

CHILDREN OF A LIVING UNIVERSE

Discovering Our Legacy Will Change Our Future

A person with their eyes closed, appearing to be in a meditative state, is centered in the lower half of the image. Behind their head, a large, glowing spiral galaxy is visible, creating a halo effect. The background is a dark space filled with stars and a nebula.

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PART 1

Three Perspectives on Reality

Modern science, through Hubble space telescope photographs and the popular media, has supplied us with data about and images of the vast and strange universe we inhabit. Traditional myths have filled the unseen cosmos with wondrous and powerful beings. Internal human experience has revealed intriguing dimensions and levels of consciousness. Our Solarian legacy encompasses all this knowledge and experience; and to live authentically, humans must incorporate it into their daily lives.

Applying the metascientific approach presented in the introduction to understanding all of human experience, part 1 of this book looks at the universe and human history from three vantage points. The first is the macrocosmic scale used by physicists and philosophers alike. It deals with the origin and development of the nascent universe to the point where conscious life appears on the scene. The second considers the microcosmic level, the smallest segments into which we can divide reality and how they come into being. The third takes a

nonconventional historical perspective of Earth and human history.

For each chapter we use metascience to illustrate the cost of limiting our analysis to only one epistemology (way of knowing). Each incorporates into the scientific model insights from traditional wisdom and possibly from advanced beings or other dimensions of consciousness. This approach expands our thinking about the place and role of humans in the cosmos.

Physical science has given humans a rich appreciation for the complexity and detail of our tangible universe. It captures a palpable model of the vastness and richness of galactic systems and the stew of particles and waves of which they are made. Spiritual traditions have given us a feeling for inner realms and forces that hold together the almost unimaginable magnitude of a universe that is 99.9999999 percent space. Recent writers attempting to synthesize the two perspectives have given us either physical models that lead to an anthropomorphic God or metaphysical models that incorporate the human-centered material realm.

Until the sixteenth-century advent of Copernicus, most European scientists and philosophers held to the Ptolemaic geocentric view that the Earth occupied a stationary position, around which the rest of the universe revolved. Even though scientists since Copernicus have known the Earth revolves around the Sun and our solar system spins within a galaxy, there is still a strong tendency to act as if the Earth and humans are unique and alone in the vast universe. A few scientists still argue that the life-filled Earth is a rare if not unique event.¹ But even some of the most thoughtful among us who accept the probability that life and conscious beings may exist throughout the universe hold on to implicit assumptions that place humans on a uniquely local evolutionary path in the center of a Great Chain of Being.²

In the twenty-first century, as we have given up the “geocentric model” of the universe, we must move beyond our current “homocentric concept” of life and consciousness. We cannot hold fundamentalist religion solely accountable for

the idea that all the universe was created especially in support of human purposes. Science and philosophy, too, share responsibility for the prevailing human-centered view of the universe.

I believe the concept of a Solarian legacy, transcending the current models of both science and religion, will help us take a “nonhomocentric” view of reality. It will help us understand humanity’s place in a universe where we are neither the center of attention nor the most advanced consciousness around. The first three chapters make the assumption that humans are part of a universal phenomenon of life/consciousness manifesting in local space-time, parallel with similar events in other parts of the universe, and that events are controlled by the same embedded principles throughout the universe, with some at more advanced stages than others.

Notes

1. Peter D. Ward and Donald C. Brownlee, *Rare Earth* (Tokyo: Springer-Verlag, 2000).

2. Ken Wilber, *A Brief History of Everything* (Boston: Shambhala, 1996); Duane Elgin, *Awakening Earth* (New York: William Morrow, 1993); Peter Russell, *Waking Up in Time: Finding Inner Peace in Times of Accelerating Change* (Novato, CA: Origin Press, 1998).

A Self-Conscious Universe

Physicists and astronomers have used mathematical formulae to infer the material history of today's universe. From its birth billions of years ago through periods that can only be imagined, these professionals have created a marvelous portrayal of phenomenal forces, of bits of matter swirling through space that slowly settle into stars and planets, eventually producing human beings.

However, this unidimensional story has significant weaknesses. First, it assumes that a unique consciousness arose only recently on Earth as an epiphenomenon (the accidental result of material developments). Second, it assumes a straight, relatively uniform line of development. Third, it deals with only one dimension: the electromagnetic spectrum of energy waves and particles subject to testing with our five physical senses. These assumptions neither hold up under rigorous scrutiny by frontier scientists nor offer plausible explanations for much of the experience humans have living in the universe.

Thus, the modern scientific model leaves us with many questions. Where did the original design come from? How did principles that govern such complexity find their expression in inert matter? When and how did consciousness enter the picture? Does human self-awareness suggest a self-conscious universe? While conventional science doesn't have verifiable

answers to these questions, an ancient system of thought summarized as the Hermetic Principles might offer new leads for research.

A Living System

This chapter presents the unquestioningly appealing picture of our universe's birth and development as painted by brilliant materialists. It also identifies the blanks or gaps in their representation of known reality, and it offers suggestions for filling them in.

The myths of supernatural religions, assuming divine beings independent of nature, offer parallel explanations of the origin and development of the universe. However, many features of these myths have been shown to be inconsistent with the verifiable data identified by science. Therefore, in order to account for both the scientifically derived data and the less tangible aspects of human experience, we need a more comprehensive and more nuanced conceptual framework. I believe the metascientific approach presented in this book, combining all ways of knowing, successfully incorporates both the *observed* reality of the material realm and the *experienced* reality of the internal realm. It rationally accounts for the fact that humans generally sense the entire universe as a living organism.

Modern humans now find themselves somewhere between the natural, seamless view of early humans and the wholistic understanding achieved by more advanced beings. Twentieth-century society, with its focus on physical science and technology, almost totally ignored the inner and more subtle aspects of human experience. Humanity's next level of development requires recognition of insights from both traditional and modern perspectives and their incorporation into a new synthesis.

Perhaps recalling the personal memories of childhood and accessing thinking of traditional peoples can aid in overcoming the limitations of modern science. Taking advantage of systems of thought apparently given to humans by ABs in prehistory can also help us expand current science's

conceptual boundaries. This chapter suggests ways in which those paths to insights into nature can enhance our metascientific quest.

The next few pages remind us of the value of traditional wholistic thinking, and highlight how science has limited that vision. They illustrate how the Hermetic perspective, drawn from an allegedly advanced civilization, may offer a more satisfactory set of explanatory principles for the actions of matter, energy, and life than do the mechanistic laws of modern science.

Let's first sample some prescientific perceptions of reality, from the experience of childhood and contemporary traditional cultures, to grasp the challenge before us. If the reasoning in this book succeeds, in the last chapter each of us should be able to reclaim our childhood sense of being connected to the whole, without giving up our hard-won scientific gains in knowledge. That is why I start now and end the book with some personal reflections.

The sky darkened as clouds moved across plowed fields. I saw lightning and heard thunder just before rain began to pelt the tin roof. I felt spirits lurking around us and souls of ancestors lounging higher up. As a small country boy, I experienced this seamless reality in which animals, sky, Earth, Heaven and Hell, family, and ancestors were all integral to the universe created by God for His purposes.

We knew when neighbors were coming to visit long before the sound of their wagon or truck. The fact that we communicated nonverbally with our pets and livestock was understood. We knew that the farmers and gardeners who talked with their plants had a better harvest. With no money for doctors and medicine, we experienced the power of prayer circles. Dreams were not just imagination; they included information that we could use in steering our daily lives.

Growing up in the 1940s in a primitive section of northwest Florida, I felt the cycles of my life as parts

of a larger whole, sensed myself inextricably linked to the daily rising and setting of the Sun. It lit the morning sky even before the blazing ball itself appeared on the horizon, marking the hour to feed the animals. Its warmth thawed the ground in preparation for planting as its movement north made the days grow longer. The waxing and waning Moon determined planting schedules; its magnetism affected the response of seeds to the Earth just as it affected the fertility of the women and the female animals.

Sitting on the porch after supper, we would start our night watch with Venus in the evening sky, anticipating the calls of the whippoorwill and the hoot owl as we talked of all the beings touched by the same God. We could sense their presence, just as we felt the breezes evaporating the sweat remaining on us from last-minute chores. As the Big Dipper and Orion's Belt became discernible in the darkening sky, we were confident of our understanding of it all.

Except for the Christian God, my childhood worldview had many similarities with that of shepherds on pre-Christian Middle Eastern slopes, or Australian Aboriginals on a walkabout following their "dreaming tracks" in the outback, or Native Americans planting and harvesting with seasonal rites keyed to the movement of the constellations. For all prescientific peoples, including my family, the living Earth was subject to the living sky. We knew we were children of a living universe. Nothing was dead, nothing was separate. Our lives, except for a limited ability to maneuver among daily events, were shaped by forces beyond our control.

This basically naive but comprehensive view of the interactive nature of the cosmos has for millennia dominated the perceptions of traditional peoples in the world. Incidentally, throughout the book the terms "cosmos" or "cosmic" imply something larger or beyond the material universe as we know it with our five senses. However, since the time of Aristotle

(*On the Heavens* written in 340 B.C.)—the Greek philosopher from whom we have many modern intellectual concepts—a more restricted view has become dominant among so-called developed peoples. A rational, materialistic perspective, spreading from ancient Greece westward to Rome and up through Europe and over to the Americas, has shed light on many parts of reality, but has reduced our understanding of the whole. Propagated by the Anglo-Saxon and Latin-centered worlds of thought and technology, Western civilization’s mechanistic view of the universe has been a two-edged sword: As scientists dissected the universe, they excised sectors of human experience from their scrutiny.

Aristotle’s theory of solid spheres containing various heavenly bodies rotating in fixed circles around a stationary Earth was followed by the discoveries of Ptolemy, Copernicus, and Galileo. Galileo’s observations in 1609, made with the help of his newly developed telescope, proved that not all heavenly bodies were orbiting the Earth or the Sun. People began to perceive that moons orbited planets that in turn orbited the Sun, and that suns and stars had their own tracks within galaxies. Isaac Newton’s theory of gravity, published three-quarters of a century after Galileo’s observations, provided an explanation for the spinning, elliptical movements of heavenly bodies. (Johannes Kepler realized the orbits were elliptical, not perfect circles, in the early seventeenth century.)

As telescopes became more powerful, people saw more stars. But they continued to assume they were looking at a largely static universe, set in place by a supernatural being with the human observer at its focal point. No one knew how the world and universe got started. (Aristotle had earlier postulated the theory of an undefined “Prime Mover.”) The supernatural religions of the West—Judaism, Islam, and Christianity—believed the universe started with a creative act of their personal god.

From the seventeenth to the twentieth century, many philosophical arguments surfaced about the nature of creation, the limits of the universe, and the issue of time. Yet the basic perception of the macrocosm remained essentially the

same, whether people believed that it had evolved from a natural event or that it had been divinely and fully created at the beginning of historical time. Both groups considered the universe something whose laws could be discovered and whose elements could be manipulated by humans. Whether the laws were mechanical or divine, they were all seen as focused on humans—the homocentric view of reality.

The perception of a static universe with fixed boundaries was shattered in 1929 when Edwin Hubble (after whom the orbiting Hubble space telescope is named) saw that other parts of the universe were moving rapidly away from us. (Five years earlier he had discovered galaxies beyond ours.) Hubble interpreted such movement to mean the universe was expanding; and if it was expanding, it had to have a history of accumulating events. These events could result from either a single creative event such as the Big Bang or a continuing process of external influence. Since the latter opens difficult questions about the nature of unknown forces outside our universe, most scientists have settled on the simplistic Big Bang theory. As a result, modern humans are still locked into very limited assumptions about themselves and the inner nature of cosmic reality.

Science mostly follows its fragmented search for knowledge, separating it into isolated disciplines. That makes it easier to categorize some human experiences as natural and normal and dismiss others as anomalous, accidents, or artifacts of overactive imaginations. For example, most aspects of the ancient discipline of astrology are ignored by official institutions, although the experiences of untold millions indicate strong correlations between actions of celestial bodies and human behavior. Likewise, the link between thought and the microcosmic activity of cells is still largely ignored by mainstream science, as is the whole area of extrasensory communications. Science's focus on four forces of physics, assuming we have discovered all of them, precludes the study of other likely forces, ones that could explain the many so-called anomalous phenomena.

Despite institutional fragmentation, a renewed sense of wholeness is now emerging. Forward-thinking professionals

in physical science, archaeology, anthropology, psychology, and consciousness research now take a systems approach, treating humans as parts of a larger organism. (Ken Wilber's use of the concept of "holons," parts within parts of a larger whole.) The new scientists are joined across institutional barriers by nonsectarian mystics to expand the time frame of assumptions about human history and definitions of matter and consciousness. Each intuitively is rediscovering the singular, living universe of traditional peoples, the same seamless reality I experienced in childhood.

I hold that science's understanding of the living universe can be enhanced by gleaning insights from our legacy of knowledge from earlier civilizations. A reassessment of some traditional beliefs may reveal they have much to contribute to a new metascience model. For example, the ancients appear to have known that matter arises from different vibrational patterns in a field of invisible energy, an insight rediscovered by quantum mechanics in the twentieth century. Remember Fritjof Capra's 1970s book *The Tao of Physics*.

The Judeo-Christian tradition proclaims, "In the beginning was the Word." The Australian Aboriginals believe the ancients sang the world into being.¹ "Word" and "song" imply that the use of sound or vibrations lead to the formation of the material universe. They also imply that the energetic vibrations that shape energy quanta into particles are not just random patterns. They have inherent meaning, not unlike Plato's view that ultimate reality was form or idea. This suggests that consciousness must preexist matter to conceive of the ideas or forms of different vibrations that underlie various configurations of matter.

Most mythic traditions—whether from Central America, North America, India, China, Egypt, Greece, or the Middle East—include allusions to a conscious being or force that formed something out of nothing. The fact is that neither the traditionalist nor the scientist knows how it all started. Later in this chapter I have chosen to use British physicist David Darling's poetic story of the beginning of material time² to illustrate conventional science's current assumptions about

how our present universe came to be. To fill some of the gaps in this conventional view, I introduce in this chapter what I believe to be some useful advanced scientific principles from antiquity.

Several esoteric traditions developed their own explanatory (scientific) principles for the workings of the universe. One such system, the Hermetic, which has come down to us from prehistory, I find comprehensive enough to have used its framework for many analyses in this book. I believe its relevance will become self-evident in this and following chapters.

Hermetic Principles

The Hermetic Principles, named after a legendary personality known to ancient Greeks as Hermes Trismegistus (meaning “thrice great”), have been known and articulated by intellectual elites for more than 5,000 years. Recorded history identifies a being who transferred several fields of advanced knowledge to humans differently in different cultures. Thoth, or Seth, was his Egyptian name; in India he was Manu; and in the Judeo-Christian tradition he has been called Lucifer or the Serpent.

Despite the lack of clear information about its origins, Roman-influenced scholars knew the collection of knowledge by its Latin name *Corpus Hermeticus*. Many consider it to be the source of basic natural teachings that infused all the intellectual, scientific traditions of Egypt, Greece, the Near East, and Europe for several millennia.³ A few learned initiates guarded the insights and passed them on discerningly over the centuries to those deemed ready for the teachings.⁴ During the Inquisition and other periods of religious persecution by Christians and Muslims alike, it has been dangerous for independent scholars to reveal their belief in a natural reality that does not assume divine intervention. Consequently, most of the Hermetic insights were lost to the masses, as well as to most scholars and students, before the advent of the modern era.

The term “hermeticism” has been primarily associated by many with alchemy, or the alleged transmutation of metals into gold. However, it involves a broad and integrated approach to

the understanding of matter, energy, and more subtle forces. It provided the intellectual precursors to Western mystery traditions that seeded the European Renaissance. The term “hermetic” has come to mean secret or sealed for that reason.⁵

From information that fills volumes, I have taken a classic distillation known as the Hermetic Principles. The seven are Mentalism, Polarity, Correspondence, Vibration, Rhythm, Gender, and Cause and Effect.⁶ (See table 1 below.) Although they can appear to be so simple and mundane that the casual reader is wont to lightly skim them, they may actually be more far-reaching than the basic assumptions of Newtonian mechanics or quantum physics. The current work of a number of researchers included in this book tends to confirm the validity of these concepts. Readers can judge for themselves whether they add to one’s understanding of each of the following chapters and make it possible to relate seemingly different phenomena to a unifying set of principles.

1. Mentalism:	Everything exists first as an idea.
2. Polarity:	There are two aspects to every phenomenon.
3. Correspondence:	The same fundamental rules apply at all levels.
4. Vibration:	All elements of the cosmos are in constant motion.
5. Rhythm:	Each entity, energy, and idea has its own cycles/patterns.
6. Gender:	Yin and Yang, receptivity and expressiveness, exist at all levels.
7. Cause and Effect:	All aspects of the cosmos are in a singular interactive system.

Mentalism

The Principle of Mentalism is reflected in the Biblical quotation, “In the beginning was the Word/Logos.” Ultimately all

external reality is based on idea or concept. In the context of quantum physics, Mentalism means the physical world can be reduced to patterns of potential connections among potential concentrations of matter/energy that might or might not come into form, depending upon the introduction of some level of conscious intent.⁷

Twentieth-century physicists and consciousness researchers were on the edge of unraveling the implications of Mentalism that Hermetic initiates have known all along. Now anyone can grasp its meaning: the basic force in the universe is mental, the realm of universal and local consciousness.

Polarity

The Principle of Polarity embodies the observation that two seeming opposites are in truth different aspects of the same thing—two sides of the same coin. This principle applies in all realms of human behavior, as in the complementarity of expressiveness and receptivity. Photon particles are inextricably linked in pairs, with each as either the positive or negative aspect of the other. Hot and cold are but different aspects of the same temperature gradient.

Any aspect of nature or cosmic experience has its own gradient—large and small, high and low, black and white, sharp and dull, male and female. There is no absolute in anything, even in behavior, where there are only shades of good and evil. The crucial point here is that all such polarities are only different vibrations on the same continuum. As we will see later, with the Principle of Polarity, one extreme can be easily transmuted into the other.

Correspondence

The Principle of Correspondence, “as above, so below,” means that one can infer the nature of smaller-scale entities from the characteristics of larger, more distant realms, and vice versa. The dynamics of cells parallel those of galaxies. Just as a small laboratory or computer program can simulate the behavior of stars billions of light-years away, the local consciousness of an individual being can confer with the

universal ultimate consciousness that existed when there was only the “Word.” This principle implies, for example, that humans need not be in awe of exposure to the ideas of, say, extraterrestrials; they are derived from the same universal consciousness.

Vibration

The Principle of Vibration, which asserts that everything flickers in and out of existence in a continual state of motion, is now a basic tenet of science. Subatomic particles continually oscillate and move in relation to each other in every concentration of energy and mass in the universe. The patterns of vibration occur in all manifestations—from dense stone, to gaseous molecules, to the thoughts and emotions of human beings.

We intuitively grasp the validity of this principle when we sense “good vibes” or “bad vibes” about one thing or the other. When we are on different frequencies with someone, we can “wind down” or “ratchet up” the tension to become congruent with their level of vibration.

Rhythm

The Principle of Rhythm means that everything manifests itself in a pattern of to and fro, up and down, in and out. The movement in one direction is always compensated for by a return. This is manifested in the wave sign of any force. For every action there is a reaction and for every advance there is a retreat. The principle applies in all the affairs of the cosmos—stars, beings, minds, energy, and matter. It works in the interactions within a plane, and in communications between dimensions. Over time, the rhythms result in spiraling shapes that characterize much of the universe.

Understanding the dynamics of this principle makes it possible to mitigate some of its more extreme effects. We can recognize that fatigue, followed by rest, leads to renewed energy. Anger gives way to remorse and pain succumbs to release. By being aware of the rhythms, one is less likely to resist their flow, thereby reducing the buildup of extremes.

Gender

Gender remains the most obscure principle, because we tend to equate gender with primary physical sex characteristics.⁸ However, every being and every realm in the cosmos contains the dual elements of yin and yang, feminine and masculine. Senses (feminine receptivity) require expressions (masculine) to have something to sense, and expressions of anything require a receiver. The term “gender” recognizes this complementariness within all organisms of the universe. Even in apparent single-sexed entities, one aspect is the receptive nurturer, while another is the expressing creator.

Each principle honors all others. The Principle of Gender itself obeys the Principles of Polarity and Rhythm, in one circumstance manifesting the masculine aspect and in another the feminine. Neither is ever totally absent: in space-time, balance is assured. Fully aware beings seek harmony in living their dual nature (Gender), honoring the ebb and flow (Rhythm) of organic development in self, society, solar system, and universe.

Cause and Effect

The Principle of Cause and Effect is too simplistically known in the West by formulas like “x acting on y causes z.” From the Hermetic perspective, the principle means each effect has many causes. Carl Jung suggested this multilevel reality by use of the word “synchronicity” to describe events that, though outwardly appearing to occur by chance, result from the working of inner connections. Indeed, all events are at some level the workings of various seen and unseen relationships. What we attribute to chance is usually an event whose governing law is not self-evident. True chance or randomness probably occurs solely at the level of quantum gaps, where the only true break between past and future can occur.

The Hindu concept of karma illustrates the Principle of Cause and Effect, as does the Christian reminder “as you sow, so shall you reap.” Human societies have recently learned the dramatic effect of this principle in ecological systems. Now humankind must become more aware of this cosmic law in

the realm of consciousness. It is this principle that makes humans conscious co-creators of the universe.

These seven principles are simple keys to the mysteries of consciousness, subtle energies, and matter/energy (itself two polarities reflected in Einstein’s formula $E=mc^2$). (See table 2 below.) I believe they can open gateways through which a profound transformation of human perception becomes possible. This book is an argument for undertaking such a journey, postulating that transformation on the mental and energy planes will have immediate consequences in the material realm. Not one principle stands alone. All affect each other in a mode of reciprocity, thereby assuring the cohesion and unity of the multifaceted universe.

Hermetic Principle	Physical Events
1. Mentalism:	{ Superstrings { Periodic Table
2. Polarity:	{ Positive/Negative Charges { Matter/Antimatter
3. Correspondence:	{ Atoms and Star Systems { Cells and Families
4. Vibration:	{ Electromagnetic Spectrum { Other Spectra
5. Rhythm:	{ Birth, Life, Death { Creation, Elaboration, Decline
6. Gender:	{ Male/Female { Expressing/Sensing
7. Cause and Effect:	{ Warmth to Sprouting { Love to Creativity

For example, jazz, as experienced by both the musician and the listener, illustrates the interplay of all Hermetic principles. Vibration and Rhythm are communicated through sound and sight. Gender is evident in the artistic expression and the

receptive audience. The continual creative act of Mentalism finds its way into the Polarity of sound and silence where the Correspondence of scales manifests in several instruments. Music that is universal taps into the vibrational signature of a species, causing effects in emotions, health, communications, and a sense of community.

Contrasting Views of the Universe's Origin

Now let's return to a physicist's description of that first burst of ordinary matter and its consequences. Here we can see how the Hermetic Principles function both sequentially and simultaneously in the development of the physical universe. To facilitate understanding the difference, I have put the conventional materialist view of the universe's history in italics. In many places where one or more of the Hermetic Principles apply, the relevant names are shown in parentheses in the contiguous text. In using such juxtapositions, I do not intend to denigrate the efforts of my physical science colleagues, but to demonstrate the value of complementing a modern perspective with the insights of some ancient, but obviously useful, wisdom.

Scientists feel confident that somewhere between 13 and 20 billion years ago there was an explosion (Vibration) into form, a Big Bang, when out of no-place, no-time, and no-thing the universe appeared. At that moment, from a seedlike but invisible point, came streams of protons, electrons, and neutrons. The electron is almost nothing; the protons and neutrons are 1,800 times heavier. But there are many electrons swirling around, vibrating in emerging space. Each electron has an antiparticle (Polarity) called a positron.

Each electron or positron is equal in mass to its respective twin, but the twin's electric charge is reversed. (Manifesting the Polarity Principle), the positron's charge is just as positive as the electron's is negative. The two are in reality only halves (Polarity) of a pair, but one that also represents the poles of gender. Male and female, they jump about forming the stuff of ordinary matter, engaged in the cosmic dance of creation. As long as they keep the right distance, held in position by their opposing electric charges, they function as matter. While the appropriate distance in this attraction of polar opposites is maintained, they are stable. But when they breach an invisible boundary, they destroy each other.

Given this destructive potential, why didn't all the electrons dissipate billions of years ago? In destroying each other, electrons and positrons create (Cause and Effect) a pair of different particles—new photons. Thus, death leads to birth, and that which disappears returns in another form, manifesting the Principle of Rhythm.⁹ These new photons are different from the old particles; they are particles of light, pure energy with zero mass or charge. The Rhythmic Principle insures an ongoing equilibrium. When two of these new photons collide they give birth to two new particles, replenishing the reservoir of matter.

It is worth noting that Genesis 1:1-3, reflecting advanced knowledge in antiquity, has the correct order for this ongoing process of creation. First the void, chaotic darkness without form. Then, "God said, 'Let there be light,' and there was light." Photons followed the chaotic swirling of electrons, neutrons, and protons. The creation and destruction of subatomic particles involved a repatterning of pure energy, governed by inherent principles of unknown origin. Whatever the origin, this implicit design illustrates the Principle of Mentalism.

Theoretical physicists believe they can calculate back to the point when the universe was 10^{-43} second old. One ten-thousandth of a second equals 10^4 on an exponential scale. So 10^{-43} is only 100 million, trillion, trillion trillionths of a second. At this "Planck time" (named after Max Planck, a founder of quantum mechanics) all forces and matter acted as one unified force. Because their mathematical calculations do not work beyond the moment of Planck time, physicists assume gravity had split off from the singular force that hypothetically existed in the beginning (The Principle of Cause and Effect does not support such inferences).

At 10^{-35} second old, physicists postulate the existence of two forces: gravity, and another that combined the currently understood electromagnetic force (Vibration and Rhythm) and the weak and strong forces (Gender). The universe was pure energy, with point-like particles of quarks and leptons. (See chapter 2.) Matter and antimatter were equally balanced (Polarity). Physicist Blas Cabrera at Stanford University has hypothesized the existence of monopoles or free magnetic poles that formed another kind of matter (Gender).

At 10^{32} second, the universe was only about the size of a grapefruit; gravity and the strong force now stand with the electro/weak force (electromagnetic and weak forces still combined). At 10^{20} second, black holes may have formed (Polarity). At 10^{12} second, the temperature of the universe was 1,000 trillion °C. At 10^{10} second, according to a “hot” bang theory, the universe was about the size of our own solar system. At this point the four forces labeled by modern physics were distinguishable from each other. (The Principle of Gender comes more fully into play in this array of weak/strong, restraining/liberating forces.) Between 10^6 and 10^4 the stew of quarks began to coalesce into triads and form neutrons and protons, elementary particles that coexisted with leptons.

At one-hundredth of a second, the universe had cooled to 200 billion °C. Hundreds of types of particles were engaged in the cycle of birth and death and re-creation (the Principles of Rhythm and Gender).

At the end of one second, the universe was a bubble of space only 200,000 miles across, according to a “cool” bang theory. Its temperature was 10 billion °C. The antiprotons and the antineutrons had gone. On another track, some electrons had merged with protons to yield neutrons and neutrinos. The latter are so infinitesimal in mass, if they have mass at all, that they can achieve almost the speed of light and pass through the most dense matter unimpeded.

The Hermetic Principles pose intriguing questions about the preceding conventional description of the process. What if antimatter (feminine gender) forms the black holes we find scattered around the visible universe? Do current assumptions adequately take into account the role of a balanced polarity in matter/antimatter ratios? Is a new cycle of creation (Rhythm) started when antiparticles rejoin and destroy their twins in the world of ordinary matter? Could this be the basis for hypotheses regarding the origin of multiple universes?

Stephen Hawking¹⁰ has attempted to better understand the dark counterpart (Polarity) of visible matter. He postulated the existence of billions of tiny black holes (necessarily formed in the early fractional second when pressure and temperature were high enough). This theory marked a shift from his and others' earlier view that black holes were caused only

by collapsing stars. Hawking broke with another earlier assumption and now believes such holes may emit energy and explode. These attributes are predictable from the Hermetic Principles of Polarity and Rhythm.

During the early nanoseconds (one-billionth of a second) of the universe, time as we know it did not exist. With such concentrations of mass and energy, developments occurred at an exponential rate. As much could happen in the first one-tenth of a second as happened in a second, and the first ten seconds, and then the first one hundred seconds, and so on (a scaling function of the Principle of Correspondence).

The initial explosion produced unimaginable heat, but as the seconds turned into minutes, actions slowed down and things cooled off. The subatomic particles coalesced into elements—ordinary hydrogen, heavy hydrogen (deuterium), and the heaviest hydrogen (tritium). Next, the various densities of helium came into being. On and on through the periodic chart, elements formed as particles bonded according to some a priori set of inherent ratios and relationships (Mentalism). (The orderly pattern of reality reflected in the periodic table of elements indicates that even at this early stage a conscious order was at work.)

Three to four minutes after its birth, the universe was filled with radiation, caused by electrons destroying almost all the positrons (Cause and Effect). The strong force started forming the nuclei of the above-mentioned heavy atoms. At about this time, a hydrogen/helium ratio of 3:1 is believed to have developed (Rhythm).

At the end of thirty minutes, the temperature was 300 million °C (only fifteen times hotter than our present sun). The average density of everything was less than one-tenth that of water.

As the hours turned to days and years, space expanded, but the quantity of matter stayed approximately the same. For thousands of years there was only a mist, charged and swirling in a huge electromagnetic field, before strings (long, thin, wriggling tubes of energy) began to appear.

Emerging Patterns

While the collective theories of modern physicists, italicized in this chapter, may be descriptive of the universe's physical development, they cannot be considered explanatory. The

existence of emergent patterns (strings) from the very beginning of the universe implies that something other than chance was at work in the mist (Principle of Mentalism). Scientists have not assumed an a priori set of patterns or inherent design in the Big Bang point from which the rest of phenomenal matter burst forth. Had humans been around, they could have seen the patterns emerge, but now we can only attempt to reconstruct them from the traces that remain. Research in physics has explicated some of those patterns, but as this book demonstrates, important parts of phenomenal reality (and most of nonphenomenal reality) remain unexplained.

Physicists and astronomers in NASA's COBE program (Cosmic Background Explorer) have measured the apparently ubiquitous background radiation (long wavelength microwaves) spread throughout the universe. It is assumed to be at the edge of the universe, revealing its age and expanse. In early 2000, a team (led by Andrew Lang of the California Institute of Technology and Paolo de Bernardis of the University of Rome) reported the best defined yet minuscule temperature differences (less than one hundred-millionth of a degree) in this radiation. The differences are analogous to ripples on an otherwise smooth pond surface, but in this case they are ripples (referred to as strings, earlier) in the fabric of space-time. Thus, 10 to 15 billion years ago, shapes (termed "fossils of creation" by astrophysicist George Smoot) began to differentiate themselves in the primeval fog of the universe. What caused those ripples and how they led to the complex organisms in today's universe (superstring theory) are still unknown.

Even with great scientists, mind-sets sometimes get in the way of increasing knowledge. Einstein believed so fervently that the universe was stable—not expanding or collapsing—that he initially adjusted his own perfectly working equations for his theory of general relativity in order to support his bias. When a highly reputed contemporary theoretical physicist like Stephen Hawking, without looking at the facts, dismisses solid evidence from the field of psi research, it discourages other scientists. What some science writers labeled the "most important" discovery of 1998, measurement that the speed of

separation was accelerating among some parts of the universe, illustrated how new data are forced into preexisting models. People committed to the Big Bang/Open-Ended theory were unwilling to consider the possibility of rhythmic expansion *and* contraction as being as integral an aspect of the macrocosm as it is in the microcosm.

These examples illustrate the danger of self-limiting assumptions. Physicists' deliberate exclusion of the role of other principles, including conscious intent in the coherence of energy and matter, calls into question their Big Bang theory and related hypotheses. Increasing recognition of the way mind influences the behavior of subatomic particles—at the core of quantum physics—requires that consciousness now be considered an element in the building of such theories.

A complex universe could not have *randomly* evolved from the protomaterial and nonmaterial elements, were they merely floating around in absolute chaos. Certain preexisting, unseen forces or dynamics were essential in bringing form from the primordial stew (Mentalism, and Cause and Effect). Modern scientists have discovered four such forces—gravity, weak nuclear force, electromagnetism, and strong nuclear force—which they now hope to reduce to a single principle called GUT, or Grand Unifying Theory. But why assume that all operative forces have been discovered? How can one believe in a single force that excludes consciousness?

Science, asserting that matter creates mind, still appears caught in the Cartesian trap of dividing mind from matter. While matter is coextensive with mind and cannot exist without it, the consciousness-manifests-matter postulate (Principle of Mentalism) can be validated in human experience (healing with imagery) and in formal experiments (the creation of neuropeptides through positive thought). Other examples are discussed in later chapters.

In the rush to reduce four physical principles to one GUT, some conclude that all forces except gravity may be a single force operating within the atom. In 1979, scientists Steven Weinberg, Sheldon Glashow, and Abdus Salam received the Nobel Prize for experimentally demonstrating

that electromagnetism and the weak nuclear force (that which controls radioactive decay) were two aspects of the same force. Subsequently, others have tried to demonstrate that the strong nuclear force (which holds the nucleus of atoms together) is another dimension of that singular force.

To the extent that these conclusions are not congruent with the Principles of Polarity and Correspondence, they will likely prove to be only partial explanations for observed phenomena. (See chapter 4 for further analysis of the gaps in reality not covered by the four forces.) Until our models can explain all observed phenomena and human experience, we must continue our analysis of the developing universe before we presume to have an all-encompassing theory. But for the moment, let's continue with the physicist's story.

Within the seething mist, differentiation began to occur; localities seemed to assert themselves. While much of it continued to expand in all directions, small areas began to coalesce. Something seemed to be luring bits of matter together. Only within certain frequencies could the electro/weak/ strong force triad come into play. Something controlled the frequency shifts. Possibly a function of random temperature changes. (Or were they the result of patterns implanted in the embryonic universe before its birth, something like the patterns that shape the DNA sequences that imprint the fetus in a mammalian birth?)

While we do not know the origins of these inherent patterns, we do know that throughout this mist of primeval matter they could be discerned as shapes began to manifest. The Hermetic Principles of Vibration and Rhythm seemed to be operating as the frequencies of ordinary matter changed (most slowing down) and masses became more dense.

Some scientists say the coalescing resulted from the strong force splitting away from the remaining electro/weak pair. They postulate the existence of cosmic strings—great loops of tension composed of energy moving at nearly the speed of light—that broke up the uniform mists. Initially small strings combined in ever increasing sizes until they became powerful enough to draw large collections of particles together.

The above descriptive theory regarding the early condensation of matter still falls short of an explanatory theory. At

what point and how were the cosmic string patterns ingrained in the event? As the strings became larger and longer and put ripples in the smooth surface of space-time, they gradually disappeared. None exist for us to see today at the cosmic level, but their analog—the DNA helix now so familiar to us—still works its way (Principle of Correspondence) in the creation of plant and animal life.

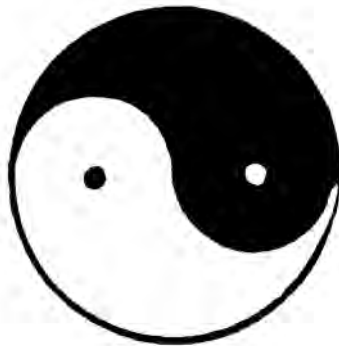
Thirty thousand years after its birth, the infant universe was composed of matter and light clouds kept intact with light energy.

At 300,000 years (keep in mind the exponential timeline), the universe was bigger and cooler, the temperature dropping below 8,000°C and the color moving from hot colors toward the green and blue side of the electromagnetic spectrum.

At 500,000 years, electrons and nuclei from the primordial stew began to form permanent attachments in the shapes of atoms. As matter coalesced, it increased in complexity, including the separation of a still-hypothesized dark matter from ordinary visible matter.

Attracting Forces

Does this separation of matter into two qualities or properties reflect the Hermetic Principles? The dark cannot be seen, but it appears to exert a powerful influence on the behavior of the universe. The Principle of Gender works to juxtapose the receptive/nurturer aspect with the expressive/creator aspect. The black-and-white yin/yang symbol aptly illustrates this dynamic gender polarity.



Yin-Yang Symbol

As the twenty-first century began, physicists in Italy, China, and the United States reported surrogate evidence (traces of their hypothesized impact) of the existence of dark matter particles.¹¹ They needed to demonstrate that a certain quantity of these particles is present in order to balance out their calculations of visible matter and the overall mass of the universe. They assumed that some form of overall balance characterizes the universe. The question is which factors balance which? The Principle of Polarity would insure that factors in one area are absorbed (birth and death) or matched (coexistent with) by the opposite pole in a contiguous part of the universe.

One hundred million years into its existence, the universe begins to seed protogalaxies. Connections appear as the unseen pattern (Logos) weaves matter and antimatter, strings and mist, mass and energy, light and darkness into the components of a vibrant universe. From a protogalaxy will come one galaxy—to be called the Milky Way—which is centered in the direction of a constellation to become known as Sagittarius.

But we're getting ahead of the story. Something like the Principle of Correspondence ensures the similarity of patterns in atoms and planets, in molecular and star systems, and later in various species of conscious beings. New stars pop into view, glowing in a field of thinning dust, but they are not alone. A dark twin or energetic force (Gender) is always nearby.¹²

Each galaxy, including our own, has a black hole. NASA's Chandra X-ray has now (2000) observed 33 of them. Black holes both suck up and expel matter (both genders in one). The power of this reciprocation may play a role in the rhythm of universal time. Some speculate that black holes are interdimensional channels through which time travel could occur. General relativity theory says mass affects time and space. So black holes with such mass could pull light toward itself, speeding the light up to fade into the future. This could happen if the so-termed worm hole—a black hole linked to a white hole, in a yin/yang polarity—expels in the reverse plane all that it swallows from this plane. A few scientists speculate that such a worm hole would permit intergalactic travel.

The phenomena of black and white holes are cosmic-scale demonstrations of the Principles of Polarity and Gender.

Emissions in infrared wavelengths through the galactic dust indicate great bursts of energy as matter is drawn into the maw of a black hole. A black hole is so powerful that it can swallow a star that comes too close and hold in the light, resulting in high winds that create a million-degree black bubble.

Now, a billion years after the universe's grand rebirth (explained in the next section), different types of galaxies are evident. A few appear to have quasars¹³ at their center, many have ordinary stars, and some have black holes. Others have spirals at their core. All are different, but clearly are of the same species.

Our galaxy, the Milky Way, is approximately one hundred thousand light-years across, only one of an estimated hundred thousand million galaxies—more or less—each in turn containing about one hundred thousand million stars. All the other galaxies appear to be rapidly running from us. We believe this because, in a manifestation of the Principle of Vibration,¹⁴ their colors become more red (as the wavelengths become longer).

After 5 billion years, many of the stars in most galaxies have consumed all contiguous matter. Some of them became so heavy with this ingested matter that they imploded, and then exploded into supernovas (Rhythm). These explosions resulted in the creation of dozens of new elements, which later became the building blocks of ever more complex life-forms.

The countervailing influence exerted by black holes, quasars, and other less powerful concentrations of energy (poles) on adjacent star fields reflects the dynamic tension of balance suggested by the Principle of Polarity. Following the Principle of Rhythm, these galactic-scale poles shift positions over time, not unlike the shifting of Earth's magnetic poles.

Ten billion years pass. More stars are born; many die. Much matter is pulled together into the various shapes of galaxies, but intergalactic space is still filled with a flurry of tiny specks—the material from which worlds are created.

The Hermetic Principle of Gender is at work from the cellular to the galactic level. In the latter, a dark fertile (feminine) force dances with a light mercurial (masculine) force in the rhythm of destruction and creation. With the appropriate degree of engagement, the possibility of offspring exists.

Due to the Principle of Cause and Effect, we see the products of this cosmic dance of stars and dark holes: their “children” are born as new planetary systems, just as in Greek myths.

Although other planets may have formed earlier, our Earth was born about 5 billion years ago to an average-sized yellow star on the fringes (28,000 light-years from the center) of the Milky Way. At the edge of that galaxy, in a backwater eddy of this gigantic maelstrom, cosmic forces drew scores of stars larger than our sun to the brink of a black hole. These same cosmic forces spawned a chain of events that eventually gave birth to conscious beings.

Starting from Zero

While most scientists accept the idea of an explosive birth for the universe, heated debate still continues as to whether the universe will perpetually expand, or some eons from now, reverse direction and collapse back on itself. It is assumed to be currently expanding about 8 to 10 percent every billion years. Given estimates of forces at work and the amount of matter (star systems and dark holes), some scientists postulate that the universe will continue to expand forever.

The Big Bang theory is supported by some evidence of a uniform presence of background microwave radiation throughout the universe (although that is incompatible with some current assumptions of quantum mechanics and recently discovered evidence pointing to minute variations in the radiation). The 3:1 ratio of hydrogen to helium, assumed to have been developed in the first few minutes of the universe, can be observed as far as we can measure. The universe appears from Earth to be the same in all directions (predicted by the Principle of Correspondence), even though we are not in the center of it.

Jonathan J. Halliwell identified some of the problems with the Big Bang model of the universe.¹⁵ For example, a number of vast regions are moving away from each other at a rate that appears to indicate they could never have been in contact with other parts of the universe in their entire history. He asks: Why are these unconnected parts so similar? Why did the universe remain flat rather than spherical if there was a uniform explosion from a single point? How did small-scale fluctua-

tions in the near-zero moment lead to the later large and varying structures?

In this situation, an explicit assumption of “cause and effect” relationships based on predesigned principles makes more sense than belief in a random explosion. The Big Bang theory does not offer an explanation for either the source of the single point that exploded or the origin of the space into which it exploded.

A relatively new theory posits that at a fraction of a second after point zero, something called “inflation” by physicists acted on the expanding explosion that set patterns in place that resulted in the star systems, planets, and human beings we observe today. This “superstring” theory holds that infinitesimally small loops, 100 billion times smaller than a proton, could lead to such complex organisms evolving in the undifferentiated space. Once again, it stretches credulity to make the leap from a “random bang,” through chance “strings,” to “complex conscious beings.” This is the corner physicists have painted themselves into.

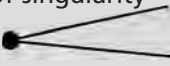


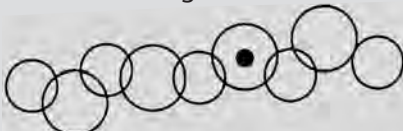

One escape for them is a theoretical combining of general relativity (Einstein) and “singular theorems” from quantum assumptions (Hawking and Penrose) that makes it possible to postulate a point close to the universe’s birth when “external” influences could have impinged on the universe’s development trajectory.

In effect, these scientists now recognize the likelihood of preexisting forces, or “parents,” who influenced the birth and/or infancy of the universe. If the conception and birth of the universe observed the same principle of male and female input as its parts (Principles of Gender and Correspondence), then its parentage might most appropriately be considered a Grand Couple (if we wish to use anthropomorphic terms).

Some scientists postulate a flat, uniform universe, while others predict a contraction or a “Big Crunch.” Whether the expansion is indefinite or time-bound seems to depend on there being a certain threshold of density to matter. Many cosmologists believe the universe to have exceeded that critical mass and therefore believe it will cease expanding. Lange and de Bernardis (mentioned above) believe the hot spots at the edge of

the galaxy will warp the universe enough to preclude further expansion. The light distortions seen by the Hubble space telescope in group NGC 2300 at 150 million light-years from Earth, indicating a gravitational force thirty times that which we experience, add credence to the contraction view. This kind of “dark matter” could keep the visible matter from expanding indefinitely, and even cause it to collapse back on itself.

The Hermetic Principles, if they are in fact relevant to the macrocosm, could shed some light on these questions. The Principle of Correspondence would predict that an entire universe experiences cycles like those of its components: birth, growth, decline, decay, and rebirth. If the universe is governed by the same principles as all levels of life, once its growth phase ceases, it should enter the aging part of the cycle, to end up back at a point to be recycled. In such a context, the event now considered a Big Bang would be more accurately described as a Grand Rebirth (see table 3 below).

Table 3	
<p>1. Big Bang: All from point of singularity</p>	
<p>a. Continual expansion</p>	
<p>b. Steady state*</p>	
<p>c. Burn out*</p>	
<p>2. Bunch of bubbles: Coexisting universes</p>	
	
<p>3. Grand Rebirth: Creation by the Grand Couple. Its own life cycle of birth, transition, and rebirth.</p>	
	
<p>* Both imply the universe is “closed,” with finite dimensions.</p>	

Parallel to the Hermetic view of a universe life cycle, the ancient Hindus had a similar understanding. The Year of Brahma was believed to be 311 trillion years long—a period that represents the expansion and contraction of the universe. Both of these esoteric views may yet be validated by Western science.

Although theories about origins and endings of the universe may not seem relevant to our current lives, at least one theoretical question may directly affect our experience: Are there parallel universes? Some scientists accept the possibility of multiple or “bubble” universes. (See table 3.) If they exist, conscious beings may be able to experience them through worm holes that serve as gateways from one part of our universe to another or between separate universes. If multiple universes exist and humans can experience them, we must be multiverse beings.

Some scientists argue that, even if other universes exist, we cannot “know” them because of the boundary of our own (termed an “event horizon”). In what may be only a question of semantics, others hypothesize that our universe is really a branch, located somewhere as only part of a larger system. If consciousness is cosmic (transcending the “event horizon” of one universe), then conscious beings may not be bound to one universe. Some people, including a few physicists such as Fred Alan Wolf, speculate that such universe hopping could account for some of the so-called paranormal and psychic phenomena (discussed in later chapters of this book).

Whether the multiverse theory can stand depends, according to some, on the existence of a GUT that explains everything for our universe. Right now the apparent indestructibility of the proton is one factor holding up the proof of a GUT. If the decay of this particle can be proved, some scientists believe they can be assured that all four forces collapse into one. On the other hand, the proton’s indestructibility might prove that the universe is inherently unstable, and therefore subject to manipulation by external forces.

The Hubble space telescope (HST) has now revealed that stars apparently are being created from the clusters of energy formed from colliding galaxies, energy that is equal to 500

billion suns. The HST has revealed that the blue star *Eta Carrae*, previously thought to be fading into oblivion, is in fact erupting.¹⁶ It appears that stars, like other organisms, are born and then die, but before they die they join violently with other stars to produce offspring that perpetuates the stellar family. The same may be true, if the Principle of Correspondence is operative on a larger scale, of entire universes. If universes die and are born again, is a process of conscious reincarnation at work?

Animating Consciousness

With the mention of consciousness, this discussion of our universe takes a dramatic turn. We know consciousness exists because we have it. Consciousness is more than thinking: in consciousness we are aware of our thinking. Yet few physicists attempt to confront the everyday reality of human self-awareness because it cannot be perceived directly and measured by the five ordinary senses. The physical world clearly manifests the effect of consciousness, but not how consciousness influences it. Thus, many of us subsequently ignore evidence of so-called paranormal abilities, including the anomalous results of telepathy and psychokinesis that show specific characteristics of a fifth and/or sixth force.

As human beings, we elaborate our individual experience of consciousness through the physical senses, but we are keenly aware that we are more than they reveal. In this book, as we review the ways in which individual and group consciousness affect matter and energy through forces focused by human intent, it will become evident that a larger consciousness is at work around us. Even though most scientists personally recognize the inconceivability of a universe such as ours occurring by chance, the profession's norms discourage formal inquiry into external consciousness as causation. (See the suggested reading list at the end of chapter 9 for examples of expanding the frontiers of science.)

Some scientists who admit the impact of consciousness on the behavior of matter, but have no theory about it, conclude with a concept Brandon Carter has called the "anthropic

principle.” Carter’s theory, drawn from quantum physics, holds that we as human beings create the universe by the way we look at it, just as an experimenter who wants to measure light finds a wave of light where another could observe a particle. Unfortunately, the circular logic of this concept permits one to escape without fully addressing the issues of primary consciousness. From where did consciousness originally arise? How does it work? Must it always be connected to matter?

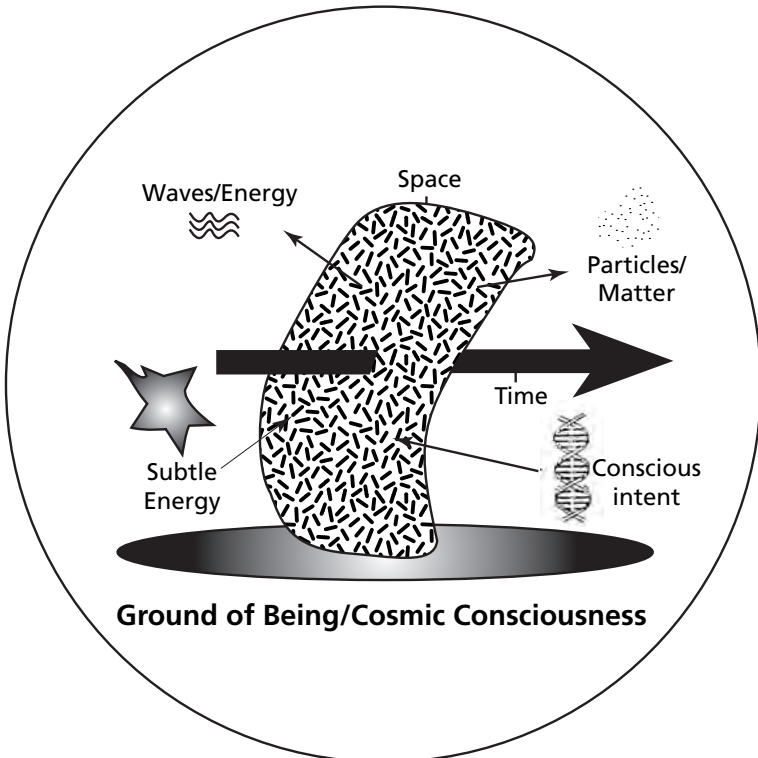
Any comprehensive theory of the universe must take into account the role of mind and consciousness. One theory, that of hyperspace, which posits up to six dimensions beyond our four-dimensional version of the universe, leaves room for a “scientific incorporation” of consciousness into a descriptive model. But most scientists still believe our everyday world can be accounted for by a limited number of basic physical laws. Thus far their formulation of laws is not as comprehensive as the Hermetic Principles, which do provide for conscious intent in the patterns of creation.

This chapter has, up to this point, focused on the objective universe, from the outside looking in, with a selective interweaving of the Hermetic Principles that combines physics and metaphysics. Before we leave the macrocosmic scale, we introduce an expanded schema that integrates consciousness and as yet unnamed subtle forces with the material universe. This schema assumes that at least three facets (consciousness, subtle energy, and matter/energy) are necessary to account for the full range of human experience (to satisfy a condition of metascience discussed earlier). Those facets must function at all levels in a singular, integrated model of the universe, and together create space-time from a void some call the “ground of being.” (Paul Tillich used the term in theology for the state before creation, and physicists use the term “ground state” to mean the lowest possible level of energetic activity.)

The graphic on page 34 identifies all these components. How they interact in nature and among conscious beings will be the subject of the rest of this book.

For the time being, I assume the ground of being is beyond our knowing, the source from which our universe in all its knowable facts and dimensions arises. In a living universe the elements interact with each other in a reciprocal fashion (described in the next two chapters), but the basic flow of the model is simple. The focus of intent (ideas or patterns) by a certain level of consciousness appears to cohere forms of subtle energy (chi, zero-point energy, etc.) that have the effect of concentrating electromagnetic charges into waves or particles. This ongoing process of sequential formation of quantum events (from the subatomic to the galactic level) results in the basic four dimensions¹⁷ of our space-time universe.

The important point here, to be further developed in the subsequent chapters, is that the same processes involved in the initial formation of the universe shape all interactions of life as we now know it. The principles that led from zero point



to particles and waves also led to stellar and galactic systems. As these principles shaped stellar families, they informed families of organic beings, now in untold numbers of species throughout the universe. The result is beings who have become self-aware, not only of their own behavior, but of some of the principles that underlie it.

The central thesis of this book is that self-conscious humans and other beings have natures that reflect, even if only dimly, the self-learning and self-directing nature of the conscious forces that gave birth to the universe in the first place. While I think it premature to undertake the search for the why of that ultimate consciousness, I believe we are capable of and compelled to address the question of how self-aware beings, such as ourselves, came to be. To be successful, I believe that conscious quest must be broader than any contemporary institutional effort of science or religion. That is why I call for a metascience, involving all paths to and all sources of knowledge. *Our Solarian Legacy* is an attempt to demonstrate the efficacy of that approach.

This chapter has illustrated the approach by focusing on the macrocosm. We can see how the Principles of Mentalism, Gender, and Polarity may complement the four forces of physics in explaining the universal birth process, whether it results in galaxies or humans. Any entity born of that process is first only a gleam in some eye of consciousness (Mentalism). The impulse to actualize the ideal (a yang or masculine expression) must find an energetic field with the potential (a yin or feminine receptivity) before it can manifest in concrete form. Thus, the Principle of Gender also requires the Principle of Polarity, where polar entities of equal force (represented by the following examples) can join to create a new one.

In the portrayal of the early moments of the universe, we saw that the energetic joining of the electron and positron (Polarity) resulted in the creation of photons. Some aspect of their design (Mentalism) resulted in the exchange of information between the two that created the new energy form. The explosive joining (*pas de deux*) of the two particles in a fertile energy field (Gender) resulted in the appearance of something

new. The same thing happens in the mating dance of human lovers and other life-forms. The merging of polar energies results in the creation of offspring (“spring” is an appropriate term, given the energetics involved). This process is repeated among the stars.

Astronomers believe our Sun has a mate (Gender), a “brown dwarf” named Nemesis located about 25,000 times the distance of the Earth from the Sun. The mating of their energetic centers (Polarity) has produced our family of planets, moons, and asteroids. Early in the twenty-first century astronomers had discovered more than fifty such stellar pairs, apparently producing planets in a manner similar to the “lovers” Sun and Nemesis.

Now we have discovered a similar birthing process at the galactic level. Our galaxy has at its center two huge force fields that emit several times as much radiation as our sun and are a strong source of radio waves. These two energetic centers (Polarity) may include a dense, fiery group of young stars and/or a black hole. Thus, they appear to fill the role of “parents” (origin and maintenance of stellar offspring) in our galaxy.

Given this symmetry, I believe it is not too farfetched to postulate an analogous pair of energy centers engaged in a mating dance of creation at the level of the universe itself. I have somewhat humorously labeled it the “Grand Couple.” But this book goes deeper than descriptions of interesting physical analogies. Key to its central thesis of a self-conscious universe is the hypothesis that a certain form of consciousness has manifested itself at each of these levels, from the microcosmic to the macrocosmic.

If that hypothesis is correct, then all forms of manifestation in the physical universe involve an expression of conscious intent, as in the schema presented above. The following chapters present evidence suggesting that the expression of conscious intent coheres some form of subtle energy into morphic fields.¹⁸ These fields possess the ability to concentrate ordinary energy into physical form. The result is that consciousness informs and transcends all organisms. In this manner nontemporal awareness benefits from conscious experience in transitory phenomena, in what I have labeled a “self-learning universe.”

Gary Schwartz and Linda Russek, in their book *The Living Energy Universe*,¹⁹ clearly illustrate how memory is retained in all aspects of the universe. Their research shows how memory lives on in so-called inert matter, living cells, and larger systems. With memory access to past experience, each new moment enables a conscious entity to assess the difference between past and present, and experiment against its perception of still unrealized potential. This is the learning process: projecting an outcome, attempting to realize it, and accessing the degree of success. Awareness of the resulting degrees of congruence or incongruence between the actual experience and the original intent leads to self-learning.

I have chosen to speculate that the conscious intention to fully experiment with itself impregnated the subtle-energy womb of the Grand Couple. From that desire came the physical universe with its polarities of energy and matter—or “matenergy,” as I prefer to label the two poles. The power of the original expression of intent was strong enough to cause a part of the original force to concentrate itself as the medium of subtle energy. The further coherence of the subtle energies transmuted them into the world of spirits, atoms, molecules, and organisms. The next chapter explores how our universe still vibrates at the microcosmic level from the kinetic energy generated by that initial desire to self-actualize.

Notes

1. Bruce Chatwin, *The Songlines* (New York: Penguin Books, 1988).
2. David Darling, *Deep Time* (New York: Delta, 1989). Most current estimates of the age of the universe range from 15 to 20 billion years.
3. Some believe the same or a comparable being was a source of knowledge for the Toltecs, Mayans, and Incas of the Western Hemisphere. For example, the Mayan calendrical system has several principles similar to the Hermetic ones presented here.
4. This tradition is the basis for the plot of James Redfield’s popular book *The Celestine Prophecy*.
5. Three Initiates, *The Kybalion: A Study of the Hermetic Philosophy of Ancient Egypt and Greece* (Chicago: The Yogi Publication Society, 1912).

6. In Hindu metaphysics we find similar principles: The primordial sound of AUM demonstrates the Principle of Vibration, while the concept of Brahman coincides with the Principle of Mentalism.

7. Fritjof Capra, *The Tao of Physics* (Berkeley, CA: Shambhala, 1975).

8. See Ivan Illich's book *Gender* for an excellent portrayal of the distinction between gender and sexual characteristics.

9. The concept of reincarnation of souls (local manifestations of consciousness) mirrors the same principle on a higher level of complexity.

10. Stephen Hawking, *Black Holes and Baby Universes* (New York: Bantam Books, 1993).

11. James Glanz, "Stanford Experiment Shakes Dark Matter Claim," *New York Times News Service* (Feb. 25, 2000).

12. Science has gathered evidence on the nature of this balance at a cosmic scale. Black holes are no longer viewed as an isolated phenomenon created only where an old star collapses on itself. They cannot disappear, for they cannot become smaller than the original primordial universe. Some are quiescent. They come in all sizes, like light-bulbs. One, 3 million times the mass of the Sun, may be only 2.3 million light-years from the Earth. Some now believe certain black holes could be spread so thinly that we could pass through them without knowing it.

13. Quasars (from quasi-stellar) are bright, starlike entities that convert matter to energy and emit gamma rays, the highest frequency on the electromagnetic spectrum. The quasar's energy output could be a thousand times stronger than that of our entire galaxy and ten trillion times more potent than our sun.

14. The modern term used to describe the principle is the "Doppler effect": as the source of light moves away from us its frequencies appear to slow down, like the sound of a horn moving away in the distance.

15. Jonathan J. Halliwell, "Quantum Cosmology and the Creation of the Universe," *Scientific American* (December 1991); 76-85.

16. "Stellar Vision," *The Sciences* (March-April 1994).

17. P. D. Ouspensky, *Tertium Organum* (New York: Vintage Books, 1982). The arrow of time used here is neither the subjectivist (perceived by us) nor the absolutist (eternally apart from us) view of

time, but a statement of entropy or other organic progressions inherent in the phenomenal realm.

18. Rupert Sheldrake, *The Presence of the Past: Morphic Resonance and the Habits of Nature* (London: Collins, 1988).

19. Gary Schwartz and Linda Russek, *The Living Energy Universe* (Charlottesville, VA: Hampton Roads Publishing, 1999).