

Paper Title: Why It Matters - How a Dialogue between Science and Religion, with help from Higher Education, Can Help the World Religions Meet the Challenges of the Twenty-First Century

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Abstract:

In light of contemporary global challenges as adumbrated in the Earth Charter, the people of the world's religions face five serious challenges. They are: (1) *To live compassionately*: that is, to identify resources for respect and care for the community of life within our traditions and to live from them, thus helping to build multi-religious communities that are just, sustainable, participatory and non-violent, (2) *To live self-critically*: that is, to acknowledge tendencies within our traditions that lend themselves to arrogance, prejudice, violence, and ignorance, repenting from them, adding new chapters to our religion's history, (3) *To live simply*: that is, to present a viable and joyful alternative to the dominant religion of our age, namely consumerism, by living simply and frugally, thereby avoiding the tragedies of poverty and the arrogance of affluence, (4) *To live ecologically*: that is, to recognize that we humans are creatures among creatures on a small but gorgeous planet with ethical responsibilities to other living beings and to the whole of life, and (5) *To welcome religious diversity*: that is, to promote peace between religions by befriending people of other religions, trustful that the truths are many and all make the whole richer. A sixth challenge is *to engage in a meaningful dialogue with modern science*. This essay shows how and why the sixth challenge is important, not only on its own terms, but also because it can help religious people meet the other five challenges. To provide a context for dialogue, the essay then offers three ideas concerning the nature of religion that can serve the interests of meaningful dialogue. They are (1) that world religions have four different ultimates: the Abyss, the All, the Divine, and the Present Moment; (2) that they variously emphasize three kinds of truth: truthful awareness, truthful living, and truthful belief; and (3) that they often emphasize one or both of two kinds of learning: learning from body to mind and from mind to body. Such ideas can help scientists and theologians avoid overgeneralizations concerning "religion," thereby recognizing that dialogues with different religions rightly have different dynamics. The essay then turns to ways in which science can help the many world religions meet the five challenges named above. It concludes with a discussion of how ongoing dialogue between science and religion, in service to the larger needs of the world, might occur, not only in particular courses on science and religion within higher education, but within the context of "engaged learning" within liberal arts colleges. The example of Hendrix College, with its requirement that students have three experiences in engaged learning, provides an opportunity for illustration. At Hendrix students are required to gain these experiences in one of six areas: artistic creativity, global awareness, leadership and professional training, undergraduate research, service to the world, and what is called "special projects" that

integrate multiple forms of learning. Each area has its own unique opportunities for advancing science-religion dialogue. Inasmuch as higher education, including liberal arts education, trains leaders for the future, the engaged learning movement, of which Hendrix is illustrative, provides an important context for such training. An integration of science-religion dialogue into the engaged learning movement offers a ray of healthy hope in a time of global need.

### Biography

Jay McDaniel is Professor of Religion and Director of the Steel Center for the Study of Religion and Philosophy at Hendrix College in Conway, Arkansas. He is author of Of God and Pelicans: A Theology of Reverence for Life; Earth, Sky, Gods, and Mortals: Developing an Ecological Spirituality; With Roots and Wings: Christianity in an Age of Ecology and Dialogue; Living from the Center: Spirituality in an Age of Consumerism; and Gandhi's Hope: Learning from Other Religions as a Path to Peace.

### Paper Text:

The world religions are verbs rather than nouns. Like the universe as a whole and like the many forms of life on our planet, the world's religions are evolving over time. The same applies to all earthly activities in which humans participate, including art, philosophy, science, agriculture, and architecture. The universe itself is a verb rather than a noun, and the apparently solid objects of our world – mountains, for example – are just slow verbs.

By evolution I do not mean progress or regress; I simply mean change-over-time. In the case of human life. This change can be for the better or for the worse. It can be a falling short of higher ideals or a deeper realization of those ideals. Most of us know this from personal experience. If we take "wisdom" and "compassion" as ideals by which we seek to live, we know that in the future we become more wise and compassionate than we are in the present, or we may lose our bearings and become less wise and compassionate than we might otherwise be. Religions are in the same situation.

By *religions* I mean two things. I mean (1) the communities of people who name themselves in terms of a religion, saying "I am Muslim" or "I am Buddhist" or "I am Jewish" or "I am Hindu." And I mean (2) the teachings and practices of a religion as they themselves evolve over time. Of course some people like to think that the teachings and practices are timeless and unchanging, but historical studies suggest the contrary. Teachings and practices emerge and unfold over time along with the people who espouse and practice them. Religions are more like rivers than rocks. They flow over time.

In saying that religions can make progress, then, I am suggesting that under certain circumstances both the people and the teachings can indeed become wiser and more compassionate – or at least more creatively adaptive -- than they were in earlier periods of their histories. New ideas can be internalized by contemporary generations

of religious thinkers that had not been realized by their predecessors and that truly add to their wisdom. Some of these new ideas can come from science. And horizons of compassion can be expanded -- to include the earth and other forms of life, for example -- in ways that were not imagined by earlier generations. Religious people need not always have to look to the past for its inspiration. They can also look to the future. Indeed, if they are monotheists, they can trust that the very God who revealed things in the past can also reveal new things in the present and future, and that part of this revelatory process can come from empirical investigations and discoveries in science. This means that there *can* be progress, even in religion.

This essay tries to show how a dialogue between science and religion can assist religiously minded people in such progress. I write a Christian influenced by Buddhism who thinks that Christianity, too, is an evolving tradition that can improve -- or at least become more adaptive -- over time, and I am also a teacher of world religions in a liberal arts college. From these two contexts, I propose that religiously minded people face very serious challenges as we enter the twenty-first century, and I want to show how the *engaged learning movement* within Liberal Arts Education might provide a context for the dialogue to flourish.

These two general aims can be divided into five specific aims, corresponding to the five sections of the essay.

- *The Global Situation.* First, I want to offer a six-paragraph summary of the state of the world and then propose that, in light of contemporary global challenges, the world's religions face five key challenges: to live compassionately, self-critically, frugally, ecologically, and hospitably in relation to other religions.
- *Science-Religion Dialogue.* Second, I want consider the possibility that a dialogue between religion and science constitutes a sixth challenge to the world's religions, because it is important in its own right and because it can help religiously-minded people face the five challenges.
- *What is Religion?* Third, I want to offer three proposals concerning the world's religions which, if valid, might assist in the cultivation of a meaningful dialogue between religion and science. These ideas are based on the process philosophy of Alfred North Whitehead, whose perspective shapes much of what I have to say. The first (a) is that different religions have different but complementary ultimates, all of which are real. These ultimates are the creative Abyss, the All, the Divine, and the Present Moment. When a dialogue between science and religion turns to questions of ultimate reality, it is important to recognize that different religions answer this question by reference to different realities, each of which can be ultimate in its own way. Scientists and religionists may agree that there is an ultimacy to the present moment, insofar as it incarnates the history of the universe, but disagree on the question of whether the ultimacy is enfolded within the larger whole of divine Love who offers purposes and hope to the whole of life. Or they may agree that there is something ultimate about the All, the totality of existing realities, but disagree that the

All emanates from a deeper source – a creative Abyss – to which mystics claim awoken. The second proposal (b) is that different religions emphasize different kinds of truth: truthful belief, truthful awareness, and truthful living. For some people in some religions, truthful awareness – e.g. Buddhist mindfulness in the present moment, a Muslim sense of awe before the encompassing mystery of Allah – is more important than truthful belief, if that latter means propositional belief. This means that discussions of “what to believe” can miss the point of what is most important in the religion itself. Scientists and religionists alike do religion a disservice if they think it is always about belief. The third proposal (c) is that different religions emphasize two different but complementary ways of acquiring truth: learning from body-to-mind and learning from mind-to-body. Body-to-mind learning involves learning through ritual activity (prayer, meditation) and concrete acts of service, and it is, in its own way, an empirical approach to religion because it begins with experience. Mind-to-body learning is typically more text-based. Scientists and religionists alike do religion a disservice if they fail to recognize that, in many religious traditions, healthy religion begins with prayer and meditation, with service and the establishment of healthy community relations, not with belief.

- *Can Science Help?* Fourth, I want to name some contributions from science that can help some religiously-minded people meet the five challenges named earlier. These contributions include the offering of empirically based information relevant to a meeting of the challenges; a more general outlook on life that can serve the interests of religious self-understanding; and certain kinds of spiritual sensibilities that sometimes accompany the practice of science. The latter include a willingness to let the “facts” speak for themselves, without imposing one’s own hopes and prejudices upon them, which partakes of what Buddhists might call mindfulness in the present moment and also a covenant with mystery, which partakes of what some monotheists call a faithful or trustful recognition that truth is always more than anyone’s experience of it. Accordingly it can be in the area of spirituality, not formal belief, that religion and science sometimes come together most completely.
- *Higher Education and Engaged Learning.* Fifth, I want illustrate one way in which higher education can provide a context for helping religiously minded people learn from science in service to the larger needs. My focus is on a contemporary movement within liberal arts education called “engaged learning,” amid which students are encouraged to think outside the parameters of traditional classroom learning by engaging in undergraduate research, service to the world, artistic creativity, leadership and professional development, and various opportunities for global awareness as complements to classroom experience. Given the fact that, in the classroom, college professors must typically focus on discipline-centered emphases, it may be the case that the future of science-religion dialogue, particularly as it occurs in higher education, may lie outside the classroom in forms of engaged learning.

I hope that these five aims make a general case that science-religion dialogue matters to the future of the world and that it can be of service to progress in religion. The essay as a whole builds upon my work in [Gandhi’s Hope: Learning from World](#)

Religions as a Path to Peace (Orbis Press, 2005). The first two sections include excerpts from the first chapter of that book. A more complete presentation of the challenges, and of the relation of science-religion dialogue to those challenges, can be found in that book.

### **The Global Situation**

Imagine that a terrible catastrophe has occurred – a nuclear explosion or an ecological collapse – and that a parliament of world religions has been called to assess the damage and consider possibilities for hope. The participants recognize that, all things considered, the religions have been sources of tragedy as well as hope. Therefore, they are not sure that their traditions are up to the task. On the other hand, the participants also recognize that something must be done by the religiously minded, because they constitute some ninety percent of the world's population.

Imagine further, that by some strange twist of fate, we know someone who has been invited to give the opening address. Her task is daunting. She wants to speak in ways that make sense to people of many different religions: Hindu, Muslim, Buddhist, Christian, Jewish, Jain, Shinto, Bahai, Sikh, Native American, Indigenous African, and many others as well. She wants to be sensitive to the fact that they come from different social situations and cultural traditions and that they speak different languages, both linguistic and spiritual. She knows that she cannot speak for everybody and she is very glad to know that after the opening address, people will divide into groups where the many points of view can be presented.

However, someone must open the conference, and she must rise to the challenge. She wants to offer a word of hope, because she knows that some among the audience despair of the very possibility that religion has much to say to the world. But she wants to present an honest assessment of the state of the world lest anyone be deluded into a false optimism; she also wants to present some of the challenges that will be faced by people in the many world religions if they are to contribute to the world's well being. What would we recommend that she say?

We could recommend that she read the preamble to the Earth Charter. It is a short document, created in the latter decade of the twentieth century, which is now being used by educators around the world in schools, institutions of higher education, and in community and professional development. Successive drafts of the charter were circulated around the world for comment and debate by non-governmental organizations, professional societies, and international experts in many fields. This means that it may embody the most inclusive process of global discernment the world has ever seen. It consists of a preamble and sixteen ethical principles; the most foundational of which is "respect and care for the community of life." The preamble reads as follows.

*We stand at a critical moment in Earth's history, a time when humanity must choose its future. As the world becomes increasingly interdependent and fragile, the future at*

*once holds great peril and great promise. To move forward we must recognize that in the midst of a magnificent diversity of cultures and life forms we are one human family and one Earth community with a common destiny. We must join together to bring forth a sustainable global society founded on respect for nature, universal human rights, economic justice, and a culture of peace. Towards this end, it is imperative that we, the peoples of Earth, declare our responsibility to one another, to the greater community of life, and to future generations.*

*Humanity is part of a vast evolving universe. Earth, our home, is alive with a unique community of life. The forces of nature make existence a demanding and uncertain adventure, but Earth has provided the conditions essential to life's evolution. The resilience of the community of life and the well-being of humanity depend upon preserving a healthy biosphere with all its ecological systems, a rich variety of plants and animals, fertile soils, pure waters, and clean air. The global environment with its finite resources is a common concern of all peoples. The protection of Earth's vitality, diversity, and beauty is a sacred trust.*

*The dominant patterns of production and consumption are causing environmental devastation, the depletion of resources, and a massive extinction of species. Communities are being undermined. The benefits of development are not shared equitably and the gap between rich and poor is widening. Injustice, poverty, ignorance, and violent conflict are widespread and the cause of great suffering. An unprecedented rise in human population has overburdened ecological and social systems. The foundations of global security are threatened. These trends are perilous-but not inevitable.*

*The choice is ours: form a global partnership to care for Earth and one another or risk the destruction of ourselves and the diversity of life. Fundamental changes are needed in our values, institutions, and ways of living. We must realize that when basic needs have been met, human development is primarily about being more, not having more. We have the knowledge and technology to provide for all and to reduce our impacts on the environment. The emergence of a global civil society is creating new opportunities to build a democratic and humane world. Our environmental, economic, political, social, and spiritual challenges are interconnected, and together we can forge inclusive solutions.*

*To realize these aspirations, we must decide to live with a sense of universal responsibility, identifying ourselves with the whole Earth community as well as our local communities. We are at once citizens of different nations and of one world in which the local and global are linked. Everyone shares responsibility for the present and future well-being of the human family and the larger living world. The spirit of human solidarity and kinship with all life is strengthened when we live with reverence for the mystery of being, gratitude for the gift of life, and humility regarding the human place in nature.*

*We urgently need a shared vision of basic values to provide an ethical foundation for the emerging world community. Therefore, together in hope we affirm the following interdependent principles for a sustainable way of life as a common standard by which the conduct of all individuals, organizations, businesses, governments, and transnational institutions is to be guided and assessed.<sup>i</sup>*

To my mind, the paragraphs above represent a concise but accurate statement of the state of the world. Thus, they frame the context for considering the challenges faced by the world's religions today. In the long run it may not matter whether we are Christian or Muslim, Jewish or Buddhist, Confucian or Taoist, Navaho or Cherokee. What matters is that we respond to five challenges which, taken together, constitute the great work of our time. They are:

- *To live compassionately*: that is, to identify resources for respect and care for the community of life within our traditions and to live from them, thus helping to build multi-religious communities that are just, sustainable, participatory and non-violent.
- *To live self-critically*: that is, to acknowledge tendencies within our traditions that lend themselves to arrogance, prejudice, violence, and ignorance, repenting from them, adding new chapters to our religion's history.
- *To live simply*: that is, to present a viable and joyful alternative to the dominant religion of our age, namely consumerism, by living simply and frugally, thereby avoiding the tragedies of poverty and the arrogance of affluence.
- *To live ecologically*: that is, to recognize that we humans are creatures among creatures on a small but gorgeous planet with ethical responsibilities to other living beings and to the whole of life.
- *To welcome religious diversity*: that is, to promote peace between religions by befriending people of other religions, trustful that the truths are many and all make the whole richer.

With the exception of the second challenge, which applies to people who are religiously affiliated, these challenges are applicable to a wide range of people, including people without religious affiliation. The focus in this essay, though, is on their relevance to people with such affiliations: to self-identified Muslims, Jews, Christians, Hindus, Buddhists, Jains, Confucians, Taoists, Bahai, and others. To the degree that religiously affiliated people respond to these challenges, there will be hope for the world, and religion will be part of the solution. And to the degree that they do not, there will be tragedy in the world, and religion will be part of the problem.

## Science-Religion Dialogue

To these five challenges, all of which concern life and death, we can add still another which can sometimes seem slightly less urgent and a bit more academic but which, in the long run, may be equally important. It is to engage in meaningful dialogue with the natural sciences, trustful that science and religion together add more wisdom to the human experience than do either considered alone. For religious people, the challenge is to learn from science while at the same time avoiding the lure of scientism. Scientism is the view that scientific ways of knowing are the only legitimate ways of knowing and that religious ways of knowing – through prayer and meditation, intuition and imagination, worship and love – are deluded. The challenge for religious people is to welcome science while avoiding this kind of epistemological reductionism. It is to know that we learn something about nature from scientific experimentation and that we also learn something about nature from taking walks in the woods and listening to the songs of birds.

With a balanced approach to science, one understands that science does indeed have much to offer religion. For example, with its emphasis on evolutionary change over time and its methods of experimentation, science can help those of us who are religious to live more flexibly and self-critically. It can show us that letting go of maladaptive habits of thought and feeling, even if adaptive in earlier periods of time, is part of the way life naturally unfolds and that creatively adapting to new situations is part of evolutionary success. We can come to see our own most fervent convictions not as absolutes that fall from the sky but rather as experiments with truth that can be subject to change and correction. I borrow the phrase experiments with truth from Gandhi, but it could as easily have come from Einstein.<sup>ii</sup>

Moreover, with its emphasis on the earth as a small planet nested within the larger context of an evolving galactic process, science can help religious people de-center themselves and adopt an ecological outlook on life. It can remind us not only that we are kin to other creatures on the planet, both biologically and spiritually, but also that we are small but included participants in a larger galactic whole that is amazing and vast. This sense of being small but included can soften our tendencies to think that we are the center of the universe, and it can lighten the load of thinking that our suffering, and ours alone, is what matters in the cosmic scheme of things. More positively, it can help restore a sense of divine transcendence, not by appealing to a separate being who resides three miles off the planet, but by pointing to a greater grandeur within which we live and move and have our being: the universe itself. To the monotheists of the world – Muslims and Jews and Christians, for example – the grandeur can rightly be seen as a natural sacrament, a visible sign of an invisible grace. Islam teaches that all natural forms are “ayat,” signs of this Transcendence, and thus that each star, in its own way, is an “ayatollah.” Science can help enliven our awareness of the signs.



## *Critics of Science-Religion Dialogue*

To some people, this sixth challenge can seem less urgent than the first five challenges. It can seem much more important to address environmental concerns or to encourage over-consumers to live more simply, than to worry about whether or not belief in God is compatible with astrophysics. And it can seem much more urgent that religiously minded people learn to welcome religious diversity and learn the teachings of other religions, than to learn the languages of neurobiology and quantum theory.

In sensitivity to this criticism, William Grassie, Executive Director of the Metanexus Institute, has written a brief called *Ten Reasons for the Constructive Engagement of Science and Religion*. It is easily found at <[www.metanexus.net](http://www.metanexus.net)>. His tenth reason concerns what he calls the *moral muddles* of the twenty-first century, and his language is remarkable similar to the preamble of the Earth Charter:

The dialogue between science and religion stands at the nexus of the great moral and aesthetic challenges of our age. We live at an extraordinary moment in the natural history of this planet and the cultural evolution of our species. Over the last hundred years there has been a remarkable growth in human population and resource consumption. We have changed every bioregional ecosystem on the planet and the atmosphere as a whole. We are about to embark upon the large scale genetic engineering of other life forms and of ourselves. Humans are a Lamarckian wild card in the Epic of Evolution. It is not only that science and its technology give us the power to change the world and ourselves; it is that our values and motivations will increasingly animate this growing power. Metaphysics becomes the motive force for our future evolution. What values, morals and aesthetics will govern this new stage of evolution in the 21st century and beyond? These are questions that cannot be solved by erecting a hermetic and hermeneutical barrier between science and religion; we need to be involved in a deep dialogue as we muddle our way into what we hope will be a healthier and safer future.

The five challenges named earlier could as easily be seen as responses to Grassie's "moral muddles" as to the callings of the Earth Charter, and in some ways the preamble to the Earth Charter can be seen as an amplification of Grassie's tenth concern.

Would Grassie's argument be persuasive to critics of science-religion dialogue? They might rightly respond: But what percentage of the active participants in science-religion dialogue are truly concerned with these muddles? If the percentage is quite low, then it could still seem as if a concern for the constructive engagement between science and religion is, for the most part, an idiosyncratic, academic sidelight. To consider the matter further, it is instructive to turn to the website for the Metanexus Institute ([www.metanexus.net](http://www.metanexus.net)) and see what participants are talking about. One quickly discovers a bewildering array of topics and a wide variety of approaches both to religion and to science.

Consider the approaches to religion. Not only are different religions represented in science-religion dialogue, different understandings of religion are adopted by those who speak of religion, whether they are scientists, religious thinkers, or both. To be more specific, some authors seem to assume that the heart of religion lies in belief; others presume that the heart of religion lies in spiritual awareness; and still others presume that the heart of religion lies in ethical action. These differences shape the kinds of questions they find interesting and relevant. For some authors, the primary question in the encounter between religion and science is: Can belief in God or in something Ultimate be reconciled with belief in a creative and evolutionary universe? For others a more interesting question is: What states of awareness are most conducive to healthy living, and how can these states be understood scientifically, God or no God. And for some the question is: How can humans learn to live lightly on the earth and gently with each other in light of ecological limits? Those who fear that science-religion dialogue is but an idiosyncratic sidelight would be heartened by the latter.

It is also important to recognize that some of these differences reflect not only personal temperament but religious commitments. For example, Buddhists are more typically interested in questions of spiritual awareness than verbalized belief; and Christians are more typically interested in the latter than the former. Indeed, in science-religion dialogue it is arguable that a preoccupation with the *credibility* of beliefs in an age of science – especially beliefs concerning God -- has been a distinctively Christian concern.

In any case, when these participants in science-religion dialogue turn to science, their differences are equally varied. For one thing, the kinds of science that interest them vary widely: evolutionary biology, psychiatry, linguistics, neuroscience, astrophysics, quantum theory, epidemiology, mathematics, artificial intelligence, environmental studies, chaos theory, animal behavior, robotics, and health care. Thus the question emerges: How many of these discussions are truly important given the state of the world as adumbrated in the preamble to the Earth Charter. The answer, I suspect, is: Some of them. A determination of relevance will need to proceed on a case-by-case basis, and in many instances relevance will be in the eye of the beholder.

Nevertheless in the long run, it seems to me that William Grassie is right. There are at least ten reasons why an encounter between religion and science constitutes a sixth challenge faced by the many world religions. Indeed, given the power of scientific ways of thinking in our world, it may be that this dialogue is important in its own right for the long-term future of religion. I encourage readers to turn to Grassie's proposals for further argumentation.

In the remainder of this essay, though, I want to focus on the way in which a dialogue between religion and science can serve the first five challenges. My proposal is that science can help religiously minded people to live compassionately, to live more self-critically, to live more simply, to live ecologically, and to welcome diversity, both biological and human.

## What is Religion?

Of course, if this is to happen, what Ian Barbour calls the conflict model of religion-science dialogue must be overcome. Religiously-minded people and scientifically-minded people – and sometimes they are, as it were, two people within the very same person – must avoid thinking that either science or religion has the final word on how knowledge is acquired or that either view has the final word on what the philosopher Whitehead calls the depths in the nature of things. Participants in each camp must recognize that there is something about the nature of reality that may be known through empirical investigation, which many people take for granted today; but also, although much less obvious to many, that there is something about the nature of reality that may be known through meditation and prayer, trust and love.

Given this epistemological humility, there are three further ideas which, in my view, can help advance the dialogue. The first is that different religions sometimes have different ultimates. It is common for religious and scientific thinkers alike to assume that religions deal with what is ultimate and that their disagreements concern the nature of what is ultimate. In Gandhi's *Hope*, however, I propose that there are four ultimates to which various religions point, each of which is truly ultimate in its own way. They are:

- The creative Abyss: that well-spring of creative energy, from which all things emerge moment by moment, which is known through certain kinds of mystical awakening. In the world religions the concept of a Godhead beyond God in the West, and of Nirguna Brahman in Indian religion, seem to point to this Creative Abyss as the ground of all that is. It is akin to consciousness or an energy from which all things emanate. This Abyss is not a creator, but rather the self-creativity of each finite happening as it happens: the spontaneous yet unconscious self-creativity of a quantum event in the depths of an atom, and the spontaneous yet sometimes conscious self-creativity of human beings making decisions on how they respond to the past and thereby partly determine their futures.
- The All: that is, the totality of existents which unfold in relation to one another, which is known through an intuitive sense of felt connections with others. In the world religions, many indigenous traditions seem most interested in the ultimacy of the all, particularly as localized in reciprocal relations between people and other living beings (visible and invisible) in bioregions. More generally, Confucianism seems primarily interested in reciprocal relations rather than, say, the Divine reality of monotheistic religions in the West or the mystical absolute of certain forms of Hinduism.
- The Divine: that reality within whose conscious horizons the universe unfolds, and which is itself known, not only through trust and prayer, but through an indwelling lure toward wisdom and compassion within each human being. Among the world religions, the monotheistic traditions of the West, Pure Land Buddhism, and the many

theistic traditions of India (Vaishnava and Shaivite) seem especially directed to the Divine, with the latter recognizing that the Divine has many faces and names.

- The Present Moment: the sheer immediacy of experience in the here-and-now, which is known through our own experience of being “aware” perhaps also “conscious” in the present moment. Among the world religions, Zen Buddhism seems especially focused on the Present Moment in an explicit way, although many other religions emphasize that the heart of religious life lies in practicing the presence of God in the sacrament of each present moment.

Suffice it to say that, in the last analysis, when religious and scientific people talk, and when conversations turn to questions of what is ultimate, religious people themselves can be talking about one or some combination of these four.

The second idea that different religions emphasize one or some combination of three kinds of truth: truthful beliefs, truthful awareness, and truthful living. By truthful beliefs I mean verbalized propositions, such as God exists or everything is interconnected, that their claimants believe correspond to the way things are. By truthful awareness I mean forms of feeling and awareness that resonate with the way things are, but that are not rendered into verbalized terms. This would include Buddhist mindfulness-in-the-present moment, or the sense of awe that a Muslim might feel in gazing into a vast and starlit sky and sensing that all the stars are “signs” of divine mystery. There is something truthful about these feelings; they may resonate with some feature of reality; even as this resonance is not reducible to verbalized statements about reality. And by truthful living I mean living with integrity – with what a Buddhist would call wisdom and compassion – in daily life. Here it is not simply the beliefs or even the feelings that resonate with reality, but more deeply the heart and mind and body as integrated into what Confucianism would call the Chun-tzu: the person who lives a humane and graceful life. In science and religion dialogue, it can help if participants recognize that religion is often more interested in the second two kinds of truth than the first. An overriding preoccupation with truthful belief is a misrepresentation of what is most important to many religious people.

A third idea relevant to science-religion dialogue concerns different way that truth can be acquired: learning from mind to body on the one hand and learning from body to mind on the other. By learning from mind to body I mean learning that begins with a consideration of verbalized propositions, often but not always in the form of written texts, the truth-value of which is then discerned through some set of criteria, after which, if considered true, there is a bodily application. When we speak of religion as dealing with beliefs and values, for example, and assume that healthy religion lies in applying worthy beliefs and values in daily life, we are in the domain of learning from mind to body. On the other hand, by learning from body to mind I mean learning that begins with a practical and often bodily endeavor, ranging from manual labor through ritual dance to meditation, and then arrives at various forms of wisdom through the activity itself. When we speak of religion as dealing with meditation and

prayer, for example, and assume that something can be learned from meditation and prayer that is more than book-learning, then we are in the domain of learning from body to mind.

My point, then, is that for meaningful science-religion dialogue to occur, it can help if scientists and religious people recognize that different religions can have different ultimates; that they can emphasize one or some combination of three kinds of truth; and that they can arrive at these truths through two kinds of learning at the outset. Given this avoidance, the question then emerges: What can religious people learn from science that might help them meet one or some combination of the five challenges?

### **Can Science Help?**

There are three ways that science might help religion meet the five challenges: (1) by offering relevant insights and information, (2) by offering a more general outlook on life that emphasizes an evolutionary and evolving universe in which humans are participants, and (3) by offering forms of spirituality which, as part of the life of a practicing scientist, can simultaneously enrich religious sensibilities.

The first way is obvious to most of us. Consider the challenge to live more compassionately. Studies in positive psychology provide empirical information on the nature and limits of compassion under its various guises: forgiveness, altruism, empathy. These studies also help us understand the nature and limits of greed and hatred, envy and indifference, which are the alternatives to compassion. When placed within an evolutionary context, such studies can help us understand how certain kinds of behavior may once have been adaptive but are now maladaptive.

Consider also the challenge to live ecologically. Studies in ecological sciences provide mounds of empirical information on the nature and limits of biotic communities to absorb pollution and supply renewable resources; on the myriad ways in which other species of animals and plants are now threatened by industrialization; on the nature of global warming. Studies in cognitive ethology likewise point to the tremendous intelligence of other animals, helping us understand how other animals are subjects of their own lives and not simply objects for human use.

Or consider the challenge to welcome religious diversity. Studies in anthropology and sociology can help us understand the distinct religious and cultural traditions that now inhabit the world, so that we have a better idea of the diversity we might seek to welcome. It is one thing to appreciate diversity in the abstract and quite another to have a sense for the differences in their particularity. Dialogues with the social sciences are especially helpful in the latter regard.

The second way that a dialogue with science can help religion meet the five challenges is by offering a more general *outlook on life* that can assist religions in meeting all the challenges simultaneously. For example, it is commonplace in

biology and astrophysics to assume that the earth, life on earth, and the universe as a whole are evolving over time; and that, in life on earth, human activities are either strategies for evolutionary adaptation or the results of such strategies. This idea can help religiously minded people appreciate that even religions can change over time, and that self-criticism can be one way in which change occurs. Self-criticism can then be seen as a form of evolutionary adaptation in its own right. Analogously, it is commonplace in many of the sciences to assume that, all things considered, everything is connected to everything else, such that we cannot simply solve one problem at a time.

The third way that science can help the world religions meet these challenges is by helping religiously minded people affirm their own yearnings for reverence and continuity within a naturalistic context. In other words, science offers the possibility of a naturalistic spirituality which can complement, but not replace, the more specific spiritualities of the various religions. An example of this approach can be found in Ursula Goodenough's *The Sacred Depths of Nature*. a *covenant with mystery*, that is, a promise never to pretend that ultimate questions have been fully answered, because Truth is always more than anyone's experience of it; but also a *willingness to assent to the way things are*, however they are, given the best of present knowledge. These two attitudes are essential features of the self-critical life that refuses to absolutize its own point of view, and that is therefore better able to welcome diversity: cultural, religious, and biological.

In these three ways science does not answer all of religion's problems, but it helps. They form three reasons why a dialogue with science, even as apparently esoteric and elitist, can be of benefit to the world's religions.

The question then becomes: How can religious traditions integrate these three insights from science? Process theology forms one religious context in which this integration can occur, insofar as process thinkers span a range of religious traditions: Christian to be sure, but also Jewish, Hindu, Buddhist and Muslim. Process thinkers in these traditions share a common way of understanding divine presence in the universe and a divine welcoming of diversity; a common emphasis on the universe as an evolving process; a common emphasis on a non-dualistic understanding of the relation between consciousness and the brain; and common sensitivity to the affective yet cognitive dimensions of human life, as expressed in a *covenant with mystery* and *will to assent*. They provide an example of what Ian Barbour calls the "integrative model" of science-religious dialogue.

Still the question remains: Where can this kind of integrative thinking – and other such thinking -- occur? I submit that the modern university is one place where the integration can and should be sought and that a "local societies initiative" of the sort sponsored by Metanexus can help make it happen. I conclude with a word about how this might work in the context of a renewed emphasis in the liberal arts on engaged learning.

## Experiential Learning

Science-religion dialogue can and does occur in many contexts. As the Local Societies Initiative of Metanexus makes clear, it can occur in churches, synagogues, mosques, sanghas, community centers, public libraries, and movie theatres. A primary context where it needs to occur, though, is in colleges and universities. Many Local Societies are centered in such contexts.

For those of us who work in such contexts, though, a problem is quickly encountered. It is that professors who teach in such settings often feel that their first responsibility is to introduce students to the methodologies and insights of their respective academic guilds in introductory and advanced courses, and that “dialogues” with other disciplines come second if at all. Moreover, then these dialogues do occur, sometimes under the rubric of inter-disciplinary studies, we quickly learn that inter-disciplinary so often involves, not genuine integration, but rather a simple adding together of different vocabularies which can nevertheless seem quite distinct, at least two students. Sociologists speak one language; biologist another; and theologians still another. It was once the task of philosophers to try to develop holistic worldview in terms of which these diverse languages could be reconciled and seen as a whole, but many a philosopher has abandoned this quest as too bold or, under the rubric of post-modernist sensibilities, too hegemonistic. As a result, students are often left with the idea that, from the vantage point of their professors, reality itself is divided into sixteen separate disciplines. The rule is specialization and disciplinary fragmentation, especially in research-oriented universities.

On the other hand, liberal arts colleges provide at least an opening for dialogue and integrative thinking to occur. At colleges which emphasize teaching over research, professors have greater freedom to explore topics related to religion-science dialogue within the classroom. A biology professor can co-teach a course with a religion professor on “evolution and creation” without worrying that job promotion is jeopardized. Nevertheless, both professors can worry that their professional careers within their disciplines are jeopardized by too much classroom attention to such concerns. Accordingly a more hopeful option may lie in what can be called the engaged learning movement within liberal arts colleges, which has its roots in the emphasis on experiential learning of John Dewey.

The general idea is that experiential learning involves, to use a phrase introduced earlier, learning from body-to-mind as well as mind-to-body, each in service to the other. At Hendrix College, where I teach, this emphasis has resulted in a collegiate initiative called “Your Hendrix Odyssey: Engaging in Active Learning,” which is designed to encourage all Hendrix students to embark on educational adventures in experiential learning. Students are given recognition on their transcripts for completion of Odyssey projects. Beginning with the entering class of 2005, graduation requirements include the completion of an approved activity in at least three of the following categories:

- **Artistic Creativity:** Experiences in which students explore their creative potential in art, music, dance, drama, or creative writing.
- **Global Awareness:** Experiences in which students immerse themselves in cultures or environments other than their own and engage in appropriate opportunities for reflection.
- **Professional and Leadership Development:** Experiences in which students apply their intellectual interests through internships, other opportunities for working alongside professionals on site, or leadership in community life or professional settings.
- **Service to the World:** Experiences within and beyond the Hendrix community in which students are engaged in helping meet the social, environmental and spiritual needs of our time.
- **Undergraduate Research:** Experiences in which students undertake significant research projects using the methods of their chosen discipline.
- **Special Projects:** Experiences in which students extend, apply, connect or share different ways of knowing (e.g., oral, verbal, tactile, imaginative, intuitive), often in inter-disciplinary settings.

Each of these categories offers a distinctive opportunity for advancing a dialogue between religion and science. Illustrations are in order.

*Artistic creativity* provides students with opportunities to illustrate the dynamics of the universe in artistic ways that simultaneously give people a feel for the spiritual depths of the universe thus considered. Some of the artwork on the Metanexus website would itself be illustrative. *Global Awareness* provides students with opportunities to consider the myriad ways in which religion and science form cultural communities across the globe, which have their distinctive flavors and also, especially in relation to science, common methods and assumptions. One could imagine a student making it a point, in travelling abroad, to meet with various people – scientists and religionists alike – are engaged in religion-science dialogue in local, culturally specific settings. *Professional and leadership development* provides students with opportunities to be mentored by scientifically-interested religious and spiritual leaders, and also to be mentored by spiritually-interested practicing scientists. The New Horizons local society at Hendrix College is doing just this, offering two college students each summer an opportunity to be mentored by spiritually-interested practicing scientists. *Service to the World* provides students with opportunities to consider ways in which the insights of science and religion can be marshaled to help meet the practical needs of the world as adumbrated in the preamble to the Earth Charter: needs for addressing questions of poverty, violence, environmental destruction, economic disparities, and injustice. *Special Projects* provides students with opportunities to learn about themselves and about the human



and natural worlds, in ways that combine multiple forms of learning: prayer and scientific inquiry, for example, or meditation and field work. At Hendrix I am co-teaching a course with a practicing psychologist, specializing in the psychology of emotion, in which we are jointly exploring the nature of love from scientific, Buddhist, and Christian points of view. This would be another example of the kind of transdisciplinary thinking that can be undertaken under the rubric of special projects. If experiential learning involves the previous categories, then it has much to offer the world in terms of advancing a dialogue between science and religion and thereby helping religiously-minded people to meet the five challenges named earlier.

Readers may note that the one category not mentioned in the previously mentioned, namely *undergraduate research*. Typically academics in liberal arts colleges will define it as we do at Hendrix: Experiences in which students undertake significant research projects using *the methods of their chosen discipline*. In principle, this would allow a student to design an experiment on, for example, the biology of meditation or the psychology of prayer; or to write a term paper on theological and scientific approaches to the universe, or spiritual and scientific approaches to the mind-body relation at the end of life. Nevertheless, often the student's faculty mentors, who inevitably come from a particular discipline, are not trained to think in such trans-disciplinary ways, so the student may not receive the support, encouragement, or expertise needed. Moreover, the methods of a chosen discipline may tend to dominate, thus excluding other methodological approaches that lie outside a chosen discipline. For example, in doing a research paper on biology of meditation, would a regular practice of meditation itself be considered a dimension of the method employed? One might get one answer from a molecular biologist interested in the brain chemistry of meditation and another from a professor of Buddhist studies. When it comes to responsible method as understood in different disciplines, the terrain is murky.

What is clear, though, is that the experiential learning movement offers rich opportunities for the advancement of science-religion dialogue, and that it can be one context in which, in an indirect way, the future of religion is advanced. Because undergraduate research can itself be such a promising area, there is a need for workshops and other opportunities for continuing education in which scientists and religiously-minded people consider more carefully the murky terrain of method and the possibility and desirability of trans-methodological inquires that involve, in the language of the Special Projects category, experience in which students extend, apply, connect or share different ways of knowing (e.g., oral, verbal, tactile, imaginative, intuitive), often in inter-disciplinary settings.

Of course a larger question remains: Does experiential learning as emphasized at Hendrix College, or any other college, truly serve the larger needs of the world? The answer, it seems to me is "yes, under certain conditions." Those conditions are twofold. The first is that the participants in experiential learning are themselves religiously committed and spiritually interested, such that they end up offering leadership to the wider world once they graduate from college. If a given student

engages in a special project concerning religion and science, but is existentially indifferent to the future of religion in general, then that project will do little than to satisfy a graduation requirement. But if the student does come from a particular religious or cultural tradition – Confucian, Taoist, Buddhist, Hindu, Muslim, Christian, Confucian, Taoism – and if that tradition is important to the student, then in a small way experiential learning is preparing religious leadership for the future, which can itself help the many world religions meet the global challenges. The second condition is that the participants in experiential learning are complemented by efforts outside the arena of colleges and universities in local communities, such that a synergy emerges between college and community, academy and society. This, of course, is the greater hope of the Metanexus Local Society initiative. I hope that this paper contributes in some small way to that much more important and greater hope. As the Earth Charter puts it: *We stand at a critical moment in Earth's history, a time when humanity must choose its future. As the world becomes increasingly interdependent and fragile, the future at once holds great peril and great promise.* If undertaken in a spirit humility and respect for both religion and science, a healthy dialogue between religion and science, within and outside the academy, can lead in the direction of great promise.

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<sup>i</sup> *The Earth Charter: Values and Principles for a Sustainable Future*, [www.earthcharter.org](http://www.earthcharter.org). [15 June 2004].

<sup>ii</sup> From Gandhi. n. 1. 58.