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The Epic of Evolution: Religious and cultural interpretations of modern scientific cosmology.

by *Connie Barlow*

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FEBRUARY 1998 "Darwin's idea comes as a great gift to theology." This statement by John Haught, Georgetown University professor of theology, sums up well the mood of speakers and participants at the Epic of Evolution" Conference in Chicago, November 1997. Attended by 450, it was co-sponsored by the American Association for the Advancement of Science (AAAS) Program of Dialogue Between Science and Religion and the Field Museum of Natural History.

The conference brought into constructive engagement experts from both sides of the science and religion divide, including biologists and philosophers, cosmologists and historians, anthropologists, theologians, theists and nontheists, working together in presenting and interpreting the narrative story of the coming into existence of the universe, earthly life, and human culture.

Said Audrey Chapman, director of the AAAS Program of Dialogue Between Science and Religion: "Unless religious thinkers are able to engage in scientifically informed theological and ethical analysis, they risk becoming irrelevant to modern society. On the other side of the dialogue, it is important for scientists to deal seriously with interpretive issues, particularly related to evolutionary science, and to do so in a way respectful to a broad spectrum of the religious community. Otherwise, there will be continuing opposition to the teaching of evolution in public schools, and a crisis of scientific illiteracy will eventually threaten the future of the scientific enterprise in this country."

Scientists had been recruited to provide the factual and theoretical foundations of the scientific story—Joel Primack for the evolution of the galaxies and stars, Niles Eldredge and Ursula Goodenough for the evolution of life, Ian Tattersall for the evolution of our hominid ancestors, Terrence Deacon for the evolution of the human mind, Solomon Katz and Francisco Ayala for the evolution of culture, Mary Barber for the human impact on the environment. These scientific talks were paired with interpretations provided by theologians—John Haught, Nancey Murphy, Philip Hefner, and Stephen Pope—and by those with expertise in philosophy, religious history, and the literary arts—Loyal Rue, Mary Evelyn Tucker, N. Scott Momaday, Brian Swimme, and Thomas Berry. The conference program was thus a multidisciplinary quest to both understand and meaningfully interpret the scientific story of creation.

"Epic of evolution" is a term that, within the past three years, has become the theme and title of a number of gatherings. It seems to have been first used by Harvard biologist Edward O. Wilson in 1978. "The evolutionary epic," Wilson wrote in his book *On Human Nature*, "is probably the best myth we will ever have." Myth as falsehood was not the usage intended by Wilson in this statement. Rather, myth as a grand narrative that provides a people with a placement in time—a meaningful placement that celebrates extraordinary moments of a

shared heritage. The epic of evolution is science translated into meaningful story.

How that translation into story is achieved is proving remarkably diverse. In the science sections of bookstores can be found many translations, each necessarily selective in the choice of facts and historical events highlighted, but nonetheless remaining well within the bounds of scientific discourse. Added to these within-science translations is a growing complement of extra-science translations, which, while remaining true to the science, move beyond science into the realm of meaning-filled interpretation.

In his talk, cultural historian Thomas Berry spoke of the need for epic translation of science in this way: "In religion and theology the great need is to join in the great liturgy of the universe; not now simply an abiding, ever-renewing universe but a universe distinguished as both abiding and transforming. We might think of the threefold evolutionary process: the galactic evolutionary processes of the universe, the geo-biological evolutionary processes of Earth, and the cultural evolutionary processes of the human that need to be understood in their sacred dimension. These are the three components of the single evolutionary narrative that needs to be seen and understood and recounted in epic style."

The conference organizers tried to maintain a distinction between science and religion while promoting a constructive dialogue. Toward this end, they asked scientists to limit their formal presentations to the background science. Theologians, religious historians, and others in the humanities then took the podium to expound on interpretive meanings. This choice of structure, while effective, did however perpetuate the "two cultures" divide between science and the humanities.

Some scientists did, however, briefly depart from their appointed duties by taking side-trips across the fact-value divide, revealing the personal meaning they derive from the science and a passionate engagement with worldly problems. Niles Eldredge, for example, provided a sweeping survey of the succession of life forms on Earth, but in doing so he evinced a deep concern for biodiversity and horror about the extinction crisis under way.

While exploring the evolution of culture, anthropologist Sol Katz expressed his concern about unmitigated population growth. Terrence Deacon departed from his lecture on neurobiology to reveal how the epic of evolution has infused his worldview. "Brains are not just products of evolution," Deacon declared, "but also evolution in action. We are not clockwork mechanisms. Mechanism is the wrong model. We are living, active evolutionary processes. This is what it feels like to *be* evolution."

Paralleling Deacon's and other scientists' passion in interpreting the epic was an equal and eloquent passion of some religionists for what science has given them. John Haught spoke of evolution as "Darwin's great gift to theology." Theologian and Lutheran minister Philip Hefner urged religionists to regard themselves as participants in the epic of evolution: "In order to play its role, religion must generate the stories, rituals, and moral codes of meaning on the basis of its heritage, but in the currency of the present moment. Negotiating meaning in the present time—that is at the heart of religion's task. Or, we might say that organizing consciousness in viable ways for passage into the next generation is religion's contribution to the epic of evolution."

Perhaps the most surprising and vibrant outcome of this event was a widespread recognition that science and religion can and must do more than simply tolerate or accommodate one another. Using the terminology offered by John Haught, the goal is neither opposition nor separation but engagement. The scientific story of evolution cannot by itself fulfill the human spirit without translation into a meaningful worldview. Similarly, religions that do not embrace and give flesh to the story told by science are missing a tremendous opportunity for renewal and relevance. For the many teachers in the audience, a third conclusion might also be drawn: providing opportunities for students to consider what they learn in their science classes in the context of the great perennial questions that have

engaged philosophers and religionists may well make science itself more interesting.

In remarks that closed the conference, Jim Miller of the AAAS offered, "We have seen here a way that science and religious visions can dance with one another." Those attending the conference were enthusiastic about this event, too. "One of the positive things people wrote about the conference was the different sorts of folks they had a chance to meet," Said Miller later: "People were satisfied with the content but wished there had been more opportunity for interaction." The all-plenary structure of the three-day conference meant that attendees had to seek interaction in the interstices—during the short breaks and the longer lunches and open evenings.

One participant who was very successful in this way was John Brewer, a technical writer who lives in Kansas who has used Brian Swimme's "Canticle to the Cosmos" in his church fellowship. Brewer wrote, "I breakfasted with a paleontologist from evangelical Baylor University and lunched with a Montessori teacher from northern Michigan. I strolled along Michigan Avenue with an Irish Catholic community worker and exchanged reactions to the day's speakers with a Unitarian ecofeminist author. After three days, I felt a dizzying combination of gratitude, delight, and an almost tearful fury of frustration that I could not follow at least six of my new friends back to their universities to take their classes."

Bron Taylor, who heads the Environmental Studies Program at the University of Wisconsin-Oshkosh, came to the conference with a vanload of undergraduate students. Of these twelve students, "a number called this trip the highlight of our 'Religion and Earth Ethics' course," reported Taylor. "They were amazed to find that scientific myths were being consecrated in a way that provided them with a sense that perhaps they too might be able to consider themselves 'religious,' without turning their back on knowledge gained scientifically."

Because the invited speakers had all been selected for their abilities to engage constructively across the science and religion divide, disputes among the speakers were rare, muted, and consistently respectful. The only evidences of disharmony occurred during the question sessions at the conclusion of each panel, when audience members would sometimes preface their questions with criticism. Midway through the conference, two questioners complained that the interpretive talks too narrowly focused on Western religions, and Christianity in the main. Jim Miller responded that in the final two panels, Eastern and Native American religions would indeed enter the conversation. But he added that the focus on Christianity in this conference was legitimate because, in the U.S. cultural context, the public battles between some Christians and some Darwinists have fostered the popular belief that science and religion are necessarily in conflict."

Other tangible products of this conference will include an hour-long video program created by and to be aired on public television station WYCC, Chicago. Meanwhile, AAAS will be fashioning material into an eight-part video program intended for use in lower-division college and advance placement high school courses. A book that aggregates the papers and talks of the plenary speakers is also planned. From that, AAAS hopes to develop both a high school text and, with assistance from the Montessori Teachers Association, a middle school text suitable for use by social studies and humanities teachers. For more information contact the Program of Dialogue Between Science and Religion, AAAS, 1200 New York Ave., NW, Washington, D.C. 20005. Email address: .

The tension between science and religion and the consequent need for dialogue have been evident for a long time. What is perhaps new today is a shared recognition by leaders in the two realms that they absolutely need one another. They need one another in order to rise to the environmental challenges of the next century. Science, of course, is essential for alerting us to problems and for posing and weighing solutions. But science by itself cannot give us the cultural values and the commitment to proceed. That is where science translated into meaningful story – the Epic of Evolution – may enter. And that is where religionists must engage science to ensure relevance and responsiveness at an extraordinary moment in the

cultural evolution of our species and the natural history of our planet.

Connie Barlow is a writer and editor whose previous books are *Evolution Extended: Biological Debates on the Meaning of Life* and *From Gaia to Selfish Genes: Selected Writings in the Life Sciences*. Her latest, *Green Space, Green Time: The Ways of Science* (1997) was published by Springer-Verlag.

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