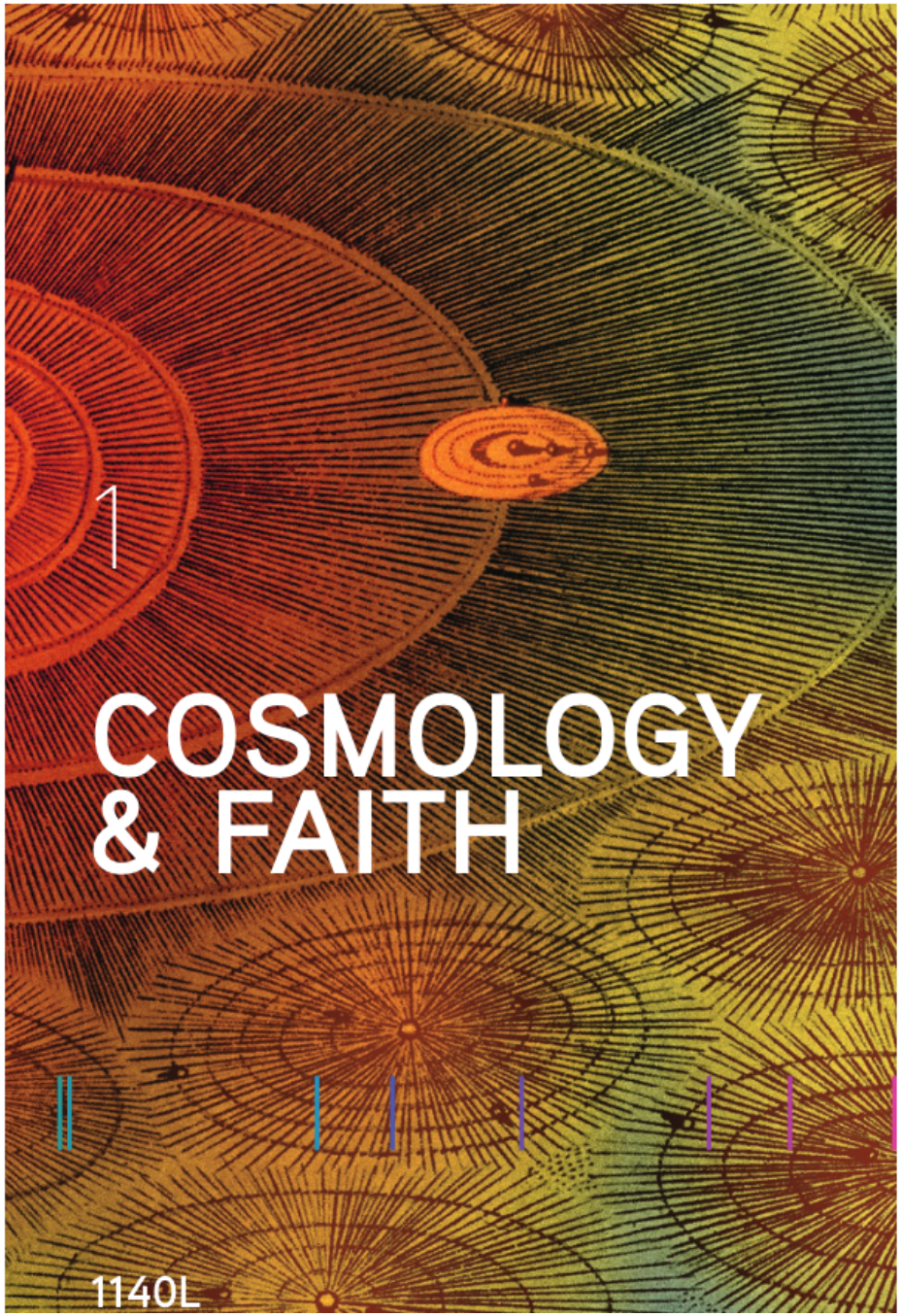
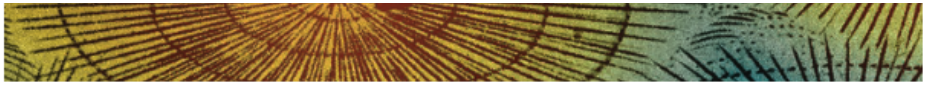


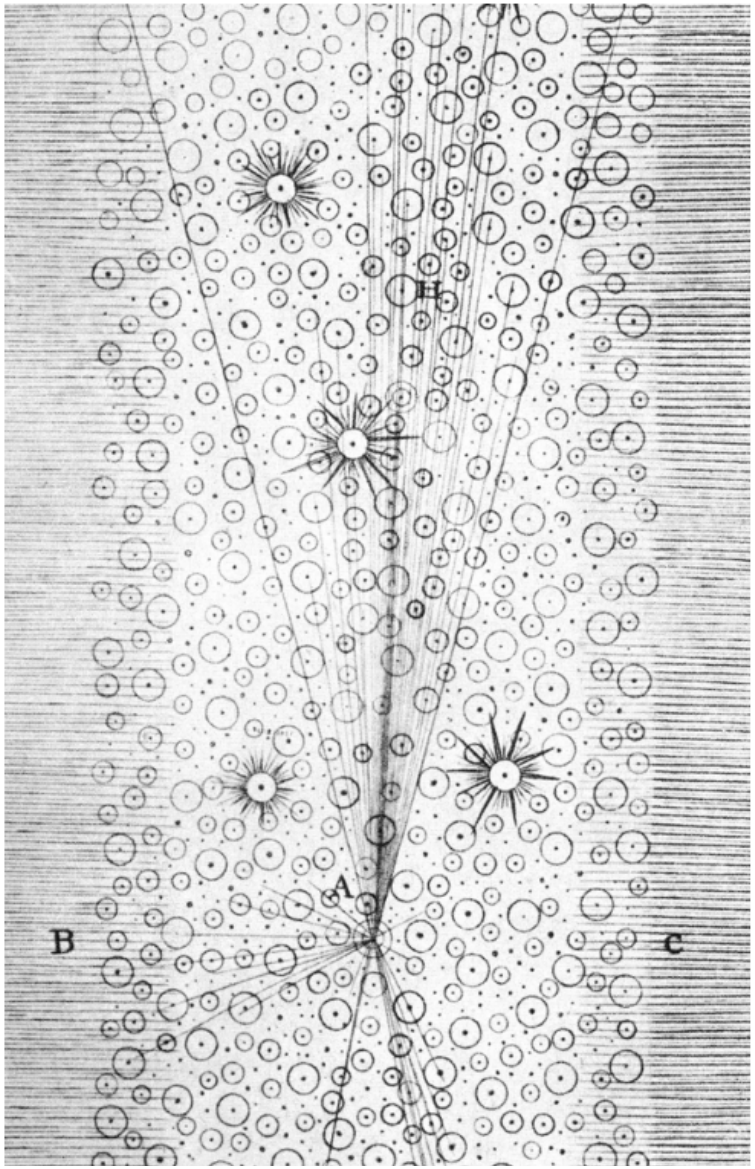
BIG HISTORY PROJECT



COSMOLOGY & FAITH

By John F. Haught

Since the beginning of human existence on our planet, people have asked questions of a religious nature. For example, what happens to the dead?



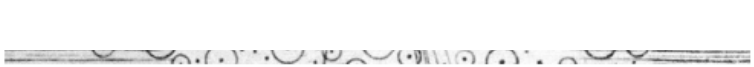
Human beings have always wondered how things "hang together." Our minds spontaneously look for connections, and we remain restless until we find them. Nothing is really intelligible unless we can relate it to other things.

This is why science is such a satisfying adventure. Its mathematical principles tightly unify everything that goes on in the cosmos. Every occurrence, science tells us, is subject to the same fundamental physical laws everywhere. You can be sure, for example, that if you travel to another galaxy in our Big Bang Universe you will find the same laws of physics and chemistry operative there as on Earth. Although the Universe unfolds in rich diversity, it rests upon an underlying physical and mathematical simplicity.

Before modern science came along, our ancestors were not aware of the physical universality that ties all of nature together. Nevertheless, our ancestors were just as interested in finding connections as we are. The main way in which they brought coherence to their experience of things and events was to tell stories about them. These stories often took the form of myths about cosmic, biological, and human origins. Understanding the origin of things apparently reduces human anxiety in the face of the unknown.

We still need stories. Big History is a good example of the human longing for narrative coherence. We want to understand, for example, how life is tied into physical processes and how the history of human beings on Earth is bonded to the natural world that gave birth to us. Science now allows us to tell a whole new story about our connection to nature. Remarkably, over the last two centuries, the natural sciences have increasingly demonstrated that the Universe itself has a history and that human life is a relatively new chapter in the cosmic story. We did not float in from some other world. We blossomed gradually from roots that extend all the way back to the Big Bang.

It is enormously satisfying now to be able to tell the story of the emergence of atoms, stars, planets, cells, organisms, and minds.



A 1784 diagram of the Milky Way by astronomer William Herschel

What about religion?

Science and history both try to understand how things hang together, but religions do too. Since the beginning of human existence on our planet, most people have asked questions of a religious nature. For example, what happens to the dead? Are they somehow still connected to the world of the living? In his insightful book *The Broken Connection*, psychiatrist Robert Jay Lifton observes that in the scientific age the bonds our ancestors felt between the living and dead have been weakened or completely broken. Scientifically educated people now often question the connection that religions professed to find between our present life and a wider world of sacred mystery.

Nevertheless, many of us still ask religious questions. Why, for example, does anything exist at all? Why do living beings suffer? What happens when we die? Why do human beings have a sense of right and wrong? How can we find a meaning for our lives? Can we ever find final release from concerns over sickness, oppression, isolation, and guilt? Where can we find perfection? What is really going on in the Universe?

Responses to these religious questions have usually taken the form of myths and other kinds of narratives. To most religions, the "really real" world is infinitely larger than the visible one available to scientific study. Religions try to connect people to this wider world. Ever since the earliest stories and oral traditions, most people have had an intuition that the world is large enough to include spirits, gods, and long-departed ancestors. Religions strive to break through the physical limits that cut human existence off from the mysterious worlds to which their symbols and stories point. Religions seek to mend the sense of broken connection that stems from the experience of meaninglessness, guilt, pain, and death.

Major religious traditions such as Buddhism, Hinduism, Judaism, Christianity, and Islam still hold out the hope of salvation from everything that hems us in or holds us down, including the fact that everything eventually perishes. It

is, therefore, not hard to understand why religions have been so important to most people throughout history and around the globe.

Each of Earth's main religious traditions has countless tributaries and offshoots. Religion on Earth is so complex and diverse that it almost resembles a rain forest. Since religions are so central to the history of human existence on our planet, they rightly attract the interest of natural scientists and not just of historians and theologians. Any objective survey of big history, therefore, cannot ignore the dominant role that religions have played in shaping the consciousness of most people who have ever lived.

The question of science and faith

In the age of science, however, what are we to make of religions and their sense of a connection between our present existence and a larger, scientifically unavailable life or world? Hasn't science made religious symbols, narratives, and teachings unbelievable?

For the sake of simplicity, as we address these questions let us refer to the whole body of religious hopes, stories, doctrines, speculation, prayers, and rituals as "faith." More fascinating questions arise for your consideration:

Can human minds shaped by faith traditions that stem from a prescientific era honestly take modern science seriously? Or, if you develop a sense of big history, can you still honestly accept the teachings of your faith tradition if you have one? Does belief in God, for example, contradict science, as many educated people now maintain? Isn't it hard to be both a serious scientist and a person of faith? Or is there a way of making a plausible connection between science and faith?

Even though it is not my task to answer such questions, it is appropriate at least to take note of their existence, especially since humans and their religious instincts are as much a part of nature as rocks and rivers. What does it say about the Universe that it has recently given birth to conscious

Many scientists, philosophers, and other skeptics wish that religious faith would just go away so that only science would remain to fill our minds and aspirations. Others, however, think that scientific discoveries, including our new sense of cosmic history, still raise questions that science alone is powerless to address. For example, why does the Universe exist in the first place? Is anything of lasting significance working itself out in the 13.8-billion-year-old cosmic story? Is there any point to it all? What are we supposed to be doing with our lives if we are a part of a Universe that is still coming into being? Is there any solid reason for hope in the future?

There are at least three main ways of responding to questions that science raises for people of faith.

CONFLICT	The natural sciences and religious faith are incompatible.
CONTRAST	Science and faith are each concerned with different kinds of questions.
CONVERGENCE	Science and faith inevitably interact.

Shape your own answers, make your own connections, and find your own way of understanding the beginning and how things "hang together." For most people, these are questions that will not just slip quietly away.

beings who want to connect their lives to worlds that science cannot see?

John F. Haught

John F. Haught is a Roman Catholic theologian and senior research fellow at the Woodstock Theological Center at Georgetown University, in Washington, D.C. He established the Georgetown Center for the Study of Science and Religion and is the author of numerous books, including *Science and Faith: A New Introduction* (Mahwah, NJ: Paulist Press, 2012).

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An illustration of multiple worlds by 18th-century mathematician Leonhard Euler
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