

Our Living Universe

by Duane Elgin

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There was something formless and perfect before the universe was born. It is serene. Empty. Solitary. Unchanging. Infinite. Eternally present. It is the mother of the universe.

—Tao Te Ching

I believe that the most far-reaching trend of our times is an emerging shift in our shared view of the universe—from thinking of it as dead to experiencing it as alive. In regarding the universe as alive and ourselves as continuously sustained within that aliveness, we see that we are intimately related to everything that exists. This insight—that we are cousins to everything that exists in a living, continuously regenerated universe—represents a new way of looking at and relating to the world and overcomes the profound separation that has marked our lives. From the combined wisdom of science and spirituality is emerging an understanding that could provide the perceptual foundation for the diverse people of the world to come together in the shared enterprise of building a sustainable and meaningful future.

Fundamental shifts in perception happen slowly, are subtle, and often seem inconsequential or even go unnoticed by the majority of people living through them. Yet such shifts amount to nothing less than revolutions in our sense of ourselves, our relationships with others, and our view of the universe. Only three times in human experience has our view of reality been so thoroughly transformed.

The first transformation occurred when humanity “awakened” roughly 35,000 years ago. The archeological record shows that the beginnings of a reflective consciousness emerged decisively at this time as numerous developments were occurring in stone tools, burial sites, cave art, and migration patterns. Because we were just awakening to our capacity for “knowing that we know,” we were surrounded by mystery at every turn. Nonetheless, human culture was born in these first glimmerings of personal and shared awareness.

The second time our view of reality and human identity changed dramatically was roughly 10,000 years ago when our ancestors shifted from a nomadic life to a more settled existence in villages and farms. Midway during the agrarian period, roughly 5,000 years ago, we saw the rise of city-states and the beginnings of civilization.

The third time that our perceptual paradigm transformed was roughly 300 years ago, following the scientific revolution, when the stability of agrarian society gave way to the radical dynamism and materialism of the industrial era. Each time that humanity’s prevailing paradigm has changed, all aspects of life have changed with it, including the work that people do, the ways they live together, how they relate to one another, and how they see their role in society and place in the universe.

We are now living at a time when humanity’s perceptual paradigm is again undergoing one of its rare shifts, and that shift has the potential to dramatically transform life for each of us. A paradigm shift is much more than a change in ideas and how we think. It is a change in our view of reality, identity, social relationships, and human purpose. A paradigm shift can be felt in the body, mind, and soul.

At the heart of the new paradigm is a remarkable idea: Our cosmos is not a fragmented and lifeless machine (as we have believed for centuries) but is instead a unified and living organism. Although it is new for our times, the idea that the universe is alive is an ancient one. More than two thousand years ago, Plato described the universe as “one whole of wholes” and “a single living creature that encompasses all of the living creatures that are within it.” What is unprecedented is how this notion is being informed today by both modern science and the world’s diverse spiritual traditions.

SCIENTIFIC EVIDENCE OF A LIVING UNIVERSE

Less than a hundred years ago, when Einstein was developing his theory of relativity, he considered the universe a static, unchanging system no larger than the cloud of stars we now know to be our galaxy. Today, we know that the universe is expanding rapidly and contains at least a hundred billion galaxies, each with a hundred billion stars, or more. Our cosmos embodies an exquisitely precise design. Researchers have calculated that if the universe had expanded ever so slightly faster or slower than it did (even by as little as a trillionth of a percent), the matter in our cosmos would have either quickly collapsed back into a black hole or spread out so rapidly that it would have evaporated.

It is reasonable to assume that if our cosmos were alive it would exhibit specific properties characteristic of all life—unity, regeneration, freedom, sentience, and a capacity for self-reproduction. These in fact are among the properties of our universe emerging from the frontiers of modern science.

1. THE COSMOS IS A UNIFIED SYSTEM. Physicists once viewed our universe as composed of separate fragments. Today, however, despite its unimaginably vast size, the universe is increasingly regarded as a single functioning system. Because other galaxies are millions of light years away, they appear so remote in space and time as to be separate from our own. Yet experiments show that things that seem to be separate are actually connected in fundamental ways that transcend the limitations of ordinary space and time. Described as “nonlocality,” this is one of the most stunning insights from quantum physics.

Although scientists working in this domain hold divergent views about the implications of quantum mechanics for our everyday lives, physicist David Bohm says that ultimately we have to understand the entire universe as “a single undivided whole.” Instead of separating the universe into living and nonliving things, Bohm sees animate and inanimate matter as inseparably interwoven with the life-force that is present throughout the universe, and that includes not only matter but also energy and seemingly empty space. For Bohm, then, even a rock has its unique form of aliveness. Life is dynamically flowing through the fabric of the entire universe.

Our home galaxy—the Milky Way—is a swirling, disk-shaped cloud containing a hundred billion or so stars. It is part of a local group of nineteen galaxies (each with a hundred billion stars), which in turn is part of a larger local supercluster of thousands of galaxies. This supercluster resembles a giant many-petaled flower. Beyond this, astronomers estimate that there are perhaps a hundred billion galaxies in the observable universe (each with a hundred billion or so stars). Scientists and spiritual seekers alike ask the question: If this is a unified system, then could all this be but a single cell within a much greater organism?

2. THE COSMOS IS CONTINUOUSLY REGENERATED. For decades, the dominant cosmology in contemporary physics has held that creation ended with the Big Bang some fourteen billion years ago and that, since then, nothing more has happened than a rearranging of the cosmic furniture. Because traditional physicists think of creation as a one-time miracle from “nothing,” they regard the contents of the universe—such as trees, rocks, and people—as being constituted from ancient matter. In sum, the dead-universe theory assumes creation occurred billions of years ago, when a massive explosion spewed out lifeless material debris into equally lifeless space and has, by random processes, organized itself into life forms on the remote planet-island called Earth.

In striking contrast, the living-universe theory proposes that the cosmos is completely recreated at each moment, and is maintained, moment-by-moment, by an unbroken flow-through of energy. Imagine the cosmos as the vortex of a tornado or a whirlpool, as a completely dynamic structure. David Bohm calls the universe an “undivided wholeness in flowing movement.” In this view, our universe has no freestanding material existence of its own. The entire cosmos is being regenerated at each instant in a

single symphony of expression that unfolds from the most minute aspects of the subatomic realm to the vast reaches of thousands of billions of galactic systems.

It overwhelms the imagination to consider the size and complexity of our cosmos with its billions of galaxies and trillions of planetary systems, all partaking in a continuous flow of creation. How can it be so vast, so subtle, so precise, and so powerful? “We are not stuff that abides, but patterns that perpetuate themselves; whirlpools of water in an ever-flowing river,” states the mathematician Norbert Wiener. Physicist Max Born adds: “We have sought for firm ground and found none. The deeper we penetrate, the more restless becomes the universe; all is rushing about and vibrating in a wild dance.” Physicist Brian Swimme tells us, “The universe emerges out of an all-nourishing abyss not only twelve billion years ago but in every moment.”

3. THE FOUNDATION OF THE COSMOS IS FREEDOM. Traditional physicists have seen the cosmos as being like a clockwork mechanism locked into predetermined patterns of development. By contrast, the new physics maintains that the cosmos has the freedom and spontaneity to grow in unexpected ways. Uncertainty is so fundamental that quantum physics describes reality in terms of probabilities, not certainties. No one part of the cosmos determines the functioning of the whole; rather, everything seems to be connected with everything else, weaving the cosmos into one vast interacting system. Everything that exists contributes to the cosmic web of life at each moment, whether it is conscious of its contribution or not. In turn, it is the consistency of interrelations of all the parts of the universe that determines the condition of the whole. We therefore have great freedom to act within the limits established by the larger web of life within which we are immersed. A living universe is a learning system in which we are free to make mistakes and to change our minds. “Through us, the universe questions itself and tries out various answers on itself in an effort—parallel to our own—to decipher its own being,” writes the philosopher Renée Weber.

4. CONSCIOUSNESS IS PRESENT THROUGHOUT. Consciousness, a capacity for feeling or knowing, is basic to life. If the universe is alive, we should therefore find evidence of some form of consciousness operating at every level. Renowned physicist Freeman Dyson writes about consciousness at the quantum level: “Matter in quantum mechanics is not an inert substance but an active agent, constantly making choices between alternative possibilities. . . . It appears that mind, as manifested by the capacity to make choices, is to some extent inherent in every electron.” This does not mean that an atom has the same consciousness as a human being, but rather that an atom has a sentient capacity appropriate to its form and function. Dyson thinks it is reasonable to believe in the existence of a “mental component of the universe,” and, if so, “then we can say that we are small pieces of God’s mental apparatus.” While it is stunning to consider that every level of the cosmos has some degree of consciousness, that seems no more extraordinary than the widely accepted view among scientists that the cosmos emerged as a pinpoint some twelve billion years ago as a “vacuum fluctuation”—where nothing pushed on nothing to create everything.

5. THE COSMOS IS ABLE TO REPRODUCE ITSELF. A remarkable finding from the new physics is that our cosmos may very well be able to reproduce itself through the functioning of black holes. In his book *In the Beginning: The Birth of the Living Universe*, astrophysicist John Gribbin proposes that the bursting out of our universe in the Big Bang may be the time-reversed mirror image of the collapse of a massive object into a black hole. Many of the black holes that form in our universe, he reasons, may thus represent the seeds of new universes: “Instead of a black hole representing a one-way journey to nowhere, many researchers now believe that it is a one-way journey to somewhere—to a new expanding universe in its own set of dimensions.” Gribbin’s dramatic conclusion [reflecting the work of many physicists and cosmologists] is that “our own Universe may have been born in this way out of a black hole in another universe.” He explains it in this way: If one universe exists, then it seems that there must be many—very many, perhaps even an infinite number of universes. Our universe has to be seen as just one component of a vast array of universes, a self-reproducing system connected only by the “tunnels”

through space-time (perhaps better regarded as cosmic umbilical cords) that joins a "baby" universe to its "parent." Gribbin suggests not only that universes are alive, but also that they evolve as other living systems do: "Universes that are 'successful' are the ones that leave the most offspring." The idea of many universes evolving through time is not new. David Hume noted in 1779 that many prior universes "might have been botched and bungled throughout an eternity ere this system."

Is the cosmos indeed a living system? It certainly appears so in the light of recent scientific findings. Our universe is revealing itself to be a profoundly unified system in which the interrelations of all the parts, moment-by-moment, determine the condition of the whole. Our universe is infused with an immense amount of energy, and is being continuously regenerated in its entirety, while making use of a capacity for consciousness throughout. As an evolving, growing, and learning system, it is natural that freedom exists at the quantum foundations of the universe. It even appears that the universe has the ability to reproduce itself through the vehicle of black holes. When we put all of these properties together, it suggests an even more spacious view of our cosmic system. Our universe is a living system of elegant design that was born from and is continuously regenerated within an even larger universe. We are living within a "daughter universe" that, for twelve billion years, has been living and growing within the spaciousness of a Mother Universe. The Mother Universe may have existed forever, holding countless daughter universes in its grand embrace while they grow and mature through an eternity of time.

THE MOTHER UNIVERSE

When our cosmos blossomed into existence from an area smaller than a pinpoint some twelve billion years ago, it emerged out of "somewhere." Modern physics is beginning to speculate on the nature of this generative ground. Distinguished Princeton astrophysicist John Wheeler describes space as the basic building block of reality. He explains that material things are "composed of nothing but space itself, pure fluctuating space . . . that is changing, dynamic, altering from moment to moment." Wheeler goes on to say that "Of course, what space itself is built out of is the next question. . . . The stage on which the space of the universe moves is certainly not space itself. . . . The arena must be larger: superspace . . . [which is endowed] with an infinite number of dimensions." What Wheeler calls "superspace" I am calling the "Mother Universe."

The idea of a "superspace" or Mother Universe is not simply a creation of theoretical physics. It is a reality that can be directly experienced and has ancient roots in the world's meditative traditions. For example, more than twenty centuries ago, the Taoist sage Lao-tzu described it this way: "There was something formless and perfect before the universe was born. It is serene. Empty. Solitary. Unchanging. Infinite. Eternally present. It is the mother of the universe. For lack of a better name, I call it the Tao."

Regardless of what the Mother Universe is called, all wisdom traditions agree that it is ultimately beyond description. Nevertheless, many attempts have been made to describe her paradoxical qualities. Here are six of the key attributes of the Mother Universe as described by both East and West:

- Present everywhere. The clear, unbounded life-energy of the Mother Universe is present in all material forms as well as in seemingly empty space. She is not separate from us, neither is she other than the "ordinary" reality continuously present around us. Other universes, besides ours, grow in other dimensions of her unimaginable spaciousness.
- Nonobstructing. The Mother Universe is a living presence out of which all things emerge, but is not herself filled or limited by these things. Not only are all things in her, she is in all things. There is mutual interpenetration without obstruction.
- Utterly impartial. The Mother Universe allows all things to be exactly what they are without interference. We have immense freedom to create either suffering or joy.

- Ultimately ungraspable. The power and reach of the Mother Universe is so vast that she cannot be grasped by our thinking mind. As the source of our existence, she is forever beyond the ability of our limited mental faculties to capture conceptually.
- Compassionate. Boundless compassion is her essence. To experience the subtle and refined resonance of the Mother Universe is to experience unconditional love.
- Profoundly creative. Because we humans do not know how to create a single flower or cubic inch of space, the creative power of the Mother Universe to bring into existence and sustain entire cosmic systems is utterly incomprehensible.

Christians, Buddhists, Hindus, Jews, Muslims, Taoists, mystics, tribal cultures, and Greek philosophers have all given remarkably similar descriptions of the universe and the life force that pervades it. These are more than poetic and metaphorical descriptions. Because we find the notion of a living universe emerging across cultures and millennia as well as from modern science, there is compelling evidence that it forms the basis of a powerful perceptual paradigm—one that will open up enormous opportunities for the human family as we are pressed to create a sustainable future for ourselves.

IMPLICATIONS OF THE LIVING UNIVERSE PARADIGM

Like any paradigm shift, the idea and experience of a living universe is transformative. In addition to changing our view of the universe, it can alter our sense of identity, our sense of purpose, how we relate with others. Consider a few of its many implications:

A REBIRTH OF CONNECTEDNESS IN ALL ASPECTS OF LIFE. The ways American Indians perceive and experience the world is instructive. Their culture provides a clear window into the experience of living with an infusing aliveness that is an intimate part of everyday life. Author Luther Standing Bear expresses the wisdom of indigenous peoples around the world when he says for the Lakota Sioux “there was no such thing as emptiness in the world. Even in the sky there were no vacant places. Everywhere there was life, visible and invisible, and every object gave us a great interest in life.” Since a life force was felt to be in and through everything, all things were seen as being connected and related. Because everything is an expression of the Great Spirit, everything deserves to be treated with respect.

THE AWAKENING OF COSMIC IDENTITY. The industrial era paradigm assumes we are no more than biological beings, ultimately separate from others and the rest of the universe. The new findings from physics, however, reveal that we are intimately connected with the entire cosmos. Our actual identity or experience of who we are is vastly bigger than we thought—we are moving from a strictly personal consciousness to a conscious appreciation of ourselves as integral to the cosmos.

Technically, we humans are more than *Homo sapiens* or “wise”—we are *Homo sapiens sapiens* or “doubly wise.” In other words, whereas animals “know,” humans have the capacity to “know that we know.” In this new paradigm, our sense of identity takes on a paradoxical and mysterious quality: We are both observer and observed, knower and that which is known. We are each completely unique yet completely connected with the entire universe. There will never be another person identical to any one of us in all eternity are absolutely original beings. At the same time, since our existence arises from and is woven into the deep ecology of the universe, we are completely integrated with all that exists. Awakening to the miraculous nature of our identity as simultaneously unique and interconnected with a living universe can help us overcome the species-arrogance and sense of separation that threaten our future.

LIVING LIGHTLY IN A LIVING UNIVERSE. In a dead universe, consumerism makes sense; in a living universe, simplicity makes sense. If the universe is unconscious and dead at its foundations, then

each of us is the product of blind chance among materialistic forces. It is only fitting that we the living exploit on our own behalf that which is not alive. If the universe is lifeless, it has no larger purpose or meaning, and neither does human existence. On the other hand, if the universe is conscious and alive, then we are the product of a deep-design intelligence that infuses the entire cosmos. Our sense of meaningful connection expands to the entire community of life, including past, present, and future generations. Every action in a living universe is felt to have ethical consequences as it reverberates throughout the ecosystem of the living cosmos. The focus of life shifts from a desire for high-consumption lifestyles (intended to provide both material pleasures and protection from an indifferent universe) toward sustainable and simple ways of living (intended to connect us with a purposeful universe of which we are an integral part).

LIVING WITH PURPOSE IN A LIVING UNIVERSE. The shift to a new paradigm also brings a change in our sense of evolutionary purpose. We are shifting from seeing our journey as a secular adventure in a fragmented and lifeless cosmos without apparent meaning or purpose to seeing it as a sacred journey through a living and unified cosmos whose purpose is to serve as a learning system. Our primary purpose is to embrace and learn from both the pleasure and the pain of the world. If there were no freedom to make mistakes, there would be no pain. If there were no freedom for authentic discovery, there would be no ecstasy. In freedom, we can discover our deeper identity and purpose within a living cosmos.

LIVING ETHICALLY IN A LIVING UNIVERSE. A form of natural ethics accompanies our intuitive connection with a living universe. When we are truly centered in the life current flowing through us, we tend to act in ways that promote the well-being and harmony of the whole. Our connection with the Mother Universe provides us with a sort of moral tuning fork that makes it possible for individuals to come into collective alignment. An underlying field of consciousness weaves humanity together, making it possible for us to understand intuitively what is healthy and what is not, what works and what doesn't.

This new understanding will usher us into an era in which people will be inclined to live ethically because they understand that everything they do is woven into the infinite depths of the Mother Universe. When we discover that all beings are part of the seamless fabric of creation, it naturally awakens in us a sense of connection with and compassion for the rest of life. We broaden our scope of empathy and concern when we realize that we are inseparable from all that exists. We no longer see ourselves as isolated entities whose being stops at the edge of our skin, and whose empathy stops with our family, or our race, or our nation. We see that, because we all arise simultaneously from a deep ocean of life-energy, a vital connection always exists among all beings.

The living universe paradigm is not simply a lateral shift from one set of values to another; it is a contextual shift, from one cultural atmosphere to another, from one perceptual environment to another. It transforms the human story. After fourteen billion years of evolution, we stand upon the Earth as agents of self-reflective and creative action on behalf of the universe. We see that we are participants in an unceasing miracle of creation. This recognition brings a new confidence that our potentials are as exalted, magnificent, and mysterious as the living universe that surrounds and sustains us.

Duane Elgin is the author of the books *Promise Ahead*, *Voluntary Simplicity*, and *Awakening Earth*, and is the co-author (with Joseph Campbell, Willis Harman, and others) of *Changing Images of Man*. He was formerly a senior researcher at SRI International. This article is adapted from his book *Promise Ahead: A Vision of Hope and Action for Humanity's Future* published by William Morrow. Copyright © 2000. HarperCollins, Inc.