its space, and its time. The key distinction is that it also includes anything that is beyond the cosmos. In other words, the term "cosmos" may include everything that science has defined; the term "universe" includes all that and everything else as well. What that everything else may be is the subject of the rest of this book.

Although the cosmos is a finite system, it is not the *only* system within the universe. On the contrary, even scientists speculate that there may be external systems. Rather than just accept four dimensions of spacetime as being everything that exists, some physicists have suggested that the universe comprises 11, 26, or even more dimensions. I am going to go further and suggest that there are infinite dimensions. This suggestion is based on two concepts: one is that the universe as a whole is infinite; the second is that there are infinite ways of *viewing* the universe.

This second point is important. We are living entities embued with a set of perceptions that force us to view our environment in a certain way. There is no reason to presuppose that our perceptions are wrong per se, but it is paramount that we recognize that our perceptions are *restricted*. For example, our perceptions of time as a straight-line

different systems. Thus, space, time, and atomical matter are probably unique to the "cosmos." These properties, in fact, *define* the cosmos. If there were other systems with these properties, we would be more directly aware of their existence.

Our mechanical devices—and our corporeal bodies—receive energy signals from compatible devices and material organizations. A radio receiver, for instance, receives radio waves; the human eye perceives light. If some other system outside the cosmos had the properties of radio waves or light, our radios or eyes would receive them as a natural course. We perceive the properties we are attuned to; properties we are not attuned to escape our attention. The conclusion we can draw from this is that major systems each have their own properties. In fact, the uniqueness of their respective properties are what causes them to behave as independent (but not closed) systems.

We can therefore define a physical system as a set of properties

Wisdom can change our ways. And as wisdom ultimately has but one source, we can find that source in virtually any direction we turn. That source is "the universal force," a single thread we have in common with all that exists and that stitches us into the fabric of the universe. When the ancients speak of a single source, or of the one Truth, they speak of the "universal force." This is the origin. Whatever we gain from an experience, it is a reflection of the source. Whatever we become, we become more of the source, and closer to the source. It is a mystic truth to understand oneness with the source, and a religious truth. What we don't understand in this world is that it is also a scientific truth.

Each aspect of nature has its own properties and attributes. The properties of the cosmos, for example, include space, time, matter, and so on. These properties are unlikely to be present in any other system, as other systems have their own unique properties. Yet all systems have, as their ultimate source, the essential substance of the universal field. This means that all properties interact, though there may be many, many intermediate steps linking any two properties chosen at random. With the arrival of science, man has become interested in tracing interactions in a very specific way. This analysis requires equipment that can sense the properties involved. As in finding a way to trace a neutrino's path, tracing the interactions between dissimilar systems can be next to impossible.

The essential properties of any system are unique within itself. There can be similarities between systems, but the essential factor that keeps systems separate—which gives them their definition as systems—is that they *do* have a unique set of properties. When properties are shared, interactions are obvious and easy to detect. Thus, shared properties tend to be part of a single system, or at least

Chapter Four

THE OPEN UNIVERSE

Science today favors the idea of a closed universe. This bias is based on the fact that the best available information indicates the cosmos—or space and everything within space—is finite, and that there are outer limits or boundaries to space. To that end, science has developed a history of the cosmos. This view is somewhat myopic, however. It focuses on the universe as a system of spacetime, as opposed to an open system in which spacetime is just one subsystem.

In the open universe, innumerable systems have evolved, each with an identity derived from its internal principles and properties. Just as a human being is a distinct entity within a larger environment, large-scale universal systems act within specialized contexts. They interact while maintaining an essential identity of self. That identity, of course, is a manifestation of the properties that give them form.

The "universal force," as the fundamental essence of nature, is manifested in its most elemental state of organization as universal energy. Universal energy is really just an inflection of the term universal force, or an expression of the unification of energy and force at the most elementary level. Force is a product of nature that implies an active process or conveys a field; energy implies a condition or arrangement of nature, a result of a force or forces. At its most elemental state of being, the "universal force" creates universal energy, which is then configured into higher states of force and energy.

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A level of universe, then, is not just a simple layer of physical reality, but a specific class of physical existence arising out of the universal field. It is a primary subdivision of nature, an area in which a set of laws and properties exist that give it some essential unity of action. It establishes a potential range of behavior, based on that first step of differentiation within an otherwise homogeneous whole. Although it interacts with all other levels of universe, it primarily focuses its activity within itself. It acts virtually as a universe unto itself, just as the various planes of Earth act virtually as worlds unto themselves. At the same time, you might say they act within each other, their interactions controlled by their internal characteristics.

The infinity of the universe is achieved by the fact that there is an infinite number of levels of universe (and infinite "potential" levels, or levels that do not yet exist). Such infinity is possible because there is no limit to the ways the universal energy can manifest itself in higher forms of organization. Each primary field established within the universal context is essentially one aspect of the universe breaking itself off into a finite sort of existence. It will have limits to its duration and self, just as any part of the universe does. Defining a part within the whole inherently means assigning limits to that part. At the same time, the infinite primary building blocks, though they are finite entities in and of themselves, also have infinite potential creativity for further differentiation and organization within themselves.

levels. Even within a single level such as ours, we can see how the potential range of natural differentiation is astounding; we can see that from studying just our atomical plane—one portion of our level of universe.

My objective in presenting this theory is to reflect some of the potential diversity of the universe, even in these superficial terms. I want us to realize that not only is there more to reality than this atomical plane, but there is more than an entire set of planes. The Material Level is just one potential construct within the universal field; in spite of its incredible internal diversity, it is just one among an infinite number of equally expansive aspects of reality. The universe is vaster and more complex than any theory ever devised by man. If we wish to understand how physical reality functions, we must be aware of how extensive physical reality is.

The Big Bang was essentially a blueprint for all the laws and forces that have emerged within the Material Level. It not only determined that the atomical cosmos should emerge, but also that the multi-[illegible] system, around atomical bodies, would develop and, similarly, would evolve. In these terms, every event of the Material [illegible]

similar principles in analyzing the interactions between our level and others. In fact, we can do the same at a mental level if we sensitize ourselves to the existence of parallel levels and planes and their interactive forces; the concept of antimatter itself is suggestive of a related level of universe, perhaps an antimatter level. If the universal energy can be distorted so that there is what we regard as a positive field, might there be a negative field as well to counterbalance it?

It is theoretically possible to identify each and every one of the infinite levels of universe based on the interactions between them. Practically, however, this is not even remotely feasible. No lifeform, I suspect, is sufficiently evolved to perceive more than a few closely related levels of universe. Still, the principle that there are infinite levels is accepted in soul-worlds because the principle of the infinite universe is accepted. It is not conceivable how the universe can have any true limits in the sense of having a beginning, end, or edges. Ergo, it must be infinite. There are limitations to aspects or parts of the universe, but the universe itself is infinite. 2

Modern science has yet to develop the concept of the universal level. Even if existing tools were adequate to detect interactions between our level and others, no scientist I'm aware of has yet framed the concept of multidimensional existence in these exact terms so that he would be able to test this theory. However, interactions between our level of universe and others can indeed be detected with atomical instruments, providing the instruments are calibrated to do so. We only need to know what to look for and how to develop the appropriate tools. It is a similar exercise to that of isolating anti-particles. The formation of a genuine scientific theory of parallel levels of universe, however, is some time away yet. Still, scientists do like to speculate about "parallel universes". There is no reason that these speculations cannot be fulfilled, though I prefer the term "level of universe". From our single vantage point (or, equally, any other vantage point in the universe), it is theoretically possible to unravel the entire universe, piece by piece, level by level. Because every aspect of the universe is linked to every other aspect by universal laws, these relationships are discoverable.

Even so, the most far-reaching attempts to explore other levels of universe, theoretically or otherwise, will ultimately be stymied by the alien natures of the different levels. There are physical limits for contact between one level and another. The very natures that give each its coherence and independence also cloister it to some degree from even the most closely related levels. By nature and definition any level of universe is vastly different than the most closely related

The transformation of energy is something that is not perfectly understood. However, it has long been known that each transformation occurs according to perfect laws of conservation. When energy is transformed, nothing is lost. Whatever results from a transformation exactly equals what existed before. Though not all the kinetic energy of water can be transformed to electricity, the remainder is absorbed by the ground, transformed into heat, or carried on down the river as a lessened kinetic force. Whatever is present on the left-hand side of a physical equation must be fully accounted for by the right-hand side. Everything in the physical universe operates according to these demanding laws of conservation. Regardless of what changes occur within the universe, the whole is maintained.

Viewed as a whole, the universe is a single, uninterrupted field. It is the ultimate system. We divide it into subsystems, because our own existence makes it feasible to do so. In fact, our existence as discrete entities within the universe *demands* that we differentiate between subsystems. This differentiation, however, occurs within our perceptions of our environment. Though we can function as independent entities, we do so within an environment that is ultimately the entire universe. On a larger scale, the cosmos has its own form of independence. But it, too, depends on its context. No aspect of the universe is fully independent. Everything that exists interacts in some way, however remotely or indirectly, with everything else that exists.

The interaction of parts within the universe means that where one system such as the cosmos ends, another must begin. The ending point may be gradual or abrupt, but a transformation occurs between all systems. You could define your body, for example, as ending at

Naturally, this law is not fully defined. There remains the question of *what* is all existence. This question is the hard one, for it means devoting one's entire future to defining the universe. In human terms, defining the universe is the same as defining the word infinity. Ultimately, it is meaningless, except in the general understanding that it continues forever in every imaginable way. However, it is possible to define parts of infinity, and parts of the universe, in very specific terms. This is the effort of science, and the fruit of our quest for knowledge.

As living beings, we each quest into the nature of existence because the quest sustains our awareness. In whatever form awareness comes, it eventually causes a preoccupation with the self. We need to define our environment because we need to define our selves—one can only be defined in relation to the other. The universe as a total unit has

The bottom line is that our perception of time as progressing in a linear fashion from past to future requires review if we are to understand how our system interacts with other systems of nonlinear orientations. Time outside our system is not linear as we perceive it. Instead, it is holistic; from outside this system, it is apparent that all time occurs in a universal instant. When outside the corporeal framework, this fact is evident to the soul. It can also be evident to the upper conscious—that is, our usual waking conscious—if we choose to expand our awareness somewhat. Although this expansion is not essential to our healthy functioning within this environment, it would help us to understand our overall place in the universe. On the whole, however, it is safe to assume that although time cannot survive without the universe, the universe can survive quite easily without time.

Time, like space, is a subsystem of the "cosmos." Time, coupled with space and its composite matter, forms the "cosmos." The "cosmos," in turn, is a subsystem of a much greater entity still. The universe has many such layers. My guides describe a universe in which multitudes of very large systems, many orders of magnitude greater than the cosmos, interact in an ever-mixing, ever-changing way. The universe is alive with great systems forming, borrowing from others, self-destructing, and undergoing internal transformations of all kinds. All these systems and their subsystems have limits which define them as finite entities. The model of universe my guides present, therefore, is that of an infinite entity composed of infinite numbers of finite parts.

balance with the other.

Balance is achieved by the actions of change. Each event is part of a universal struggle to achieve ultimate balance, when all aspects of the universe are in a form of universal stasis. This universal stasis is the point at which the "universal force" is at its simplest configuration. In a sense, the "universal force" at this point of balance has no configuration. It is perfectly uniform, unidimensional, and simple. And from it, all of the complex forms of nature emerge. The emergence of something complex from the ultimate in simplicity is a form of self-creation.

Like the cosmos oscillating through cycles of Big Bangs and Big Crunches, the universe has had infinite cycles of universal stasis and recreation. It is as if the universe devotes its entire being to creating complex forms only so that it may reduce them again to their simplest common denominator, then start the whole process over. What actually occurs during each incarnation of the universe, or each cycle, we can only surmise from what has occurred so far in *this* universal incarnation. From our point of view, the obvious starting place is our own existence.

In the course of universal evolution, even the four billion years our planet has existed is an instant. As an infinite construct, the universe exists forever. But everything within it must end. Thus, for life to survive something as cataclysmic as the Big Crunch must necessarily involve the contemplation of either changing the event or changing the self to adapt to the event. Existence on a small scale such as our planet can offer practice for such a future. How many species on our terrestrial plane alone have come and gone? How many lifeforms have used the biological organisms of terrestrial earth to learn the techniques of adaptation, of change in the face of violent upheavals in environment? Each day of our lives is a learning experience, a microcosm of the universal experience. Everything we do, no matter how trivial or insignificant, provides us with a map to the destiny of the universe.

The seas of the universe may ebb and flow from simplicity to complexity and back again, but the whole is always maintained. It exists as it dictates to itself, its internal changes a ferment under perfectly organized control. What we view as an increase in order or disorder is really just our limited view of a universal balancing act. We can see life evolving to ever higher forms, and inanimate energies devolving. Because we don't see the whole picture, we may not be aware of what becomes of one state of organization, or how another arose. But we can be certain of a few key principles, one of which is that life infallibly creates more life.

Even though science is more eager to seek out the elemental nature of atoms than that of the soul, the quests are ultimately one and the same. To find the base matter of an atom is to find the base matter of the soul. Atoms and souls are just different expressions of the base matter energy. In terms of their outward characteristics, atoms and souls behave very differently, but they are both manifestations of matter energies.

The study of component parts is a reductionist mode of thought that results in a paradigm of a whole based on the sum of its parts. We can view all of nature in terms of parts; the same set of parts can be recombined in many ways to create vastly different entities. Ultimately, the entire universe can be conceptually reduced to the simplest terms: "universal energy." From that single source comes every organized form in the universe. Each level of universe has its base or lowest common denominator, and each progressively higher order of organization has a common denominator shared by a layer of interacting parts. These parts can be viewed as building blocks, each set of building blocks being responsible for a particular subset of nature.

Thus, order arises progressively through various layers of components or building blocks of nature. Each layer, from the quarks, neutrinos, electrons, and other seemingly indivisible particles to the complex molecular structures of the macroscopic world, offers a potentially infinite range of creativity. It just happens that a combination of forces exists that has resulted in a more or less fixed set of parts at any given layer of organization. These parts then govern the types of activity that can occur at the next layer of organization.

Science will eventually trace the component elements of our cosmos below the level of quarks, neutrinos, electrons, and so on. The base matter energy can be described as a basic particle (or waveform) that forms all the higher orders of material organization. Below the level of the base matter energy is "the universal energy." Below that, nature seems to peter out into the formless void of "the universal force," where action and reaction no longer exist. There is only existence, or not-existence, depending on how you choose to think of it. You might choose to call this primary manifestation "nothing", to say that the universe is an infinitely complex entity formed from nothing. I choose to call it "the universal force." How something can be both "something" and "nothing" may seem to us an unresolvable paradox, but at its most elementary state of being, this is the essence of the universe. Both our sciences and our mystic traditions point us to this conclusion.

I have already mentioned Genesis, which describes the universe as being created out of nothing. Science similarly tackles the universal paradox, touching it most closely with its concept of forces. To date, four atomic forces have been identified, the strong and weak nuclear forces, gravity, and electromagnetism. To better visualize and work with the fuzzy world of subatomic forces, physicists have extended the concept of particle to forces. The concept of particles may not be completely accurate in describing such activity, but is so far the most useful tool we have to help us grasp what occurs at that level of reality. Physicists may therefore talk about gravitons as being the particles responsible for gravity, W and Z particles being responsible for the weak nuclear force, the gluon being responsible for the strong nuclear force, and photons being responsible for electromagnetism. Together these four forces form the essence of atomical nature; without them atoms would not be able to cohere as units. They are believed to have an underlying unity that represents some superforce; already, all but gravity have been demonstrated to be unified through the Grand Unified Theory. Essentially, I am saying that such a conceptual model can be carried to even greater degrees of unification, ultimately to "the universal force" itself.

The oscillating cosmos theory describes a system that is closed at least in terms of space. It can only get so big before it collapses. Is it reasonable to assume that an entity that exists totally within one set of conditions—that enclosed by the conditions of space—is able to spontaneously generate and destroy matter? Or are agents external to the cosmos acting to create the conditions we know as the cosmos from some *other* set of conditions, that is, does something *else* create matter and the cosmos? If so, then the cosmos is not a *closed* system, but a *finite* one that interacts with other systems.

At the moment, the scientific consensus seems to be that the Big Bang occurred spontaneously. So far, scientists haven't mapped cosmic history quite to its very beginnings, although they do generally understand what has happened since the barest fraction of a second following the Big Bang. But no evidence exists as to what caused the Big Bang, or what went before, if not another cosmic incarnation. The cosmos, to the best of modern knowledge, appears to have popped into existence quite literally from nothing. Some scientists beg the question of universal origin altogether and point the curious to the disciplines of philosophy and theology for further discussion.

The origin of everything is indeed a great metaphysical question. Interestingly, human cultures have universally concluded that something as wonderful as the universe is no accident. They ascribe the process of Creation to a conscious power. Although this power has been assigned many names, the idea of a Creator is universal. This Creator may be seen as one or more entities, but even in multi-god systems of belief, a paramount god is usually viewed as the Creator. This idea neatly provides an answer to the question of what created the universe, but begs the question of who or what created the Creator.

Creation is too big a question to be answered here. However, I think it is fair to at least adopt a strategy for dealing with it. My strategy is to include the Creator, whoever or whatever it may prove to be, as part of the physical universe. The Creator is therefore included in the physical paradigm that I am expressing here. As I noted earlier, it is not necessary to understand all aspects of the universe to hold the notion of "all that exists". If a Creator exists, then as far as I am concerned, the Creator is part of the universe. In fact, there *is* a Creator, and this Creator is very much alive in every aspect of the universe. In effect, this Creator *is* the universe. What this means is that the universe created itself; this does not mean necessarily that it caused itself to emerge from nothing, but that it creates its current

and to the limitations of their human charges. We can therefore think of our guides as gods, if we wish, for they often present themselves to us as such. But we cannot see them as God the Creator of All that Is, because that is a state of universal being. In the truest terms, God is the infinite universe; the infinite universe is God.

GOD

effect, it is a means by which the infinite whole can be contemplated in terms of an infinite number of finite parts.

The soul's paradigm involves a fundamental architecture my guides describe as the "levels of universe". This term is offered as much to satisfy the purposes of language and communications as to define physical divisions of nature. However, the universe does lend itself to such divisions, if only in very general terms. This paradigm is based on two essential assumptions: one, that all of nature is unified and must therefore be unified by some lowest common denominator, something we can call the "universal force"; and two, that because nature is highly organized, this organization must be based on progressively higher orders of organization of the "universal force." The universe is composed of infinite levels or functional units, each of which is intrinsically different from all the others.

Though simple, this paradigm provides a flexible framework

T.A.

Life as we know it is just an extension of universal being. Everything in the universe shares in a universal being that is conscious of itself in every respect. This universal being can be called God: a summation of All that Is, all knowledge, and all that can ever be. This means that atoms are a part of that universal consciousness as much as any living being. In fact, atoms in these terms are alive. They have a life-span, and they have a consciousness at the physical level. Each and every aspect of each and every atom knows exactly what its place is in the universe, and unfailingly responds to every force acting on it. Lifeforms do the same; the only difference is that lifeforms have an additional ability, though limited, in determining *what* their reactions will be. They have, in other words, limited (and varying) degrees of self-direction.

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taken by our guides to teach us the higher ideals of our world indicate that they share visions of these same ideals. There are indeed striking differences in application and interpretation of ideals in their worlds and ours, but the essence of the ideals is the same. Love is by far the highest of these ideals. This ideal, say my guides, is the fundamental purpose of our learning experience on this plane. Of all the ideals we learn—freedom, justice, honor, and many others—love is the most basic to our existence. It relates to the essence of our being and is the governing factor in when and under what circumstances we, as souls, evolve to a higher plane.

LOVE

FALCON PRESS, LAS VEGAS, NEVADA, U.S.A.