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Center Voice

The Newsletter of the Center for Sacred Sciences

Religion and Science

Science has brought us unprecedented powers to understand, predict, and control the physical world. But this scientific knowledge conflicts with the cosmology of the traditional Judeo-Christian worldview that provided our culture with its spiritual and moral foundations. The result of this conflict has been a fragmentation of our Western worldview into two conflicting accounts of reality, both of which claim to be true. And this fragmentation has very real consequences for all of us. Whether we have children to raise and educate or simply have our own death to contemplate, we are each inevitably forced to consider the ultimate nature of this reality that we mysteriously find ourselves alive in. Where did we come from? Where are we going? Are we nothing more than biological organisms formed from complex collections of molecules? Did everything begin with the Big Bang? Or is the fundamental nature of everything a non-material, eternal God, or Consciousness? Who—or what—are we, really? Our answers to these questions will change dramatically depending on whether we look to science or religion.

As long as we are caught in this apparent dichotomy of science and religion, we will not have a coherent and comprehensive context within which to even begin our inquiry into these important questions. So, to integrate science and religion in ourselves and in our culture is one of the great challenges of our time. This issue represents a response to this challenge. We hope it contributes to a more coherent worldview that will help bring more happiness to this and future generations.

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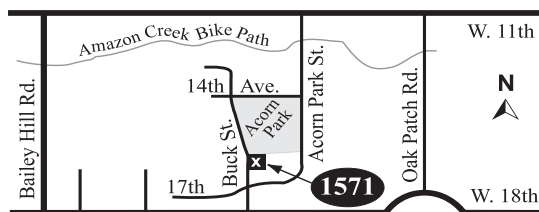
MISSION

The Center for Sacred Sciences is dedicated to the study, practice, and dissemination of the universal spiritual teachings of the mystics, saints, and sages of the world's great religious traditions. In addition, the Center endeavors to present these traditional teachings in forms appropriate to our contemporary scientific culture. The Center also works toward the creation and dissemination of a sacred worldview that expresses the compatibility between universal mystical truths and the evidence of modern science.

Among the Center's on-going events are Sunday public services with meditations and talks by the Center's spiritual director, monthly video presentations, and—for committed spiritual seekers—a weekly practitioners' group and regular meditation retreats. The Center also maintains an extensive lending library of books, audios, videos, and periodicals covering a broad spectrum of spiritual, psychological, and scientific subjects. In addition, the Center provides a website containing teachings, information, and other resources related to the teachings of the world's mystics, the universality of mystical truth, and the relationship between science and mysticism. Twice yearly, the Center publishes a newsletter containing spiritual teachings, interviews with practitioners, book reviews, information and resources pertaining to the Center's mission, and news of Center events.

The Center for Sacred Sciences is a non-profit, tax-exempt church based in Eugene, Oregon, USA. We rely chiefly on volunteer labor to support our programs, and on public donations and membership pledges to meet our operating expenses. Our spiritual director gives his teachings freely as a labor of love, and receives no financial compensation from the Center.

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CENTER NEWS

Enlightenment Day and Foundation Studies Commencement

The annual Enlightenment Day celebration was held on August 16, 2003, at the home of Gene Gibbs and included a potluck dinner followed by music, singing, and magic. In addition, the members of the 2002–03 foundation studies group were acknowledged for completing their year of studying and practicing the basic teachings of the mystics, and were welcomed into the Center's community of practitioners. The 2003–04 foundation studies group is being taught by Todd Corbett and Clivonne Corbett.

Center Representation at the 2004 Parliament of World Religions

In July 2004 several members of the Center's Board of Directors plan to represent the Center at the Parliament of World Religions in Barcelona, Spain. This week-long conference draws representatives of hundreds of religious organizations from all over the world to participate in interfaith dialogue and sharing.

Summer 2003 Retreat

The Center's five-day summer 2003 retreat, entitled *Settling into Purity*, was led by Andrea Pucci. Emphasizing silence and practice, the participants cultivated shamatha, or calm abiding. The retreat was held July 26–31, 2003, at the Cloud Mountain Retreat Center near Castle Rock, Washington.

Fall 2003 Retreat

The nine-day fall 2003 retreat, led by Joel, was entitled *Why Aren't You Enlightened?* On this retreat, participants applied the four principles of attention, commitment, detachment, and surrender in various practices designed to identify and dissolve both gross and subtle obstacles to Realization. The retreat was held October 10–19, 2003, at the Cloud Mountain Retreat Center near Castle Rock, Washington.





Summer Retreatants: (Bottom row) Fred Chambers, Todd Corbett, Clivonne Corbett, Nancy Lonnergan, Gene Gibbs, (middle row) Mike Barkhuff, Megan Greiner, Sue Orbeton, Ellen Vogel, Andrea Pucci, Judy Morgan, Carol Mizera, Diana Morris, Shan Ambika, (top row) Camilla Bayliss, Peggy Prentice, Damien Pierce, David Cunningham, Gail Marshall, Steve Jonas, Maggie Free, and Sharry Lachman.



Fall Retreatants: (Front floor from left) Gene Gibbs, Fred Chambers, (Bottom sitting row) Mike Craven, Todd Corbett, Bill Hamman, Rich Marlatt, Vip Short, Carol Mizera, (middle row) Emma Leyburn, Beth Mackenzie, Shan Ambika, Joel, Diana Morris, Cathy Jonas, Susan Colson, Megan Greiner, Clivonne Corbett, (top row) Steve Jonas, Wesley Lachman, Ann Everitt, Gail Marshall, David Cunningham, Jim Patterson, Camilla Bayliss, Tom McFarlane, Lewis Bogan, (Not Shown: Miriam Reinhart, Peggy Prentice, Damien Pierce, Deanna Cordes.)



Integrating Science and Religion

An Interview with Alan Wallace

Alan Wallace has been a practitioner and scholar of Buddhism since 1970, including fourteen years as a Tibetan Buddhist monk. He has translated numerous Tibetan Buddhist texts, interpreted for many Tibetan Lamas, including the Dalai Lama, and taught Buddhist philosophy and meditation worldwide. Alan also has an undergraduate degree in physics and the philosophy of science from Amherst College and a doctorate in religious studies from Stanford University. Among the many books he has edited, translated, and authored, three have particular relevance to the subject of science and religion: Choosing Reality: A Buddhist View of Physics and the Mind (Ithaca, NY: Snow Lion, 1989), The Taboo of Subjectivity: Toward a New Science of Consciousness (New York: Oxford University Press, 2000), and Buddhism and Science: Breaking New Ground (New York: Columbia University Press, 2003). For more information about Alan Wallace, please visit his home page at <http://www.alanwallace.org/>. This article is copyright © 2003 by B. Alan Wallace, and published here with his kind permission.

TOM McFARLANE: Some of our readers may not know you very well, so first, to help them become familiar with who you are, perhaps you could share a little about what your background is, where you're currently at, and what you're up to.

ALAN WALLACE: My primary endeavor these days is establishing the Santa Barbara Institute for the Interdisciplinary Study of Consciousness in which I'm drawing together methodologies, insights, and theories from the cognitive sciences, from various contemplative traditions of the world, and from multiple philosophies East and West to try to understand the nature of consciousness, its origins, and its potentials. So there's the epistemic investigation of the origins, nature, functions, and potentials of consciousness, but also there's a pragmatic aspect to this, and that is to try to draw out the full potential of consciousness, for example, enhancing attention skills, cultivating emotional balance, and the like. The pragmatic approach focuses primarily on the cultivation of exceptional states of mental health and the realization of the full potentials of consciousness. So this endeavor has both a research aspect as well as a very pragmatic aspect. So that's a very large-scale endeavor I'm engaging in now.

In addition to that, I'm doing a lot of lecturing internationally and leading meditation retreats. In September 2003 I participated in a conference with His Holiness the Dalai Lama, one of the sequence of Mind and Life Conferences that began in 1987. This one was at MIT, co-sponsored by the McGovern Institute for Brain Research at MIT, and I was co-chairing the

panel on attention. Broadly speaking, this conference was looking at the mind from modern scientific and Buddhist perspectives, and seeing what kind of a bridgework or inter-relationship there could be between these two great traditions. That's it in a nutshell.

TOM: Great. So could you tell us a little about your life's history? How did your interests in religion and science unfold?

ALAN: I was raised in a very Christian family. There was a great deal of religious activity on both my mother's and my father's sides. So taking religion—specifically in this case Christianity—very seriously was deeply ingrained in me from childhood. At the same time, from my early teens I had a natural predisposition to pursue a career in science, and I had encouragement from my parents to do so. So I grew up with a sense that there were these two great traditions: religion and science. But I found with increasing dismay as I grew through my teens that there was very little communication between science and religion. And what communication there was tended to be antagonistic. Not collaborative. Not with a sense of mutual learning. So I felt that I'd been raised with two largely incompatible world views: a Christian worldview and a scientific worldview. And after spending two years at the University of California at San Diego in the late '60s hoping to find some type of integration of my interest in science with my interest in religion, I basically gave up on Western civilization in this regard. Nobody seemed even to notice or take this problem seriously. Yet I felt these interests must be integrated if I didn't want to be fragmented internally, and therefore I

decided to step outside my own civilization and see if somebody else had a more integral approach to understanding human existence and our relationship with the environment around us.

TOM: This lead you to India?

ALAN: It did. By way of Germany. I spent my junior year abroad in Germany at the University of Göttingen. While traveling around Europe the summer before matriculating at the University, I picked up a book on Tibetan Buddhism and it tremendously inspired me and intrigued me. It was a rigorous investigation into the nature of Awareness. It was the first book I'd ever encountered that really seemed to draw all of these elements together: the profoundly religious, contemplative, and philosophical, but also the rational and empirical, like the approach of science entailing careful observation and so forth. That was really what I was looking for. So that was sufficient inspiration for me to drop all of my other classes at the University of Göttingen and just study Tibetan language with the hunch that this would turn out to be a mother lode, a vein of gold that I could trace to its source.

During that year in Germany, I continued to read voraciously about the contemplative traditions of the world and finally came to the same conclusion as Aldous Huxley, that in the great diversity of the world religions, their faiths, their creeds, their belief systems, there is a profound convergence at the deepest level of mystical experience. I thought if that was the case, then these great mystics from the East and the West must be converging on the most important reality that human beings can realize. Then the only question was, what path do I want to follow?

After spending a year in Germany, reading as much as I could on Tibet, its culture and its religion, its contemplative tradition, I felt this was really worth investigating. So, in 1971 I gave away or sold all of my possessions that I couldn't carry on my back, I bought a one-way ticket to India, and I went immediately to Dharamsala, which was then and is now a refugee community of Tibetans, and also where the Dalai Lama lives. There, I immersed myself in studying the Tibetan language, Buddhist contemplative practices, Buddhist philosophy, and traditional Tibetan medicine. I spent all of the '70s in total immersion in Tibetan civilization, especially its religion and most particularly its meditative and philosophical tradition, about four years in India and then the next five years after that in two Tibetan monasteries in Switzerland. Then I followed that by four years of going from one solitary contemplative retreat to another. So that was step-

ping outside of any civilization and just devoting myself to meditation. By that time I had taken a leave of absence from Western civilization for 14 years.

TOM: Eventually you were lead back to the U.S. to study science. How did that happen?

ALAN: I looked at myself reflectively and saw that well, after all, I am a Westerner. I still am an American, whether I like that or not. It is my native culture. In my pursuit of integration, I found that, while I had found in Tibetan Buddhism a very integral approach to the study of human nature, of consciousness, of reality as a whole, in the process I had even more deeply fragmented myself in a way. Because where previously I had been split between science and religion, now I had split East and West. I was obviously not a Tibetan, yet I had estranged myself from my own native civilization.

So at that point, I thought, now let's see if I can integrate myself in terms of East and West, and not just in terms of science and religion. And I thought to do that, I'd go back to the paradigm of Western science, the one science that the other ones seek to emulate in many respects, and that is physics, with its basis in mathematics. So in 1984 I matricu-

lated at Amherst College, brushing up on my mathematics, calculus, multivariable calculus, and studied physics from the ground up, from classical mechanics and electromagnetism up through quantum mechanics and relativity theory. But my real interest there was not simply to study physics as physics, but to study

the paradigm of Western science, and at the same time to get as much understanding as I could of the history and the philosophical context out of which Western science grew and in which it has flourished. My senior honors thesis drew on these themes, and was later developed into my book *Choosing Reality: A Buddhist View of Physics and the Mind*.

This period at Amherst was the beginning of an integration between the 14 years that I'd spent in the East with Tibetans and my early education and upbringing in the West. Ever since, I've really been engaged in an ongoing pursuit of thorough integration, so that, with one whole body, mind, spirit, and heart altogether, I can draw from the well of Tibetan Buddhism, and from the well of Western civilization. Later I studied cognitive science, and philosophy of mind. My doctoral work at Stanford in religious studies was very interdisciplinary. To be able to have all of these in one container, all of these in communication with each other, all enhancing and complementing each other—that's what I've sought since returning to Western civilization in 1984.

Now, after close to 20 years, I do feel that to a high degree I have achieved that type of inner coherence and integration. So I feel very much at home in the Tibetan context, very much at home in that of Western science and Western philosophy, and of course that of religious studies. This is all of a piece now. It's entirely integrated. There's much more to learn, much more to know by means of an experiential inquiry. But I feel now that I do have a platform that is balanced and integrated, and that's something I was looking for.

TOM: Excellent! Before we discuss the integration of science and religion a little more, I'd like to ask you about the use of the words science and religion. They mean a lot of different things to so many different people and are used in so many different ways. I'm wondering what you would put forth as the most beneficial way of defining or conceiving of science, and the same for religion.

ALAN: Let's begin with science. Off the top of my head, with no pretense of being authoritative, let me simply tell you what comes to mind when I think of science. First of all, I have great respect and appreciation for science itself. It's not at all a tradition with which I feel I'm in combat or in any kind of adversarial relationship. Basically, I view science as a mode of inquiry, entailing very rigorous, precise observations and experimentation, with which often there is a preceding working hypothesis, some type of a theoretical formulation that gives rise to questions that can be put to the test of experience, or as Karl Popper said, hypotheses that, at least in principle, can be repudiated by experiment. And of course, something that often goes with scientific inquiry is quantitative measurement, quantitative analysis, and quantitative theorizing, in terms of producing formulas representing the laws of nature, and so forth. So science is a mode of inquiry, and of course it is also the ensuing body of scientific knowledge. And that's how I regard science.

Now when it comes to religion, I think it's important to recognize that religion, like science, is really a Western term. It comes principally from the Judeo-Christian and Greco-Roman traditions. So when we look outside our civilization, to the Indian tradition, or to the Chinese tradition, then we are looking through a certain template for religion which fits very well with our Abrahamic religions—specifically with Judaism, Christianity and Islam—but does not fit so well with any of the religious or spiritual traditions of Asia. So then one ends up in something of a quandary. But if one wants to speak as broadly as possible, not of religion as it's often conceived of

in the West, but of religion as a more universal or a global term, then I would say that religion entails a set of theories, modes of inquiry, and modes of practice that are oriented to coming in contact with, understanding, or a least having faith in the deepest nature of reality, living in accordance with that reality, and by so doing, coming to some form of salvation, of liberation, spiritual awakening or enlightenment. I think one must speak in these very broad terms when one is trying to speak of religion as a global phenomenon.

TOM: How do you think that misconceptions about science and about religion may contribute to the so-called conflict between science and religion?

ALAN: I think the so-called conflict between science and religion largely has to do with dogma versus dogma. And science should not be a dogma at all. If science slips into a dogmatic role, it ceases to be genuine science. But unfortunately it often does.

Scientists and proponents of science, such as teachers, professors, researchers, and journalists often move seamlessly from what is genuinely science to what is really much more of a system of beliefs. What I'm referring to here specifically is scientific materialism, which is also called materialism, scientific naturalism, scientific reductionism, or materialistic reductionism. All of these terms often basically refer to the same system of beliefs. For example, one belief that has never been proven scientifically, but which is accepted almost universally among a vast majority of scientists, is the closure principle. The closure principle says that within the physical universe there are no causal agents that are not themselves physical. In other words, nothing impinges upon the physical universe that is not itself composed of elementary particles or has energy or mass. There are no other influences in the physical world. Well, no one has come anywhere near demonstrating that this is true. It's hard to conceive how anyone could ever demonstrate or come up with an experiment that could possibly repudiate it, to quote again Karl Popper's axiom that scientific theories are those than can be, in principle, repudiated by empirical evidence.

Now this simple statement, the closure principle, which is to say the physical universe is causally closed, precludes the possibility that, for example, God, as a non-physical being, has ever done anything in the world. So any being such as God, if such a being exists, is a passive agent hopelessly standing outside the universe and not able to have any influence on it whatsoever. This sets scientific materialism in radical antagonism or incompatibility with all the theistic traditions of the

world. That's just one feature. In my book *The Taboo of Subjectivity* I tried to sift out the core articles of faith of scientific materialism, none of which have ever been scientifically demonstrated, all of which are accepted very widely among scientists, especially in biology and the cognitive sciences. So if one conflates scientific inquiry and scientific knowledge with this dogmatic system of metaphysical belief, then this sets up a profound incompatibility between science and all the religious faiths of the world.

Now this unnecessary source of incompatibility comes from the religious side as well. And that happens when a religion identifies itself exclusively with a set of beliefs and ritual practices, so that, for example, salvation or redemption becomes simply a matter of unquestioning belief that cannot possibly be tested empirically. Or, if there's any empirical evidence that contradicts one's belief, it doesn't count because the source of one's belief is considered to be divine in nature and therefore beyond human comprehension. Well, for such believers it just doesn't matter what evidence science comes up with because they have adhered to a belief system that is based upon an authority, upon a particular book, that they have deemed infallible. Well, there's simply no way for there to be meaningful dialogue between science and a belief system that views whatever a scientist says as irrelevant. So when religion, whether it's Christianity or any other religion, adheres dogmatically to its beliefs, then any kind of meaningful dialogue with science is bound to break down.

But that is not a completely true picture of any of the religions of the world. If one looks into the contemplative practices of any of the great world religions, one finds there is a mode of inquiry there that is both rational and experiential. And if one goes back to empirical and rational inquiry within a religious framework, I think one now opens up the possibility of meaningful dialogue and even collaboration with the scientific community. One finds these contemplative modes of inquiry in all the religions. In Islam it's Sufism, in the Jewish tradition, the Kabbalah, in Christianity, it's the Christian mystical tradition. The Eastern Orthodox tradition has been quite strong for many centuries. And, as this is certainly true for the Abrahamic traditions, it may be even all the more true for traditions that do not fit so easily into the Western category of religion: Buddhism, for example, the multiple schools of Hinduism, Taoism, and other Eastern traditions which grew out of civilizations that did not define science or religion as we have. These traditions, I think, especially lend themselves to very meaningful theoretical dialogue and empirical collabora-

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tive research with science into such things as the nature of mind, the nature of consciousness, the nature of attention, and the capacities of consciousness. Together with William James and other great thinkers of the West, as well as contemporary people like the Dalai Lama, I feel there is an enormous potential for collaboration and discovery by drawing on the wealth of methodologies and insights from the contemplative traditions of the world, such as those of Buddhism, as well as on the tremendous integrity, the depth and sophistication, the excellent skepticism, and critical attitude of the natural sciences. With the integration of these, we may open up whole areas of research and insight into human nature, the nature of the mind, and our relationship with the environment that would not come simply out of the trajectory of Western science as it's following on its own course without any such interface, and would not come out of the Buddhist or any other contemplative tradition on its own without integration or collaboration with Western science.

TOM: What are some of the specific ways that you think this integration of contemplative traditions and science might come about? How might they contribute to each other?

ALAN: A good place to start when addressing such a question is William James because he was such a deep, multifaceted thinker. In addition to his background in biology and medicine, he was one of the primary psychologists of this country, one of the great philosophers of this country, and also wrote probably the greatest American classic on religious experience, *The Varieties of Religious Experience*. And this is all one person. He was quite monumental. And when he

envisioned the scientific study of the mind, he envisioned a three-pronged approach. One of those was studying the brain and the neural correlates of a wide range of mental processes. Following this approach, Western scientists, neuroscientists, have made tremendous progress, especially in the last twenty to thirty years. So there's one approach. The second approach is studying behavioral correlates of mental activity. Following this

approach, behaviorists, from the time of John Watson and B.F. Skinner, to current modern cognitive psychology have also made wonderful strides in understanding the behavioral correlates of the mind. This has yielded indirectly a great deal of insight in areas such as developmental psychology, shedding light on the mind and how it operates. But William James said there needs to be a three-pronged approach, and the third prong he called introspection, inward looking. And he said, among these three prongs, introspection should always be first and foremost. It should be our primary mode of inquiry into the

mind because it provides our only means of direct access to mental phenomena, such as the emotions, attention, memories, mental imagery, imagination, desires, hopes, fears, pain, suffering, joy, and so forth. The two other approaches, neuroscience and behavioral sciences, including cognitive psychology, all study only physical correlates of mental phenomena. It's only with introspection that we actually look at the mental phenomena themselves.

The approach of introspection, however, has been beaten up a lot in the West because, in my impression, during its thirty-year trial from about 1880 until about 1910, psychologists simply didn't do it very well. They didn't know how to train the faculty of introspective investigation, how to refine the attention, so that introspection could be done in a rigorous and reliable way that wasn't heavily colored by the assumptions, desires and expectations of those running the experiment. So when the poor quality of their introspective research was unmasked by people like John Watson, the introspective approach was discarded—baby with the bath water—and it has been hard to revitalize it ever since.

Within the Western scientific tradition tremendous strides have been made only in terms of third-person observation, which is indirect observation of the mind by way of neural and behavioral correlates. A rough analogy from the 16th century might help illustrate the problem with studying just the correlates. In the 16th Century Galileo refined the telescope and then applied it to the careful observation of celestial phenomena. Only because he had such an instrument for making very careful observations of celestial phenomena was he able to discover that there were moons around Jupiter, that there were craters on the Moon, that there were spots on the Sun. The only way you can make such unexpected discoveries is by directly investigating phenomena with a reliable and refined instrument of observation. And it was from these precise observations and experiments using the tools of technology that the modern science of astronomy and kinematics developed. Now, before Galileo there was a long history of folk astronomy that was not so much concerned with the precise observations of the movements of the planets and stars, but had a great deal of interest in correlates between celestial phenomena and terrestrial phenomena, the correlates between human behavior and the positions of the planets, sun, moon, and stars. I think you know what discipline I'm referring to: astrology. Galileo and those who followed him devised the appropriate technology for careful observations of celestial phenomena. Until that point all we really had was astrology and folk astronomy. Similarly, modern psychology has not come up with the

Western science has the potential to learn a great deal from Buddhism and other contemplative traditions in terms of first-person observation and experimentation.

appropriate modes of observation for directly studying mental phenomena. They have not developed anything comparable to a telescope for astronomy or a microscope for cell biology. The contemplative traditions of the world have. These traditions, especially those of the East, have devised means for enhancing attention skills in terms of stability, vividness, to make profound, careful observations of a wide range of mental phenomena, to explore the very nature of consciousness by studying consciousness itself.

Within William James' brilliant strategy, this three-pronged approach, Western science has made tremendous progress and should be congratulated for its great progress in terms of the two third-person approaches, the study of neural and behavioral correlates of the mind. But it has made no progress at all when it comes to the first-person approach. And this is quite astonishing. The Buddhist tradition, on the other hand, has made no progress in terms of the brain correlates of mental processes. Neither has any other contemplative tradition in the world. So Buddhism and the other contemplative traditions have a great deal to learn from Western science about the neural and behavioral correlates of mental processes. And Western science has the potential to learn a great deal from Buddhism and other contemplative traditions in terms of first-person observation and experimentation, and then reporting on the mental phenomena themselves.

TOM: It sounds like these first-person methods of observation could be something that the contemplative traditions have to contribute in terms of a broader scientific method. In other words, we could perhaps conceive of a future science that is not limited to the building, constructing, refinement of scientific instruments that are external to us, but that our conception of science could be extended to include the cultivation of internal instruments of observation as well.

ALAN: Exactly so. This is just the conundrum that Wilhelm Wundt and the other founders of Western psychology were faced with. These pioneers of Western psychology were working three hundred years after Galileo and other physicists defined science and scientific methodology based upon objective observation. Science developed consensus-based, third-person observations of things standing outside, things in the physical world that could be inspected by multiple viewers. So the psychologists had an enormous challenge: how to take the scientific method, which was heavily oriented toward the objective physical phenomena, and direct it toward subjective mental phenomena. They tried introspection, but frankly they just didn't know how to do it. They did it primitively, they did it poorly, and so that approach fell into disgrace and was lost.

It was largely replaced by behaviorism and has been discarded to this day. So we come to this same conundrum: we're trying to study mental phenomena, but science as it stands right now does not have any rigorous and reliable observational instruments for directly investigating mental phenomena, that is, from the first-person perspective. One response to that is to throw out introspection altogether. My response is to elevate it to try to enhance the sophistication and rigor of first-person methodologies to complement the sophistication of third-person methodologies. And so, indeed, if scientists can be open-minded and flexible in their understanding of the parameters of science, and include the possibility of there being rigorous, although not quantitative, observations and experimentations with the mind from the first-person perspective, then we may redefine the cognitive sciences and psychology, and in so doing we may redefine or at least broaden the parameters of science as a whole.

TOM: It would seem that this broadening of science would also have to require a transformation in the notion of what it means to be a practitioner of such a science. For example, training in the contemplative traditions requires practitioners to practice morality and cultivate virtues, but this isn't often emphasized in the training of a physical scientist. It would seem that a broadening of science to include the cultivation of introspection would demand much more from the scientist himself or herself than it does in the common notion today.

ALAN: This is certainly true. When it comes to contemplative traditions, ethics is not an arbitrary add-on. Ethics is not a luxury item in the quest for truth. One reason for this stems from the fact that the instrument you're using to investigate mental phenomena is your own awareness, and crucial to such rigorous investigation is the enhancement of attention. Now, from a Buddhist perspective, the untrained mind is normally in a dysfunctional state, oscillating compulsively between excitation and laxity, between agitation and dullness. This is not a mind that can reliably make observations of its own internal phenomena or reliably make observations outside. Scientists can get away with their own attention being considerably scattered only because they rely on physical instruments of observation. When they set a telescope, they can take photographs with the telescope, and so forth regardless of the wandering of their own attention. But when it comes to contemplative inquiry, you do not have any mediating observational instrument outside of your mind to gather data. And because your attention, your mind, is embedded in your

If scientists can ... include the possibility of there being rigorous, although not quantitative, observations and experimentations with the mind from the first-person perspective, ...we may redefine or at least broaden the parameters of science as a whole.

life, if your life is lead in an unwholesome way, with a lot of anger, rage, pomposity, envy, craving, anxiety, and so forth, this mind cannot settle down. It cannot be balanced. Such an unethical life is incompatible with the profound and durable balancing of the attention. So training the mind, especially training the attention, and also simultaneously balancing the emotions, and cultivating mindfulness, cannot proceed without a strong basis in ethics. Upon the basis of training the mind, then, and only then, can one make a profound, rigorous and reliable investigation of the mind firsthand, and make discoveries that not only yield great knowledge, but actually yield profound and even irreversible transformation and freedom from negativity in one's own mind. And so the contemplative scientist, if I can use that term, must live a highly ethical life, cannot live a malicious life, an arrogant life, a self-centered life. It is incompatible with this whole mode of inquiry.

As long as the research is mediated by physical instruments of observation, as long as it's following the trajectory of Galileo, your ethics, your personal virtues are irrelevant to a large extent. If we should take Ockham's razor to the physical sciences, you could shave off virtually all of ethics and still have it operate efficiently. Altruism and compassion, a sense of global responsibility, of humanitarianism—you can shave all of that off. The only element of ethics necessary to have physical science and the Western paradigm progress is honesty: don't fudge your data. Of course, there are certainly many very ethical scientists. But it's not because they're compelled to be by their scientific discipline. They are ethical because they are basically good people, or maybe they are religious. But I think that many scientists are eager to bring a greater sense of ethical responsibility into their own mode of inquiry, and to the way science is used. So I think there's a great deal of receptivity there, and contemplative traditions may provide a bridge to that, or open up an avenue of inquiry, that possibly could make scientific inquiry as a whole a more ethical endeavor. I think that's going to be to everybody's advantage.

TOM: More broadly, in our society as a whole, would you say that the impact of scientific materialism and the conception of science as purely objective has contributed to a kind of moral degradation?

ALAN: I think it has. First, I think the very ideal of pure objectivity in science is simply a myth. As Thomas Kuhn has compellingly demonstrated in his book *The Structure of*

Scientific Revolutions, scientific inquiry has always been influenced by subjective factors: aesthetic factors, socio-economic factors, religious factors. It has never been purely objective. And so, that is a myth.

The ideal of objectivity, that somehow scientific inquiry should have nothing to do with subjectivity or human values, has disenfranchised human beings as living subjects from the real physical world. And I think one specific way that has happened is when scientists say, without question, that the mind is simply what the brain does, that consciousness is simply a byproduct of the brain. By bringing in these assumptions as if they were scientific fact, what they are telling us is that all of our activities, all of our thoughts, our choices, all of our lives are dominated absolutely by the brain and its interactions with the body and the physical environment. What they are saying in effect is: we are biological robots, we are preprogrammed by our genes, by our brain chemistry, by our physical interaction with the environment. I think we are getting that message also from the popular media, and we're getting it from the education system where there is, I think, gross irresponsibility in conflating the metaphysical axioms of scientific materialism with genuine scientific inquiry. Now, if we are really biological robots, then there is no such thing as moral responsibility. So scientific materialism has given us the message—sometimes explicitly and sometimes quietly in the background—that we are not morally responsible for our behavior because, after all, we are merely physical organisms. This is a terrible message.

A second point is that there is a message given to the population at large that if anything goes wrong with your mind, then the source of the problem is the brain because, after all, the mind is what the brain does. So if you can't sleep, you can't settle down, you can't focus, you're too active, you're too drowsy, you're not happy, you're too excited—you name it—if you have any type of perturbation of the mind, the first response that we're getting from a lot of the medical profession, and the scientific tradition as a whole is, what drug do you need to take? Do you need to get gene therapy? How can you fix your brain chemistry? And the message here is that whatever is wrong with the mind is caused by something wrong with the brain, and so the way to fix it is to get appropriate surgery or medication. I think that message is dehumanizing, and of course it is largely commercially driven. The great majority of the pharmaceutical drugs of the mind heal nothing. At best, they only manage symptoms. And that means you're going to be dependent on that drug, whether it's Prozac for depression or Ritalin for atten-

tion deficit and hyperactivity disorder. This is all a direct derivative of the scientific materialistic view of human nature and the mind: that the mind is simply what the brain does.

TOM: So just as the conflation of science with the view of scientific materialism leads to these problems in our culture, and has real effects in terms of the suffering of individuals, would you hope that an integration of science and contemplative sciences, or to put it another way, a broadening of the notion of science to include the cultivation of modes of attention and so forth, that this would have beneficial effects for society as a whole? And what might those be?

ALAN: Certainly this hope is the fundamental aspiration behind the establishment of the Santa Barbara

Institute for the Interdisciplinary Study of Consciousness. One way the contemplative traditions can be of benefit in this regard is to help us recognize that there are things that we can do as individuals to address the various forms of suffering we experience. We can train the mind. We can develop new habits. We can gain experiential insights that transform. We can modify our behavior. We can modify the way we speak. We can modify our attitude and ways of thinking. We can cultivate emotions we haven't had in the past. In so doing, we can transform the mind in a way that is empowering and ennobling to the human individual. The contemplative traditions thus can engage in a complementary fashion with science to investigate questions such as: to what extent and in what ways can the mind and brain transform and change as a result of experience and as a result of training? Over the last ten years especially, cognitive science has been finding that the brain, the mind, is to a high degree plastic, capable of change through experience, and this is opening the door to tremendously meaningful cooperation with the contemplative traditions and other traditions that provide ways to transform the mind from within, rather than relying on materialistic resources of external, physical intervention.

TOM: I wonder if you'd care to elaborate on your specific plans for collaborative research between the contemplatives and the physical scientists.

ALAN: Among the myriad of potential areas of collaborative research, dialogue, and so forth between the contemplative and scientific traditions of the world, I think the study of attention is a prime area. Many contemplative traditions of the world such as Buddhism have already recognized the tremendous importance of refining the attention for their own contemplative ventures. At the same time, the cognitive sciences have already recognized the tremendous impor-

The contemplative traditions can... help us recognize that there are things that we can do as individuals to address the various forms of suffering we experience.

tance of attention, and there are also marvelous studies from the neural sciences, from cognitive psychology, psychiatry and so forth. Studying attention is an area where there's an enormous degree of interest and expertise on both sides of the fence. And this is one of the major reasons I'm so drawn to this.

So, to give this a name, I'm calling this proposed collaborative research the Shamatha Project. Shamatha is a specific genre of practice within the Buddhist tradition for enhancing attention skills. It means meditative quiescence, where the perturbations of excitation and laxity are calmed, where the mind is stable, vivid, and relaxed. That's shamatha. I envision a one-year residential training program in a facility very conducive to this type of sophisticated, delicate research. It will be quiet. Food will be provided. Each participant will have his or her own room. And these individuals through the course of one year will engage in attentional training techniques, meditative practices for enhancing the attention, balancing attention, cultivating shamatha from eight to ten hours a day. This is going to be a full-time job. Although the training techniques will be drawn from the Buddhist tradition, people do not necessarily have to be Buddhist to participate in this training because it's not theory-laden. One does not have to believe in reincarnation, or karma, or Buddhahood, or be a Buddhist to engage in this. And this is another advantage of this particular type of training. But their lifestyle has to be ethical and very simple throughout the course of this training. Because we are trying to hone or tune a tool here. And that means you want a very quiet laboratory, so to speak. At present I'm envisioning the first three months to be the pilot study with something like two dozen people. And the remaining nine months could be for perhaps half that number. So that would be the contemplative side of the project.

On the scientific side, the role of the neuroscientists would be using functional MRI—a very sophisticated brain scan—to find out which parts of the brain are activated when people enter into these states of refined attention, and how they transform over time as a result of the training. Every two weeks or so we'll have some type of EEG studies done, looking at the electrical activity of the brain using state-of-the-art EEG research methodology. In addition to these brain correlates measured by the neuroscientists, the cognitive psychologists will be studying behavioral correlates using sophisticated ways of measuring attentional and emotional balance. We may also in this collaborative endeavor come up with new experimental procedures or strategies for testing those particular modes of attention that are developed in Buddhist meditative training. So this

is going to be collaborative all the way through; that is, we will not simply take pre-existing methodologies but actually hand-tailor them so that they are specifically adapted to being able to rigorously and accurately measure what happens in this type of training. There will be explicitly a study of attention and the plasticity of attention, and the neural correlates of such plasticity. It will be also, though, a study of emotional balance because, according to the Buddhist tradition, this type of attentional training should also have great benefit in terms of balancing the emotions, in terms of attenuating or decreasing the sense of craving, anxiety, anger, and other types of emotional imbalances. Participants should develop or unveil a greater and greater sense of well-being, of emotional balance, a sense of flourishing, and equanimity. There should be a greater clarity, a brightness of the mind. Overall this should greatly enhance the mental health and balance of the participants in this program. So, we may very well have a psychiatrist involved in the studies, because the implications for mental health are also very great. So I'm seeing this as a deeply collaborative research project that will draw from neuroscience, cognitive psychology, psychiatry, and the wealth of contemplative expertise, explicitly from the Buddhist tradition, but we may also enhance it from other traditions that also have made contributions in understanding how to enhance the attention.

TOM: And as you look to the future, let's say, several decades from now, what's your greatest aspiration or hope for the development of this kind of collaboration? Where might it lead?

ALAN: I'm now happy to take on the role of a visionary. How could this possibly develop? I can imagine contemplative research facilities where there are neuroscientists, philosophers, psychologists who themselves come for several months of contemplative training, or, after getting their Ph.D. in some natural science head for a two-year post doc in contemplative training so they can enhance their own first-person skills to complement the third-person skills they've already developed as neuroscientists, as cognitive psychologists, as psychiatrists, to gain a much deeper understanding of the mind from a first-person perspective. I can imagine that type of collaboration.

From the side of the contemplative, I envision people who devote their lives to becoming contemplative professionals, devoting years to rigorous, sustained professional training, eight to fourteen hours a day, just as medical doctors, medical researchers and other types of scientists think nothing of spending twelve hours in a hospital or lab when they're doing the core of their research. Well, contemplatives have

Let the scientists abandon the dogmatism of scientific materialism. And likewise let the contemplatives not conflate religious dogma with empirical inquiry.

been doing this for centuries. Let there be professional contemplatives in the West that are matching the degree of sophistication of Western scientists, in some ways surpassing it, in terms of their utter dedication to their research and to their field of inquiry. In addition, I can envision professional contemplatives studying the natural sciences and perhaps getting degrees in psychology, the neurosciences, and medicine.

So, we don't just have a contemplative lineup on one side and the scientists and medical doctors lined up on the other. There's a lot of shared expertise. We're in a collaborative venture where we are deeply integrating first-person and third-person methodologies to the enhancement of everyone. It will enrich the contemplative traditions. Enrich the scientific tradition. And I envision a comparable degree of open-mindedness, of a critical attitude, of rigorous, intelligent skepticism on both sides of the fence, free from dogmatism. Let the scientists abandon the dogmatism of scientific materialism. And likewise let the contemplatives not conflate religious dogma with empirical inquiry.

And finally to round this off, such a facility would then also train experts, just like in medicine where people become experts in brain surgery or heart surgery. Well, let there be specialists in contemplative inquiry as well. Experts on attention who spend fifteen or twenty years primarily honing in on attention. Others could be experts on cultivation of the heart. We can have expert lucid dreamers. We can have experts in all sorts of specialized fields of contemplative inquiry. And then these experts could collaborate with natural scientists all over the world. For example, there could be research in the Sorbonne in Paris on mental imagery where the scientist would like to know what happens to the brain when a person holds a mental image vividly in mind continuously for an hour, and then be able to do a rotation or manipulation of this mental image, changing its color or shape, rotating it on its axis and so forth. To do that research, they need trained subjects who can hold an image for an hour, vividly, stably. So they could contact the Santa Barbara Institute and say, "Who do you have? We'd like to bring such a person over for six months." They'd be a full collaborator in the research, not just guinea pigs. They'd help design the experiment or enhance the protocol to produce the best possible research. And then when the scientific papers come out, they are co-written by the contemplatives as well as the neuroscientists, or whomever the other party might be. So there is enormous potential there.

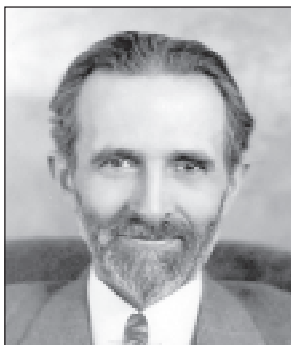
With the collaboration of the contemplative and the scientific, we may be moving towards a scientific revolution that will dwarf anything since Galileo.

A final point here is that, according to certain claims coming from multiple contemplative traditions of the world, when consciousness is refined through the development of profound states of meditative concentration, it has an enormous capacity for things like extrasensory perception and various types of paranormal abilities. As someone with a fair amount of scientific background, I would never ask any scientist to accept such claims simply because some Tibetan lama, Taoist priest, or Indian swami says so. But there are many such claims and these claims are made by intelligent, well educated people in the East and the West, in various contemplative traditions. These claims about the potentials of consciousness when it is refined in such ways, however, have hardly ever been put to the scientific test. We've never had a contemplative laboratory where these could be studied over a period of several decades. After all, there are scientific studies that go that long. Especially in medicine, for example. They go on for thirty years and then they collect the data and publish their paper. We should have a research project that is collaborative with natural scientists and contemplatives that goes on with the same subjects over a period of several decades. Then, it may turn out that there are potentials of consciousness that the contemplative traditions have been unveiling for centuries, for millennia, about which modern scientific

tradition under the domination of scientific materialism knows nothing.

So I'd like to think that, just as we encountered the first axial era in the 6th century before the common era, when there was this extraordinary synchronicity in China, in India, in the Jewish tradition, and in the Greek tradition, bringing about extraordinary cultural revolutions in multiple places over roughly the same period all over the globe, we may now be entering into a second axial era, as we see the great traditions of the East and the West coming into contact with an attitude of mutual respect, mutual appreciation, and an eagerness to seek out the nature of reality with an open mind. We may be on the verge of a tremendous transition here. Not only could it unveil marvelous discoveries that will be of tremendous interest, great fascination, but it may also bring pragmatic benefits that may yield dividends for humanity as a whole. With the collaboration of the contemplative and the scientific, we may be moving towards a scientific revolution that will dwarf anything since Galileo.





The Nature of Ponderable Matter

by Franklin Merrell-Wolff

Franklin Merrell-Wolff was an American philosopher and mystic who lived from 1887–1985. A graduate from Stanford University in mathematics, Wolff later studied philosophy in graduate school at Harvard where he became convinced of the probable existence of a transcendental mode of consciousness. During Wolff's twenty-year spiritual quest, he was influenced by the teachings of philosophy, Sufism, and Hinduism, particularly the philosophy of Shankara, the founder of Advaita Vedanta. His search ended on August 7, 1936, when he attained the first of two Transcendental Realizations which provided the foundation for his philosophy and teaching. Wolff dedicated his whole life to lecturing and writing on spiritual matters, and he had many students over his long life, including Joel Morwood and Andrea Pucci. The following article was written on September 15, 1936, just a few weeks after Wolff's Realization. It was originally published as Chapter 61 of Pathways Through To Space, and republished as pages 133–139 of Experience and Philosophy. It is reprinted here with the kind permission of Doroethy Leonard.

What is the nature of the phenomenal world? The non-critical Naturalist says that it is the actual “thing” itself, existing quite independently of the perceiving subject. He goes further and says, not only is it self-dependent apart from the observer, but it is, as well, substantially as it appears to be to the observer. But all philosophy that has attained any degree of the critical sense, as well as modern science, agrees that the facts force a modification of this naive view. Genuine philosophers concur in holding that whatever the real world may be, it is at least modified by the senses so that what man directly experiences is something different. Also, for the twentieth-century physicist, ponderable matter, that is, matter and form as given through the senses, is definitely known not to be the actual physical reality. The ultimates of matter are apparently wave-systems of essentially the same nature as electromagnetic or light waves; and, further, these systems cannot be correctly imaged in any sensible model. Only mathematical equations are capable of representing the reality, whatever that may be, in a manner that is consonant with the observed effects. . . .

Both in India and the West, systematic philosophies exist wherein the ultimate Reality is posited as being pure Consciousness. The apparently inert and lifeless matter comes to be viewed as merely a partially obscured Con-

sciousness. Thus, if we regard a portion of an originally homogeneous Consciousness as partly blanked-out or neutralized by its own other, the result is some degree of relative unconsciousness. This relative unconsciousness is the objective world, or, in other words, the basis of the whole universe as experienced through the senses. An extensive restatement of philosophy and science can be given from this standpoint, but this also is not our present purpose. I desire simply to emphasize the most important ontological features of this view. Now one decisively

important consequence of this standpoint is that the experienced universe, including all ponderable matter and form, is essentially an abstraction from, rather than an addition to, the original unmanifested

Reality. Starting from an original and eternal non-relative Consciousness, which comprehends time and space as well as all else, all notions such as external manifestation and development must be in the nature of a predication concerning something abstracted or subtracted from the Whole. Among other things, it is clear that nothing can be predicated of the Whole which necessarily presupposes the dominance of time, as for example, process or development. The Whole, since It comprehends space and time, is not conditioned by these. In the end, we find that no relative concept—and all concepts are relative—can be predicated

Matter and form constitute a state of relative vacuity or nothingness in the essential sense.

of the Whole, not even Being. In fact, It is THAT which is neither Being nor non-Being, and thus remains essentially unthinkable, though It may be Realized through the Awakening to Identification.

It may now be said that the universe is produced by a process which we may call a partial blinding, and that the reverse process, i.e., that of Awakening, destroys the universe to just the extent that the Awakening has proceeded. This should make perfectly clear the rationale of the statement of the Mystic who says: "I sustain this universe and can produce or destroy it at will." When Shankara speaks of destroying the universe, he does not have in mind a physical cataclysm but a Transition in Consciousness such that the apperceptive Subject realizes Itself as Lord over the universe, instead of being a victim of it. The individual soul that has attained this position may choose continued cognizance of the universe, but the essential power of the latter over the former is destroyed unequivocally.

If, now, we substitute for the term "relative unconsciousness" another term which is fundamentally equivalent, i.e., "ponderable matter and form," we may give the foregoing philosophy a transformation that fits more closely the terminology of modern science. This leads to the judgment that ponderable matter and form constitute a state of relative vacuity or nothingness in the essential sense. It is interesting to note that we are now not far from a position formulated by the young English physicist Dirac, though he reached this view by means of a quite different approach. There is nothing in this standpoint that militates against the relative correctness of any physical determination. The only thing that is changed is the metaphysical interpretation of what those determinations Mean. There is in this no challenge of the scientist, so long as he confines his conclusions to the limits logically defined by his methodology. He remains our best authority in the determination of objective fact as seen from the perspective he assumes. If he generalizes beyond these limits, we need no more than his own logic to bring a counter-challenge. This logic, followed strictly, can go no further than agnosticism relative to metaphysical actuality, and We are content that as physical scientist he should stop there. But We are not content that, as a man, he should linger in that position, for it is barren of enduring Values.

To achieve this [Recognition], a certain Copernican shift in individual consciousness is necessary. Thus, instead of regarding the sensuously apparent as being substantial, the standpoint should be reversed ... We would thus say: Increase of ponderability implies decrease of substantiality and vice versa.

Let us give an illustration of how our standpoint would affect the interpretation of a fundamentally important principle of physics. Long ago our science reached the point where it realized that the vast bulk of the sensible effects associated with matter do not afford the essential determinants of matter. As now understood, "matter" is defined by "mass," and this in turn is manifested through the property called "inertia." Thus, where there is matter there is inertia, and where there is inertia there is matter. Newton gave the law of inertia in the following form: "Every body perseveres in its state of rest or of uniform motion in a straight line, except insofar as it is compelled

to change that state by impressed forces." The mechanics of Einstein gives this law a different form but does not change its essential characteristic. Now, inertia implies absence of inward or self-produced motion, and hence it also implies essential deadness. In contrast, the fundamental distinguishing mark of Consciousness is the capacity for Self-produced motion. Thus it is that Universal Consciousness is often represented by the term "Ceaseless Motion." But, from this standpoint, the

state of relative motion as well as that of rest in a material body, mechanically considered, is simply the absence of real motion. Where Consciousness is full, there is no inertia. Only absolute absence of Consciousness—a state of real nothingness—would be absolutely inert. Thus, we would say, the physicist is right in making inertia the prime mark of that which he is studying, but he is wrong if he proceeds to predicate substantial reality of his object of study. Actually he is studying a relative nothingness. This fact does not detract in the least from the practical values of his studies, but simply means that he is dealing with the obverse of metaphysical actuality. Further, once it is realized that he is unfolding the laws governing the obverse of the Real, his knowledge can be employed as a Way to the Recognition of that Reality. I can see how our present physical science is unfolding a peculiarly beautiful Path to Yoga. So I certainly have no quarrel with physical science as such. In fact, I feel quite otherwise.

Today physicists have found that at least much of force is not external to matter. In radio-activity there is an element of unpredictable spontaneity that certainly looks like what We mean by self-produced motion, or energy

arising from within. The result is that matter is now seen as not wholly inert, all of which simply opens wider a Door for Us.

Let us, then, take the standpoint that ponderable matter, or the sensuously perceived world, is to be regarded as relative emptiness, so that absolute matter in this sense would be an absolute vacuum. We then see that the relative world, or this seen universe, is produced by a kind of process of negation, and hence from the standpoint of metaphysical philosophy it would have to be regarded as a Maya or Illusion. From this it is not to be concluded that the universe is without value. But it does imply that if a man misplaces his predication of "Reality," he would then be caught in an illusion in the sense that produces bondage. None the less, it would still remain true that if he avoids this error he can, through the universe, find the Real. Most of humanity has fallen into the error, and that is the cause of all suffering. But the very agency that caused the fall may be used as a stepping-stone to Recognition. To achieve this, a certain Copernican shift in individual consciousness is necessary. Thus, instead of regarding the sensuously apparent as being substantial, the standpoint should be reversed. Then we would view the seeming emptiness of space, where there is a relative absence of physical matter, as being actually far more substantial than any ponderable matter. We would thus say: *Increase of ponderability implies decrease of substantiality and vice versa*. Consequently, in some sense, the laws governing the ponderable become the obverse of the laws governing the substantial.

The foregoing discussion gives us a new angle for interpreting the meaning of the technique designed to arouse Recognition by the systematic denial of all that is ponderable or thinkable. The end of the process is the arrival at a *seeming* nothingness, i.e., pure Consciousness-without-an-object. This stage, plus the identification of one's Self with that *seeming* nothingness, produces at once the Recognition. But at that moment the Nothingness becomes complete Fullness and absolute Substantiality. Then the Realized Man may turn toward the world and assert universally: "I am all things." But now it is the obverse of the ponderable universe of which he is speaking. We may regard this obverse as something like a matrix. This Matrix is a continuum, while the ponderable manifold is discrete. So far as we can see, this resolves the difficulties in the reconciliation between the many and the One in the logical sense. Actually, for myself, this view was the finally effective cognitive aid that made possible the Transition in consciousness.



**Library Hours: Tuesday evenings 6:00 - 8:30 PM
Sundays after the 11 AM public program**

Library News

Celebrate the Volunteers!

Six years ago our library volunteers undertook the daunting task of typing spine labels for every one of the 4,407 books in our collection. Last Spring we celebrated the completion of this project with a party to honor these valiant volunteers. This event reminded us how much the Center depends on all its volunteers who generously contribute their time and energy on a regular basis. As a result we have decided to turn last Spring's celebration into an annual event called "Celebrate the Volunteers!"

Library patrons should be aware that the regularly scheduled library hours on Tuesday May 18th, 2004, will be "Celebrate the Volunteers" night. Although you will be able to check out books and other items as usual, instead of a customary atmosphere of reverential silence, you may find yourself swept up in a progressively festive mood fueled by refreshments, champagne and music. If this does not appeal to you, come early in the evening, meet our volunteers, and express your appreciation.

Book Reviews

When Science Meets Religion : Enemies, Strangers, or Partners?

by Ian G. Barbour. Harper SanFrancisco, 2000.

Physicist and theologian Ian Barbour, winner of the Templeton Prize for advancing the study of science and religion, presents the scientific and theological significance of the big bang, evolution, quantum physics, and determinism. With each topic, he shows how science and religion can be seen as enemies in conflict, as independent strangers, or as partners in dialogue moving toward harmony.

Infinity and the Mind: The Science and Philosophy of the Infinite

by Rudy Rucker. Bantam Books, 1982.

In this inspired introduction to the esoteric foundations of science and religion, mathematician Rudy Rucker shows how the ineffable, incomprehensible Infinite is at the heart of mystical philosophy and at the foundation of modern mathematics. An excellent source for profound mathematical philosophical koans.

The Taboo of Subjectivity: Toward a New Science of Consciousness

by B. Alan Wallace. Oxford University Press, 2000.

This insightful examination of modern science and religion exposes their limitations in hopes that they can grow beyond them and give birth to a revolution in our approach to understanding consciousness.

The Tao of Physics: An Exploration of the Parallels between Modern Physics and Eastern Mysticism

by Fritjof Capra. Fourth Edition, Updated, 2000.

This is the classic, ground-breaking work on the new physics and its parallels with eastern mysticism. Capra argues that these parallels show that the perennial philosophy provides a foundation for understanding modern scientific theories.

The Varieties of Religious Experience

by William James. Penguin Books, 1958.

This classic treatise by American philosopher William James not only contains a thorough study of religious experience, but also lays the philosophical foundations for studying mystical experience from within the framework of the scientific method, namely as hypotheses to be tested in our immediate experience.

The Need for a Sacred Science

by Seyyed Hossein Nasr. SUNY Press, 1993.

Although modern scientific materialism conflicts with a spiritual worldview, Professor Nasr reminds us that sacred science has existed in past traditional religious cultures and is desperately needed in the present.

Buddhism and Science: Breaking New Ground

edited by B. Alan Wallace. Columbia University Press, 2003.

This collection of essays by physicists and cognitive scientists proposes ways science and Buddhism can constructively engage each other. The introduction by the editor contains a critique of the view that science and religion should be compartmentalized and have little to say to each other.

Quantum Questions: Mystical Writings of the World's Great Physicists

edited by Ken Wilber. Shambhala, 1985.

As demonstrated here in their own words, many of the most influential physicists of the twentieth century had a mystical worldview. Whether this is because of modern physics or in spite of it is the "quantum question" explored in Wilber's introduction.

Forgotten Truth: The Primordial Tradition

by Huston Smith. Harper & Row, 1976.

In addition to lucidly explaining the common core of all religions, philosopher of religion Huston Smith also examines how science is similar to and different from this primordial religious truth that we moderns have largely forgotten.

The Marriage of Sense and Soul: Integrating Science and Religion

by Ken Wilber. Random House, 1998.

One of the leading contemporary authors in the integration of Eastern and Western spirituality explains his proposal for a marriage of science and religion by combining the traditional view of the perennial philosophy with the modern differentiation between art, morals, and science.

Choosing Reality: A Buddhist View of Physics and the Mind

by B. Alan Wallace. Snow Lion, 1996.

A Buddhist scholar trained in physics offers his view of modern science from the perspective of Buddhist Madhyamika philosophy.

ALL REVIEWS BY TOM MCFARLANE

THANK YOU ❖ THANK YOU ❖ THANK YOU

The Center relies entirely on donations to support its services. On behalf of all those who benefit from these services, we would like to thank everyone who has contributed to the Center. Without the support of these individuals, the Center could not exist as we know it. We wish to acknowledge everyone who has expressed their generosity through membership pledges, Sunday offerings, volunteer labor, and other gifts.

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How Have Science and Religion Impacted Your Life?

We recently interviewed several spiritual practitioners and asked them what role science and religion have played in their lives. They shared with us how their education and upbringing in science and religion changed them throughout different phases of their lives.



George Mottur learned about the Center from Ani Tsering and has been attending both Sunday talks and Wednesday night groups over the past three years. Now retired, he received a Ph.D. in molecular biology from the University of Oregon in 1977. He was a member of the biochemistry faculty at University of Virginia Medical School and

then spent many years as a director of research and development for various snack food companies.

I was raised as a Quaker. Then science came into view when I was eight years old. And there was a conflict. I had a hard time believing in God. Then I became interested in paleontology and astronomy, which were in conflict with the Bible. I started getting interested in Eastern religions, and then I discovered that Quakerism was mystical. It's mystical at its root. Back then I just read about Eastern religions, but I didn't meditate. Now I do a mantra practice. I follow it for hours a day.

Back in high school, in the '50s, I had a fantasy about a robot: I realized that it wasn't conscious. I had the pretentious thought that I could "explain" consciousness. Later, during my career as a commercial foods biochemical researcher, I did some extracurricular investigations of consciousness. I looked into cognitive psychology and neural networks. I still sought to explain consciousness, but I never achieved it. Now I don't think it can be done.

I think Joel is the most rational interpreter of this area since Alan Watts, and the most inclusive since Aldous Huxley. Although I think that paranormal studies will help to explain around consciousness, I don't think true understanding will come until there is realization of selflessness.



Emma Leyburn moved to Eugene two years ago from Hillsboro, Oregon. Looking for a community of like-minded spiritual seekers, she discovered the Center for Sacred Sciences on the Web. Emma describes herself as an animal lover currently being owned by two cats. When not serving them she can be found hooking rugs.

I was raised in the Lutheran tradition and attended church regularly until I was in my teens. Then I completely got away from it. It seemed so rote and hypocritical. I went to college and studied science, biology. I've always felt a strong bond with animals. And I can credit my early religious upbringing for establishing moral and ethical principles in my life. So the study of birds and mammals seemed like a more humane and compassionate type of science and posed no ethical conflict for me.

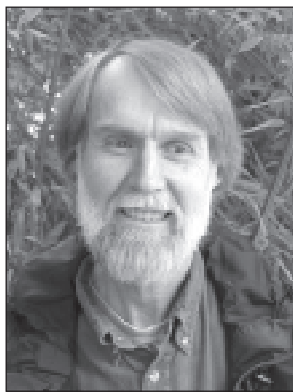
During college I became a pretty confirmed atheist. I believed in the scientific method: if you couldn't prove it by investigation, it didn't exist or wasn't real. I earned a master's degree in vertebrate zoology. Originally I wanted to go to veterinary school but life factors intervened. Studying animal behavior and being with peers who were scientifically minded pushed any consideration of things spiritual out of my life for a while.

Then in my mid-thirties I began to think that there might be something more to this world than just science. I am quite an outdoorsy person, and when I'd be hiking in the mountains or walking on the beach or canoeing, or whatever I'd be doing, I'd look around and see so much beauty and it made me wonder about my ideas. Maybe getting older played a part as well. So I began a search. I tried going back to a Christian church—it absolutely left me cold—and then I tried the Bahai faith, and that didn't do much for me either. Then I began to look at Zen. In fact,

I met Gail when I was trying to find the book *Zen and the Art of Motorcycle Maintenance*. I credit him for getting me started on my study of Buddhism. However, at this point, I was still not familiar with the idea of enlightenment or the end of a spiritual path.

By now I had pretty well adopted the scientific method as being the most logical and practical way to prove a scientific idea. But it didn't answer the bigger questions, particularly about death. I have always had a tremendous fear of dying, even as a small child. I felt that the real purpose of religion was to give people a crutch to lean on so they didn't have to be afraid. That didn't work for me—I wanted to know, to know how not to be afraid of death. Simply believing in this God or anthropomorphized “big daddy in the sky” was not an answer for me. I wanted more. So this fear of death has served as a great motivator to be on a spiritual path.

I didn't even know about consciousness until I started reading the mystics. It took me several years of reading to even begin to understand the books about Buddhism. It was quite a struggle. I'm amazed now when I look back and realize how far I've come. It's been a gradual process, but it seems to be picking up speed since coming to the Center and reading more of the books by modern mystics. I seem to understand and relate to them better. One example, besides Joel, is Eckhart Tolle—his book was the first modern mystic I read and it blew me away! A true eye-opener.



In 2001 Gail Marshall retired from a career as an electronics engineer/designer and moved to Eugene. Having been introduced much earlier to Buddhism by his brother, Gail and his spouse Emma began a search for a spiritual sangha. They were delighted to find the Center for Sacred Sciences via an Internet search.

My father was an atheist, and my mother was agnostic. About my only exposure to religion as a child was that the kids across the street were all Catholic! I used to hang around with them and occasionally went to Mass, but it was almost anthropological. I never thought religion was something we were lacking in my family. In fact, I thought that we saw things more clearly. I bought into the scientific/empiricist viewpoint: If you can't prove it, it's probably not true. People who were religious were “very hopeful.” It was a nice salve that helped them feel better. I never had much of a fear of death. It was always like, when the last foot of film goes off the reel, that's it—the movie's over. So I never had any concern about going to heaven or hell or whatever.

I had an older sister who died when I was eleven and she was thirteen. So our family had this big shock, and we just came to accept death as a fact rather than turning to any kind of religious framework. I remember about a year after my sister died I had an experience of my finiteness as a human being. I was out playing and I said to myself, “This is it! This is me at twelve and I'll never be this again.”

In high school I kind of declared myself as “neutral” when it came to determining what is true. I had observed in arguments around the cafeteria tables and such that it seemed as if both sides had merit. And it occurred to me, “You shouldn't have any opinion.”

In college I saw Buddhism as an atheistic worldview that tried to describe things without resorting to the mythology of a Big Daddy in the Sky. And I found that very appealing. I must have had a need to explore that—I was looking for answers that I wasn't finding in my other intellectual pursuits. I was trying to solve the big mystery of existence itself. When I was twenty-five and still in college I had a foundation-shifting experience. This was after a few years of involvement with Zen Buddhism. I was reading a psychology textbook called *The Adjusted American*, and realized one night that it was impossible that I was bad or sinful. As a baby one day, I must have committed one “original sin,” and was chastised for it: “Bad boy!” And I identified with that, and had my first sense of guilt. I think that such events have a lot to do with the formation of our concept of self. Everything that came after that was in reference to that one departure, if you will. So it was not a failure of character; it was just the result of circumstances and causality. The second “infraction,” and everything that came afterwards, were just a simple chain of causality. And what “I” am is innocent of all that! It was one of those moments when the clouds parted, and the sun came streaming down. I started laughing and crying and sat up in bed with chills running down my spine.

For a while I thought research in electronics and computers might lead to consciousness. But in my electronics work, I came to see that all my attempts to design things were subject to the laws of nature, whether I understood them all or not. Nature knew better than I did whether things would work. It was up to Her, and things that I thought sure would work would sometimes just blow up! I was laying my best handiwork on the altar of reality and having it judged by some higher authority.

Nowadays science is just a pastime for me. I still read a few science magazines and books, but knowledge has been thrown out the window over the past couple of years. Gaining more knowledge, reading more books—they're just entertainment now. I don't think there's any more that I can *learn* that's going to bring me to enlightenment. It's experiencing reality that brings me there. It's seeing through the mind-clutter, and not having any will or desire when I'm meditating. It's experiencing things directly rather than through the

mind, thoughts, and memories. It's accepting what you don't know, and embracing the Big Mystery. Science will never explain consciousness, but maybe someday spiritualism will explain science!



Mike Barkhuff is a retired health care worker living in Roseburg with his beloved German shepherd Ava. Having found his way to CSS about four years ago, Mike attends the Center's Practitioners Group and meditation retreats on a regular basis.

I was raised Catholic, and at an early age I saw that it had too many man-made rules, and not enough adherence to what my idea of God was—it just didn't feel right. For a short time I felt that maybe there was no God, but always deep in my heart I knew there was God, just that the Catholic version wasn't for me. I got to a point where my life was going down the tubes. But I found a way to get back in touch with my soul and my feelings. Once I got through a lot of old baggage, I figured out that there is a spiritual side of me that I'd ignored for a long time. I vowed to explore this more, and went through a couple of different programs. When I found the Center for Sacred Sciences, I felt like I was on the way home.

I learned something important in high school and college. I always questioned, "Why is this so? Why does it work this way?" And my teachers and tutors told me, "Don't worry about the 'why,' just accept that it's this way for now, and it'll start to make sense." And I've applied that same attitude to my spirituality: I just have faith that it's there, and it feels good. We can use our intuition, or gut feeling, to determine whether something is right for us. At the Center they say, "Go try this, and see how it feels." I have tried meditating, I've practiced for months at a time, and it doesn't feel forced or intimidating. It feels good and right. It's been demonstrated to me that there's nothing in this world that's going to make me happy forever. So now my attention goes more to what can be discovered inwardly.

My idea of science is that it's something based on experience, and it's reproducible. If it can't be reproduced—a whole bunch of times in front of a whole bunch of different people who speak different languages—then it's probably not a science. And when I see what's going on today, like with evolution vs. creation, for instance, some people are just ignoring good science that provides a clear picture of what once was. They just ignore that stuff and put blind faith in their spirituality, which is okay for them, I suppose. But it seems to me that they're putting that faith into a man-made

dogma rather than an inner spiritual experience—one which I've come to see that all the religions of the world agree upon. They're all saying the same thing, in different languages, and it doesn't matter what the political dogma is. There's this one truth and it's found in all religions, and it's not a man-made doctrine. Of course modern religions can confuse this, and say, "Science is good, but only when it fits our purpose." I think the scientific method is the best that humanity could come up with for answering certain questions. And I think that it's an insult to a lot of scientists throughout history, the way science is manipulated for political reasons, for money, or military control, and so forth. And the same, of course, holds for religion: it has often been reduced to a tool for controlling the people, rather than its sacred mission of helping them find the truth.

The more we think we know, the more confused we're going to become. The desire for understanding needs to take a back seat to acceptance of what is. I'm just a part of it all, and I don't have to understand it. The truth is probably 180 degrees the other way from where we usually look. Away from more and more complexity, and toward complete simplicity.



Peggy Johnston began coming to the Center two years ago after reading Eckhart Tolle's The Power of Now and then hearing from a friend that there were similar local teachings available. She works in Eugene and Roseburg as an acupuncturist.

I was raised Lutheran by parents who were from somewhat incompatible faith backgrounds: Mormon and Catholic. They compromised, and it turned out to be a good experience for me. My mom was always reading about different cultures and religions; so I had a pretty liberal upbringing, pretty open-minded. It was never "this one way or the highway" when I was growing up. I didn't feel particularly religious or spiritual, though. I never really believed in science either, or that it would explain everything. When I came to Eugene to go to school, I remember taking an Asian Studies class where we studied religions like Buddhism and Hinduism—and it was fascinating. It was really my first endeavor at studying other religions.

I think that in the province of health and healing, both Western pharmaceutical medicine and the alternative approaches have their place. It would be equally inappropriate to dismiss either. We can use the scientific method to decide

what is going to be the right choice for whatever it is we're dealing with by researching it. As to the attempt to understand what healing actually is, I think that is really a spiritual question. (Of course ultimately, every question eventually is a spiritual question!) When people come to see me at work, I know many probably don't consciously think that they're approaching me for spiritual help. But I approach my practice that way. It's just an innate part of what I do. There's the treatment/prescription part of what I do, the needles that I place in, and that's based on learning a scientific approach or theory of how to treat people using needles on meridians. And then there's the dimension beyond the technique and even the understanding part. That's the spiritual dimension of it. "Intuitive" is one word that could be used.

In traditional Chinese medicine, the mind is considered to be housed in the heart. So when I'm treating people, I think of a mind disturbance as actually a heart disturbance, and I treat the heart. The brain is not considered one of the important organs. There's a point in the ear called *shen-men*, or "spirit gate," and it directly treats the central nervous system, which calms everything down, calms the agitated mind. I work with addicts a lot, and driven athletes and such, and always use this point for those cases. But this has to do more with the heart, you see, rather than the brain as an organ.

With Chinese medicine, scientists are constantly trying to create experiments that show what *chi* is. What is this life force that makes us move, that sometimes goes unbalanced in our bodies or in the world? There's no way they'll ever be able to understand it! It's truly a mystery. Especially here in the United States, scientists keep hitting their heads against the wall, trying to show what this life force is—they're really stuck on this problem in some research circles. There must be a way we can bottle and sell it! This is not so much the case in Europe, where they're more intrigued with its practical possibilities for healing. I don't think science will ever be able to explain consciousness. That's the beauty!



Cathy Jonas is a social worker living in Eugene. She and her husband Steve have been coming to the Center for about a year. After exploring Buddhism and other spiritual practices, Cathy found the Center to be a perfect spiritual fit.

I was raised Catholic, but for me it seemed like there was too much hypocrisy. I couldn't believe that there was a punitive God. And the guilt that goes along with a Catholic upbringing, I felt that was wrong too. In my early teenage years the scientific concept of the Big Bang

creation of the universe and my study of anatomy were in conflict with the Christian story of Creation. So I was disillusioned with religion for about five years until I had some experiences that revealed a new awareness of the universe far beyond what I could intellectually comprehend. This shift had a significant impact on my life and led me to the spiritual path.

During 1995 I was going through a difficult time and I got a Quan Yin statue. It was my first introduction to her. I devised a practice of compassion around the Quan Yin energy and it worked really well as a medicine for the soul—I was just high as a kite from doing it—I felt terrific. Prior to this practice, I had also started seeing a therapist. I started telling her about some of my experiences during my Quan Yin practices, such as feeling energy and seeing rainbow light, and told her that I didn't feel I would need therapy much longer. She expressed concern about my sanity and suggested that I stop doing the practices by myself and consider finding a meditation group. Her response concerned me a little bit, so I toned my practice down, and stopped seeing the therapist a few sessions later.

I was inspired to find a group of like-minded spiritual seekers. After trying a Taoist group, I ended up at a Tibetan Buddhist center that had a Chenrizig practice which I learned was the male manifestation of the same compassionate Quan Yin energy. I was surprised to discover that several aspects of this practice were similar to the practices that I had developed on my own.

About three weeks after starting to come to the Center I saw a video on the life of Ramana Maharshi. This was my first exposure to him, and powerful dreams and feelings came up right away.

Through my prior career in the mental health field and my current job I work with some clients who have delusions where their view of reality doesn't match the views of the "normal" society. With some of them it's really hard to know the truth about what they are saying. In some ways, being on a spiritual path has made me perhaps not as skeptical because I genuinely want to believe people, to see how their story is serving them, or has some functional purpose. After all, we're all living according to some customized delusional system!

I can't prove the experiences that I have—I don't even know why I experience them. I thought I was going crazy during my first retreat in the Spring of 2003 when all my belief systems started crumbling. I believe that some things are beyond logical or scientific explanation—and that's OK. There are experiences with energy that some people don't have a reference point to understand. There's a part of me that, when asked if science will ever understand consciousness, just says "No way!" Maybe it'll get a little glimmer, but it's not going to really get it.

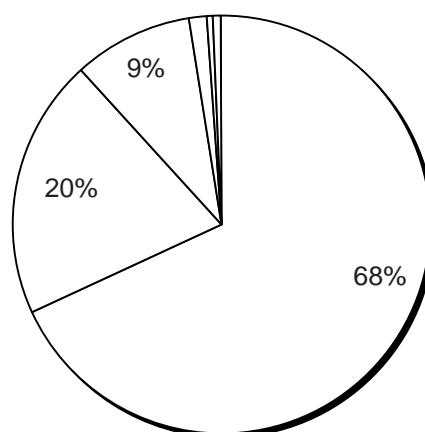
Annual Financial Report

Fiscal Year August 2002 – August 2003

From its inception, the Center has been run almost entirely as a labor of love by volunteers. Our spiritual director, Joel, receives no compensation and, aside from small stipends for our treasurer and audio engineer, the Center has no paid staff. We rely entirely on the continuing financial support of our members to defray expenses as we continue providing services to increasing numbers of seekers. Any donation to help support Center programs and services is greatly appreciated. The Center for Sacred Sciences is a 501(c)3 tax-exempt organization, and any contribution is tax deductible to the full extent of the law.

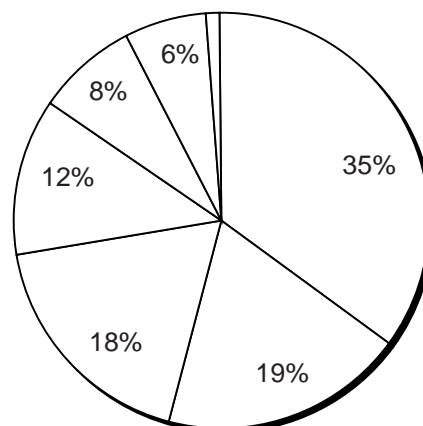
Income

Membership Dues	18,761	68%
Special Gifts/Memorials	5,560	20%
Sunday Offerings	2,580	9%
Library User Fee	327	1%
Interest Earned	210	1%
Newsletter Donations	130	0%
TOTAL INCOME	27,568	100%



Expenses

Meeting Facilities	7,189	35%
Organizational/Admin.	3,894	19%
Library Exp & Acquisitions	3,752	18%
Newsletter	2,520	12%
Digitizing Audio Recordings	1,657	8%
Program/Meeting Exp	1,301	6%
Web Site	215	1%
TOTAL EXPENSES	20,528	100%



Note: Amounts are rounded to the nearest dollar.

All religions, arts and sciences are branches of the same tree. All these aspirations are directed toward ennobling man's life, lifting it from the sphere of mere physical existence and leading the individual toward freedom.



There is a growing interest among the scientific community in Buddhist philosophical thought. I am optimistic that over the next few decades there will be a great change in our world-view both from the material and spiritual perspectives.

— The Dalai
Lama

— Albert Einstein ❖

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