

## THE SPIRITUALITY OF SCIENCE

**Minister's Reflections by Rev. Dr. Ed Piper**  
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October 16, 2011

When I was a college professor, the opening lecture of my introductory psychology class was titled “Our Place in the Scheme of Things.” My goal was to get my students to understand where we humans and our planet stand within the vast expanse of time and space of our universe, in terms that were meaningful to them. Part of this exercise was based on the Cosmic Calendar described by the late astronomer Carl Sagan in his television series “Cosmos” and his Pulitzer Prize-winning book titled *The Dragons of Eden*. Sagan’s Cosmic Calendar reduces the 14 billion year history of the universe to the scale of a single 12-month calendar year.

Imagine that you are standing at the brink of a new year, looking backward at the vast expanse of time that has elapsed since the origins of our universe—an event that has been trivialized by the term Big Bang, but which I prefer to think of as the primal Bursting Forth, in which all of the matter and energy we call the universe exploded into existence. Here are some of the highlights in that calendar year:

January 1	Big Bang
May 11	Formation of the Milky Way galaxy
September 9	Beginnings of our Solar System
September 14	Formation of Planet Earth
December 20-28	Emergence of plants and animals on Earth
December 30	Massive extinction of dinosaurs and other species, most likely caused by a large asteroid slamming into the earth near Mexico
December 31	New Year’s Eve
10:30 p.m.	First primitive humans appear
11:52 p.m.	First modern humans appear
11:59:55	Religious sages (including Jesus) appear, some but not all claiming that Earth and humans are the centerpiece of God’s creation

Viewed from this perspective, human history is little more than a blink of the cosmic eye. Our claims of special significance and divine favor seem to be unjustified. The cosmos described by Carl Sagan and other contemporary physicists bears little resemblance to that of the Creationists, with Earth at the center of the universe and mankind as the crowning achievement of all Creation. Where does the concept of God fit in the universe as we now understand it? In the words of the English physicist Stephen Hawking, “We are such insignificant creatures on a minor planet of a very average star in the outer suburbs of one of a thousand million galaxies, so it is difficult to believe in a God that would care about us or even notice our existence.” [quoted by Bill Berry—see below]

In 1941 Albert Einstein was invited to present a paper for a conference of theologians and scientists in New York City. Several years later, Einstein’s musings on the subject of religion provided the basis for a sermon by A. Powell Davies, the highly regarded minister of All Souls Unitarian Church in Washington, DC. (I want to thank Bill Berry for sharing a copy of this sermon, which he amended and read to our Fellowship in 1993.) For Einstein, the first step in building a faith for our times is to abandon the idea of a personal God. He wrote, “Let us substitute for that belief in a personal god a religion depending on those forces which are capable of the GOOD, the TRUE, and the BEAUTIFUL in humanity itself. [note his use of capital letters]. “The most beautiful thing that we can experience is the mysterious, the source of all true art and science. He to whom this emotion is a stranger, who can no longer pause to wonder and stand wrapped in awe, is as good as dead. His eyes are closed. This insight into the mystery of life, coupled though it be with fear, has also given rise to religion. To know what is impenetrable to us really exists, manifesting itself as the highest wisdom and the most radiant beauty which our dull faculties can only comprehend in their most primitive forms. It is this knowledge and this feeling that constitute the truly religious attitude. In this sense, and in this alone, I am a deeply religious man.” [Einstein quoted in A. Powell Davies, “Science, Religion and Einstein,” (1955) and amended by William J. C. Berry (1993) and in Krista Tippett, *Einstein’s God*, p. 23]

For Einstein, scientific discovery is itself a spiritual endeavor—motivated by a mixture of curiosity and deep respect for the unknown. No one embodied the spirituality of science more

passionately than Carl Sagan, whose award-winning TV series *Cosmos* opened up the incredible world of astrophysics to a broad public audience. (I must confess, however, that I did grow weary of prolonged shots of Sagan himself gazing off into space with wondrous eyes. This illustrates what can happen when the producer, director, and star of a TV production are one and the same person.) In 1985 Sagan was invited to present the Gifford Lectures on Natural Theology in Scotland—the same lecture series that generated William James’s famous book *The Varieties of Religious Experience* in 1902. So it seems fitting that Sagan’s lectures would be titled *The Varieties Scientific Experience*.

Sagan echoes Einstein’s opinion: “The god that Einstein was talking about is completely different . . . from the standard Judeo-Christian-Islamic god.” It is not a god who intervenes in everyday life, no microinterventions, no prayer. “It’s not even clear,” he says, “that this god made the universe in the first place.” [p. 256] “We have a theology that is Earth-centered and involves a tiny piece of space, and when we step back, when we attain a broader cosmic perspective, some of it seems very small in scale. And in fact a general problem with much of Western theology in my view is that the God portrayed is too small. It is a god of a tiny world and not a god of a galaxy, much less of a universe.” [p. 30]

Not all scientists share the skeptical view of Western religion of physicists like Einstein and Sagan. From the very instant of the Big Bang, the laws of nature had to be just right in order for the universe to evolve as it has, including the evolution of life on earth. Astronomer Freeman Dyson puts it this way: “Nature has been kinder to us than we had any right to expect. As we look out into the universe and identify the many accidents of physics and astronomy that have worked together to our benefit, it almost seems as if the universe must in some sense have known that we were coming.” [quoted by Holmes Rolston, III, “Scientific Inquiry,” in Peter H. Van Ness (ed.), *Spirituality and the Secular Quest*, p. 392] This interpretation, which is known as the **anthropic principle** (or “Goldilocks hypothesis”) runs the risk of once again situating Earth and *homo sapiens* at the center of the cosmos.

So far I have been talking mostly about physics, but there are other sciences that offer spectacular examples of wonder and mystery. Self-regulating biological processes such as

photosynthesis or the DNA molecule can only be described as **miracles**, even though we may now understand how they operate. As Holmes Rolston puts it, “Moses thought that the burning bush, not consumed, was quite a miracle. We hardly believe any more in that sort of supernatural miracle; science has made such stories incredible. But what has [science] left instead? A self-organizing photosynthesis driving a life synthesis that has burned for millennia, life as a strange fire that outlasts the stick that feeds it. . . . This is hardly a phenomenon less miraculous even if we no longer want to say that it is miraculous. Indeed, in the original sense of ‘miracle’—a wondrous event, without regard to the question whether natural or supernatural—photosynthesis and the life it supports are the secular equivalent of the burning bush.” [pp. 398-99] The more we discover about nature, the more “supernatural” it seems. As the evolutionary biologist Loren Eiseley wrote, “Nature is one vast miracle, transcending the reality of night and nothingness.” [quoted by Rolston, p. 405]

Edward O. Wilson is an evolutionary biologist— a secular humanist who preaches conservation with evangelical intensity. “The one process now going on that will take millions of years to correct is the loss of genetic and species diversity by the destruction of natural habitats. This is the folly our descendants are least likely to forgive us.” “The green prehuman earth is the mystery we were chosen to solve, a guide to the birthplace of our spirit, but it is slipping away.” “Humanity coevolved with the rest of life on this particular planet; other worlds are not in our genes. . . . Humanity is part of nature, a species that evolved among other species. The more closely we identify ourselves with the rest of life, the more quickly we will be able to discover the sources of human sensibility and acquire the knowledge on which an enduring ethic . . . can be built. . . . Signals abound that the loss of life’s diversity endangers not just the body but the spirit.” [quoted by Rolston, pp. 408-10]

If the person-based image of God that permeates Western religions is not well suited to the spiritual quest of science, then where might we turn for wisdom? Among the world’s spiritual traditions, the ones that seem best suited to the spirituality of science come from Asia—specifically Buddhism, Taoism, and Confucianism. Each of them invites us to use nature as a guide to human behavior. It is no coincidence that the world’s best-known Buddhist, the Dalai Lama, is an avid student of contemporary science. The author of a new book titled *Rebel*

*Buddha* says that if the Buddha were alive today, “he would probably be talking with neuroscientists and physicists and the theorists of consciousness studies, because these are the people who are asking the kinds of questions he asked so many centuries ago.” [Kristine Morris, Review of *Rebel Buddha* by Dzogchen Ponlop Rinpoche, *Spirituality & Health*, March-April 2011, p. 66]

In concluding his review of science as a spiritual quest, Holmes Rolston says, “Earth is a kind of **providing** ground, where the life epic is lived on in the midst of its perpetual perishing, life arriving and struggling through to something higher. Ultimately, there is a kind of creativity in nature demanding either that we spell nature with a capital *N* or pass beyond nature to nature’s God. . . . If anything at all on Earth is sacred, it must be this enthralling creativity that characterizes our home planet. So secular [science] . . . does not eliminate the sacred after all; to the contrary, it urges us on a spiritual quest. If there is any holy ground, any land of promise, this promising Earth is it.” [pp. 410-11] Let me conclude with a few lines from Walt Whitman:

To me every hour of the light and dark is a miracle,  
 Every cubic inch of space is a miracle,  
 Every square yard of the surface of the earth is spread with miracles,  
 Every foot of the interior swarms with miracles.

[in Elizabeth Roberts & Elias Amidon (eds.), *Life Prayers*, p. 405]