

A LIVING COSMOS

'At all levels of existence, a single cosmic energy is active. The whole universe is alive with intelligence, creativity, and constant evolution. Another name for this cosmic energy is Spirit.'

Kabir Helminski

Traditional Worldview

Human beings have pondered the question of the origins of the universe since time immemorial. Different historical times and cultures have embraced fundamentally different cosmic viewpoints:

Perhaps the most fundamental question ever asked is, *Where did the universe come from?* The earliest answers were couched in the mystical worldview, followed by the worldviews of the great religions. In regard to concepts of origin and destiny, the early intuitions of East and West were remarkably consistent: they both envisaged the origins of the universe as a stupendous process of self-creation. But with the rise of monotheistic religion in the West, the creation story of the Old Testament replaced mystical and metaphysical accounts. Throughout the Middle Ages, Christians, Muslims, and Jews believed that an all-powerful God created the sky above and the Earth below, and all things in between, with purpose and intent, just the way we find them. In the nineteenth century, the Judeo-Christian account of creation came into conflict with the theories of modern science, in particular with Darwinian biology. A vivid contrast arose between the view that everything we behold was created intentionally by a divine power and the concept according to which living species evolved on their own, from simpler common origins. (1)

And today, the questions of the origins and ontological meaning of the universe remain unanswered by science: "It cannot say *why* our universe came to be the way it came to be; why it has the remarkable properties it now exhibits. The question returns, it seems, to the domain of mysticism and religion."

Many scientists believe that meaning resides in the human mind alone and the universe is impersonal, without any purpose or intention. Physicist Steven Weinberg: "I believe that what we have found so far – an impersonal universe, which is not particularly directed toward human beings – is what we are going to continue to find. And that when we find the ultimate laws of nature they will have a chilling, cold impersonal quality about them." This view is not held by the majority of traditional cultures. Throughout history and across cultures and geography, human beings have searched for meaning and purpose in life:

Finding meaning in life and in nature is essential for human existence; the search for it is as old as civilization. For as long as people have looked at the sun, the

moon, and the starry sky above, and at the seas, the rivers, the hills, and the forests below, they have wondered where it all came from, where it all is going, and what it all means. Traditional and non-Western peoples found answers, even if their answers were based on intuition rather than observation and experiment. They lived in a meaningful, ensouled universe, and did not arrogate all mind to themselves. Finding themselves at home in the universe, they took care not to damage or destroy their home. (2)

In our modern industrial and technological world, many individuals are unable to perceive meaning and purpose in the world: "We no longer sense the aliveness of rivers, rocks, and the earth itself. We no longer sense the sentience of trees and other plants, nor the consciousness of insects and other animals. We have lost awareness of a spirit-force pervading the world and all the things in it."

This view of the world contrasts with that of traditional cultures who believe that a Great Spirit resides at the heart of all things in nature. For instance, indigenous cultures teach that a universal conscious mind underlies the consciousness of plants, animals, Mother Earth and Father Sky. All of nature is viewed as "magically self-reflecting and aware." In traditional cultures, entities are said to exist in many different realms. Ethnobiologist Terence McKenna: "There are the spirits of animals, the spirit of the earth and solar system and stars, and the angelic stellar intelligences. There are spirits of each species of plant or mushroom, each with its way of being, its own way of experiencing the world. All these things are part of the shamanic fauna: the wolf spirits, crow spirits, other animal spirits, nature spirits, water spirits, mountain spirits, tree spirits, and so on."

Traditional indigenous cultures and those close to nature perceive the world as deeply spiritual, imbued with an all-pervading spirit-force and filled with a powerful underlying divinity and sacredness:

Another major characteristic of prehistoric and indigenous peoples' experience of the world was their intense perception of their surroundings. They seem to have had a sense that natural things were alive and sentient, and pervaded with a spiritual force. Different peoples with no connection to each other had different names for this force. In the Americas, the Hopi called it *maasauu*, the Lakota called it *wakan-tanka*, and the Pawnee called it *tirawa*. The Ainu of Japan called it *ramut* (translated as "spirit-energy"), while indigenous peoples in parts of New Guinea called it *imunu* (translated as "universal soul"). In Africa, the Nuer called it *kwoth* and the Mbuti called it *pepo*. These concepts are strikingly similar to the universal spirit-force that spiritual and mystical traditions speak about – for example, the concept of *brahman* in the Indian Upanishads. This spiritual force was also part of the reason for indigenous peoples' respectful attitude toward nature and their dismay at European peoples' exploitative attitude towards it. In addition to feeling a sense of kinship with the natural world, they felt it was spiritually *alive* and therefore sacred. (3)

All of nature is perceived by traditional cultures as alive, vibrant, intelligent and purposeful, animated by a creative Spirit or cosmic energy. The idea of a living, conscious universe suggests that all living creatures participate, although in different degrees, in cosmic consciousness. There is consciousness everywhere in the universe and, in fact, the universe is consciousness itself. Ervin Laszlo: "According to ancient cosmologies, the universe's undifferentiated, all-encompassing consciousness separates off from its primordial unity and becomes localized in particular structures of matter. Through them the consciousness that infuses the cosmos becomes more and more articulated. Thus, consciousness pervades the cosmos."

This understanding of the spiritual nature of the cosmos has been lost by much of the modern world. In *Science and the Akashic Field*, Laszlo writes: "In the primordial condition humans possessed an instinctive knowledge of the sacred unity and profound interconnectedness of the world. But with the ascendance of the rational mind a deep schism arose between humankind and the rest of reality. The nadir of this development is reflected in the current ecological disaster, moral disorientation, and spiritual emptiness."

Many important philosophers throughout history, including Plato, Plotinus, Gottfried Leibniz and Alfred North Whitehead have subscribed to the doctrine of *pan-psychism*. The thesis of pan-psychism is that some quality of consciousness exists as a potentiality in every particle and atom in the cosmos. As consciousness evolves it acquires more and more complex forms so that every aspect of the universe is endowed with both a physical and mental nature:

Pan-psychism is the hypothesis that consciousness is not unique to human beings, or higher animals, or even creatures with nervous systems. It is in everything. This is not to imply that simpler systems have thoughts or feelings, or any of the other mental functions that we associate with consciousness, only that the capacity for consciousness is there in some form, however faint. Even a lowly bacterium has a glimmer of the inner light, maybe a billionth of the inner light we know, but not nothing at all. The standard scientific paradigm assumes the exact opposite – that matter itself is completely insentient, completely devoid of the capacity for experience. Consciousness only comes into existence with the evolution of complex nervous systems. The problem with this view is explaining how conscious experience could ever emerge from insentient matter. The only tenable answer – anathema as it may be to the standard scientific worldview – is that the capacity for inner experience does not suddenly appear, as if by magic, once a particular level of complexity has arisen. The potential for inner experience has been there all along. (4)

French philosopher Henri Bergson believed that evolution is propelled by a subtle, non-material force, *élan vital*, which operates to maximize evolutionary creativity and leads organic matter forward toward a diversity that gives birth to higher and more complex forms of life. According to Bergson, this vital impulse is consciousness itself. He believed evolution to be a "truly universal process, so that life evolves not only on the earth but throughout the cosmos."

Even some scientists have recognized that the planet Earth has, in some ways, the attributes of a living being. Foremost among them is James Lovelock, who in his influential book *Gaia* (named after the Greek Earth goddess), hypothesized that the Earth's atmosphere, oceans, land surface and organic life form a complex, interrelated system which can be viewed as a single organism: "We may find ourselves and all other living things to be parts and partners of a vast being who in her entirety has the power to maintain our planet as a fit and comfortable habitat for life."

The concept of Mother Earth or, as the Greeks called her long ago, Gaia, has been widely held throughout history and has been the basis of a belief which still coexists with the great religions. As a result of the accumulation of evidence about the natural environment and the growth of the science of ecology, there have recently been speculations that the biosphere may be more than just the complete range of all living things within their natural habitat of soil, sea, and air. Ancient belief and modern knowledge have fused emotionally in the awe with which astronauts with their own eyes and we by indirect vision have seen the Earth revealed in all its shining beauty against the deep darkness of space. Yet this feeling, however strong, does not prove that Mother Earth lives. Like a religious belief, it is scientifically untestable and therefore incapable in its own context of further rationalization. (5)

For most people, the perception of spiritual energy is blocked by the limitations of normal human consciousness and the power of cultural and social conditioning. "When we look at the sky, we don't see a spiritual energy shimmering through space; we just see empty space. When we look at rocks or rivers or trees we aren't able to sense spiritual energy radiating through them; we just see them as inanimate objects. As a consequence, the world that seems to be so sacred and spiritual to indigenous people becomes a mundane, inanimate place to us."

To the awakened person, there are no such things as inanimate objects. Even natural phenomena that aren't biologically alive (such as clouds, sea, or stones) and manmade objects (such as pieces of furniture or buildings) shine with the radiant aliveness of spirit . . . As spiritual texts and mystics tell us, the nature of this energy is blissful. It has a quality of bliss or joy in the same way that water has a quality of wetness. So, when we perceive its presence in the world, there's a sense of harmony – again, an awareness that is commonly described by indigenous peoples. We sense that the universe is a benevolent place and that harmony and meaning are its fundamental qualities. Finally, this spiritual energy underlies and pervades all things and so creates a sense of connectedness or oneness. All things are folded into oneness in its embrace. So even if an awakened person isn't able to directly sense *brahman* in the world, they may still have the sense that the boundaries between superficially separate and distinct objects have melted away. They may still sense what some describe as "the oneness of everything" or "the oneness of the universe." (6)

Mystical and Spiritual Worldview

Throughout history and across cultures there has been an unending quest to understand the nature and purpose of ultimate reality. For instance, ancient Egyptian and Vedic teachings identified an underlying and all-pervading cosmic intelligence as the foundation of the myriad expressions of the phenomenal world. Other mystical and spiritual teachings describe a subtle spiritual energy and living presence that permeates all things. In Taoism it is known as the *Tao*, in Mahayana Buddhism the *Dharmakaya*, and in Hinduism, *Brahman*:

Hindu and Chinese cosmologies have always maintained that the things and beings that exist in the world are a concretization or distillation of the basic energy of the cosmos, descending from its original source. The physical world is a reflection of energy vibrations from more subtle worlds that, in turn, are reflections of still more subtle energy fields. Creation, and all subsequent existence, is a progression downward and outwards from the primordial source. In Indian philosophy the ultimate end of the physical world is the return to Akasha, its original subtle-energy womb. At the end of time as we know it, the almost infinitely varied things and forms of the manifest world dissolve into formlessness, living beings exist in a state of pure potentiality, and dynamic functions condense into static stillness. In Akasha, all attributes of the manifest world energy merge into a state that is beyond attributes: the state of *Brahman*. Although it is undifferentiated, Brahman is dynamic and creative. From its ultimate "being" comes the temporary "becoming" of the manifest world, with its attributes, functions, and relationships. The cycles of *samsara* – of being-to-becoming and again of becoming-to-being – are the *lila* of Brahman: its play of ceaseless creation and dissolution. In Indian philosophy, absolute reality is the reality of Brahman. The manifest world enjoys but a derived, secondary reality and mistaking it for the real is the illusion of *maya*. The absolute reality of Brahman and the derived reality of the manifest world constitute a co-created and constantly co-creating whole: this is the *advaitavada* (the nonduality) of the universe. (7)

The spiritual teachings of traditional cultures embrace a deep, organic understanding of the universe. Nature is clearly recognized as a "sacred garden" and humanity's original home and womb. "Life is sufficiently miraculous already – *only we do not notice* it. If we catch a glimpse of its mystery, we border momentarily on new emotions and thoughts, but this comes from within, as a momentary, individual awakening of the spirit." In *The Light Inside the Dark*, Zen teacher John Tarrant eloquently captures this deep spiritual perspective:

The great inner traditions, from paleolithic shamanism to monastic Christianity, have brought us many disciplines to cultivate our link with spirit. Such work involves meditation, prayer, and the slow, delicious process of letting go – everything we thought important drops away when the blaze and stillness at the center fills the view. Meditation – the primary method of spiritual inquiry,

taking various forms in different traditions – plunges us into the source and saturates us with its waters, answering, in a certain fashion our curiosity about what it is that we are. When we turn toward spirit, it compels us to its mode, in which eternity is everlastingly present within our lives, making the smallest moment vibrant and full of color. Our underlying doubts about existence soften, and a constricting attachment to the narrow, received aspects of consciousness is weakened. The transparency of the world amazes us – at each moment we are surprised anew by the clarity of what we see: our undeniable connection to the source. We have come home at last, no longer alone on the earth. Spirit is *given*. It is not produced by our attention, it is uncovered – showing us our link from the beginning with all of life. (8)

Human beings are uniquely endowed with the ability to perceive the mystical current of life. Sufi teacher Murat Yagan: “Everything in creation has some level of consciousness, but only human beings are capable of being aware of being conscious.” In the nineteenth century, a number of gifted writers and poets who experienced transcendental states of consciousness, captured this spiritual awareness of life. The essays and poems of Walt Whitman embrace the totality of life and acknowledge the spiritual energy flowing through the everyday world and the lives of ordinary people:

With his heightened awareness, Whitman sensed the sacred aliveness of the world and the radiance and harmony of a spirit-force pervading every object and creature. The whole world was divine, including his own being and body. As well as bring an intense sense of the is-ness of things, the heightened awareness of the wakeful state brings an intense sense of the now-ness. Our present-tense experience – our awareness of our surroundings, perceptions, and sensations – becomes so powerful that we give complete attention to it. The past and future become completely unimportant as we realize that there’s only *now*, that life can only ever take place in the present moment. As a result, the whole concept of time becomes meaningless. Life is no longer a road with directions forwards and backwards; instead it becomes a spacious panorama without movement or sequence. In Whitman’s words, “The past and present wilt – I have filled them, emptied them” . . . Whitman’s awareness of a spirit-force pervading everything meant that to him there were no separate or independent phenomena. To him, all things were part of a greater unity. In his poem “On the Beach at Night Alone,” for example, he describes his awareness that all things are part of a “vast similitude.” All suns, planets, human beings, animals, plants, all of the future and the past, and all of space are essentially one and the same. (9)

The acclaimed English poet William Wordsworth was also sensitive to the spiritual dimension of the universe. In his poem, “Intimations of Immortality” he celebrates the pure, innocent perception of children who see a world “apparelled in celestial light”:

The English poet William Wordsworth was also naturally awake. Wordsworth's intense sensitivity to the beauty and the is-ness of the natural world made him the archetypal romantic poet and the most influential poet of the nineteenth century. He spent most of his life in one of the most beautiful parts of England, the Lake District, and his poems are full of detailed descriptions of the sublime, awe-inspiring landscape of the region. Many of Wordsworth's passages describe his awareness of the spirit-force pervading the natural world, some of which come very close to descriptions of the all-pervading presence of *brahman* in the Upanishads. In "Lines Written a Few Miles above Tintern Abbey," he writes:

And I have felt
A presence that disturbs me with the joy
Of elevated thoughts; a sense sublime
Of something far more deeply interfused,
Whose dwelling is the light of setting suns,
And the round ocean and the living air,
And the blue sky, and in the mind of man:
A motion and a spirit; that impels
All thinking things, all objects of all thought,
And rolls through all things. (10)

In higher states of consciousness, the living, dynamic nature of reality is directly revealed, transforming our way of understanding and relating to life. John Tarrant: "What we need, and what we love, what consoles us and what redeems us is here each moment, already within us. It waits for us to recognize its presence. We only have to give ourselves up to it, and our one life, and all life, welcomes us into its arms.":

Consciousness is both our uniqueness and our adventure. We see the snow, the stars, and the rain, the first plum blossoms thrust out in pink haze, the girl crying in the wet street, and we see that each thing and being demonstrates its own portion of eternity. This seeing blesses our lives – they are like us, these other inhabitants of earth; we share with them a mysterious nature. Each thing appears before us in its solitary radiance. (11)

Psychedelic substances such as LSD, psilocybin and ayahuasca can also engender a deep spiritual connection with the universe. Reporting on his own experiences with psychedelics, Michael Pollan speaks of the intelligence of the plant and mineral kingdoms that he perceived in *How to Change Your Mind*:

My plant teacher was trying to tell me something about itself and the green kingdom it represents. That plants are intelligent I have believed for a long time – not necessarily in the way we think of intelligence, but in a way appropriate to themselves. If you define intelligence as the ability to solve the novel problems reality throws at the living, plants surely have it. They also

possess agency, an awareness of their environment . . . One of the gifts of psychedelics is the way they reanimate the world, as if they were distributing the blessings of consciousness more widely and evenly over the landscape, in the process breaking the human monopoly on subjectivity that we moderns take as a given. To us, we are the world's only conscious subject, with the rest of creation made up of objects. Psychedelic consciousness overturns that view, by granting us a wider, more panoramic lens through which we can glimpse the subjecthood – the spirit – of everything, animal, vegetable, even mineral, all of it now somehow returning our gaze. Spirits, it seems, are everywhere. Even in the case of minerals, modern physics gives us reason to wonder if perhaps some form of consciousness might not figure in the construction of reality. Quantum mechanics holds that matter may not be as innocent of mind as the materialist would have us believe. For example, a subatomic particle can exist simultaneously in multiple locations, is pure possibility, until it is measured – that is, perceived by a mind. Only then and not a moment sooner does it drop into reality as we know it: acquires fixed coordinates in time and space. The implication here is that matter might not exist as such in the absence of a perceiving subject. Needless to say, this raises some tricky questions for a materialist understanding of consciousness. (12)

Certain contemporary Western and Eastern spiritual teachers also conceive of the universe as living and conscious, imbued with intelligence and purpose. Father Bede Griffiths: "We must consider that consciousness is present in the universe in some way from the very beginning as intelligence at work in matter. As matter evolves through the energy inherent in it, and develops more complex organisms, the divine consciousness manifests itself as life." The Dalai Lama echoes this view: "In Tibetan Buddhism, the cosmos is seen as one inseparable reality – forever in motion, alive, organic; spiritual and material at the same time." Professor of philosophy Jacob Needleman concurs, and also speaks to the necessity of perceiving the levels and orders of intelligence existing in the cosmos: "Obviously, there is a great difference between contemplating a universe which exceeds me in size alone or in intricacy alone, and one which exceeds me in depth of purpose and intelligence. A universe that is a manifestation of great consciousness and order *places* man and therefore calls to him. A conscious universe is the only reality that can include human consciousness. Only a conscious universe is relevant to the whole of human life."

The amazing complexity and diversity of the universe revealed by contemporary science is, in some sense, similar to the worldview of many traditional spiritual teachings. In *A Sense of the Cosmos*, Needleman writes:

Ancient man's scale of the universe is awesome, too, but in an entirely different way, and with entirely different consequences for the mind that contemplates it. Here man stands before a universe which exceeds him in quality as well as quantity. The spheres which encompass the earth in the cosmological schemes of antiquity and the Middle Ages represent levels of conscious energy and pur-

pose which “surround” the earth much as the physiological function of an organ such as the heart “surrounds” or permeates each of the separate tissues which comprise it, or as the captain’s destination “encompasses” or “pervades” the life and activity of every crewman on his ship. In this understanding, the earth is inextricably enmeshed in a network of purpose, a ladder or hierarchy of intentions. To the ancient mind, this is the very meaning of the concept of order and organization. A cosmos – and, of course, *the* cosmos – is an organism, not in the sense of an unusually complicated industrial machine, but in the sense of a hierarchy of purposeful energies. (13)

G.I. Gurdjieff’s cosmological system is organic in nature, possessing a universal order and a hierarchy of levels of consciousness and being. He referred to the intelligence of the Sun as “divine” and spoke of the planets of the solar system as *living beings*, “having definite ages, a definite period of life, and possibilities of development and transition to other planes of being.” In his view, life and consciousness were not limited to the earth but extended beyond it to encompass other levels of existence, including planets, stars and galaxies:

He regarded the universe as a living conscious being, made up of a hierarchy of cosmoses, nested within each other, each also a living being with a certain level of awareness. These cosmoses are somewhat variably described in his lectures and writings, but an acceptable list might be as follows:

- God
- The universe
- The galaxy
- The solar system
- The planet
- Human beings and similar beings elsewhere – so-called three-brained beings
- The multicellular organism – plants and animals
- The cell or microbe

This is a radically different view from that of conventional modern science, according to which the above entities, aside from the first, are simply organizations of different sizes, but all on the same level, ruled by the same laws of physics. Gurdjieff also regarded the cosmoses as related to each other as *zero to infinity*, in other words, as representing different dimensions. A miracle then would be due to the intrusion of the laws of a higher cosmos into a lower one. This again relates to different levels of materiality and of the relationships of things to space, time, and forces: a normal man cannot walk on water, but the wind can; loaves and fishes do not multiply instantaneously, but shadows and echoes can. Human consciousness, which can join together all separate things, travel effortlessly into the past and future, and contemplate all the possibilities therein, thus belongs to a different cosmos and has a different dimensionality than ordinary material things. (14)

An Emerging Paradigm

Most scientists reject the notion that the universe is, in some sense, alive and conscious. The prevailing scientific belief is that only organic life is sentient, possessing perceptual properties and adaptive capacities. However, a new paradigm is arising at the frontiers of scientific thought, one which recognizes consciousness as a fundamental property of all forms of existence, no matter how rudimentary or complex.

From the standpoint of scientific materialism and empiricism, the mystery of life is to be understood through reductionism. This approach states that higher order principles and levels of reality are derived from combinations of insentient matter through accidental, random processes. There is no recognition of an immaterial, higher-order organizing principle. From this perspective, mind, intelligence and life are secondary features – an accidental product of physical matter. The implications of this materialistic description of the universe are significant. Maurice Nicoll: “Can we really believe that mind and intelligence accidentally came out of dead matter? The customary standpoint of scientific materialism is that primary matter is dead – and the universe is dead and nature is devoid of meaning or purpose. A dead nature can, of course, aim at nothing. It cannot be teleological.” Such a belief runs counter to ancient, traditional teachings on the nature of the universe:

In the older views of man, which were much richer and more complete than are the modern views, man was placed in the framework of a vast *living* universe as a created being – that is, created in and out of the living universe. So not only was man in the world, *but the world was in him*. The idea of *scale* or ‘degree of excellence’ permeated most of the older notions about man and the universe. The universe is on different scales. A man was taken as a very complex creation having *within* him a scale consisting of different levels of mind, consciousness and understanding. (15)

There is now support for this view of a living, conscious universe among some scientists. Eminent physicists of the early twentieth century, such as Albert Einstein, Max Planck and Wolfgang Pauli, were struck by the order, beauty and harmony of the universe, suggesting an inherent intelligence and mathematical design to the cosmos. “There is an intelligence inherent to the universe. That intelligence, acting through the laws of nature, is responsible for shaping the nature of things in the world. It ensures that the world is not merely a random heap of unrelated things, but an ensemble of coherently interrelated events and processes.”

At the present time there is a growing body of cosmologists who are developing theories of a completely new universe, one that is living, conscious and evolving. In *What is Reality?*, Ervin Laszlo writes: “The new vision of the cosmos reveals a universe of infinite potential, matter dancing in the quantum field, galaxies informed by a cosmic intelligence, a seamless whole that sustains and orders the diversity of life, every part driven by a relentless urge to grow and evolve.”

And, evolutionary biologist Elisabet Sahtouris has proposed a scientific model of a living universe: "There is reason to see the whole universe as alive by the definition of *autopoiesis*: a living entity being one that is in continual self-creation in relation to its surroundings. In self-organizing endless levels of size-scale and complexity, the universe or cosmos learns to play with possibilities in the intelligent co-creation of its evolving living systems."

The separation between life and non-life is essentially a human-derived mental concept which ignores the unity, wholeness and interdependence of all that exists. "The physicality of matter is not the very foundation of the universe. Beneath it is what gave it birth – the great underlying mystery from which the earth itself with its mountains, oceans, clouds, animals, and humans is born." In *The Wonder of Being*, Jeff Foster writes:

This 'tree' is not separate from the little creatures who live in it, from the nutrients and micro-organisms in the earth that it feeds on, from the moss that crawls up its side, from the raindrops that it would die without, from me, as I place my hand on its trunk, as I breathe the air that it too depends on. *Everything depends on everything*. This 'tree' is not separate from everything else. 'Tree' is not separate from the rest of reality, from everything that we call 'not tree.' Where would I draw the boundary between 'tree' and 'not tree'? Where would I slice reality? How would I ever know where to slice? Reality is a unified whole, and thought kills it, cuts it up into little bits, because thought cannot comprehend the enormity of it all, cannot begin to fathom the great *mystery* that we call life. (16)

Science is beginning to recognize that all the phenomena of nature are not isolated from each other as self-contained elements but, rather, are unified as one universal field of cosmic energy. Human beings are a 'mirror' of this underlying reality: "We are attached and engaged, indivisible from our world, and our only fundamental truth is our relationship with it. 'The field,' as Einstein once succinctly put it, 'is the only reality'."

The major discoveries of quantum physics in the early twentieth century had profound metaphysical implications. "Subatomic particles had no meaning in isolation, but only in relationship with everything else. The universe could only be understood as a dynamic web of interconnection. Time and space as we know them did not, in fact, exist. All that appeared, as far as the eye could see, was one long landscape of the here and now." In her influential book *The Field*, Lynne McTaggart writes:

For a number of decades respected scientists in a variety of disciplines all over the world have been carrying out well-designed experiments whose results fly in the face of current biology and physics. Together, these studies offer us copious information about the central organizing force governing our bodies and the rest of the cosmos. What they have discovered is nothing less than astonishing. At our most elemental, we are not a chemical reaction, but an energetic charge. Human beings and all living things are a coalescence of energy in a field of energy connected to every other thing in the world. This pulsating

energy field is the central engine of our being and our consciousness, the alpha and the omega of our existence. (17)

There is an ongoing debate in the scientific community regarding the fundamental nature of consciousness, which life forms possess consciousness, and to what degree. Some physicists such as Freeman Dyson maintain that even subatomic particles are endowed with some form of consciousness: "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."

Transpersonal psychologist Jeffrey Eisen explores these questions in his book *Oneness Perceived*: "It is a fallacy to assert that consciousness is a thing apart from life. It is not. Consciousness is inseparable from life, the whole, the part, and the part within the whole." While scientists acknowledge animal and human consciousness, and perhaps even plant consciousness, Eisen extends some level of consciousness to all manner of inorganic forms: atoms, cells, crystals, mountains, planets, stars and even galaxies:

Every form, every unit of life, is just consciousness identifying with and perceiving from its level of organization. Every unit of life, because it is a separate locus of perception, has its own self-perception, its own awareness of being what it is. Individual consciousness originates when life originates, develops as lives develop, and dies when lives die. Consciousness tracks life because consciousness is just another aspect of life. Consciousness becomes the self-perception of a life's Isness. It is as much a part of life as is the physical body. Life is a form of consciousness. We are not used to thinking that all life has consciousness inextricably associated with it . . . I suspect that the consciousness of all life shares a fundamental quality of sentience and that the primary difference between the consciousness of an amoeba, a tree, and a human is in what its sensorium and cognitorium present it to be conscious of. Simple units of life may or may not experience consciousness the way we do; however, they all act as if they are conscious. The objective criterion for consciousness is the same as the objective criterion for perception, namely active self-interest – the one criterion for life itself. (18)

Some leading scientists, in accord with traditional spiritual teachings, have recognized that life and consciousness exist throughout the universe in many different forms, and at many different levels. Educator and author John White: "Consciousness and substance coexist and interact universally on all levels of manifest reality, from the very subtle and rarified to the gross/physical. Thus, consciousness is present in the most rudimentary forms of energy and matter, even subatomic particles." White elaborates in *The Meeting of Science and Spirit*:

Who knows where consciousness begins and ends? Certainly, animals are conscious (but not self-conscious). Arthur Koestler notes in *The Ghost in the Machine* that ethologists refuse to draw a lower limit for consciousness, while neurophysiologists talk of "spinal consciousness" in lower animals and bio-

logists speak of the “protoplasmic consciousness” of protists, which are single-celled creatures without a nervous system. Exobiology suggests the probability (approaching absolute certainty) of other life forms in the universe. Since there are stellar systems significantly older than ours, it is likely that some life forms are more highly evolved than *Homo sapiens*, and thus possess higher consciousness . . . Some religious and philosophical traditions hold that all creation, even so-called inorganic matter, have a primal form of sentience or awareness. From their points of view, consciousness is everywhere and is the foundation of all existence – the organizing principle behind the physical universe. (19)

Physicist David Bohm, a colleague of Einstein, has questioned the traditional clear distinction between inanimate matter and life by posing “a single ground common to both.” This primal, universal flux or ‘holomovement’ is an undivided wholeness or totality, which is ultimately undefinable and immeasurable. “In its totality, the holomovement includes the principle of life itself. Indeed, the holomovement which is ‘life implicit’ is the ground of both ‘life explicit’ and of inanimate matter. This ground is what is primary, self-existent and universal.” In *Wholeness and the Implicate Order*, he writes:

Let us begin by considering the growth of a living plant. This growth starts from a seed, but the seed contributes little or nothing to the actual material substance of the plant or to the energy needed to make it grow. This latter comes almost entirely from the soil, the water, the air and the sunlight. According to modern theories the seed contains *information*, in the form of DNA, and thus information somehow ‘directs’ the environment to form a corresponding plant. In terms of the implicate order, we may say that even inanimate matter maintains itself in a continual process similar to the growth of plants . . . We may compare this to a forest, constituted of trees that are continually dying and being replaced by new ones. If it is considered on a long time-scale, this forest may be regarded likewise as a continuously existent but slowly-changing entity. So when understood through the implicate order, inanimate matter and living beings are seen to be, in certain key respects, basically similar to their modes of existence . . . As the plant is formed, maintained and dissolved by the exchange of matter and energy with its environment, at which point can we say that there is a sharp distinction between what is alive and what is not? Clearly, a molecule of carbon dioxide that crosses a cell boundary into a leaf does not suddenly ‘come alive’ nor does a molecule of oxygen suddenly ‘die’ when it is released to the atmosphere. Rather, life itself has to be regarded as belonging in some sense to a totality, including plant and environment. (20)

In *The Holographic Universe*, Michael Talbot elaborates on Bohm’s thesis that consciousness and matter are inseparable, and it is meaningless to speak of consciousness and matter as inter-acting in some physical sense:

In fact, Bohm believes that consciousness is a more subtle form of matter, and the basis for any relationship between the two lies not in our own level of reality, but deep in the implicate order. Consciousness is present in varying degrees of enfoldment and unfoldment in all matter, which is perhaps why plasma possesses some of the traits of living things. As Bohm puts it, "The ability of form to be active is the most characteristic feature of mind, and we have something that is mindlike already with the electron." Similarly, he believes that dividing the universe up into living and nonliving things also has no meaning. Animate and inanimate matter are inseparably interwoven, and life, too, is enfolded throughout the totality of the universe. Even a rock is in some way alive, says Bohm, for life and intelligence are present not only in all of matter, but in "energy," "space," "time," "the fabric of the entire universe," and everything else we abstract out of the holomovement and mistakenly view as separate things. The idea that consciousness and life (and indeed, all things) are ensembles enfolded throughout the universe has an equally dazzling flip side. Just as every portion of a hologram contains the image of the whole, every portion of the universe enfolds the whole . . . In principle the whole past and implications for the whole future are also enfolded in each small region of space and time. Every cell in our body enfolds the entire cosmos. So does every leaf, every raindrop, and every dust mote, which gives new meaning to William Blake's famous poem:

*To see a World in a grain of sand
And a Heaven in a wild flower,
Hold Infinity in the palm of your hand
And Eternity in an hour. (21)*

Evolution of Consciousness

Almost all contemporary cosmologists subscribe to the so-called 'standard model' of the evolution of the universe, which describes the origins and development of the cosmos in strictly physical terms:

According to the standard model in physical cosmology, a single event created the world, a nonrecurring and unexplained singularity known as the Big Bang. The universe is said to have originated in that explosive instability 13.75 billion years ago. A region of cosmic pre-space had exploded, creating a fireball of staggering heat and density. In the first few milliseconds it synthesized all the matter that populates space and time. The particle-antiparticle pairs that emerged from the cosmic pre-space collided with and annihilated each other; the one-billionth of the originally created particles that survived the collisions (the tiny excess of particles over antiparticles) constitutes what we call matter in the universe. After about four hundred thousand years photons decoupled

from the radiation field of the primordial fireball: space became transparent and clumps of matter established themselves as distinct entities. Due to gravitational attraction these clumps condensed into stars and stellar systems and created gigantic swirls that, after about a billion years, became galaxies. (22)

However, other theorists with a more spiritual bent have included consciousness as a crucial variable in the evolution of the cosmos. The evolutionary unfolding of the universe has been mapped in seven sequential stages by professor of philosophy Christian de Quincey. Following the Big Bang, matter began to organize itself into increasingly complex structures from photons to galaxies. At some point in the evolutionary journey, complex forms developed the ability to reproduce, thus giving birth to biological systems, heralding the emergence of life and eventually the capacity for self-awareness:

We could summarize the seven stages of evolution as follows:

- *First:* The plenum void of the unmanifest Metauniverse.
- *Second:* The Metauniverse instantaneously comes into physical manifestation in the Big Bang, creating time, space, and light. At this cosmic flaring forth, the randomness and chaos of this universe carries within it the “seeds” or templates of information from prior universes.
- *Third:* Using the information-templates, the new universe self-organizes amidst the surrounding chaos. From initial mass-less, charge-less photons, this universe begins to create its elementary particles, the building blocks of matter and of all the material forms to come later.
- *Fourth:* Matter eventually develops the ability to reproduce itself, and life is born.
- *Fifth:* Some life forms further develop the ability to represent themselves and other objects symbolically – thus mind and language are born.
- *Sixth:* Just moments ago in cosmic time, our species became aware of the process of evolution – and at that moment evolution became reflexively aware of itself.
- *Seventh:* Being self-aware, evolution can now choose its evolutionary path and goal, although the options available remain constrained within the inevitable cyclical birth-and-death of the universe. In time, the universe, including all its conscious creations, will return to its source, falling back into the womb of the Metaverse. (23)

The evolution and day-to-day functioning of our planet Earth provides an example of how increasingly complex, integrated systems of forms, processes and energies emerge over time, suggestive of a living, dynamic organism. Ervin Laszlo: “The world is more like a living organism than a machine. It evolves from the present toward the future on the basis of its evolution from the past to the present. Its logic is the logic of life itself: evolution toward coherence and wholeness, through interconnection and interaction.”

In *The Music of the Spheres*, visionary author Guy Murchie presents a poetic view of the Earth as a planet in evolution, “slowly developing an organ of consciousness, and just now arriving at the stage where it is capable of seeing and understanding itself.” He writes:

Our home sphere, the earth, is constantly changing. In a very real sense it is alive. Like an animal it stirs in its sleep, it “breathes” air, it grows, its wounds heal, its juices circulate, its skin metabolizes, its nerves crackle quietly with vital messages. It even rumbles with internal gas and dreams and itches a little and (through its inhabitants) feels self-conscious. This living aspect of the earth is something you don’t hear much about in geography classes, but it is hard to miss from my new space-eye view. Besides the obvious rhythms of the swirling waves of weather folding over and over each other, the steady advance of the soft twilight edge of night and the ever-changing atmospheric colors, the solid flesh of earth itself where visible seems to blush and glow with the hours. The great Western plains of wheat reflect light differently after a wide shift of wind. The green of shallow seas deepens toward blue with the rise of tides. The Gulf Stream and the jet stream change courses in the heat of an afternoon. Looking at large mountain chains, one can even sense the slow lateral movement of continents steadily pinching the loose skin of the planet. (24)

According to Ervin Laszlo, the evolutionary process is governed by a vast cosmic intelligence. “Consciousness is a fundamental element of the universe. The energy that gave birth to the universe is a cosmic intelligence that is manifest in all phenomena.” In *The Intelligence of the Cosmos*, he writes:

It is very clear that during the billions of years of the evolution of life on planet Earth there has been a gradual trend to create ever more complex and coherent forms of life. And thanks to the work of brilliant scientific minds it can now be shown that this could not have come about by chance. Mathematical physicist Fred Hoyle said that the probability that new species could emerge through a chance mutation of their genes is comparable to the probability of a hurricane blowing through a scrapyard would assemble a working airplane. And so we must accept that there is an Intelligence driving the process, that the universe and life on Earth are inspired and in-formed by an unknown and unknowable Creator, a Supreme Being, a Great Spiritual Power – or the Intelligence that is Intrinsic to the cosmos. (25)

In the new cosmology, consciousness is viewed as a universal phenomenon and an integral part of reality. Consciousness and matter co-evolve to create greater and greater levels of complexity, perception, and awareness – all attributes of life. Such a living, conscious cosmos expresses itself as a vast Intelligence with the ability to organize, self-create and evolve.

Deepak Chopra and professor of physics Menas Kafatos argue that consciousness has been present as an essential feature of the universe since the beginning of time and that we live in a

conscious universe: "Life has always existed as pure consciousness. Every property that has emerged in living things has its source as unmanifest potential, primary intelligence, creativity, and the evolutionary impulse. Being nonlocal, the field of infinite possibilities has no beginning. Therefore, life has no beginning either." They present their case in *You Are the Universe*, writing:

Question: Do we live in a conscious universe?

Answer: Yes. But this won't make any sense if your notion of a conscious universe is filled with thoughts, sensations, images, and feelings. Those are the contents of the mind. Remove the contents and what remains is pure consciousness, which is silent, unmoving, beyond time and space, yet filled with creative potential. Pure consciousness gives rise to everything, including the human mind. In that sense, we don't live in a conscious universe the way renters occupy a rental property. We participate in the same consciousness that is the universe. (26)

Nobel prize-winning physicist Max Planck understood the primacy of consciousness and Cosmic mind in the creation and maintenance of the physical world: "All matter originates and exists only by virtue of a force. We must assume that behind this force is the existence of a conscious and intelligent Mind. This Mind is the matrix of all matter."

Consciousness cannot be fabricated, which makes it possible to reinvent the universe, not as a place where consciousness somehow got cobbled together on lucky planet Earth two-thirds of the way out from the center of a galaxy called the Milky Way, but as a place where consciousness is everywhere. Many will concede that nature acts in mind-like ways, but they cannot swallow the proposition that the universe behaves *exactly* like a mind. Schrödinger had accepted this impasse almost a century ago, when he declared that it makes no sense to subdivide consciousness. If it exists at all, it exists everywhere, and, we would add, at all times . . . The brain is doing nothing special that isn't happening throughout the universe. Why is the human mind creative? Because the cosmos is creative. Why did the human mind evolve? Because evolution is built into the fabric of reality itself. Why do our lives have meaning? Because nature proceeds with a drive toward purpose and truth . . . reality is trying to tell us something new. It's saying that the cosmos needs to be redefined. All the taboo words rejected by physicalism – *creativity, intelligence, purpose, meaning* – have gained a new lease on life. In fact, we have shown that they are the cornerstone of a conscious universe expressly created for the evolution of the human mind. (27)

By understanding the nature of cosmic evolution, we can place humanity in the great scheme of things as manifestations and co-creators of universal order, harmony and purpose. According to Jude Currivan, author of *The Cosmic Hologram*, human beings are microcosms of the infinite and eternal intelligence of the Cosmic Mind:

Each of us is a microcosmic and unique expression playing our own co-creative role in the unfolding self-awareness of the consciousness of our finite Universe and ultimately of the infinite Cosmos. While this has historically been seen solely as a religious, or more correctly, a spiritual perception, this limitation is no longer the case. Instead, the emergent viewpoint of the cosmic hologram that scientific discoveries are increasingly revealing arrives at this same conclusion. God isn't "out there," a creator of the Universe and its creations. Instead, the greatest breakthrough we may make as human beings in the twenty-first century is to recognize that we and everything that we call reality in all dimensions and realms of existence are God, or whatever term we choose for the infinity of cosmic mind, and that we are microcosmic co-creators of the ineffable reality. (28)

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