

# IRAS NEWSLETTER

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## **The Energy Transition: Religious and Cultural Perspectives**

### **IRAS at Star Island 2010**

**Co-chairs: Norm Laurendeau and Larry Rasmussen**

**Summary by Dan Solomon**

#### **Introduction**

Arriving at Star Island, we were greeted by the familiar rugged beauty and the enthusiastic shouts of the pelicans, "you did come back!" Knowing that this might be the last regular IRAS conference at Star, though, was bound to raise mixed emotions, even in a recent shoaler like me. Still, the pelicans' enthusiasm, the island's charm, and the wonderful IRAS fellowship quickly channeled those mixed feelings to the positive side.

This fifty-sixth annual IRAS summer conference couldn't have found a hotter topic than energy. Contrary to the fears of the less-technically-minded, though, it was not just another stark presentation of the situation. Rather, in the words of the organizers, this conference was possibly "the first in the United States to consider fully the significant connections between energy and religion ..." From co-organizer Norm Laurendeau's introductory talk, through the final session with all of the speakers, the talks were remarkably consistent in their thoughtfulness, understandability, and coherence with the main thread of the conference. Star Island was an ideal location for this conference, with its key theme of the need for life-style changes in the interest of planetary sustainability. The constant reminders on the island of limited resources helped to keep our focus on the task at hand.

As advertised in the title of his talk, Laurendeau kicked off the conference with an "Energy Primer" outlining the topics to be presented, "from Thermodynamics to Theology." He presented the key problems to be focused on as those of oil depletion and of climate change; and the possible solutions as enhanced efficiency, reduced consumption, and new technologies. Finally, he described two cultural tensions which will need to be addressed

in solving these problems. First of all, ethical claims of equity and justice require us to note that both problems and solutions must be considered with regard to disproportionate effects on the poor. Secondly, possible tensions must be addressed between material solutions presented by science, and cultural solutions represented by religion.

The technological fixes aim to minimize the need to reduce energy use, requiring life-style changes; but at increasing cost. Laurendeau pointed out that the "social fix" of decreased consumption could go a long way towards resolving resource and climate problems, but only with a major change in values. That the U.S. uses twice as much energy per capita as Europe and Japan shows we have much room for improvement. Studies show that countries with per-capita energy use much lower than the U.S. are already approaching the highest levels of human development, as measured by the UN's Human Development Index. For countries at the highest development levels, large increases in energy use produce little or no gains in development.

Social fixes require a change in values. While the facts and options are provided by science and technology, it seems that scientists are not the most credible messengers. In the U.S., at least, a religious approach seems to be more promising. Some specific ethical principles that Laurendeau mentioned as being of relevance, both within his own Catholic tradition and in general, are stewardship, participatory decision making, prudence, fairness and justice. He talked about an "Ethic of Responsibility," and concluded by suggesting a primary role for religion in providing hope.

## Morning Chapel Services

On Sunday morning, the first of six morning chapel services prepared by Drew Christiansen, S.J. was presented. These talks expanded on the theme of Catholic social teaching touched on by Norm Laurendeau during his opening session. Unfortunately, Fr. Christiansen was too ill to attend the conference in person, so his reflections were presented by Jeannie Graustein, Larry Rasmussen and Norm Laurendeau, with introductory comments provided by Minister-of-the-Week Barbara Whitaker-Johns. Music was provided by Star Island's Music Director, Sam Mansfield, with help from Barbara's son Isaac.

Fr. Christiansen's talks introduced Catholic Social Teaching as a collection of statements by individual Catholic leaders and meetings of leaders on contemporary social issues. Fundamental here is a communitarian, not individualistic, ethic; "ideas can't be separated from the communities that generate and carry them out." But, we must balance the individual with the social, as "any being is most itself in relationship." Following a period during which human rights had been overshadowed in the Catholic Church's teachings by nationalism and capitalism, the Church became a foremost voice for human rights, beginning in the early 1960's with Vatican II and Pope John XXIII's encyclical "Peace on Earth." Now, it was stated that the end of all political authority is the promotion and protection of human rights.

Recent Pastoral Letters, "The Planetary Common Good" and "Renewing the Earth," have carried the Social Teaching into environmental issues. They note that "in this shrinking world, everyone is affected, and everyone is responsible," and counsel against the false choice between a decent environment and a decent life. Christianity should motivate a love of creation and action to protect it. Unfortunately, sacrifice seems to be a non-starter in the U.S.; but it will be required to make the necessary changes.

Fr. Christiansen closed his remarks by describing how Teilhard De Chardin's thought combines the scientific and religious, speaking to those who can't separate thought and spirit. Teilhard challenges the notion that spirituality comes only from contemplation, and draws three relevant lessons from science: (1) it reveals the diversity and complexity of the material world; (2) the habit of research disciplines the scientist; and (3) there is no resting where we have been. Deep mysticism requires an appreciation for the variety, complexity, and richness of the Cosmos. While knowledge of the real comes from such scientific study, it also comes from understanding the different ways of human knowing, such as religious and spiritual disciplines. Teilhard noted that scientific research involves forgetting oneself, to devote attention to the object of research. Therefore, it is a quintessentially spiritual discipline

## Plenary Sessions

**John Abraham.** The plenary sessions continued on Sunday morning, with John Abraham discussing "Transportation: Beyond Oil to Synfuels and Biofuels." Building on the primer provided by Norm Laurendeau, Dr. Abraham compared alternatives to the internal combustion engine (ICE), which is currently

used for most transportation in the U.S. Most car engines use gasoline because it is the cheapest fuel per amount of power provided. In diesel engines, fuel ignition is caused by compression rather than a spark plug, and the compression ratio is greater. This provides up to 30% higher thermal efficiency, but it comes at the cost of higher particulate emissions. In any case, theoretical and practical limits mean that, even with a lot of work, technological advances in ICE design might only improve the efficiency by 25%.

One simple alternative is use a combination of an ICE, an electric motor/generator and a battery to receive braking energy and spare energy from the ICE. Both mechanical energy from the ICE and electric energy from the battery are used to drive the wheels. These ICE-electric hybrids are in successful commercial production, as witnessed by the Prius. Another possibility is the fuel cell, which produces electricity like a battery, but requires an external source of fuel. The fuel is hydrogen, which combines with oxygen to produce electricity, plus water as a waste product. Fuel cells can be much more efficient than ICE's, but they are currently limited by the expensive materials required and lack of a distribution system for hydrogen.

Abraham then turned from efficiency to the other side of the energy issue, that of carbon emissions. When used in cars with conventional drive trains, biofuels produce less than half the CO<sub>2</sub> produced by burning diesel fuel or gasoline, and using biofuel from waste oil produces even less. Other types of drive trains can have much lower CO<sub>2</sub> emissions, but cost and availability are still problems for their use. Since the entire cycle of energy production must be considered, it can be difficult to directly compare the different options. For example, emissions arising from plug-in electric vehicles must include those from the source of electricity.

Abraham concluded by pointing out that the problems we are discussing are exacerbated "for the love of the car." In general, consumers don't care about thermal efficiency or CO<sub>2</sub> emissions; what matters to them is price, comfort, and reliability. Beyond

### IRAS Winter Meeting

IRAS has tentatively been offered a grant of \$103,500 to run a winter conference in Berkeley, CA, starting in February, 2013, by the John Templeton Foundation. The conference will be in collaboration with the Zygon Center in Chicago, IL and the Dominican School of Philosophy and Theology in Berkeley, California. The IRAS Council has approved reception of the grant and named Norm Laurendeau as the conference co-chair from IRAS, with Lea Schweitz as the co-chair from the Zygon Center. The grant proposal has been resubmitted to address remaining issues, including the development of a three-year rather than a four-year budget. A final decision by the John Templeton Foundation is pending, including signing of the grant award by Ted Laurensen, President of IRAS. Final approval is expected before Thanksgiving. Further details will follow in the spring newsletter.

this, social attitudes can affect the very need for a car. Research, as described in this talk, can present the options, but as Laurendeau emphasized, it's up to society to ensure that all factors are considered in choosing among them.

**Susan Leschine.** Next up was Susan Leschine, who combined her passions for microbes, the environment, and social justice in her talk on "The Future of Biofuels: Science, Economics, and Ethics." She began by reviewing the basic facts of global warming, the need to reduce emissions of CO<sub>2</sub>, and the need to find alternatives to petroleum-based energy.

Questions have been raised about the supposed "negative energy output" for biofuels, but the real issue is the practical effects of using any particular energy source in terms of CO<sub>2</sub> footprint, cost, national security, and jobs. For example, not only can biofuels replace non-renewable petroleum-based fuels, but bio-refineries can also produce replacements for other petroleum-based products. It's important to look at how biofuels are being produced. For example, using coal energy to make corn ethanol will not result in lower overall emissions. If done properly, the U.S. could sustainably produce enough fuels from biomass to replace about 30% of our petroleum consumption.

Leschine's particular focus is on the production of cellulosic ethanol, whose use of all components of biomass, including cellulose and hemicellulose, results in less competition with food production. Leschine and her colleagues have used a novel bacterium, the Q microbe, to develop a simplified process, Consolidated Bio Processing (CBP) technology. The Q microbe's trick is to perform not just the final step of producing ethanol from pre-processed material; it is also uniquely capable of doing the pre-processing itself, by fermenting the various components of biomass into the form it needs to make ethanol. Finally, it can tolerate the resulting ethanol, thus surviving to continue the process.

Leschine concluded by acknowledging that biofuels will not solve all our energy problems. In fact, there are no such "silver bullets," only "silver wedges" that can help to provide parts of the solution. Particularly important will be conservation, necessitating lifestyle changes. In this, she sees a role for religion as providing hope to sustain the needed changes. Her sense that nature is sacred, and that all life is interrelated, requires us to take action to save our planet.

**R.V. Ravakrishna.** R.V. Ravakrishna's talk on "Sustainable Energy Choices for Rural India" continued the technological focus of the first part of the conference. However, in a wonderfully appropriate twist, he began with a Vedic hymn: "let noble thoughts come to us from all directions." He followed this with a fascinating survey of relevant ideas from the "Sanatana Dharma," the "Eternal Religion" which westerners call Hinduism.

Ravakrishna pointed to the philosophical temper and inward bias in Hindu thought as its unique contribution to religion and philosophy. This is exemplified in a quote that might sum up the dual focus of IRAS and this conference, that "the mystery of the outward world only deepens if the mystery of the inner world is not tackled." Thus, in Hindu thought, science and religion are seen as complementary ways of dealing with the basic unity of

the universe. In this unified view, with no clear distinctions among matter, energy, and spirit, or between humanity and nature, sustainability is the very life-breath of traditional Indian culture.

From this perspective, Ravakrishna brings his work at the Indian Institute of Science to bear on improving the lives of rural people. He notes that there is a correlation between development and energy use at these levels of development (as opposed to the leveling out of the correlation that Laurendeau described for higher levels of development). The goal is to provide simple, affordable, efficient, sustainable, and environmentally sound energy, using those resources available in poor rural areas.

One resource that is readily available in rural environments is biomass. Ravakrishna described family sized designs for biogas plants, which convert cattle dung and other biomass into fuel and compost. The biogas produced by these "digesters" can be used to power small engines, such as those used for two-wheeled vehicles. Another energy source which is widely available in rural areas is solar power. Ravakrishna described a larger scale project in the holy town of Shirdi, where solar energy produces steam used in cooking meals for 50,000 people per day! He concluded by emphasizing the need for governments to set policies that make the most socially beneficial use of the results of scientific and technological research. "Earth has plenty to satisfy every man's need, but not every man's greed."

**George Hoguet.** In his talk on "Renewable Energy for Sustainable Communities: Credits and Offsets," George Hoguet explained how governments, companies, private organizations, and individuals can be encouraged to follow socially beneficial practices in the production and use of energy. The basic idea is to trade off environmentally beneficial but more costly uses against more harmful but cheaper ones. He began by distinguishing mechanisms for dealing with two issues: carbon offsets for reducing CO<sub>2</sub> emissions, and renewable energy credits (RECs) for promoting the use of renewable sources of energy.

The idea of an REC is that a wind farm, for example, produces not just power, but also a "green" benefit. As with any power plant, the producer receives money for the energy provided to the power grid. In addition, a quantity of RECs is received, based on the amount of replaced non-renewable energy (i.e., fossil fuels). The RECs may then be sold on the open market, so the producer is compensated for possibly higher costs of renewable energy production. In many states, power companies using non-renewable sources are required to buy RECs as compensation. Private organizations and individuals may also buy RECs to help promote renewable energy.

Carbon offsets deal with the other big problem with fossil fuels, that of greenhouse gas (GHG) emissions. Like an REC, this is a financial instrument which is typically mandated by government to be purchased by an energy producer in proportion to the amount of GHG emissions. A variety of means may be used to offset the emissions - not just renewable energy sources, but also reforestation and conservation, for example.

From offsets and credits, Hoguet shifted to a broader focus on how to get people, especially in the U.S., to make the changes

that will be required to solve our energy problems. Hoguet suggests how Europeans can maintain a standard of living as high as ours, while using half as much energy. As Bill McKibben said, it's "not because they have better technology. It's because they have better communities." Hoguet asks "how can I 'be' in such a way as to help foster community?" He has found some answers in Buddhism, though he cautions that "if you say you're a Buddhist, you're probably not!" He closed with a quotation from Thich Nhat Hanh: "The path of brotherhood and sisterhood is more precious than any ideology or religion."

**Chuck Kutscher.** Chuck Kutscher spoke on Tuesday morning, accenting the big picture in his "The Urgency of Climate Change and the role of Renewable Energy." Beginning with a dramatic Frank Capra film clip from 1958, he continued with the bold statement that "if you're not spending every waking hour working on this, you're probably not spending enough time on it." In reiterating the unequivocal evidence for human-caused climate change, he debunked the "outright falsehoods" of so-called climate change skeptics. The problem is that such misleading information is effective, just as the tobacco industry's campaign against the evidence connecting smoking with cancer was effective for a long time. But the evidence now is overwhelming. As climate models improve, they consistently confirm the effects that were predicted by simpler models. [The famous "hockey stick" curve of drastically increasing temperature with time is being replicated in many studies and in many effects. Furthermore,] following the precautionary principle, we should prepare for worst cases, not just the already bad most likely case.

Alternative sources and technologies which could contribute to the solution are concentrated solar energy, wind energy, and cellulosic biomass, as described by Susan Leschine. Finally, nuclear energy must be considered since "the more you understand climate change, the more reluctant you are to take any option off the table." One study has shown that inaction is the most expensive option, costing 5-20% of world GDP, while the required actions would cost about 1% of world GDP. In answer to a question, Kutscher noted that one thing we need to do is to recover the "older American traditions of frugality and re-using, which haven't been in evidence lately," but which he feels are still there deep down.

**Anne Perkins.** Frugality is fundamental in the work described by Anne Perkins in her talk on "Conservation: Zero Net-Energy Homes for Low-Income Families." From her start as a carpenter building her own cabin, Perkins has always focused on ways to be energy efficient. She described development of a village of 20 zero net-energy homes in Massachusetts, guided by her "mantra": first, lower energy need; next, increase the passive solar gain; last, add just the necessary renewable energy sources. Since "it takes a village to make a village," work on the project began with Integrated Design Team Meetings, which included not just the designers and engineers, but also the homeowners, builders, and all others involved.

Lowering the need for energy meant designing for the northern climate, where heat would be needed most of the year. For example, windows were sized depending on whether they would

be sun-facing or not. Even the habits of the residents were part of the design, with air distribution aided by keeping doors within the structure open most of the time. This resulted in very low heating needs, with just a single natural gas room heater sufficient for an entire house, supplemented by an electric heater for the bathroom. Electricity and hot water were provided by solar systems, with a natural gas backup system for water heating.

Perkins concluded by discussing the results in terms of the very good scores achieved by these homes on the Home Energy Rating System (HERS). Such claims for energy efficiency need to be verified, and she discussed how this was currently being done for this project. Crucial to the measurements, and to maintaining high efficiency levels, was continued communication with the residents.

**William Irvine.** William Irvine brought the ideas of ancient Stoics to bear on contemporary life in "Overcoming Energy Gluttony: A Philosophical Perspective." Appropriately, he used no PowerPoint slides or other visual aids, and began by thanking the Atlantic Ocean for making Star Island possible. He explained that energy gluttony is not a conscious craving for energy per se, but is due to the craving for material goods, perhaps derived from social desires. Controlling these desires is one of the keys to reducing our demand for energy. Our inherited wiring favors habits furthering reproductive success, not happy lives, so we should be suspicious of our desires, rather than embracing them.

The Stoic approach begins with taking ownership of each desire, treating it suspiciously as one would the offerings of a salesperson. In particular, we must recognize and counter the tyranny of stuff; i.e., the fact that we have too much and that it can control us just by being there. Expensive but popular items, as with the recent craze for granite counter tops, do not enhance our lives to the extent that the monetary and environmental costs warrant. The obesity epidemic, which is spreading from the U.S. to the rest of the world, is "a crisis of desire," and is to public health what global warming is to the environment.

Conventional solutions to these problems include: (1) education - just tell them it's bad (this may or may not work); (2) political - outlaw or punish the undesirable behaviors; and (3) technical - avoid or treat the consequences. Irvine instead offers a philosophical solution. If we can overcome the desire for social standing, we might reduce our desire for material things. We need to distinguish between things we have control over, and those we don't. As the Stoic Roman Emperor Marcus Aurelius said, the main thing we have control over is our character, and self-control is a prerequisite for character development.

Irvine pointed out that, contrary to the common image of the Stoics, they did not believe in repressing all emotion, only negative ones. Being in control of emotions does not mean eliminating them. The aim is tranquility, with no anxiety and no envy. This approach is not unique to the Stoics, and Irvine said that he had begun by trying Zen Buddhism, before finding that Stoicism worked better for him. There are many other examples in philosophy and religion of compatible approaches; one of these was described by R.V. Ravikrishna in his talk. In responding to questions, Irvine elaborated on how beauty and delight can be found

non-materially. To start with, “you are your own greatest work of art.” He advocated practices of “inconspicuous consumption” such as bird-watching and learning science. Religion can have an important role, if it focuses on necessary self-transformation; all too often it fails to do so.

**James Martin-Schramm.** James Martin-Schramm subsequently presented a concrete example of how religion can help, in “Ethical and Religious Values in Energy Policy.” The Ethic of Ecological Justice, growing out of discussions at the World Council of Churches, proclaims “an obligation to preserve the health and integrity of the biosphere while providing for the fulfillment of basic human needs.” Taking account of the differing needs of developed and developing countries, the aim was to unite social ethics and environmental ethics in one framework. Economic solutions cannot be implemented without considering environmental costs, nor environmental solutions implemented while ignoring human social needs.

The Ethic of Ecological Justice can be expressed through the four norms of sustainability, sufficiency, participation, and solidarity. While Martin-Schramm drew on Judeo-Christian sources for his explication of these norms, he pointed out that they seem to represent universal human values. This provides a common moral vocabulary for discussion.

Sustainability emphasizes concern for future generations, leading us to balance actions we take to enhance our current quality of life with their effects on future prospects. The value of sufficiency is expressed well by biblical writers who emphasized the basic needs of the poor versus the superabundance of the rich. The norm of participation seeks to remove social, economic, and political obstacles to participation in decision-making and emphasizes open dialogue. Here, too, biblical precedents are found. Finally, the norm of solidarity expresses the kinship and interdependence of all forms of life. “Relationality is the foundation of solidarity.”

Guided by this Ethic, Martin-Schramm helped write a statement by the Presbyterian Church on environmental and social issues. The document included specific recommendations such as internalization of social as well as environmental costs in the use of fossil fuels, changing of government subsidies and standards to ensure responsibility, and encouragement of decentralized sources for power generation.

**Fletcher Harper.** Fletcher Harper continued the discussion of action by religious organizations, but moved to a more local focus in his talk on “Putting Belief into Action: Religious Leadership on Energy and the Environment.” He described the work done by GreenFaith, an interfaith environmental coalition of which he is Executive Director. The goal is to inspire, educate, and mobilize diverse religious communities for environmental leadership. He sees more religious communities now coming together literally to find “common ground” in environmental action.

Three core values drive this work: (1) spirit teaches the religious basis for protecting the earth, for example by fostering meaningful outdoor experiences; (2) stewardship recognizes that all religious traditions include teachings about care for the earth;

and (3) justice mobilizes people of faith to create a healthy environment, especially for those who bear the brunt of society's failings.

Programs provided through GreenFaith include speaking engagements, retreats, and education. Though Harper is an Episcopal priest, a rabbi and a Hindu scholar are in residence, as well as representatives of other Christian denominations. The interfaith approach allows people to get in touch with their own spiritual experiences through engagement with nature, and to understand what their own tradition has to say regarding nature.

The focus of GreenFaith is on issues that directly concern people. For example, the Coalition for Healthy Ports works for better maintenance of trucks near ports to reduce emissions, which in turn involves working to improve employment scenarios discouraging these necessary steps. The Healthy People Healthy Planet Tour provides information on environmental health issues, such as lead, asthma and food, to engage urban religious communities. Another important program promotes energy audits for homes and institutions. These can identify simple ways to save energy, like reprogramming the thermostat and using compact fluorescent light bulbs.

In conclusion, Harper said that the battle of religious ideas has largely been won, in that most congregations do recognize the need for action. What is needed now is implementation. The experience of groups like GreenFaith has taught that “relationships trump information,” that this is what changes behavior. It has also shown the need to recognize the (seemingly obvious) importance of the factors of money and time. Savings should be promoted, but the scarcity of people's time must also be recognized as a limiting resource.

**Larry Rasmussen.** On Thursday evening, Conference co-chair Larry Rasmussen concluded the talks with “Energy Policies and Religious Values: The Reciprocal Challenges.” His theme was that, just as the Axial Age 2500 years ago was a period of great change and creativity, our modern age is another of history's hinge times. We must make a transition that we are not prepared for, from the “Technozoic Age” to the “Ecozoic Age.” Along with our technological challenges, we need to figure out what kind of religious faith will be needed in the future.

What should we expect from a religion? The first attempt at change always tries to fit the new into old patterns. Even “ecomoderates” do this, by maintaining the old human/nature duality in talk about resources, and in advocating the need to “change your bulbs and plumbing,” but not your life. But Rasmussen thinks that the change is going to have to go deeper, to the substantive deep traditions shared by most religions. The first of these is asceticism, fostering the kind of self-discipline discussed by Bill Irvine. Sacramentalism is another common tradition, whose recognition of the miracle of life and its continual renewal are the antithesis of modern views of the plasticity of the natural world. Mysticism and contemplation are counters to modern alienation and denial, and can bring us into touch with the heart of the living world. Justice, as emphasized by the Hebrew prophets, is for all of life. Finally, the common wisdom traditions, with their prudential orientation, admonish us not to subject the planet

to an uncontrolled experiment.

We need to find out how to craft a new life for humanity, a Gospel - Good News - of belonging to a community that nurtures us. In response to a question about the seeming hopelessness of the situation, Rasmussen noted that history shows that successful transitions often rely on “underground” traditions at the margins, which come forward in a crisis. Electronic globalization might allow for a quick global change of consciousness. Ultimately, it will be the push of necessity, the arrival of the realization that “we've got to do something.”

## Wrap Up

The conference concluded with a panel of the speakers. Norm Laurendeau started off by saying that “action can lead to contemplation, and vice versa: an 'aha' experience can literally 'change your mind'.” Larry Rasmussen noted that we need integrated policies, an “eco-economics” rather than individual solutions for individual problems.

Bill Irvine commented that these talks were preaching to the choir, and that we all need to think about how to bring this point of view to others. He suggested that we think about how we came to these views, and wait for the rare moments in a conversation when we know that the other person is really listening.

Fletcher Harper echoed an old “Far Side” cartoon in saying that we “have the know-how; but do we have the know-why?” Typically, we hope for leaders other than ourselves to solve the problems. However, we're in an era where we're all called upon to lead, in a non-egotistical sense, to move toward a truly better future.

During the discussion period, former IRAS president John Teske committed to personally reducing his carbon footprint by 10% by 10/10/10, “World Action Day.” At his suggestion, most of those present stood to join him in this pledge. George Hoguet mentioned several websites where we can get information about how to do this. Bill Irvine suggested becoming a vegetarian.

There was more discussion on how best to change people's minds about these issues. Laurendeau said that people are more likely to listen to experts within their own religious community. Hoguet said that “being on the edge” between secular and religious communities “is where leadership happens.” Rasmussen had the last word, telling us to “do it in a community and have a good time doing it.”

As always, there were far too many ancillary conference

activities to describe them all. The IRAS Seminar presented a fascinating postmodern perspective, in the discussion of J.C. Smith's book “From Ardi to Us: Sexual Dialectics and the Evolution of the Soul”. At the jam sessions during the daily happy hour, conference speaker George Hoguet joined right in with his accomplished banjo playing and singing. We were inspired by the evening candle-light services, as we experienced a different religious tradition each night, shared by representatives of those traditions. Last but not least, there was the talent show with the always amazing talents of IRAS members and attendees on display. Just a couple of highlights were Pat Bennett's hilarious lay-person's guide to thermodynamics, and Sylvie Letendre's show-stealing performance of a French-Canadian folk song.

As our boat pulled away from the dock, the pelicans shouted “you will come back! you will come back!” As I pondered my response, I also considered that, whether we ever do return to Star Island, an era is coming to a close. Even those like me, who have only attended a few conferences at Star, are left with fond memories of the great tradition of IRAS and Star Island.



**Angels Marion Griswold and Katherine Houk in a porch jam session at Chautauqua**

# Statement on Energy and Climate Change

## Preamble

Energy and climate change have typically been discussed in terms of their associated science, technology, economics and politics. Recently, more attention has been given to fundamental religious and ethical questions surrounding the inevitable shift from fossil to renewable energies. As for any technological transition of this magnitude, ultimate success will require consideration of ethics and religion as well as of science and technology. Religious perspectives also possess the unique advantage of highlighting ultimate values, regardless of economic and political pressures. For these reasons, the time has come for theologians and ethicists to join with scientists and engineers in promoting a sustainable energy future. The following petition and call to action reflects this approach, as developed through our conference deliberations.

## Petition

Whereas solving global issues of energy availability and climate change within the next generation will require unprecedented levels of commitment and sacrifice by governmental and social institutions;

Whereas peak oil and global warming will disproportionately affect the most economically vulnerable members of our global community;

Whereas many ecosystems will suffer from large-scale disruptions which could displace species and force ecological change at a far greater than natural rate;

Whereas religious and ethical institutions are uniquely capable of addressing such contentious intergenerational challenges; and

Whereas only cooperative efforts among the scientific, technical, ethical and religious communities can forge the moral leadership needed to achieve workable solutions on difficult energy issues;

We claim that the time has come to recognize that:

1. All people have a right to sufficient energy for sustaining life, health and work;
2. Basic energy needs account for a significantly greater percentage of living costs for the poor as compared to the rich;
3. The majority of environmental refugees arising from climate change are currently and will continue to be the global poor;
4. Rich nations can reduce their per capita energy consumption by 50% with little or no loss in quality of life by decreasing energy use, increasing energy efficiency and investing in renewable energy;
5. A modest doubling in per capita energy consumption can dramatically improve the quality of life for the poorest 25% of people across the Earth;
6. Alternative fuels must be developed to replace oil for transportation so as to avoid the onset of substantial economic dislocations associated with peak oil and climate change;
7. The preferred liquid fuels are those that are carbon-neutral and can be generated from non-food biomass, such as agricultural residues, vegetable oils, algae, switchgrass and waste wood products;
8. A strong market for cellulosic ethanol requires removing limitations on the amount of ethanol that can be blended with gasoline and producing more vehicles able to run on high-ethanol fuels.
9. Energy efficiency and a wide range of renewable energy technologies (e.g., wind, solar, hydroelectric, biogas, geothermal) can provide carbon-free electricity or even carbon-free transportation;
10. Safer technologies for nuclear power (e.g., modular gas-cooled designs, thorium fuel) should be considered, but only if reliable strategies are available for securing any high-level nuclear wastes;
11. Natural gas is a preferred transition fuel that can be used for transportation, heating buildings and manufacturing various products, while producing half the carbon emissions of coal;
12. There is no one-stop solution to the complexities of peak oil and climate change

## Call to Action

To meet basic energy rights for all people, especially the poor, efforts must be anchored in the traditional moral values of human communities, as promoted by the world's religions. These universal human values include loving all human beings, cherishing all forms of life, and fostering spiritual aspects of science and technology. On this basis, we call upon religious and spiritual leaders across the globe to cooperate with scientists and engineers in helping to find solutions to our common energy problems by:

1. Educating the public on energy issues, particularly regarding climate change and peak oil;
2. Encouraging reliable information from laity with scientific/technical expertise in energy;
3. Recognizing that 60% of personal energy use arises from automobiles and home heating/cooling;
4. Assessing energy options using moral norms - sufficiency, sustainability, participation and solidarity;
5. Developing energy policies that reduce CO2 while seeking energy security and economic vitality;
6. Motivating personal and societal lifestyle changes needed to promote energy equity;
7. Favoring energy prices that minimize both energy subsidies and market externalities;
8. Working toward a pricing mechanism for carbon commensurate with its ecological impacts;
9. Supporting federal tax rebates and municipal financing that foster energy conservation;
10. Promoting energy-use displays that encourage consumers to reduce energy consumption;
11. Advancing the construction of zero-energy buildings, whether residential or institutional; and
12. Using faith-based facilities as model structures for reducing carbon footprint and energy costs.

For further information on the conference leading to this energy statement, see [www.iras.org](http://www.iras.org).

Endorsed by the conference presenters:

John Abraham  
Drew Christensen  
Fletcher Harper  
George Hoguet

William Irvine  
Chuck Kutscher  
Norm Laurendeau  
Susan Leschine

James Martin-Schramm  
Anne Perkins  
Larry Rasmussen  
R.V. Ravikrishna



**The Star Island Summer House at Sunset.**



# President's Letter

Dear IRAS Members,

This is my president's letter to all members reporting on the outcome of the IRAS Council's deliberations concerning where to hold our conference in 2012. I sent background information for the decision to all IRAS members on September 23 by email, and sought your views concerning the question.

**The decision:** In a telephonic meeting held several weeks ago, the attending Council members voted unanimously to hold the conference at the Silver Bay conference center on Lake George in northern New York. Several Council members who could not participate told us they would have voted the same way; one member who couldn't participate said she personally favored Silver Bay but that she would have voted for Star Island in recognition of the feelings favoring Star expressed by some of our members.

The vote followed lengthy discussion at the meeting, which was, as I previously reported, preceded by discussions in a telephonic meeting of the Council's executive committee and numerous email exchanges among Council and executive committee members. You received most of the comments made by members in response to my September 23 email, but some responses were sent only to me. I reported on all responses to the Council. While the membership response was not extensive, a majority of those who expressed an opinion favored either Silver Bay or Chautauqua. However, several of our long-time members supported Star, and everyone acknowledged the difficulty of the decision.

While, of course, each Council member has her or his own take, I believe it accurate to say that the decision was driven by the judgments that (1) it would not be in IRAS's best interest, either financially or from a growth perspective, to be confined, as we would have been in sharing a week at Star with the religious education (RE) conference, to no more than 140 attendees (a number that would have included conference speakers and their families), and (2) Silver Bay by all accounts offers both a beautiful location and flexible and very well equipped facilities that we should try out.

In my September 23 email I reported that I expected to have a further discussion with the "dean" of the RE conference concerning the possibility that RE attendees might pay an additional fee to attend portions of our conference. When I did so, she clarified that the RE conference plans to focus its activities and presentations on Unitarian Universalist religious education professionals, for whom a number of programs will be offered, and told me that it would not be realistic to think that RE conference attendees would have an interest (or an ability) to participate significantly in our conference (albeit we might conceivably get a small number of primary registrations by the significant others of RE attendees).

The Council also discussed the possibility of raising our con-

ference fee further in order to provide adequate financing with fewer attendees. In view of the fact that the fee was raised recently, however, and the continued perilousness of these times economically, that possibility attracted little immediate support (but may require consideration in the future).

I cannot tell you whether it will ever make sense for IRAS to hold another conference on Star Island. I can tell you that I love Star, that its rooms and vistas and ambience, as well as my many wonderful experiences there, abide deep in my mind and my emotions, and that I will miss it — a lot. But we all know to our cores that you, our members, are IRAS's essence, and that while we are determined to hold our conferences at locations of rejuvenating beauty, you, not the location, create our conferences' wonder. I eagerly look forward to sharing and pursuing our mission with you next year at Chautauqua and at Silver Bay in 2012.

**Other matters:** at the Council meeting following the annual membership meeting in July we appointed John Teske, our immediate past president (and this year's recipient of the IRAS academic fellow award), as vice president for long range planning. That means you should contact him with your conference ideas, which we always need and eagerly seek (together with your energy to pursue them).

Also, Ursula Goodenough has agreed to serve a second year as the chair of the nominating committee. Please contact her with suggestions of persons who may be interested in serving on the Council.

Ted Laurenson  
elaurenson@mwe.com  
October 24, 2009



**Morning Chapel Service at Chautauqua with Michael Cavanaugh**

# 2011 IRAS Summer Conference

## Doing Good, Doing Bad, Doing Nothing:

### Scientific and Religious Perspectives on Human Behavior

Chautauqua Institution, NY, June 18 - 25, 2010 - Registration Form Appended

**Karl E. Peters and Barbara Whittaker-Johns, Co-chairs**

Anthropologist **Mel Konner** will be the keynoter at the IRAS Conference on “Doing Good, Doing Bad, Doing Nothing: Scientific and Religious Perspectives on Human Behavior.” Konner holds Ph.D. and M.D. degrees from Harvard University, and is Samuel Candler Dobbs Professor in the Department of Anthropology and the Program in Neuroscience and Behavioral Biology. He spent two years among the !Kung San (Bushmen), and has taught at Harvard and then Emory for over 30 years. He teaches courses on human biology, human brain/behavior relations, biological approaches to childhood, human nature, medicine and society, and the anthropology of the Jews.

Konner is the author of numerous books and articles, two of which are *The Tangled Wing: Biological Constraints on the Human Spirit* (Holt Paperbacks, 2nd revised edition, February 2003) and *The Evolution of Childhood: Relationships, Emotion, Mind* (Harvard Univ. Press, May 2010).

On his website Konner says that he seeks “to encourage a scientific approach to human nature and experience and to explore the interaction between biology and behavior, medicine and society, nature and culture. Throughout a long life I've been fascinated by why we do what we do, think what we think, feel what we feel. I've sought answers in anthropology, biology, medicine, evolution, brain science, child development, history, and culture.”

A recent blog on his website underscores the ambivalence of our evolved human nature. Titled “Human Nature in High Places,” the blog has the byline, “Statesmen understand human nature. Why not psychologists and social scientists?” Konner concludes: “Churchill invokes not just human nature but the 'many millions of years' behind it. Obama the liberal and Churchill the conservative agree: Human nature has a dark side but also a spirit that can mount to the sublime. It embraces a broad but definable range of people, and there will always be a struggle not just among, but within each of us, as our idea of the good contends with the selfish need to survive” (August 14, 2010).

At the conference, there will be four additional plenary speakers and a chapel speaker.

**Mahzarin Banaji** (Harvard University) studies how our “unconscious minds” create automatic preferences and beliefs about social groups such as gender, age, class, race/ethnicity, sexuality, nationality, and religion. She addresses the question of how well-intentioned people behave in ways that deviate from their own consciously stated intentions, and how this compromises individuals and corrupts institutions.

Psychologist **Erwin Staub** (University of Massachusetts, Amherst) has studied and written on the influences that lead to caring, helpful, altruistic behavior and their development in children; the origins of mass violence, especially genocide and mass killing; the prevention of group violence and reconciliation in post-conflict settings; and the role of bystanders in all these. He has worked worldwide developing projects to facilitate healing and reconciliation.

Womanist theologian **Cheryl Kirk-Duggan** (Shaw University) uses her own poetry and theological reflection to examine how violence is woven through general and religious culture in the West: in the Bible, classic literature, and children's stories; history and politics; music, sports, television and video games; and even theology itself. She explores themes of justice, conflict resolution, and spiritual and theological wellness as ways to overcome violence today.

**Bob and Alice Evans** (Plowshares Institute) were Nobel Peace prize nominees in 2002 for their work in South Africa. Using their Peace Skills curriculum, involving case studies created out of people's experiences, they train community, government, and religious leaders around the world (currently in Indonesia, Columbia, and China) in conflict transformation, so that local leaders can train others in their societies to reach just and sustainable resolutions of conflicts.

Our chapel speaker, **Barbara-Jean (BJ) Jamestone**, Ph.D. has taught world religions at the University of Alabama. She has traveled extensively in the Middle and Far East, studying religious history and current practice. She teaches and practices “Non Violent Communication” as a spiritual discipline, and she is the minister of the Unitarian Society of Hartford.

The conference will open with a speaker's panel on Saturday evening during which speakers will offer thumbnails of their upcoming presentations. There will be a poster session, workshops, and a book seminar on Michael Cavanaugh's new book project on the future of religious naturalism. Ursula Goodenough is organizing a track on religious naturalism, good, and evil. We are trying to develop a track on the conference theme from the clergy-ministry group. Chautauqua has plenty of rocking chairs for spontaneous “porch conversations.”

“Doing Good, Doing Bad, Doing Nothing” will be at the Chautauqua Institution in western New York State on June 18-25, 2011. More information will be posted at [www.iras.org](http://www.iras.org) as the conference becomes more fully developed.



**Silver Bay on Lake George, NY.**  
**Left to right: Boat House, Inn, Dining Hall**

## **Zygon: Journal of Religion and Science**

Dear IRAS friends,

By the middle of 2009 Phil Hefner retired as editor-in-chief of *Zygon* after twenty years of service. By the time he left, *Zygon* had become a journal which publishes 1000 pages annually through Wiley-Blackwell — a journal present in academic libraries worldwide. As one of the chairs of the Joint Publication Board, Karl Peters will continue his great service to the journal, overseeing its finances and development. He has initiated a new fund raising campaign, the Philip Hefner Fund, named in honor of the retiring editor, alongside the Annual Fund. For the Philip Hefner Fund matching commitments up to \$70,000 in total for a five year period have been promised; we are still far from raising this amount.

With the retirement of Philip Hefner, Willem B. Drees took over the editorship. Drees's main position is at Leiden University, the Netherlands, as vice-dean of a faculty of humanities, overseeing its undergraduate and MA-programmes. The office for *Zygon* remains at the Lutheran School of Theology at Chicago, with key staff Debra Hostetler Van Der Molen and David M. Glover, while until the December 2010 issue Peggy Blomenberg continued her work as executive editor who by careful copy editing and typesetting contributes significantly to the quality of the final product. Gregory Peterson completed his service as book review

editor with the December 2009 issue. James F. Moore has taken over this responsibility. The ambition is to have more but shorter reviews in each issue. In 2009, Dave Glover (office) and Marie-Claire Hirsh, our volunteer web designer, have reorganized the website [www.zygon.journal.org](http://www.zygon.journal.org). The website is in the process of building up, from the present backwards, a full list of titles, abstracts and key words of all articles published by *Zygon*. This may help to make our work more visible to user

Don Browning, one of the chairs of the Joint Publication Board and a great supporter of *Zygon*, died in early June 2010. I expect to have a chapter and a few articles on his latest book, *Reviving Christian Humanism: The New Conversation on Spirituality, Theology, and Psychology* in one of the issues of *Zygon* in 2011. William E. Leshner also stepped down from the Joint Publication Board after many years of service for the journal. The Joint Publication Board has three members on behalf of IRAS, namely Sol Katz (co-chair), John Teske, and Michael Cavanaugh, and three on behalf of the other owner of the journal, CASIRAS, Karl Peters (co-chair), Michael Ruse, and Gayle Woloschack. Michael Cavanaugh has also initiated a yahoo group “IRASZYGON” to discuss *Zygon* articles; open for all to join.

**December 2010.** The December 2010 issue will have arti-

cles on Donald Lopez's book *Buddhism and Science: A Guide for the Perplexed*, a study that examines how conversations on religion and science have evolved and how Buddhism has been changing in consequence of its encounters with science. In the December issue there will also be four articles on the contributions of John F. Haught, Roman Catholic theologian, and three on artificial intelligence, networks, and on differences between Christian and Buddhist online discussions on AI. Embarrassing enough to me as editor, one article deals with creationism in the Netherlands. Another with literalism in Islam, and one more with explanations of altruism. Another rich offering of articles.

**2011.** In the March 2011 issue there will be a rich slate of papers from the IRAS Conference on the Myth of the Autonomous Individual (Chautauqua, 2009), combined with further articles on other issues. Later in 2011 I expect a section on Judaism and science; a set of papers comparing the reception of Darwin and Darwinism in various religious traditions (from a conference of the International Society for Religion and Science, ISSR), and much more. The website [www.zygonjournal.org](http://www.zygonjournal.org) will have not only information on the issues that have appeared, but also give a preview of what is in the pipeline for the next issue and beyond.

**Online submission system.** As of late October or early November *Zygon* will use an online submission system for articles. Through the website <http://mc.manuscriptcentral.com/Zygon> authors can submit abstract and article at once. By making this transition, we expect to track submissions more accurately, provide authors quicker and better service (they too can track progress of the review process), and thus further improve our editorial process. The instructions for authors on the website [www.zygonjournal.org](http://www.zygonjournal.org) will then also be updated. The separate evaluation of abstracts will come to an end. Reviewers will also be approached via 'Manuscript Central' (also known as Scholar One), an electronic submission system that is already well received by academic journals, including many published by Wiley Blackwell.

**Readership.** Aside of the members of IRAS, in 2009 *Zygon* had 154 individual subscriptions to the journal; 688 institutions that subscribe to *Zygon* as an individual title, either print, online, or both; 2600 institutions that have access to *Zygon* in the Wiley-

Blackwell licensed sales program; 435 libraries in the developing world that receive *Zygon* for free or at low cost (INASP initiative); and 3616 libraries that have access to the material that is at least one year old (EBSCO; among these may be many who fall in one of the previous categories as well). In 2009 there were 81,610 downloads of articles. The one most downloaded was by Philip Hefner, *The Evolutionary Epic*, *Zygon* 44 (March 2009). Citations have also increased, as counted by the impact factor - which in itself is an important indicator for librarians. Many citations of *Zygon* articles occur in *Zygon* itself. Though the impact factor has increased, most articles (80-90%) aren't cited at all, while a few articles are cited once or twice. The top article in the 2009 report still has only 5 citations in 2009. I hope that IRAS members, if scholarly active, will not only treat *Zygon* as interesting to read, and perhaps as a venue for one of their articles, but also as a title to cite from.

**Outlook.** *Zygon* is healthy as the premier journal in its field. However, there are some reasons for concern. The low impact factor and hence visibility to the wider community is both academically and financially a concern, as it reflects something about being read and used (though there are many excuses about the slowness of follow up on the humanities and social sciences, the role of books, etc.), as it may affect decisions whether to publish with us and for librarians whether to continue subscribing to the journal. There seems to be a slow but steady decline in number of subscriptions by libraries and individuals, and thus we become more dependent upon the distribution of *Zygon* as part of a Wiley Blackwell package to consortia of libraries. However, revenues from those consortia sales are much lower than revenues from direct subscriptions.

There is a steady stream of papers. However, we don't have a huge backlog anymore. The number of papers accepted after review is such that we could use more submissions with sufficient quality.

Yours, Wim

Willem B. Drees, Editor,

*Zygon: Journal of Religion and Science.*

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# IRAS FOUNDING STATEMENT OF PURPOSE

Lyman A. Page

Because of a transmission error by me, The last News-letter carried only the first paragraph of this Statement. Here it is in its entirety, which served as IRAS' Constitution during its first year. Some comments are at the end.

Sources are Joan Goodwin's history and original documents from the Burhoe and Shapley papers and the Harvard Archives assembled by her and Marj Davis.

The Institute of Religion in an Age of Science is established to promote creative efforts leading to the formulation, in the light of contemporary knowledge, of more effective doctrines and practices for human salvation. Its immediate function is to provide a broader and more adequate management to carry on the work initiated by the Conference on Religion in an Age of Science, held on Star Island, off Portsmouth, New Hampshire, July 31 to August 6, 1954. The basic purpose of the Institute stems from a recognition of the confusion and inadequacies of the world's many competing religions and philosophies.

The program of the Institute proceeds in the faith that there is no wall isolating any department of human understanding, and that, therefore, any doctrine of human salvation cannot successfully be separated from the realities pictured by science. We believe that science provides rich new insights into the problems of human welfare and offers the possibility of the reformulation of the doctrines about the nature of man and about the nature of that in which he lives and moves and has his being which may command wider acceptance and provide more effective programs of living in its highest dimensions. It is believed that any department of human knowledge may yield important contributions, including the physical, biological, and, and psychological sciences, as well as all fields of scholarship and interpretation of human culture.

We suspect that this search for a clear and modern statement of human values, much of which has been revealed by the great religious teachers of the past will stand forth in new brightness and detail; although we welcome any clearing-away of misunderstandings or inadequate doctrines about the nature of reality and values. Certainly it seems that the first and most important task of man is to discover the highest values of his own nature and to orient himself properly with respect to the requirements placed upon its development by the complex and many-dimensional cosmos.

It is proposed that the Institute operate summer conferences, carrying forward the work of the 1954 Conference, and engage in the development of such additional conferences, study groups, seminars, publications research projects, etc., as may be useful for its purposes. It has been proposed that the Institute's program be defined by a Board of Advisors (limited to 50) and carried out by an Executive Committee (limited to 9).

COMMENT: This document was produced by multiple founders of IRAS and appeared over the signatures of the first Executive Committee, Carl Bihldorff, Edwin P. Booth, Ralph W. Burhoe, Dana McLean Greeley, and Lyman V. Rutledge, (four of whom were theologians) after approval November 9, 1954 at the same meeting at which IRAS was founded. It was sent to the 27 people (men) Burhoe had suggested for the Advisory Committee, of whom 22 had accepted Committee positions and membership by the next year. Modifications, including a more nuanced "Purpose" paragraph and replacement of, "human salvation" by

"human welfare," were approved May 5, 1956 with formalization of this "Constitution" more or less into its present form in preparation for application for tax-exempt status. One procedural amendment was made in 1970. On August 1, 1985, after two years of discussion and writing, this Constitution was replaced with a new one of the basic form IRAS has now, with periodic amendments to the By-laws. The Statement of Purpose of that document is in our current Constitution and is reproduced in the IRAS Manual ("Red Book") p. i4, where it can be compared with the *Zygon* Statement of 1977 and the *Campion* Statement of 2003.

# IRAS FUND DONORS, 2009 - 2010

It is with deep gratitude that we acknowledge the following persons for their gifts this past years. Their generosity gives us increased confidence in the future of IRAS.

## \$2,000 and up

Karl Peters and Marjorie Davis

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Susan Leschine and William Irvine  
Robert and Juli McCue  
Norman Richardson

Many others have contributed lesser amounts and numerous people have helped in many ways as volunteers. Their contributions to the flourishing of IRAS are acknowledged with great appreciation.

**INSTITUTE ON RELIGION IN AN AGE OF SCIENCE**  
**57th Summer Conference, Chautauqua Institution, June 18-25, 2011 Registration Form**

Name (last, first, middle initial) [indicate first-timers with †]	To Appear on Name Tag As	Relation- ship	Birthdate M/D/Y	Sex M/F	Vocation or School Grade in Fall 2011	Menu Choice (letter)	Room Choice (number)	Roommate Preference
		Self						

<p><b>Street Address</b> _____ <b>Apt</b> _____</p> <p><b>City/State/Zip</b> _____</p> <p><b>Phone</b> (____) _____ <b>Email</b> _____</p> <p>Religious Affiliation _____</p> <p><b>EMERGENCY CONTACT:</b> Person (not at Chautauqua) for emergency contact:  Name &amp; Address _____  Day/Night Telephones: (____) _____ / (____) _____</p> <p><b>MEDICAL INFORMATION:</b> Please describe any health problems requiring special attention (allergies, continuing medications, etc. Use a separate sheet, if necessary.) _____</p> <p><b>A medical release form for minors under 18 not accompanied by a parent must be submitted before their application can be accepted.</b></p> <p><b>Do you need a release form? yes ___ no ___.</b></p>	<p><b>MENU CHOICES:</b> <b>A</b> Regular (includes meat, fish &amp; poultry); <b>B</b> Vegetarian  Please inquire about individual dietary needs beyond the selections listed above.</p> <p><b>ROOM CHOICES AND RATES (INCLUDING MEALS):</b> <b>1</b> Single, \$1082.20; <b>2</b> Double, \$802.20 per person (indicate preference for twin, queen or king beds); <b>3</b> Triple, \$662.20 per person (price based on adult occupancy).  Children: Under 2, no charge; 2-5, \$358 each; 5-13, \$436.25; 13-17 \$625 each.</p> <p>No room request can be guaranteed. A second room choice may be indicated. Asterisk (*) and explain choice if urgent. If no roommate preference is given, roommates will be assigned. Indicate whether you want your teenager housed with you or with his/her own age group. The cost of room and board is in addition to the conference fee and is paid upon arrival. No credit cards.</p> <p><b>Special Room Needs (crib, cot, 1<sup>st</sup> floor, near elevator, etc.):</b> _____</p>
<p><b>CONFERENCE FEES:</b> Adult registration fee, \$150, plus a \$150 room deposit per person over the age of 2. <b>IRAS members</b> who register <b>by April 10</b> (and nonmembers who apply for membership <b>by April 10</b>) receive preference for registration and a \$25 discount. [Annual IRAS dues, including a subscription to <i>Zygon</i>, are \$70 for individuals, \$80 for couples: both receive the registration discount.] <b>Children under 3</b>, free. <b>Children ages 3</b> (who are toilet-trained) <b>to 17</b>, \$150 (for the Program for Children/Youth).</p> <p><b>Maximum registration per family</b> is \$750 <i>plus room deposits</i>. <b>Conference fees and room deposits must be paid with registration.</b> IRAS provides no program or child care for children who are not 3 by June 1. Parents are responsible for their care at all times.</p> <p>Fees less 20% (and full room deposit) are refundable if registration is canceled before May 1, 2011.</p>	<p><b>ARRIVAL:</b>  Information regarding transportation options will be provided at the time of registration.</p> <p><b>Please indicate your arrival date if not June 18, 2011:</b> _____</p> <p>Where did you hear about conference (Web Page, IRAS Newsletter, Chautauqua news, friends, other)? _____</p> <p>Previous IRAS conferences attended (dates) _____</p>

Send registration form with conference fees (payable to IRAS) to: Joan Hunter, 33 Village Street, Medway, MA 02053, (508) 533-6202. **Please include a self-addressed, business-size stamped (\$0.78) envelope. Please do not send by registered or certified mail or any other means that requires a signature.** Additional forms are available on request, or use legible copies.

Enclosed find a check for \$\_\_\_\_\_ which represents registration fees and room deposits for \_\_\_\_\_ adults and \_\_\_\_\_ children

Signature (required): \_\_\_\_\_ Date: \_\_\_\_\_