital adjunct to our continued evolution. This is evident considering, for example, the growing proximate interaction we have with computers, cell phones, robotic devices, etc. Indeed, it is so if only because our very survival as a species may depend on the technology we develop to combat the

increasing number of diseases that are resistant to antibiotics, or to launch a rocket that can prod an asteroid out of its earth-destroying trajectory. The essential idea we will explore in this workshop is that just as we have used these electromagnetic "tools" to create almost all of the technology we enjoy today, so did God, with infinitely more dexterity and subtlety, use them to create us.

BIOSKETCH

Lawrence Fagg is a Research Professor of Nuclear Physics (retired) at the Catholic University of America in Washington, DC. A graduate of the U.S. Military Academy, he has a PhD. in Physics from Johns Hopkins University and an M.A. in religion from George Washington University. A Fellow of the American Physical Society and an Academic Fellow and former vice -president of IRAS, he is the author of many publications in science and religion, including articles in journals and edited books as well as three books: *Two Faces of Time*, *The Becoming of Time*, and *Electromagnetism and the Sacred: at the Frontier of Spirit and Matter*. He has presented numerous lectures on the universal role played by electromagnetism in technology and evolution and its religious relevance.

COME SKETCH A STAR! (4)

Sunday 4-5
Parker

Joan Goodwin

I've enjoyed sketching around the island for several years and invite you to join me. If you're convinced you can't draw, this is for you! The product is unimportant compared with the process, which is focusing, centering, somewhat akin to meditation. I'm a rank amateur myself, so don't expect instruction. Bring plain unlined paper with a firm backing and your choice of pencil, pen, markers, crayons, etc. Also bring children old enough to take part without unduly distracting you and others.

BIOSKETCH

Joan Goodwin has been active in IRAS for several years and serves as Secretary on the IRAS Council. A religious naturalist, she is basically a writing type of person with no art credentials but has recently discovered that sketching from nature is an absorbing and delightful practice.

WATER ON A STAR-- AND FOR THE WORLD'S FUTURE (2)

Monday 2:50-3:50, Friday 4-5
Elliott

Jeanie Graustein

For many of us, our week on Star Island involves an unusual experience of living with limited water. We are used to just turning on the tap for all the water we want. Yet, we are increasingly aware of threats to water quality, of competing claims on limited water supplies, and of the water needs of a growing population. What do we need to know in order to work for water protection and for policies that will allow humankind and other creatures to survive and flourish in the future?

Using the Star Island water system as our lab and microcosm, we will take a "behind the scenes" tour to examine our personal impact and learn what is done for our health and comfort here. We will reflect on what rivers, lakes, the ocean, and wetlands mean in our lives. We will view segments of a recent PBS series on water as a guide for considering some of the many scientific, technological, cultural, religious/spiritual, political and artistic perspectives on and concerns about water. Sol Katz and Jeanie Graustein hope to co-chair a water conference on Star in the future, so come help brainstorm ideas and find out what really happens when you flush that toilet.

BIOSKETCH

Jeanie Graustein grew up on San Francisco Bay and spent summers on the ocean to the north, collecting shells and marine fossils and waiting for the San Andreas Fault (at one end of the beach) to move. She lived for a year in North Dakota with a hand-cranked water pump in the yard and an outhouse, in lieu of plumbing. There, she learned how little water one really needs and decided that hot running water is humankind's most wonderful invention. She received a B.A. in Anthropology from Cal Berkeley, M.Ed. from U.of Utah, and M. Div. from Yale Divinity School. She is the Environmental Justice Coordinator for the Office of Urban Affairs of the Archdiocese of Hartford, a job that allows her to indulge and share her interests in science and religion.

MORALITY, FOOD, AND BIOTECHNOLOGY (1)

Tueseday and Wednesday, 2:50-3:50
Marshman

Sol Katz

Over the last year the public trust in government, industry, and agriculture has started to unravel. The enormous fear of food contamination by mad cow disease, hoof and mouth disease, repeated episodes of pathogens in foods, and the widespread contamination of corn by unapproved genetically modified crops has had a devastating effect upon the public trust. These conditions have led to a great deal of public moral outrage and cynicism directed at the profit motives of industries, the governmental agencies charged with protecting the food supply, and upon the farmers of the most developed economies of the world. Industry has typically responded that the public still demands cheap prices for foods that encourage various economies of scale associated with these failures in the system. At the European consumer level there are dietary rejections of meat from cattle, wholesale rejection of GM foods, significant changes in diets, and even demands for political change. At the agricultural level there is a very strong movement toward organic "anything" and a deep sense of hopelessness, especially among the smaller scale farmers who stand to lose their livelihood and way of life. In the US the fear of GM foods produced by StarLink corn (so far it is not associated with any allergic responses) has resulted in a wholesale change in agricultural practices including a dramatic decrease in the use of GM seeds. At the international level there is also a significant concern that the rapid abandonment of GM foods by the developed world will lead to sharp relative decreases in agricultural productivity among third world countries that do not have the margin of economic safety that is built into the developed nations food

supply. This calls into question the role of biotechnology in fulfilling the need that many third world countries require to continue to feed themselves in light of their continued population growth.

We will track the history and development of these trends in agriculture and nutriculture right up to the present and then examine the economic, political and scientific issues that underlie biotechnology and evaluate the environmental, biological, and social risks associated with its implementation. Then we will explore the religious and secular underpinnings of the moral issues surrounding food practices and attempt to build a model that will help us sort out the various strategies that underlie the moral and technological choices available to us in 2001.

BIOSKETCH

Sol Katz is a former president of IRAS and an anthropologist at the University of Pennsylvania where he also serves as professor and director of the Krogman Growth Center. He is also active in the religion and science dialog and serves as President of CASIRAS, one of the owners with IRAS of our journal Zygon, and as treasurer of the Philadelphia Center for Religion and Science. His most recent paper in June of 1999 in Zygon on Global Morality is directly relevant to this workshop. He is also Editor in Chief of the new Scribners Encyclopedia of Food which when published (2002) will be the largest and most comprehensive work of its kind that integrates all aspects of food and nutrition. Last summer he co-chaired the IRAS 2000 conference on children.

NEW TUNES FROM DEAD COMPOSERS (4)

Sunday 2:50-3:50
Lawrence

Jason Keune

On tonight's program: the 243rd Piano Sonata of Beethoven. Sound like material for an Isaac Asimov novel? In the 1980's, California composer David Cope started developing a computer program called Experiments in Musical Intelligence to compose music in the style of historical composers. Skeptical and suspicious? I'll describe how the program works, then we'll listen to a few of EMI's musical creations, played by human performers, and you can decide for yourself. Has Cope gotten to the root of musical style? What does this say about the art of music composition?

BIOSKETCH

Jason Keune plays the organ and directs the choir at Emmanuel Episcopal Church in Stamford, Connecticut.

INFORMATION QUALITY CRITERIA FOR PRODUCTIVE DIALOGUE (2)

Tuesday and Thursday, 2:50-3:50
Sandpiper

Ed Lowry

The diversity of ways that people judge information quality affects social tensions but has not been well investigated. This workshop will explore ways to make social dialogue more productive by using clearer criteria for information quality. Using many narrow criteria can improve the prospects for objective evaluations. Their use can also help to understand the obstacles when issue resolution fails and to redirect dialogue productively. Better cooperative development of dialogue positions could result. The approach would probably be cumbersome but worth the effort in extended public dialogue over divisive issues such as abortion or evolution. Quality of explicitly available information is examined rather than the "knowledge" which is considered by traditional epistemology and largely hidden inside human minds. Workshop participants are invited to refine the criteria and the ways they are used.

BIOSKETCH

Ed Lowry did software research at IBM and Digital Equipment Corporation for 33 years after studies at University of Toronto and MIT. He has worked on optimizing the fine structure of information to minimize complexity and increase information quality. He is working to apply the result in technical education. He would like to relate science and religion using an engineering perspective that increases information quality in both. He has developed pictorial models of electromagnetic fields and pioneered global compiler optimization and multiprogramming. He participated in a dialogue on abortion for 3 years conducted by the Public Conversations Project. His web site is http://www.ultranet.com/~eslowry.

THE CIRCLE OF SIMPLICITY (3)

Tuesday and Thursday, 2:50-5:00 (two double sessions)
Lawrence (Tue) Pink Parlor (Thur)

Andrew Millard (Workshop #1)

After a brief introduction, we will discuss the growing Voluntary Simplicity movement and examine ways in which we can simplify our own lives, find our real priorities and passions, and gain more time for ourselves and for our loved ones. We will use material from Cecile Andrews' book *The Circle of Simplicity*; it's not necessary to have read it, and extra copies will be available if you don't have this excellent book already. (You can read more about Voluntary Simplicity at: http://www.pansocal.org/how_much_is_enough.html.)

HUMAN MEANING AND THE TECHNOLOGY OF SCIENCE FICTION (1)

Monday 2:50-5:00 (double session)
Sandpiper

Andrew Millard (Workshop #2)

Science fiction is often stereotyped as being all about rockets and robots, when often the setting of a speculative future is largely an excuse for a thought experiment in sociology. Long before Dolly became a household name, science fiction writers were exploring the moral implications of cloning and other such technologies. In this workshop, we will meet for a lighthearted discussion of our favourite novels and short-stories and what they tell us about ourselves as human beings in an increasingly technological culture. There will be some

selected readings available, both at the workshop and on the book table in the lobby of Oceanic.

BIOSKETCH

Andrew Millard has moved across the continental United States twice in three years, and is now half-way between Boston and Manhattan. A biophysicist at the University of Connecticut Health Center, he is a life member of the Sierra Club, a former director of the World Pantheist Movement, and a new member of the Unitarian Society of Hartford, where he will co-organise a course on Voluntary Simplicity this Autumn. This will be his second visit to Star Island.

"THE MYSTICAL MIND" BY D'AQUILI AND NEWBERG (2)

Wednesday and Friday 2:50-3:50
Sandpiper

Bruce Naylor

The late Eugene d'Aquili, long time IRAS member and frequent Star speaker, and his colleague, Andrew Newberg, have recently published an important book titled "The Mystical Mind". This book contains the most thorough articulation of d'Aquili's life-long exploration of the neuroscientific basis of religious experience, leading to *neurotheology*. This workshop will entail a presentation by the workshop leader of the essential concepts in this book, followed by group discussion. Day 1 will focus on the neuroscience underlying religious ritual and the highest state of consciousness, Absolute Unitary Being (AUB). Day 2 will explore their concept of neurotheology based on *cognitive operators*, and how this leads to a metatheology. We will conclude with a discussion of their fundamental metaphysics based on AUB.

BIOSKETCH

Bruce Naylor is a computer scientist who has worked for over twenty years in Computer Graphics and Computational Geometry. His efforts have resulted in technology used in various training and entertainment applications based on interactive 3D graphics (the core computational machinery required for Virtual Reality). Bruce received his B.A. in Philosophy in 1975 from the University of Texas at Austin, and an M.S. and Ph.D. in Computer Science from the University of Texas at Dallas in 1979 and 1981 respectively. He joined the Computer Science faculty at the Georgia Tech in 1981 where he taught and conducted research in various aspects of computer graphics. In 1986, he moved to the research division of Bell Labs (Murray Hill). During his ten years at Bell, he worked on computer graphics, computational geometry, parallel architectures, image/video compression, interactive TV, and wireless communications. In 1996, he left to start a company to commercialize the technology he developed while at Bell. Most recently, he has been a co-founder of a Silicon Valley startup, building infrastructure for shared virtual environments over the Internet.

GULLS' GOALS ON THE SHOALS AND OUR LIFE ROLES (2)

Sunday 4-5 and Wednesday 2:50-3:50
Newton Front

Randolph Nesse and Ursula Goodenough

We are visiting the land of the gulls. We watch them, but do we see what they do and why they do it? This workshop will examine the behavior of the gulls on Star Island and will engage participants in a research project on one aspect of gull behavior. Based on Tinbergen's famous book, "The Herring Gull's World," we will learn to look at the different life spaces occupied by different gulls. We will then try to understand what they should be doing, based on an evolutionary perspective, and will compare this to what we see them doing. Each behavioral pattern has a purpose, one that we will try to understand. After an introductory lecture and discussion, we will go out on the island looking for examples of what we have talked about. We will also divide up into research groups, each of which will pursue a different question. For instance, why do the gulls all fly about shreiking just at dusk? Why do some gulls live between the cabins, while others live at a distance and attack walkers? Do large gulls behave differently than small gulls? How do gulls protect their nests and nestlings? The groups will reconvene at the second meeting to report their findings and to discuss how our lives are different from, and the same as, those of the gulls.

BIOSKETCHES

Randolph Nesse is Professor of Psychiatry and Professor of Psychology at the University of Michigan where he directs the Evolution and Human Adaptation Program at the Institute for Social Research (ISR). Much of his research has focussed on the neuroendocrinology of anxiety disorders, but he is best known for his work to create the field of Darwinian Medicine and his work on evolution and emotions, especially depression. His new edited book, "Evolution and the Capacity for Commitment" will be published later this year.

Ursula Goodenough is Vice-President for Development of IRAS and has previously served as President and as co-chair for 3 conferences. She is Professor of Biology at Washington University and studies the molecular basis of sexual behavior in unicellular green algae, meaning that she is an instant expert in gull ethology. She is accompanied at Star this summer by her son Thomas; her daughter Jessica, another regular, is taking summer-school courses and won't be able to be with us this year.

CHARITABLE AND VOLUNTEER POSSIBILITIES (3)

Wednesday 2:50-3:50 and Friday 4-5
Parker

Chip Ordman and Eunice Ordman

It is sometimes frustrating to realize how few real improvements result from all our scholarly discussions. The world has lots of troubles. What can we do about them? Many IRASians have talents, interests, ideas, and sometimes even adequate retirement funds. How can we use our talents and knowledge for world betterment? This

is a chance for conferees to compare experiences, ideas, and thoughts, with talk mainly about what we can do with our time and talents, less about money.

What have you found to nurture freedom and creativity? A few examples: In her retirement Eunice has been a citizen's dispute mediator, has worked at a YWCA Abused Women's Crisis Center, and has counseled a woman struggling to get off welfare. Others have taught reading for adults, or read to pre-schoolers from homes without books. We can write letters, support charities, or try to build world peace by promoting visits and understanding between people from various countries. The Ordmans have been camp counselors at a children's camp in rural eastern Poland and visited teachers' colleges in the Ukraine and a university in China, providing English lessons and a chance to converse in English. They have traveled with charities to high-altitude Ecuador and to Indian reservations in Montana. What have others done? Do you have ideas for activities, or contacts with appropriate charities?

BIOSKETCHES

Edward (Chip) Ordman retired this year from teaching mathematics and computer science and claims to have lectured from Aalborg to Zomba and from Torshavn to Tasmania.

Eunice Ordman was among the few women teaching college physics in 1946 and has also taught mathematics, computer science, and sculpture. A mother of 5 and grandmother of 13, she has had wide involvement with charities.

COCHLEAR IMPLANTS AND THEIR EFFECTS ON THE DEAF COMMUNITY (1)

Monday 2:50-3:50
Newton Front

Beth Pickenpaugh and Robert Hamilton

The workshop will look into the perspectives of deaf and hard of hearing people and how controversy around cochlear implants affects those who use cochlear implants and their understanding of what it means to be human. An e-mail survey that we conducted will add additional voices to the conversation. We will first provide a short history of deafness and some background on cochlear implants. Then the second part will be a discussion based upon the results of the survey.

BIOSKETCHES

Beth Pickenpaugh is a graduate student at Kent State University in Kent, Ohio and is studying deaf education. She is deaf and can communicate fluently in both English and American Sign Language. During her first year of graduate school, she was a graduate assistant where she was trained to become an early intervention specialist for deaf and hard of hearing infants and toddlers. From that experience, she has encountered many children who have cochlear implants and has worked with parents who were considering cochlear implants as an option.

Robert Hamilton, the "renowned theologian," is a student at McCormick Theological Seminary in Chicago, Illinois, and is a candidate for the Presbyterian Church (USA) ordination. He has strong interests in disability issues and the relationship between religion and science. He has dyslexia. He was a recipient of the conference scholarship from IRAS in the previous two conferences.

WHAT HAS TECHNOLOGY DONE FOR US AND TO US? (1)

Friday 2:50-3:50
Newton Front

V.V.Raman

We will explore the above question with a skiing analogy: Modern technological civilization is like a skier enjoying the thrills of a smooth down-hill acceleration, but whose eyes are closed for s/he doesn't know if the ride is headed to a flat plain where a cozy cottage with warmth and comfort is standing in a magnificent landscape, OR is plunging towards a perilous precipice of which some had warned him as a possible final phase. In such a context can the skier do anything more than offer a heart-felt prayer to be led to the more attractive of the two possibilities?

BIOSKETCH

V. V. Raman has given courses on Science, Technology, and Human Values during his more youthful years (and prior to retirement from his job as a physicist at Rochester Institute of Technology), and considers this topic to be of immense interest and urgency when he contemplates the world in which his grandchildren will be enjoying theirs.

SPIRIT AS SONG (4)

Sunday and Tuesday 4-5
Pink Parlor

Edmund Robinson

Songs have a way of working on a part of your self that flies below radar. What is it about these old tunes that gets around our skepticism, that answers deep needs in the soul? I invite you to ponder on these questions and also on how our reaction to the song is shaped by the techniques of instantiating it. What do we think now of Pete Seeger weeping backstage at Newport Folk Festival 1964 as the renegade folkie Bob Dylan charged on stage with electric guitars? Mainly, though, this workshop is experiential. There will be some group singing and participants are encouraged to bring to the group songs, hymns and tunes that have been meaningful in your lives. Bring the songs that speak to you. If they're accessible enough, we'll all join in.

BIOSKETCH

Edmund Robinson is a minister, lawyer, banjo picker and dancer who lives in Arlington, Massachusetts and is married to Jacqueline Schwab.

EXPLORING PHYSICALITY THROUGH CONTACT IMPROVISATION (4)

Monday and Friday 2-5 (two double sessions)
Brookfield

Tom Rockwell

Contact improvisation typically takes the form of an improvised duet, without music, in which two dancers stay in physical contact as they move through the space, walking, falling, rolling and lifting each other. While it can be practised as an almost acrobatic "art-sport", it can also be a slow, meditative dialogue between two dancers. The focus here will not be on acrobatics, but rather on what the form can teach us about simple body awareness, touch and physical play with/out the mediation of any technology. No prior experience or 'fitness' is required and all exercises will be tailored to participants with disabilities. Participants should come dressed for movement in loose fitting clothes.

BIOSKETCH

Tom Rockwell is president and founder of Painted Universe Inc. a design firm specializing in exhibits and art about the sciences. Current projects include designs for 6000 square feet of hands-on exhibits for an Art and Science Museum in McAllen Texas. Previous projects include: science playgrounds (in collaboration with Leathers and Associates) in Salem OR, Boca Raton FL and Enid OK, exhibits for the Materials Research Society and Liberty Science Center, and illustrations about string theory for The Elegant Universe by Brian Greene. Many of these exhibit and playground projects, in addition to focusing on art and science, involve a "community-built" process in which volunteers participate in the design and construction. Tom was born and raised in Rome, Italy as the child of American expatriates. He received a Bachelor's in Studio Art from Brown University and then worked as an educator at the Franklin Institute Science Museum and Academy of Natural Sciences in Philadelphia. He currently lives in Ithaca NY with his wife and son, where they run a movement studio, fix up old houses and spend time dancing whenever possible.

THE POETRY OF STEPHEN DUNN (4)

Sunday – Wednesday and Friday, 2:50-3:50
Pink Parlor

Robert Schaible

This workshop will have virtually nothing to do with technology, but rest assured that it will indeed deal with human meaning and the various flaws and foibles of our humanness. In this way, it may perhaps be seen as providing some poetic landscaping within which the discussions of technology and human meaning will be enriched. I have chosen Stephen Dunn because he is one of our finest contemporary poets and because his poems are quite accessible, even to inexperienced readers of poetry. We will do a close reading of one of Dunn's recent books, which are on sale in the island bookshop. As usual, the atmosphere will be relaxed and informal, with all voices welcome as we talk together about what the poems suggest about what it means to be a human being.

BIOSKETCH

Bob Schaible is an associate professor of arts and humanities at the University of Southern Maine. His teaching and scholarship are primarily interdisciplinary in the areas of literature, religion, and science. He has served as a consultant or facilitator in a number of programs funded by the NSF and NEH designed to help both secondary and college-level faculty develop curricula that bridge the gap between the sciences and the humanities. He is attending the conference with his beloved wife, Sally Bowden-Schaible, a psychotherapist.

MUSIC FROM CANDLELIGHT IN DAYLIGHT (4)

Monday 4-5, Thursday 2:50-3:50
Pink Parlor

Carl Frank Smith (Workshop #1)

For the past two summers, Carl Smith has offered selections of recorded classical music, accompanied by brief commentary, in the chapel immediately following the candlelight service, and he will continue to do so this summer. In these afternoon sessions he will repeat some of the evening offerings for those for whom the post-candlelight events (~10-10:30 pm) are too late. Those who are interested and able to come to the evening sessions are encouraged to do so since the occasions are better suited to the candlelit chapel ambience.

SHADOW AND SUBSTANCE (4)

Wednesday 4-5
Pink Parlor

Carl Frank Smith (Workshop #2)

This workshop is a meditation on a bronze statue - and on other pieces of art - and on Platonism and neo-Platonism and their spiritual dimensions. How we think about a subject can have as profound an effect on us as what we think about it does. Visual examples can sometimes serve to make this type of thinking more accessible than purely conceptual ones do. Come have a look.

BIOSKETCH

Carl Smith is currently a resident of Nashville, TN where he and his wife Carol are on the faculty of the Blair School of Music at Vanderbilt University. He has been coming to Star for six years, where he has presented workshops on music, art, and poetry as spiritual disciplines; he also offers the Musical Postludes to the Day, after-Candlelight music listening sessions with commentary. He visits Italy as often as possible, where he is able to pursue his interests in music, romanesque architecture, and everything having to do with Italian renaissance art. He has been known to compose music himself upon occasion.

THE JUST AND THE UNJUST (2)

Monday – Wednesday, 4-5
Newton Front

Robert Sorensen

This workshop will identify and examine various theories of justice and injustice. To do so, it will encourage

participants' expressions of their own personal beliefs of what is "just" and "unjust" behavior. We will probe our own uses of these terms in our personal values, and in our working and political lives. We will ask ourselves how justice is a function of free will, law and other forms of determinism, and inquire into what religion and science have to say about justice. We shall deal forthrightly with the definition and role of personal and social conscience, and whether a failure of nerve abounds today. Your leader WILL NOT lobby a laundry list of his favorite causes nor offer a platform for participants' preachments of their favorite causes. This workshop WILL be a search for what we understand by "just" and "unjust" in the context of such concepts as law, fairness, equality, hope, goodness, democracy, peace, honor, rewards, tolerance, free market, free speech, punishments --- and their opposites. We obviously will not cover all this ground in great detail. Please be prepared to participate!

BIOSKETCH

Robert Sorensen Ph.D. is a longtime member of IRAS and attendee at IRAS conferences. He co-chaired a Star Island IRAS conference on free will and determinism and, with Viggo Mortensen, edited a book of contributions to the same subject made in a conference they co-chaired in Denmark. He is an applied social psychologist and survey researcher, continuing to specialize in conflict situations: intellectual property litigation, marketing and political warfare. He has written and spoken in these fields.

SCIENCE, TECHNOLOGY, AND MORALITY (1)

Sunday, Tuesday-Friday, 4-5
Lawrence (Sun), Parker (T-F)

Paul Ulbrich

The workshop presents different approaches to ethical understandings that Paul Ulbrich has constructed over the last several years. These approaches use basic concepts from technology and science as means of making ethical and moral decisions. The idea is that science and technology are not only useful, but they are essential for any present and or future coherent consistent ethical and moral systems. Many different concepts and a wide range of examples are used to demonstrate some of the applications to our contemporary ethical problems. Topics to be discussed include the following. 1) Technology and the distribution of resources as means of connecting ethics to a common shared base with science: What are the logical limits of ethics from a technical perspective? How would one present ethical systems to an alien being from another planet? 2) Responsibility and causation: comparative interventions to reduce premature deaths; sexual morals vs pharmacology to fight AIDS in Africa.

BIOSKETCH

Paul is a retired osteopathic emergency physician who spent most of his career practicing and teaching emergency medicine on the south side of Chicago. He has been active and interested in science and religion dialogue for the last 10 years. He is now a visiting scholar at the Zygon Center for Religion and Science and actively pursuing several diverse interests. In the last couple years he has given presentations of Synesthetics to the American Academy of Religion, taught courses on Pursuit of Consciousness at Du Page Community College, lectured the Freshman Class of Osteopathic Medical Students on Taking a Sexual History, made a presentation at the World Parliament of Religions in South Africa on "An Estimate of the Number or Premature Deaths Prevented by Adherence to Religious Ethics 1990." For the last 10 years Paul has worked on creating systems of ethics that use the sciences and technology as their foundation (and is currently in Saint Paul, Minnnesota, attending the National Woodturners Annual Meeting).

THE SHADOW BOX EXPERIENCE (4)

Thursday 4-5
Writing Room

James Weaver and Stephanie Rayner

How are we in or out of the Shadow Box? Is the Shadow Box consuming us more each day? What contribution does art have to play? Any one who has participated in the Shadow Box art experience is invited to talk with the artists and with others who have participated for a hopefully lively discussion about how this experience affected you, and how it ties in, illuminates, and/or contributes to the theme and concerns of this year's conference.

BIOSKETCHES

James Weaver is a clinical psychologist who has been in practice for over 25 years. He has over 20 years experience in writing, producing, directing and editing independent film and video projects including dramatic, documentary, and educational pieces. His feature length script "Camarillo" won the Out of Cake Screenwriting Contest in 1998. His videos have been selected to be in Maine Art's showcases. This year his dramatic video, "Apparitions" appeared on the station of the Maine Public Broadcasting System and his radio play, "Free Mind Conspiracy" on Portland Radio Theater.

Stephanie Rayner is an international lecturer and professional artist with art works that have been shown and collected by many major art museums. Ms. Rayner's works involve themes and issues related to religion and science and have been recently shown, accompanied by her lectures, at I.N.S.A.P. II (Malta) organized by the Vatican Observatory and the University of Arizona, and MAN AND MILLENNIUM (Johannesburg S.A.) an international conference on cosmology and deep space morphology.

WRITING AS FUSION OF FORM & PASSION (4)

Tuesday, Thursday 4-5
Newton Back

Jennifer Whitten

This is an experiential workshop designed to spark your own writing, so bring paper, pens, and a readiness to be inspired. Strong writing contains and is contained by form, whether it's the easily recognizable shape of a sonnet or the more subtle internal form the brain makes to match ideas, sounds, and images. We'll play with some relatively unusual writing exercises, and we'll look at how

our passions show up on the page. (Plus, I'll bet a plugged nickel we'll come up with some lovely lines!) The exercises are geared toward poetry but can easily become prose, or any non-defined genre where creativity wants to settle in. Open to beginners and experienced writers.

BIOSKETCH

Jennifer E. Whitten has been teaching writing classes to college students and older adults for the past nine years. In spite of a secret hankering to study marine biology, she has an MFA in Creative Writing from the University of Iowa Writers' Workshop, an MA in Writing/Literature from the University of Colorado in Boulder, and a BA in Writing & Theatre. She writes poetry and short fiction, and is currently working on too many novels at once.

ENHANCING THE EFFECTIVENESS OF PART-TIME AND FULL-TIME POLITICAL ACTIVISM (3)

Sunday, Monday and Friday, 2:50-3:50
Parker

Neil Wollman

We will cover the basic principles of social influence – how to influence public opinion and get folks involved -- garnered mainly from social psychology. These ideas can be applied to most issues you might have interest in. Participants will then brainstorm on how to use these principles in their work for social change.

BIOSKETCH

Neil Wollman is Professor of Psychology, now with the official and pretentious title of Senior Fellow in the Peace Studies Institute at Manchester College. (He's not really that old or ready to go out to pasture, though.) Except for occasional teaching, he is now pretty much of a full-time activist, working on various campaigns usually geared in some way to the concerns of professors and students. Some of his work has focused on the application of psychological principles to social change. And that's how we get to the workshop.

ART & EXPERIENCE
SHADOW BOX

Stephanie Rayner and James Weaver

SHADOW BOX is an art video/installation that invites you to sit down in it's chair and become an integral part of the art.

SHADOW BOX will be located beyond the Art Barn on the rocks near the sea and, weather permitting, will be available for viewing from 7 am. until dark from Monday to Friday. Optimal clarity will be at times when the sun is not shining directly on the screen.

The work is best experienced in solitude. If you come to the work and someone is already viewing it, please keep a discreet distance until they leave. Children are the exception and should be accompanied by an adult.

And lastly, to allow everyone first hand interaction and individual perception unhampered by preconception, we ask that you not discuss the nature of the work with anyone who has not experienced it. Enjoy.

Stephanie Rayner is an international lecturer and professional artist with art works that have been shown and collected by many major art museums. Ms. Rayner's works involve themes and issues related to religion and science and have been recently shown, accompanied by her lectures, at I.N.S.A.P.II (Malta) organized by the Vatican Observatory and the University of Arizona, and MAN AND MILLENNIUM (Johannesburg S.A.) an international conference on cosmology and deep space morphology.

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CHAPEL AND CANDLELIGHT SERVICES AND MUSICAL POSTLUDES

Activities of the day begin right after breakfast each morning with chapel.
Scheduled activities of the day end with a candlelight service followed by musical postludes.

CHAPEL SERVICES
9 - 9:45 am

Phil Hefner will serve as chaplain of the week.

The theme of the morning chapel services is "Technology and Human Becoming." Technology will be dealt with as a dimension of the processes of human evolution. Technology shapes our images of ourselves as humans, and these in turn shape the development of technology. The manner in which we reflect on technology is also part of the human process. Changes in our understanding of ourselves go hand in hand with changes in our understanding of technology.

Daily topics:

Sunday:	Technology as part of our becoming
Monday:	The movement from techno-world to techno-self
Tuesday:	Seeing ourselves in the techno-mirror
Wednesday:	The essence—to be free and free to imagine
Thursday:	Story is basic
Friday:	Cyborg, technosapiens, and God

The conversations between religion and science at Star Island have been part of Phil Hefner's becoming for several decades. Teaching theology at the Lutheran School of Theology at Chicago, directing the Zygon Center for Religion and Science, and editing *Zygon: Journal of Religion and Science* are also integral to that becoming.

CANDLELIGHT SERVICES
9:45 - 10:15 pm

Saturday:	**Edie and Steve Whitney** - "An Intergalactic Guide to Conference Hopping"
Sunday:	**Marjorie Ann Young** - "Technology and Me"
Monday:	**Rob Hamilton** - "Reflections on Human Meaning from a CPE Student"
Tuesday:	**Andrew Millard** - "Lughnasdh (or Llamas). The First Harvest"
Wednesday:	**Jeanie Groustein** - "Transformations"
Thursday:	**Karl Peters** - "Religious Technology"
Friday:	**Susan Treleaven** - "Home"

MUSICAL POSTLUDES
10:15 - 10:45 pm*

A "musical offering" will be a part of each day's schedule: a kind of reflective postlude to the day's events and efforts. These will take place in the chapel immediately following Candlelight. Each will last not more than 30 minutes, of which at least 20 minutes will be music. These sessions will be led by Carl Smith, who will provide introduction to and commentary on the music, all of which will be chosen to reflect in some way the context in which we find ourselves: in a chapel at a conference on an island in an ocean under a wide and starry sky with birds flying around. The music will tend towards the reflective (as befits the hour), will come largely from this past century, will require no musical expertise to understand and appreciate, and will be unrelated to the music offered on other nights, so conferees may attend as frequently or infrequently as they choose.

Carl Smith is Senior Lecturer in Music Composition and Theory at The Blair School of Music at Vanderbilt University in Nashville. Previously he lived for more than 25 years in St. Louis, where he taught in the Music Department at Washington University. An organist and harpsichordist by profession, he is also a composer of song cycles, cantatas, motets, and instrumental works. He has an especial affinity for all things having to do with the art of renaissance Italy in general and with the verse of Michelangelo in particular. This is his sixth IRAS conference.

* The musical postludes will be on Saturday through Thursday; there will be no postlude on Friday.

PEOPLE

Conference Planning Committee

Willem Drees	Cochair
Bruce Naylor	Cochair
John Chapin	
Terrence Deacon	
William Grassie	
Karl Peters	

Conference Administrators

Conference Coordinator	Nancy Anschuetz
Registrar	Bonnie Falla

Conference Facilitators

Announcements	Edith Pierson
Book Table	Ann Friend
Candlelight Coordinator	Betty Lau
Children's Program	Sandra Woodworth, Coordinator
Choir Director	Jane Penfield
IRAS/*Zygon* Reception	Nancy Anschuetz
Program Pamphlet	Tom Gilbert
Social Hour Coordinator	Sara Sturges
Star Beacon Editor	Jilana Ordman
Talent Show	Bill Stone
Workshop Coordinator	Ursula Goodenough
Equipment Facilitator	Dave Pierson

Most of the facilitators are recruited on the Island. A more complete list of facilitators will be prepared for the banquet program pamphlet after we know who they are.

The successful functioning of the conference is utterly dependent on the facilitators. If you would like to become actively involved in the functioning of the conference and meet and work with new and old friends, the conference chairpersons and coordinator, choir director, and *Star Beacon* editor and production manager would like to hear from you.

IRAS Scholars

Robert Geraci
Janice Kraus
Jacquelyn O'Sullivan

IRAS Officers

Christopher Corbally S.J.	President
Karl Peters	Immediate Past President
Mary Evelyn Tucker	Vice President, Religion
Terrence Deacon	Vice President, Science
Billy Grassie	Vice President, Interdisciplinary Affairs
Robert Schaible	Vice President, Conferences
Ursula Goodenough	Vice President, Development
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Michael Cavanaugh	Ann Pederson
Terrence Deacon	Andrew Newburg
Willem B. Drees	Mary Evelyn Tucker
Billy Grassie	Barry Werner
John Grim	Barbara Whittaker-Johns
Marion Griswold	

Other Council Members (Ex Officio)

Philip Hefner	*Zygon* Editor
Solomon Katz	CASIRAS Representative
Nancy Anschuetz	Conference Coordinator

Others with Official Responsibilities

Marjorie Davis	Historian/Parliamentarian
Paula Fangman	Membership Coordinator
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Douglas Burton	Webmaster
John Swanson	Discussion Groups Coordinator

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Development	Ursula Goodenough
Finance	Thomas Fangman
Internet	Billy Grassie
Long-Range Conf. Planning	Robert Schaible
Membership	Nancy Anschuetz
Newsletter	Karl Peters
Nominating	Jeanie Graustein
Publicity	Marion Griswold
Scholarship	William Falla

BOOKS FOR ADDITIONAL READING

Books by speakers, chaplain, and the author of the book seminar

Willem B. Drees, *Religion, Science and Naturalism*. Cambridge University Press, 1996 (paper 1998)

Willem B. Drees, *Creation: From Nothing until Now* (Routledge, September 2001)

Ursula Goodenough, *The Sacred Depths of Nature*. Oxford University Press, 1998

Philip Hefner, *The Human Factor*. Augsburg/Fortress, 1993.

William R. LaFleur, *Liquid Life: Abortion and Buddhism in Japan*. Princeton University Press, 1994

William R. LaFleur, *Buddhism: A Cultural Perspective.* Prentice Hall, 1988

William R. LaFleur (ed.), Masao Abe, *Zen and Western Thought*. University of Hawaii Press, 1989

Michael Ruse, *Can a Darwinian Be a Christian?* Cambridge University Press, 2000.

Michael Ruse, ed., *But Is It Science? The Philosophical Question in the Creation/Evolution Controversy.* Buffalo: Prometheus Books, 1996.

M. Ruse, *Mystery of Mysteries: Is Evolution a Social Construction?* Harvard University Press, April 2001 (pb)

J. Teske, 'The social construction of the human spirit', in N.H. Gregersen, W.B. Drees, U. Görman, eds., *The Human Person in Science and Theology.* Edinburgh: T & T Clark.

Philosophy and/of technology, some titles

Albert Borgmann, *Technology and the Character of Contemporary Life*. U. of Chicago Pr, 1987

Frederick Frank, *What Does It Mean To Be Human*.

Donna Harraway, *ModestWitness @ Second Millennium*

Hans Jonas, *The Imperative of Responsibility.* University of Chicago Press, 1985 (ethics)

Steven Kern, *The Culture of Time and Space, 1880-1918*. Harvard U.P., 1986. (visual culture)

Carl Mitcham, *Thinking Through Technology*. University of Chicago Press, 1994 (philosophy of technology)

David Noble, *The Religion of Technology*. Penguin USA, 1999 (history)

Neil Postman, *Technopoly*.

Huston Smith, *Why Religion Matters.* New York: Harper, 2001.

Biotechnology

Ron Cole-Turner, *Human Cloning: Religious Responses*. Westminster John Knox Press, 1997

Gina Bar Kolata, *Clone: The Road to Dolly and the Path Ahead*. Wm. Morrow & Co, 1999.

Alan McHughen, *Pandora's Picnic Basket: The Potentials and Hazards of Genetically Modified Foods*. Oxford University Press, 2000

Information technology and identity

Merlin Donald, *Origins of the Modern Mind.* Harvard University Press, 1991.

Kenneth Gergen, *The Saturated Self: Dilemmas of Identity in Contemporary Life*. Basic Books, 1991.

Rheingold, *The Virtual Community: Homesteading on the Electronic Frontier*. Harper, 1993.

Sherry Turkle, *Life on the Screen: Identity in the Age of Internet*. Simon & Schuster, 1995.

Jeffrey M. Bradshaw (Editor), *Software Agents*, The MIT Press, Cambridge MA, 1997.

Websites

The journal *Leonardo*, and its website http://mitpress.mit.edu/Leonardo , a publication of the International Society for the Arts, Sciences and Technology (ISAST), might be of interest. The many links from this website can provide an up-to-date tour of contemporary technological art.

Netfuture is a web journal, edited by Stephen L. Talbott: http://www.netfuture.org

Wired (www.wired.com) another famous journal on internet and related matters.

ACKNOWLEDGMENTS

We are grateful to our speakers and workshop leaders, to those who said "yes" when we asked them to be a facilitator, and to our conferees – all of whom share our enthusiasm for this conference and who generously contribute their time and talents without pay as they carry out the planning and innumerable tasks necessary for a successful conference.

We express our appreciation to the Star Island staff for the competent, courteous, and efficient way they take care of our needs and help make our week on the Island so rewarding. IRAS also acknowledges and expresses its gratitude for a grant from the Isles of Shoals Association (UU) to help cover some expenses of our wonderful youth program.

48th Annual IRAS Conference, "Human Meaning in a Technological Culture," Saturday, July 28, thru Friday, August 3, 2000

PERIOD	ACTIVITY	Saturday	Sunday	Monday	Tuesday	Wednesday	Thursday	Friday
8:00 -9:00 am	**Breakfast**							
Morning Activities: Chapel and Plenary Lectures								
9:00-9:45 am	**Chapel**	Welcome to Star Island	Phil Hefner, Conference Chaplain					
10:00-10:55 am	**Lectures (El)**		Rustum Roy	Rustum Roy	Ursula Goodenough	Tom Rockwell	Wim Drees	Closing Panel
10:55-11:15 am	**Break**							
11:15-12:15 pm	**Discussion**							
12:30-1:30 pm	**Lunch**							
Afternoon Activities[1]: Recreation[2], Seminar, Workshops, Free University[3], and Socializing								
1:40-2:40 pm	Annual Meeting IRAS Seminar Free University	ARRIVING, GETTING SETTLED, GREETING FRIENDS, EXPLORING		IRAS Seminar (Nb)	IRAS Seminar (Nb)		IRAS Annual Meeting	
2:50-3:50 pm	**Session I** Workshops		Carr (Nf) Cavanough (Sp) Keune (Lw) Schiable (PP) Wollman (Pk)	Graustein (El) Millard #2 (Sp) Pickenpaugh (Nf) Rockwell (Br) Schaible (PP) Wollman (Pk)	Carr (Nf) Everett (Pk) Lowry (Sp) Millard #1 (Lw) Schaible (PP) Katz (Ma)	Bercaw (Nf) Naylor (Sp) Nesse (Lw) Ordman (Pk) Schaible (PP) Katz (Ma)	Bercaw (Nf) Lowry (Pk) Millard #1 (PP) Smith #1 (El)	Naylor (Sp) Raman (Nf) Rockwell (Br) Schaible (PP) Wolman (Pk)
4:00-5:00 pm	**Session II** Workshops	**Star Island Orientation (MANDATORY[4])**	Cavanaugh (Sp) Goodwin (Pk) Nesse (Nf) Robinson (PP) Ulbrich (Lw)	Everett (Pk) Millard #2 (Sp) Rockwell (Br) Smith #1 (PP) Sorensen (Nf)	Millard #1 (Lw) Robinson (PP) Sorensen (Nf) Ulbrich (Pk) Whitten (Sp)	Everett (Sp) Fagg (El) Smith #1 (PP) Sorensen (Nf) Ulbrich (Pk)	Millard #1 (PP) Ulbrich (Pk) Weaver (WR) Whitten (Nb)	Fagg (Nf) Graustein (El) Ordman (PP) Rockwell (Br) Ulbrich (Pk)
5:30-6:30 pm	**Happy Hour** (Newton)				IRAS/Zygon Reception[5]			
6:30-7:30 pm	**Dinner**					Lobster Dinner[6]		Banquet
Evening Activities: Plenary Lectures, Candlelight Services, Snacks, Shows, and Owl Sessions								
7:30-9:30 pm	**Lectures and Discussion**	Wim Drees	Alice Mulvehill	Bruce Naylor	Bill La Fluer	John Teske	Billie Grassie Pelican Show[7]	Talent Show
9:45-10:15 pm	**Candlelight[8] (Chapel)**	Edie and Steve Whitney	Marjorie Anne Young	Rob Hamilton	Andrew Millard	Jeanie Graustein	Karl Peters	Susan Treleaven
10:15 p - ?		**Musical Postludes, Snacks, Films, Dancing, and Socializing[9]**						Farewell Party (Newton)

[1]Room abbreviations are: **Br** = Brookfield; **El** = Elliott; **Lw** = Lawrence; **Nb** = Newton back; **Nf** = Newton front; **Pk** = Parker; **PP** = Pink Parlor; **Sp** = Sandpiper; **WR** = Writing Room; **Ma** = Marshman

[2]There will be an excursion to Appledore Island on Monday afternoon. Please sign up on Sunday

[3]"Free University" and other activities organized by conferees will be announced on the Island and scheduled for the 1:40 to 2:40 pm period.

[4]The Star Island Orientation, conducted by the Star Island staff starting at 4 pm, is the one and only scheduled activity that is mandatory for all conferees.

[5]The Happy Hour and IRAS/Zygon reception are combined on Tuesday. All are invited; we urge you to join us.

[6]There will be a lobster dinner on Wednesday. Tickets are $5.50 per person and must be purchased by Monday noon. **Lobster diners should be seated by 6:15 pm.**

[7]On Thursday evening the plenary session discussion ends at 8:55 pm, the Pelican show starts at 9:05 pm, and the Candlelight Service begins as soon as the Pelican Show is over.

[8]The Candlelight Service will be immediately followed by a half hour Musical Postlude (also in the chapel) on every night except Friday.