



DUANE ELGIN

BESTSELLING AUTHOR OF *VOLUNTARY SIMPLICITY*

THE **Living** Universe

WHERE ARE WE? WHO ARE WE? WHERE ARE WE GOING?

FOREWORD BY **DEEPAK CHOPRA**

An Excerpt From

***The Living Universe:
Where Are We? Who Are We? Where Are We Going?***

by Duane Elgin

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Contents

Foreword by Deepak Chopra ix

Preface and Acknowledgments xi

Introduction: The Great Awakening 1

A Personal Perspective • Living in a Dead Universe • Cosmophilia: Love of the Universe • Does Aliveness Make a Difference?

Part One: Where Are We?

Chapter 1: The First Miracle 19

We Are Giants • The Nearly Invisible Universe • Just Getting Underway • Our Intuitive Connection with the Cosmos • Imagine Building a Universe

Chapter 2: The Science of a Living Universe 33

A Unified Universe • An Ocean of Background Energy • A Continuously Regenerated Universe • Sentience at Every Level • Freedom at the Foundations • Able to Reproduce Itself • An Integrative View from Science

Part Two: Who Are We?

Chapter 3: Spirituality as Intimacy with a Living Universe 59

Judeo-Christian Views • Islamic Views • Hindu Views • Buddhist Views • Taoist and Confucian Views • Indigenous Views • Western Views • Harvesting the Wisdom of Human Experience

Chapter 4: The Mother Universe 83

The Meta-Universe in Science • The Mother Universe in Wisdom Traditions • An Integrative View • Growing in the Mother Universe

Chapter 5: The Soul's Body and Our Cosmic Identity 93

The Size of Our Soul • Qualities of the Soul's Body • A Body of Light • A Body of Music • A Body of Love • A Body of Knowing • Recognizing Ourselves Before We Die

Part Three: Where Are We Going?

Chapter 6: Where Is the Universe Going? 117

Life Within Life Within Life • Growing Self-Organizing Systems
• Humanity's Central Project • A Garden for Growing Life

Chapter 7: Humanity Is Halfway Home 131

Humanity's Heroic Journey • Humanity's Journey of Separation
• Our Supreme Test and Time of Initiation • Humanity's
Journey of Return • The Second Axial Age • Awakening into the
Living Universe • Stage I: Reflective Consciousness • Stage II:
Oceanic Consciousness • Stage III: Flow Consciousness

Part Four: Actions for the Journey Ahead

Chapter 8: Six Vital Tasks for the Journey Home 159

Co-Creating Our Story of Awakening • Cultivating Reflection
and Reconciliation • Living Simply and Sustainably • Creating
New Kinds of Community • Becoming Media-Conscious
Citizens of the Earth • Bringing Our True Gifts into the
World • The Promise of the Journey Ahead

Chapter 9: Living in a Living Universe 189

Meditations • Conversations

Notes 201

Index 219

About the Author 227

Foreword

by Deepak Chopra

As a physician, I am concerned with healing. In my view, the more we are in touch with the universe we come from, the more we will be able to heal ourselves and at the same time heal our planet. We are an integral part of a living and intelligent universe. Not only is the universe alive, it is imbued with consciousness. The universe wants to live and breathe through you. To find out the truth of this, you need to relate to the universe as if it were alive. Otherwise, how will you ever know that it is? Today, begin to adopt the following habits:

Talk to the universe.

Listen for its reply.

Be on intimate terms with Nature.

See the life in everything.

Carry yourself like a child of the universe.

Duane Elgin writes about our living universe as an evolutionary pioneer. He has been an explorer of scientific knowledge and spiritual understanding for more than four decades. He has worked on a Presidential Commission looking into the deep future; helped pioneer sustainable ways of living with his book *Voluntary Simplicity*; developed a stunning view of the big picture of the human journey in *Awakening Earth*; co-founded three non-profit organizations working for media accountability and citizen empowerment, and more. The uniqueness and span of this book reflect Duane's wide-ranging life journey.

The Living Universe is written with elegant simplicity and yet it addresses our most important existential dilemmas.

Where are we? Who are we? What journey are we on? Step-by-step he offers us new insights about ourselves and our human journey. At the foundation is the understanding that we are each an expression of a living universe. The universe is conscious, self-regulating, self-creating, ever-renewing, and always evolving to increasing levels of complexity and creativity.

Through us (the human nervous system), the universe is becoming increasingly aware of itself. We are beings of light, love, music, and happiness. We are evolving toward unity consciousness where we experience ourselves as cosmic beings participating in the evolution of the universe. If we consciously participate in this evolutionary process, we can heal the rift in our collective soul and bring creative solutions to poverty, social injustice, war, terrorism, and ecological devastation. If we ignore the call to our collective awakening, we put at risk the future of human civilization on our precious planet. The choice is ours.

It is my hope that the human family rapidly awakens itself to the reality that we live in a living universe. The human body is part of the cosmic body. The human mind is part of the cosmic mind. Awakening to this cosmic dimension of ourselves is profoundly restorative. With that experience and understanding, we bring healing to our wounded planet and a new sense of adventure to the human journey.

Duane has written an important book because, at this pivotal time when we are separated by so many differences, it is vital that we discover our common ground as a species. A widely shared understanding that we all live in the same living universe provides the foundation for positive visions of the future that offer beacons of hope to pierce the darkness of the world's gathering storms.

The Great Awakening

*The universe is a communion and a community.
We ourselves are that communion become conscious of itself.*

—THOMAS BERRY¹

Is the universe non-living at its foundations? If it is dead and without consciousness in its underpinnings, then it is unaware of—and indifferent to—our existence. What do you think? Are we strangers in a strange land, unwelcome outsiders?

What if, instead, the universe is alive at its deepest foundations? If there is a permeating field of aliveness and an ecology of consciousness throughout the universe, what does that mean for our life and life purpose?

You may wonder, with the challenges of climate disruption, energy shortages, wars over resources, deep poverty, and more, why should you care about the universe and our connection with it? My answer is that we humans need to step back and get our bearings.

The dream of material prosperity is becoming a collective nightmare as we overwhelm the Earth with our sheer numbers and

our voracious appetites as consumers. With growing urgency we are being pushed to imagine new ways we can live together agreeably and sustainably on this planet. Yet we find ourselves without a compelling sense of direction. It feels as if we are wandering into history—alienated from the Earth, from one another, and from the universe. We are lost. Where do we find a way forward that articulates a common journey for the human family?

I believe we must look beyond devising solutions to the energy crisis or the climate crisis, although that is important. Possibly the most fundamental challenge facing humanity is to look beyond adversity and visualize futures of great opportunity. In a self-fulfilling prophecy, we actualize who we think we are. The archetypes and stories we present to ourselves act as beacons guiding us into the future. To explore potential guiding images, let us step back, draw upon the deepest wisdom that humanity has to offer, and ask three fundamental questions:

1. **Where are we?** Although there is a natural inclination to start with ourselves, it is important to begin with the question of where we are rather than who we are. When we start with ourselves, we tend to assume that our physical body defines who we are, and from this a cascade of consequences flow—giving us the kind of world we have now. If we begin, not with ourselves, but with *where* we are, and if we freshly open to the universe and ask what kind of place this is, then we may be led to a larger understanding; we may see that we are more than biological beings—that we have a cosmic connection as well.

Let's look at the universe in which we live and ask this core question: Do we live in a living or non-living universe? Einstein said if he could ask God one question, it would be "Is the universe friendly or not?" This book asks an even deeper question: Is the

universe *alive* or not? The way we answer this simple question has profound implications for whether we experience life with feelings of alienation or belonging, see it as pointless or purposeful, and regard it with feelings of indifference or reverence.

2. **Who are we?** Having looked at the universe in which we live, we can now ask: Are we beings limited to our physical biology or do we somehow participate intimately with the larger universe? Our collective self-image as a species has yet to form, but it will emerge vividly within the next few decades as the communications revolution intersects with the perfect storm of an unyielding, whole-systems crisis for the Earth. This unfolding crisis will force us to take a hard look at ourselves in the mirror of our collective media and ask “Who are we as a species?” Are we no more than bio-physical beings in a struggle for material survival—or do we have a cosmic connection and purpose that calls us to awaken to a vastly larger potential?

3. **Where are we going?** Is there a discernible direction to life and evolution? Without a dramatic change in direction, humanity is headed toward catastrophe. The changes required for humanity to live sustainably on the Earth are so broad, so deep, and so far-reaching that if we are to avoid a global calamity it is crucial that we discover “great stories” that can align and orient our journey into the future. Is there a story of our awakening as a species with such compelling promise that it overcomes our fears and our historical inertia?

A Personal Perspective

To bring a more personal perspective to these questions, I want to share a few experiences that have been important threads in the tapestry of my life. Connecting with the miracle of aliveness has been a

passionate interest since growing up on an Idaho farm in the 1940s and 1950s. I was born prematurely to my mother, a nurse, and my father, a farmer. We lived in the country with my brother, two dogs, a half-dozen cats and assorted farm animals a couple of miles outside of a small town of about five hundred people. Growing up in the big sky country of Idaho, I felt myself a small creature against a vast landscape. Because I worked on the farm until my early twenties, my roots are in the land, and I feel as much a sense of identity as a farmer as I do a scholar, educator, or activist.

Some of my earliest recollections are of lying on the living room floor and watching sunbeams pouring through a window and moving across the rug, their golden rays bringing a living presence and nurturing aliveness into the room. As a young man, farm life brought me the gift of deep silence in a setting where subtle ecstasies would regularly blossom: the smell of freshly mown hay, the fragrance of dry earth moistened by a brief summer shower, the Sun setting over distant mountains. When alone, I would sometimes lie down in a furrow to experience the earth and the sea of flourishing crops. I recall lying down in a field of lettuce, nearly covered by its abundant leaves, and absorbing the humming aliveness of the earth, the fields, and the sky above me. Irrigating crops, pruning apple trees, tending farm animals—these were regular invitations to celebrate nature’s miracle of luminous aliveness. Like water seeping into a dry sponge, over many seasons a nameless and palpable presence gradually permeated me.

In my early twenties I moved to the city, where I felt a deep separation from the familiar aliveness of my farming days. In 1971, I was working in Washington, D.C., as a senior staff member of a joint presidential-congressional commission on the American future. Thoughts about the aliveness of nature were set aside as we

focused on the next thirty years and issues of population growth, urbanization, and the shortage of critical resources like water. Although intuitions of a living universe still resonated within me, in the intense world of politics they seemed a soft sensibility to be disregarded. Still, I was conflicted. Was the living presence I experienced on the farm in Idaho just my imagination? Or, did the invisible aliveness permeate even the coarse world of Washington politics? How important was something so hard to grasp and yet so rich with felt experience?

After two years in Washington and disillusioned with the politics of power, I wanted a fresh start. With my family I moved to the San Francisco Bay Area and began to work with a small team of senior researchers in the “futures group” of SRI International, one of the largest think tanks in the world. For the next five years, we studied the long-range future for both government agencies and corporations. During this time I co-authored the book *Changing Images of Man* with a small team that included the eminent scholar Joseph Campbell. Our research explored archetypal images that serve as beacons to guide the human family into the future. Another project involved a yearlong study of future global problems for the president’s science advisor. Still another project for the Environmental Protection Agency involved looking ahead twenty-five years and projecting an array of alternative scenarios and their implications for U.S. environmental policy. All of this research led me to the stark realization that our world is moving into a time of profound change in the ways we live on the Earth and see the universe, ourselves, and the human journey.

While engaged in researching the long-range future, I was also involved in an intense meditation practice grounded in Tibetan Buddhism. Then, in an unexpected turn of events, I became a

subject in the earliest psychic research at SRI on behalf of the National Aeronautics and Space Administration. These scientific experiments gave me a way to explore over a period of nearly three years, in my direct experience, the fundamental question raised here: Is the universe a living system? Combining intensive meditation with equally intensive laboratory experimentation gave me an unusual learning opportunity. This book is grounded in the confidence of these years of combined inner and outer inquiry.

The SRI research on the global future made it emphatically clear that the world would soon encounter unyielding limits to current levels and patterns of growth. Seeing this, I wanted to do more than watch from the sidelines of history, so I left SRI in order to meditate and advocate for creative change.

Meditation took the form of a half-year of self-directed reflection and contemplation in my cottage. This culminated in a transformative experience that has reverberated through my life ever since (described in my book *Awakening Earth*, Appendix II). Insights from this half-year of meditation are reflected throughout this book.

My advocacy for change has included writing three editions of the book *Voluntary Simplicity* and speaking around the world on themes of building a sustainable future. I've also co-founded three non-profit organizations doing non-partisan work for media accountability and citizen empowerment.

Looking back, these diverse life experiences have given me a range of perspectives for looking at the world. So far, I have lived in at least three different perceptual paradigms. I grew up in the mindset of the agrarian era—on a farm where the experience of life was dominated by the seasons and cycles of nature. I then moved into the mindset of the industrial era as I watched our family farm grow into a small agribusiness and we moved from the farm into a nearby

town. I then moved into the mindset of the communications era when I began doing research on long-range futures and advocating for a more conscious democracy. I've seen how each paradigm develops logically from the last, and each has its unique way of regarding the world and one's self.

Like myself, I believe many people may be living with a foot in at least two worlds: straddling two or more different paradigms of perception and struggling to make sense of the universe. Perhaps you, like me, feel pulled between opening with vulnerability to the subtle aliveness of the natural world and protecting your experience of aliveness from the deadness of a materially obsessed culture.

Before exploring the idea of a living universe, it is important to acknowledge its antithesis—an extreme view that regards the universe as non-living or dead at its foundations. I believe that seeing the universe as mostly dead matter, empty space, and devoid of life represents an important stage in humanity's individuation and empowerment. I also believe this is not the whole story, just one chapter in a much larger story of our awakening—and eventual return—to a living universe.

Living in a Dead Universe

For perspective, it is important to look carefully at the perceptual paradigm of a dead universe. Particularly in the world of science, it is not uncommon to encounter the view that we live in a universe that, at its foundation, lacks feeling, consciousness, and vitality. This view is clearly expressed, for example, by Susan Blackmore, an author on human consciousness, who said: “We live in a pointless universe. We're here for no reason at all. There isn't a soul. There isn't a spirit. We're not going to live forever in some kind of heaven

. . . there are no paranormal phenomena, although I can't be sure of that.”²

Blackmore provides a stark description of a non-living or dead universe—and she is not alone.³ This has been the established view of many scientists for three centuries. For more than 300 years, science has viewed the physical universe as “all there is”: all that exists are various combinations of inert matter and to suggest otherwise is to regress into superstition. Matter, at the atomic level, is assumed to lack any kind of inherent vitality. In turn, aliveness, thought, and feelings are phenomena that mysteriously arise when matter evolves to high levels of complexity in its physical organization and creates beings like ourselves. All of existence is explained solely in material terms (except for the part about life spontaneously organizing itself and becoming conscious of itself). There appears to be no need for an invisible consciousness because the workings of the entire universe are explained through the workings of matter. Because human aliveness, thought, and feeling are assumed to have emerged from chemical reactions between non-living matter, the death of the physical body is seen as the end of consciousness. Understandably, in this view of the universe, more “basic” forms of matter (atoms and molecules) are thought to have no vitality or consciousness of any kind.

If the foundations of the universe are regarded as non-living, then “life” seems to have emerged only recently as matter somehow managed to organize itself into ever-higher levels of complexity—evolving from atoms to molecules to cells to organisms. Consciousness, or a knowing capacity, is viewed as a biological phenomena located in the physical brain.

If we assume the universe is non-living and without sentience at its foundations, it is natural to further assume there is no higher

purpose or meaning to life. Love and happiness are no more than chemical reactions in the body and have no other meaning or significance. There is no prospect of a future beyond our physical existence. Because the universe will disperse and the stars burn out, all life will eventually die off and be forgotten, meaning nothing. Material possessions and accomplishments are the primary expression of one's identity, and thus an important source of happiness.

In this matter-only view of the universe, it is only logical to conclude that the most intensely living (we humans) have the right to exploit that which is dead (matter and the rest of nature) for our own purposes. Nature is our warehouse, filled with resources for our use. How should we relate to the world? By exploiting that which is dead (nature) on behalf of the living (ourselves). A tendency toward materialism, hedonism, and the exploitation of nature are predictable outcomes from a dead-universe perspective.

Despite its bleak outlook, a dead-universe perspective represents a critically important stage in humanity's long journey of awakening. In pulling back from nature and pulling apart from one another, we have also become much stronger and more differentiated as individuals. My sense is that we humans have separated ourselves as far from union with nature as we will ever go. Now we have little choice: If we are to continue to evolve and realize our potentials as a species, we *must* become conscious of our partnership with nature and one another.

Although the transition to industrial society and hyper-rationalism have largely severed it, I believe we are opening to a new level of connection with nature, particularly in science. From the electron microscope to the Hubble telescope to the human genome, we are transforming how we look at and understand the universe and ourselves. The more we look, the more we are finding the

universe to be a place of breathtaking immensity, astonishing subtlety, and unfathomable mystery.

Cosmophilia: Love of the Universe

The term *biophilia* was first used by Erich Fromm to describe a psychological connection and sense of affiliation between humans and other forms of life. The eminent biologist, E. O. Wilson, has popularized this term and used it to describe our innate urge to affiliate with other living things. In feeling a sense of kinship and connection with other forms of life, we take a quantum leap forward in our motivation to care for all living things.

We can expand this feeling of connection and appreciation of life to the entire *cosmos*—a word that was first used by the Greek philosopher Pythagoras to describe our universe as a living embodiment of nature's order, harmony, and beauty. Building upon the concept of biophilia, we can create the word *cosmophilia*. Cosmophilia describes the kinship and affiliation we feel with the totality of nature and our experience of felt connection with the harmony and beauty of our universe. Our relationship with the universe involves both biophilia (love of other living things) and cosmophilia (love of the universe in its wholeness).

Naturalists have looked deeply into the nature of the universe and have come away in awe of her beauty and aliveness:

Climb the mountains and get their good tidings. Nature's peace will flow into you as sunshine flows into trees. The winds will blow their own freshness into you, and the storms their energy, while cares will drop off like autumn leaves.

—JOHN MUIR, EXPLORER AND NATURALIST

I believe in God, only I spell it Nature.

—FRANK LLOYD WRIGHT, ARCHITECT

A feeling of profound and intimate connection with nature and the universe is a theme that emerges from reflections by astronauts:

On the return trip home, gazing through 240,000 miles of space toward the stars and the planet from which I had come, I suddenly experienced the Universe as intelligent, loving, harmonious.

— EDGAR MITCHELL

When I was the last man to walk on the moon in December 1972, I stood in the blue darkness and looked in awe at the Earth from the lunar surface. What I saw was almost too beautiful to grasp. There was too much logic, too much purpose—it was just too beautiful to have happened by accident.

— GENE CERNAN

There is a vivid feeling of connection and communion that we can experience with nature at every scale—from a small flower to a galaxy. With cosmophilia, we feel our direct immersion in the subtle field of aliveness and energy that permeates the universe.

That we live in a living field of existence is an ancient insight. Only in the last few hundred years has science disengaged the modern mind from this view by asserting that matter is lifeless and space is but an empty stage. Now the tools of science are bringing into question the assumption of a non-living universe. Just as we are beginning to consider whether the Earth is a unified, living organism, we are also beginning to ask whether the universe is a single,

integrated, life-form. The meaning of the phrase is complex, but a useful definition is that *a living universe is a unified and completely interdependent system that is continuously regenerated by the flow-through of phenomenal amounts of life energy whose essential nature includes consciousness or a self-reflective capacity that enables systems at every scale of existence to exercise some freedom of choice.* We will consider all of these characteristics and more in Chapter 2.

Does Aliveness Make a Difference?

What difference does it make if the universe is dead or alive? When children are starving, climate is destabilizing, oil is dwindling, and population is growing, why is it important to put our attention there? So what if we live in a living universe—why should that matter? Below are a few of the core reasons why it makes a profound difference whether we regard the universe as dead or alive. I'll present these polarities in stark terms to make the contrasts clear.

Is the universe indifferent or welcoming? How we feel about the surrounding universe has an enormous impact on our experience of life. If we think of the universe as dead at the foundations, then feelings of existential alienation, anxiety, dread, and fear are understandable. Why seek communion with the cold indifference of lifeless matter and empty space? If we relax into life, we will simply sink into existential despair. However, if we live in a living universe, feelings of subtle connection, curiosity, and gratitude are understandable. We see ourselves as participants in a cosmic garden of life that the universe has been patiently nurturing over billions of years. A living-universe perspective invites us to shift from indifference, fear, and cynicism to curiosity, love, and awe.

Are we forgotten or remembered? A non-living universe is without consciousness at its foundations so it is indifferent to humanity and our evolving creations. Nothing we do will ultimately matter. All will be forgotten. A dead universe has no deeper purpose or meaning. It does not matter whether it is a person or an entire world civilization, the same principle applies: a dead universe tells no stories. A living universe is itself a vast story continuously unfolding with countless unique characters playing out gripping dramas of awakening. The essence of these stories and the learning from them is remembered and conserved so that an evolving universe has wisdom to pass along to her offspring.

Pull apart or pull together? If we see the universe as mostly barren and devoid of life and our time on Earth as primarily a struggle for material existence, then it makes sense that we humans would pull apart in conflict. However, if we see the universe as intensely alive and our time on Earth as a journey of discovery into that aliveness, then it makes sense that we would pull together in cooperation in order to realize this magnificent potential.

Consumerism or conscious simplicity? Materialism is a rational response to living in a dead universe. In a material universe, consumerism offers a source of identity and a measure of significance and accomplishment. Where do I find pleasure in a non-living universe? In things. How do I know that I amount to anything? By how much stuff I have accumulated. How should I relate to the world? By exploiting that which is dead (the universe) on behalf of the living (myself). Consumerism and exploitation are natural outcomes of a dead-universe perspective. However, if we view the foundations of the universe as being intensely alive, then it makes

sense to minimize the material clutter and needless busyness and grow in the non-material riches of life—nurturing relationships, caring communities, creative expressions, and more.

Are we separate or inter-connected? If we are no more than biological entities and we are fundamentally separate from one another, then it makes sense to see ourselves as disconnected from the suffering of other living beings. However, if we are all swimming in the same ocean of subtle aliveness, then it makes sense that we would each have a direct experience of communion with, and concern for, the well-being of others. If we share the same matrix of existence, then the rest of life is already touching me, co-creating the field within which I exist.

Who and what are we? Are we no more than a collection of elements that are experiencing a series of chemical and neurological reactions? Is there more to ourselves than our material-biological components? In a dead universe, the boundaries of our being are defined by the extent of our physical body. However, in a living universe, our physical existence is permeated and sustained by an aliveness that is inseparable from the aliveness of the universe. If we are beings whose consciousness can extend beyond our biological bodies and into the reaches of the living universe, then our physical bodies comprise only the smallest fraction of the full scope of our being.

These are just a few of the fundamental ways that our approach to life can be radically different depending on which of these two perspectives seem most real. Everyday life, of course, is not so clear-cut

as these polarities suggest. The important point is that, whether we regard the universe as dead or alive at its foundations has enormous consequences for our future, both individually and collectively.

Overall, I do not believe that the human community can come to a new relationship with one another and the Earth unless we also come to a new relationship with the universe. Life-changing consequences flow from this new perspective.

Part One

Where Are We?

The First Miracle

*Nature is incomprehensible at first,
Be not discouraged, keep on,
There are divine things well envelop'd,
I swear to you there are divine beings
More beautiful than words can tell.*

—WALT WHITMAN¹

American Indian lore speaks of three miracles. The first miracle is that anything exists at all. The second miracle is that living things exist. The third miracle is that living things exist that *know* they exist. As human beings conscious of ourselves, we represent the third miracle.²

In celebrating ourselves, it is important that we not overlook the first miracle: the natural world which is our home. When we overlook the first miracle and do not feel at home within the larger universe it is impossible for us to feel at home within ourselves or with one another. The journey home, reconnecting with the first miracle of the universe around and within us, is a theme woven through this book.

In our long evolutionary ascent toward the third miracle of knowing ourselves, we have been pulling back from our connection with nature and the first miracle. I believe this has been a natural and purposeful process. The human family is on a collective journey to awaken and, in the initial phase, our evolutionary task was to separate ourselves from nature and to develop our sense of individuality and empowerment. We have now succeeded so well and become so empowered that we are disrupting the climate, depleting precious resources, spreading weapons of mass destruction, and overpopulating the Earth. We are hitting an evolutionary wall and being pushed by necessity—and pulled by opportunity—to make a great turn in our evolutionary journey. How do we find our way back to the living universe? How can we visualize ourselves at home in the universe?

To expand our appreciation of the universe, let's consider four observations from science that set the stage for a more systematic inquiry in the following chapter. These four insights always fill me with awe.

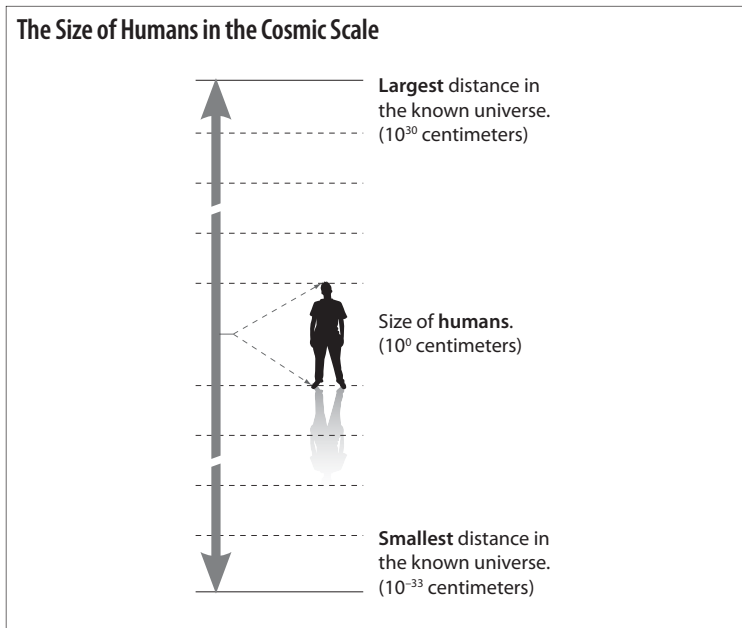
We Are Giants

When we gaze at the enormity of the universe, with its billions of swirling galaxies, it seems natural to conclude that we are very small. When we see a universe that extends trillions upon trillions of kilometers, it is reasonable to think we are insignificant in the cosmic scale of things. However, this commonsense view of ourselves is radically mistaken. We are not small creatures. In the overall scale of the universe, we are giants!

Imagine you have a ruler that measures from the largest scale of the known universe to the smallest. At the largest, we see hundreds of billions of galaxies, each containing billions of stars like our Sun.

At the smallest, we travel deep within the core of an atom to the world of quarks, and then farther, to the foundations of existence and what is called the “Planck distance.”³ If we were to place humans on that ruler, we would fall roughly in the middle zone.⁴ Actually, we are a bit on the larger side, as shown in the accompanying illustration. The stunning insight from science is that *there is more smallness within us than there is bigness beyond us*.

In the cosmic scheme of things, we are actually enormous creatures who live in the middle range of the spectrum of cosmic existence. Thinking we are small represents a profound misperception. Just as we are stunned by the immensity of our universe, we should be equally amazed to learn of our own enormity. The universe reaches into unimaginably minute realms within us. We think of the realm of atoms as small, but there is a vast distance from the



size of atoms to the truly infinitesimal realms at the foundations of existence. It seems likely that a vast amount of harmonizing activity is occurring in the immensity that lies between the realm of atoms and the realm of the truly small.

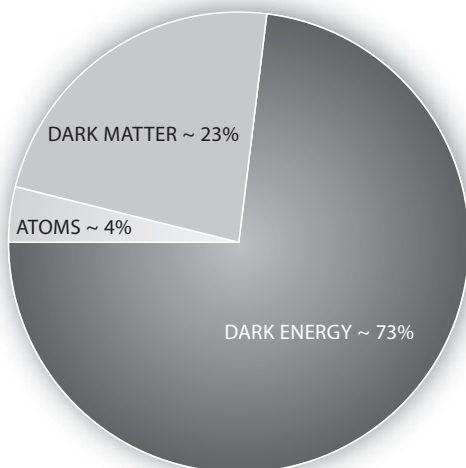
Scientists consider our size as humans to be optimal for who we are. If we were significantly smaller, we would not have enough atoms to become the complex and intelligent creatures we are. If we were significantly larger, our nervous system would not operate fast enough to support rapid communication within our bodies. In the cosmic scale, we seem to be just the right size.⁵

Because we are giants, living in the mid-range of the cosmic scale of existence, we should not be surprised that we overlook much that happens on the smaller, more refined scale of the universe. As giants, it is easy for us to fail to notice the intense activity at the ultra-microscopic scale of the universe.

The Nearly Invisible Universe

Scientists long assumed that *visible* forms of matter and energy make up the universe. Recently, they were stunned to discover that an overwhelming preponderance of the universe is invisible. It is a scientific fact that we don't know what 96 percent of the universe really is. Scientists currently describe two major kinds of invisible energies in the universe. One is a contractive force called *dark matter* and the other is an expansive force called *dark energy*. They are called "dark" because they cannot be seen and measured by any direct means. Dark matter is thought to comprise roughly 23 percent of the universe.⁶ The invisible mass of dark matter provides the gravitational field needed to keep whirling galaxies from flying apart as they spin. Dark energy is thought to comprise roughly 73 percent of the universe. This in-

The Composition of the Universe



visible energy permeates the universe and is causing it to inflate or expand from within at an increasing rate.⁷ The remaining 4 percent comprises the entire visible universe of planets and stars.

If nearly all the universe is invisible, undetectable, and currently unknown, then we must expand our everyday understanding of the word “universe” accordingly. It is important to remember that, throughout this book, the word universe refers to much more than the familiar ingredients of matter and energy, because they constitute only a small fraction of a much larger reality.

If 96 percent of the known universe is invisible, then how much of ourselves is invisible and not detectable by material technologies? How far do we extend into the deep ecology of the invisible universe? Because we are an integral part of the universe, a large part of

ourselves may well be connected with and operating in these invisible realms. The roots of our being reach deep.

Just Getting Underway

For centuries people looked at the world around us and assumed that it was a place of only three dimensions. Roughly a hundred years ago Einstein identified the fourth dimension—time—and the fabric of the universe came alive as a dynamic field. No longer is there such a thing as space, there is only *space-time*. A century later, cosmologists are further expanding the fabric of reality with string theories of eleven dimensions and more.⁸ Indeed, many cosmologists now assume that the universe may have a countless number of additional dimensions. This is a stunning insight because each progressively larger dimension seems to offer dramatically new levels of freedom for life to express itself.

Although we may seldom think about dimensions, they are basic to the way reality works. Dimensions are far more than dry mathematical concepts—they are the invisible organizing substructures within which we exist. The miracle that anything exists at all depends upon dimensions to provide the organizing framework within which things can manifest in a coherent manner. Despite the pervasive dynamism of the universe, it holds together and presents itself as the stable, predictable world we see around us. Dimensions provide an invisible framework that keeps everything in its proper place and time (space-time), and bring coherence to the dynamism of the universe.

We can infer the presence of additional dimensions in the expansion of the universe. The popular image of the Big Bang is that of an explosion hurling matter out in all directions. This is misleading because it evokes the image of a pre-existing empty space

into which matter is expanding. A more accurate image is that our universe is growing from the inside out, everywhere at once, with galactic islands using their gravitation to hold themselves together against the opening flow. It is the growing “roominess” of the universe, as the fabric of space-time expands, that produces the growing separation of galaxies. Because the fabric of space-time seems able to expand indefinitely, it points to the presence of even more spacious dimensions to accommodate this elasticity.

Assuming cosmologists are correct that there are an enormous number of additional dimensions, it is both important—and humbling—to recognize that we are not living in the 3,000th dimension or 300th dimension or even 30th dimension. We live in the third and fourth dimensions, at the very beginnings of existence, just a few steps above a black hole, or the collapse of reality into a single dimension. We live in a highly constricted reality, with an immensity of freedom and evolutionary opportunity beckoning us from more spacious dimensions. *We thought we were at the culmination of evolution, and we are now discovering that we are only at the beginning.* We are just moving out of the zone of collapse of matter into a black hole, and moving into the zone where life can encounter itself, know itself, and evolve itself. Vastly larger ecologies of life and learning likely exist in the spaciousness beyond our few contracted dimensions. Instead of the end of our journey, we seem to be at the very beginning of a voyage into infinity. It is a theme we will explore throughout this book.

Our Intuitive Connection with the Cosmos

Another remarkable discovery emerging from science is that we are not cut off from the rest of the universe. A core theme throughout this book is the idea that we each have an intuitive connection with

the cosmos, even though it may be largely unrecognized and undeveloped. The respected author and researcher Dean Radin did an exhaustive analysis of psi research involving more than eight hundred studies and sixty investigators over nearly three decades.⁹ After weighing the collective evidence from all these studies, he concluded that we do participate in a subtle field, or ecology, of consciousness where we can both “send” and “receive.” These results are borne out in people’s everyday experience. For example, surveys of the American adult population show that two-thirds say they have had an experience of extrasensory perception such as an accurate intuition about the well-being of someone who is far away.¹⁰ In addition, about 40 percent report having had a “mystical” experience such as seeing the universe as alive and feeling a sense of great peace and safety within that aliveness.¹¹ In keeping with these findings, a recurring theme of this book is that consciousness is not confined within the brain but is an infusing presence throughout the universe that enables us, in cooperation with the brain, to connect meaningfully with the world beyond our physical body.

Bringing these four areas of insight together already begins to awaken the possibility of a new sense of ourselves, the universe, and the human journey. We thought we were small creatures living in a vast material universe. We believed that our capacity for thought put us at the peak of the evolutionary wave, but we have now been offered a very different view: *We are giants, living in a mostly invisible universe, who are just getting underway in our evolutionary journey, and can reach with our consciousness into the larger universe.* These freeing insights liberate us from thinking we are small and insignificant. Not incidentally, they also free us from the arrogance of thinking that we occupy the leading edge of evolution’s wave.

Imagine Building a Universe

Imagine what would be required to create a cosmic system like ours. One of the most striking things about our universe is the extraordinary precision with which it is put together. The fine-tuning of dozens of key factors is essential because the most minute variation would have resulted in no universe at all. For example, had the rate of expansion after the Big Bang been even slightly faster, the universe would have evaporated—and no stars or planets would have formed. Alternately, had the rate of expansion been even slightly slower, the universe would have collapsed back upon itself long ago—and the Big Bang would have quickly become the Big Crunch! There are at least several dozen relationships in the universe that need to be precisely just as they are if life is to exist. From the strength of gravity to the charge of an electron—if any of these were different by even small amounts, life as we know it would not be possible. The extraordinary degree of fine-tuning in our universe indicates that a profound design-intelligence is at work (not to be equated with the theology of “intelligent design,” which negates evolution).¹²

So what might be required to build and maintain, in good working condition, a universe like ours? Consider this: What if you are well known for your creativity and skill, and the Mother Universe says to you, “I really like your work. Would you like to build a cosmos? Think about it.” Then the Mother Universe hands you nine design and construction requirements.¹³ Consider these playfully as a way to stretch your imagination and prepare for the inquiry ahead.

- First, you must create a transparent field with an invisible structure called *geometry* that will keep everything in its

proper place and time. Place the cosmos within that field and guarantee that this dimensional geometry will work flawlessly across trillions of miles for billions of years.

- Second, you cannot construct your universe from anything visible. You must build everything from transparent life energy.
- Third, instead of allowing the universe to emerge fully developed, you must engineer it so that it inflates from an area far smaller than a pinpoint and grows to contain a hundred billion galaxies, each with a hundred billion or more stars.
- Fourth, design *matter*. Take clouds of energy that are almost entirely empty space and have them flow around themselves trillions of times per second in order to present themselves as stable forms. Despite their completely dynamic nature, give these whirlwinds of energy the appearance and feel of solidity.
- Fifth, design *space*. Simple emptiness or the absence of matter won't do; instead, you must continually regenerate the transparency of space throughout the universe. The invisible fabric of space-time must be an opening process that continually unfolds to provide the transparent container within which matter, an equally dynamic process, can present itself.
- Sixth, design a cosmic information system that connects instantaneously across the entire universe. Anything that happens anywhere must be knowable everywhere, instantly.

- Seventh, design the potential for planetary-scale ecosystems to emerge that can grow billions of unique living organisms, such as plants and animals. Ensure that these organisms can feed off each other in a process sustainable for billions of years.
- Eighth, design the potential for self-reflective life forms that are able to self-evolve toward ever more complex and conscious entities.
- Ninth, design a process that enables the cosmos to be continuously regenerated in its entirety using the flow-through of stupendous amounts of energy. This flow of continuous creation must include the fabric of space-time, and all manifestations of matter, thought, feeling, and consciousness.

“If you can meet these nine construction requirements, you are ready to begin building a new universe,” says the Mother Universe. Although these design requirements are adapted from my book *Awakening Earth*, written more than fifteen years ago, each time I return to them it awakens my appreciation of the power, wisdom, and subtlety embodied in our cosmos. Our universe is a supremely elegant masterwork of ongoing creation. Recognizing the magnificent feat of design engineering it represents, we look at ourselves and the world around us with new wonder and appreciation. Stretching our imagination in this way is useful preparation for our inquiry as we turn to look at our mysterious universe through the lens of science and ask: Is it reasonable to regard our universe as a living system? The pivotal nature of this question is summarized in the following table, which contrasts the perspectives of a dead or a living universe.

Contrasting a Dead and a Living Universe

Dead Universe

The universe is **non-living at the foundations**. The universe is a collection of mostly dead matter and empty space that is not fundamentally alive. At the foundations, the universe is a cold, barren, unfeeling, and spiritless place.

The cosmos has no apparent **purpose** so any meaning must come from what we construct for ourselves as social beings. When we die, “the lights go out.” The **soul** is a superstition.

Consciousness is a product of biochemistry and is located in the brain. Consciousness is absent from the universe except in higher animals.

Because we live in a physical universe, the only potentials that we can cultivate are **materially based** (physical, emotional, and mental).

We are **bodily beings** who are seeking spiritual experiences. We may think about a spiritual realm but we are basically physical entities and the two are separate.

Creation ended with the big bang nearly 14 billion years ago. Since then, all that has happened is the progressive evolution of ancient matter into more complex forms.

Life mysteriously emerges from non-living matter as the forms become more complex. **From the lesser the greater emerges**. From non-life, emerges life.

The purpose in life is to achieve **material security and success** in a materially defined world.

A **dead universe tells no stories** so we can each make up our own stories and they will have equal validity because none of them will ultimately matter.

There are small islands of life in a **vast field of non-living space and dead matter**.

Materialism makes sense in a dead universe. We can protect ourselves from the surrounding deadness with material pleasures and demonstrate our significance with material projects and accumulations.

Because the world around us is dead, it is proper to **exploit that which is dead** on behalf of the most intensely living, which is ourselves.

A **dead universe is indifferent** to human concerns.

Living Universe

The universe is **alive at the foundations**. The universe is a unique kind of living entity that is sustained by the flow-through of phenomenal amounts of life energy. The cosmos is a single living creature that encompasses all living creatures within it and is filled with feeling and soulful learning at every level.

The cosmos is a **purposeful** learning system. When we die, the clear light remains but we may not recognize our subtle body if we have not made friends with the invisible qualities of our **soul** while we are alive.

Consciousness is a living field of life energy that permeates the cosmos and provides a reflective capacity for material forms at every scale throughout the universe.

Because we live in a living universe, our highest potential is to become *Homo sapiens sapiens* or beings who can recognize themselves as a **body of light, love, music, and knowing**.

We are **spiritual beings** having a bodily experience. Our bodies are biodegradable vehicles for acquiring soul-growing experiences. Every experience plants its feeling-knowing-resonance in our soul.

Creation is ongoing, a continuing process. The entirety of the cosmos is sustained, moment by moment, with the flow through of stupendous levels of life energy.

Life is the foundation of all existence. The life force that sustains the entire universe is fundamental and the aliveness manifest by beings such as ourselves is emergent. **From the greater, the lesser emerges**. From the greatness of the Mother Universe, we humble beings emerge.

The purpose in life is to **learn how to live in eternity**. It means developing our potentials for double wisdom as *Homo sapiens sapiens* and to make friends with ourselves so when we die we recognize our subtle Self.

A living universe is itself a **story of immense meaning and richness** as, within it, are the stories of a vast array and variety of life forms in their journey of awakening.

Islands of life are simply those places where the **field of consciousness has become intensified** and has gotten hold of itself.

Simplicity makes sense in a living universe. We are motivated to minimize the clutter, complexity, and stress of the material side of life and to engage more fully the juice and joy of aliveness itself.

Because all is alive and interconnected, **whatever I do to the world I ultimately do to myself**.

The universe is a garden for growing living systems. The cosmos is **compassionately non-interfering** in the unfolding of her offspring.

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