

JOURNEY OF THE UNIVERSE

By Mary Evelyn Tucker

Journey of the Universe narrates the 14 billion year story of the universe's development, from the great flaring forth at the universe's inception to the emergence of simple molecules and atoms to the evolution of galaxies, stars, solar systems, and planetary life of greater complexity and consciousness. This is a story that inspires wonder as we begin to understand such complexity through science and appreciate such beauty through poetry, art, history, religion, and philosophy. It also awakens us to the dynamic processes of evolution that are chaotic and destructive, as well as creative and life-generating.

The *Journey of the Universe* is a cosmology, although not just in the scientific sense of the study of the early universe. Rather, it is a cosmology in the sense of being an integrated story that explains where both humans and life forms have come from. All cultures have had such stories. We now have the capacity to tell a comprehensive story drawing on astronomy and physics to explain the emergence of galaxies and stars, geology and chemistry to understand the formation of Earth, biology and botany to trace life's evolution, and anthropology and history to see the rise of humans. Journey draws on all these disciplines to narrate a story of universe, Earth, and human evolution that is accessible to everyone. This is the first such telling of the story in film form and no doubt there will be other expressions, both scientific and artistic.

Journey weaves science and humanities in a new way that allows for a comprehensive sense of mystery and awe to arise. This approach expands the human perspective beyond an anthropocentric worldview to one that values life's complexity and sees the role of humans as critical to the further flourishing of the Earth community.

Therefore, Journey does not rely on reductionistic scientism, which tends to see the universe and Earth as simply composed of mechanistic processes. Journey, however, recognizes that evolution is governed by natural laws discoverable by scientific methods and empirical observation. The self-organizing dynamics of evolutionary processes are part of the remarkable creativity of evolution, which humans are discovering. While humans are gifted with the creativity of symbolic consciousness, we know that different kinds of self-organizing creativity abound in the universe and Earth - the formation of galaxies and stars, the movement of tectonic plates, the chemistry of cells, the biological complexity of photosynthesis, the migrating patterns of birds, fish, turtles, and caribou. Creativity is also closely aligned with chaos and destruction as the universe unfolds on the edge of a knife.

Journey, then, is a cosmological story of the unfolding of the universe and Earth in which life and humans emerge. This story is told in a poetic manner while relying on our best knowledge from modern science. Scientific facts and poetic metaphors are

interwoven so that viewers of the film or readers of the book can understand how they arose from these creative processes and participate in them. This weaving is in the spirit of Loren Eiseley, the American anthropologist and nature writer, whose books and voice are a major influence on *Journey of the Universe*.

Such a cosmological perspective is both ancient and modern - embedded in certain aspects of the world religions and revealed anew in the scientific story of the universe. Thus science and religion help us to recognize ourselves as participating in a larger integrated whole. Humans are the microcosm of the macrocosm - they are the mind and heart of the vast evolving universe.

In this spirit, images and metaphors from the wisdom traditions of the world religions and philosophies are woven into *Journey of the Universe*. Indeed, there are numerous affinities between the world religions and *Journey*, some of which are described in the papers that were delivered at the Chautauqua Institution conference on *Our Elegant Universe* in June 2013. (www.journeyoftheuniverse.org/conference-at-chautauqua/)

Moreover, the extensive work of the Forum on Religion and Ecology at Yale (<http://fore.research.yale.edu/>) is also a complement to *Journey of the Universe* as both these projects are concerned with our growing ecological crises. As such they are trying to awaken humans to recognize our dependence on nature's remarkable intricacy and to find a way forward amidst the unraveling of ecosystems.

FUNCTIONAL COSMOLOGY and the GREAT WORK

Journey of the Universe, then, is not simply a beautiful story, it is a functional cosmology, as Thomas Berry suggested. This is because it harnesses the energy of awe and wonder for the multiple efforts of humans to contribute to the flourishing of the Earth Community. This is what Berry called the Great Work in which humans will become a mutually enhancing presence for Earth's systems and societies. He felt this work will assist in the transition from the Cenozoic era to the Ecozoic era. Many geologists are naming this new period the Anthropocene because of the effect of humans on Earth's ecosystems.

There are hundreds of thousands of people around the planet who are participating in this transformative work for the environment, energy, agriculture, economics, education, and the arts. This also includes work for sustainable cities and improved racial relations. Many of these specialists, who are inspired by the comprehensive perspective of *Journey of the Universe*, are interviewed in the 20 part educational series of conversations. (www.journeyoftheuniverse.org/ed-series-previews/)

To participate in this transformative work we are not suggesting that it is necessary to be informed by the *Journey of the Universe*. We are, however, noting that many people are moved to action by seeing themselves as part of a larger whole, namely a vast evolving universe. Indeed, some environmentalists, such as the rain forest activist John Seed, have been reinvigorated because of this perspective.

HISTORY OF JOURNEY OF THE UNIVERSE

Journey of the Universe is a project that is more than three decades in the making. It is in the lineage of Thomas Berry's call for a New Story that appeared in his article in 1978. Berry felt that we needed to bring science and humanities together in an integrated cosmology that would guide humans into the next period of human-Earth relations. Ten years later, "The New Story" was included in Berry's book, *Dream of the Earth. The Universe Story*, published by Brian Swimme and Thomas Berry in 1992, is the first book that narrates evolution as a story, while *Journey of the Universe* is the first time this story is told in film.

Collaborating with scientists and scholars from the humanities for over a decade Brian Swimme and Mary Evelyn Tucker wrote the Journey film script and book. They made three trips to the Greek Island of Samos to film with the director, David Kennard, who was part of the Cosmos series with Carl Sagan. They then worked closely with Patsy Northcutt to edit the film. Neal Rogin's contributions in using images were indispensable. Catherine Butler assisted in the editing, as well as in creating the Journey website and bringing the film to PBS. Chris Ward wrote an original music score. John Grim, a co-producer, was an advisor to the film along with Thomas Berry.

The film was completed in 2011 and premiered at a conference in March at Yale University School of Forestry and Environmental Studies. This conference brought together scientists and humanists to reflect on the cosmological implications of Journey. Since that time, the film has been shown in numerous film festivals, museums, universities, as well as religious and community organizations. Journey premiered on KQED television in San Francisco in June 2011 and has since been broadcast on 77% of the national PBS stations. In June 2012 Journey won an Emmy in Northern California for best documentary film.

The *Journey of the Universe* book was published by Yale University Press in 2011. The Conversations are a series of 20 interviews of scientists and environmentalists hosted by Mary Evelyn Tucker. They were completed in 2012. The Journey trilogy of the film, book, and conversations are available through Amazon. A curriculum that unites the trilogy is posted on the Journey website (www.journeyoftheuniverse.org/curriculum/) along with an annotated bibliography (www.journeyoftheuniverse.org/bibliography/). These can be used for discussion or teaching. Further detailed curriculum is being planned for secondary school and college teachers.

Translations of the film and book are underway along with international distribution. The film has been translated into Spanish and Chinese. The book has been translated into French, Italian, Spanish, Turkish, Korean, Indonesian, and Chinese.