

CONTINUOUS CREATION OF THE LIVING COSMOS

Duane Elgin

March 1988

**Please Note: This is a text-only version and does not contain graphics.
To view images, please go to the pdf version on the website:
www.awakeningearth.org**

Two Contrasting Images of Reality

This paper develops the view that our cosmos is a profoundly interconnected organism that has worked continuously to maintain its existence since its birth some 14 billion years ago. Despite the vast scale of our cosmos, its entire scope (of matter-energy and space-time) is assumed to be continuously regenerated in a flow of manifestation that proceeds at a pace revealed by the constancy of the speed of light.

It is important to differentiate this theory of "continuous creation of the whole cosmos" from a now largely abandoned theory describing the "continual creation of atomic matter." The latter theory describes a steady-state cosmos where atoms are slowly generated at a rate just sufficient to offset the dispersion produced by the expansion of the universe, thereby yielding an average density throughout. In contrast, this view of continuous creation describes a process whereby the totality of the cosmic system, including the fabric of space-time, is continuously regenerated at a rate revealed by the constancy of the speed of light—a vastly larger, more inclusive, and more complex process.

Before developing this new theory, it is useful to establish a frame of reference by noting key features of the **traditional scientific view of the cosmos**:

- o The general picture that emerges from mainstream science is that our cosmos is made from debris left over from the big bang. Microscopic particles floating through immense reaches of empty and lifeless space have coalesced into swirling galactic clouds of matter that, in turn, have spawned planetary systems which now provide a platform upon which life may occasionally emerge and evolve.

- o In the traditional scientific view, all of the matter now found in the cosmos is assumed to have emerged when the cosmos burst into existence. Having come into existence out of nothing—a "vacuum fluctuation"—it is assumed that matter-energy and space-time will continue to exist for an indeterminate period of time without requiring further support.
- o The speed of light is assumed to be the limiting speed of existence. Because nothing can travel in excess of this speed, distant locations are effectively disconnected from the earth (for example, even with signals traveling at the speed of light, other galaxies are millions of light-years away, thereby preventing any meaningful physical connection).
- o The observing or self-referencing capacity is assumed to be rare and found primarily in humans and a few other "exceptional" life forms.
- o Relativity theory assumes there is no "cosmic now" that binds the cosmos into a single, temporal whole. Instead, all time is relative to the position of the observer.

In contrast to the traditional scientific view, here are key hypotheses made by the **theory of continuous creation**:

- o Instead of a loosely connected, four-dimensional universe, this theory assumes our universe is a seven dimensional, self-organizing system that is fully connected with itself.
- o Instead of existing effortlessly, continuous creation cosmology assumes the cosmos has worked, moment by moment, since its birth to maintain itself.
- o Instead of the constancy of the speed of light being a limiting barrier, this fact points to the process whereby the entire fabric of the cosmos—matter-energy and space-time—is being "woven together" as a single resonance pattern.
- o Instead of restricting self-referencing potentials to humans and a few other life forms, the theory of continuous creation assumes that observing or reflective potentials are present throughout the cosmos. A self-referencing capacity is assumed to be "built-in" and used by systems at every scale—from the atomic to the human to the cosmic.
- o Instead of rejecting simultaneity, a "cosmic now" is assumed to operate in the fifth through seventh dimensions. With these three additional dimensions, continuous creation theory is able to describe a unified reality of flowing movement.

Although the premises of continuous creation theory differ from the traditional scientific paradigm, these are complementary and not competing views of reality. The relativistic model works in four dimensions and the continuous creation model is assumed to work in seven dimensions.

This model may provide useful insights into a number of key issues in contemporary physics and cosmology. For example, the seven dimensional model: 1) describes the observer as a pervasive and co-equal partner in the dynamic construction of reality, 2) suggests new insights into the nature of inertia, 3) describes a new level of simultaneity that, in turn, may provide insights into the paradoxical results of Bell's theorem, and 4) suggests that Planck's constant may be a conversion factor for orchestrating the precise manifestation of reality as a flow-through system. These and other speculations suggest that the continuous creation model may be potentially useful as a source of insight for mathematical theories.

As background, this model is based upon an intuitive understanding of reality informed by ten years of self-directed study into contemporary physics and cosmology. While I have attempted to build a rigorous logic for this theory, the descriptions are metaphorical rather than mathematical. It is my hope that this work will interest persons with mathematical and scientific skills in developing a detailed physical model with predictive descriptions. We turn to develop this theory and to suggest a few of its possible implications for physics, cosmology, and philosophy.

SECTION I: THE CONTINUOUS CREATION MODEL

Cosmos and Hyper-universe

Basic to the continuous creation model of reality is the distinction made between the terms "cosmos" and "hyper-universe:"

- o **Cosmos**—Refers to a seven dimensional, self-organizing system—a "giant body" of matter-energy and space-time that is continuously regenerated at a rate that is intimately connected to the constancy of the speed of light.
- o **Hyper-universe**—Refers to the "hyperdimensional ecology" of eight dimensions and beyond that is the context within which the cosmos exists and out of which it is born. This is assumed to be a field of unlimited life-energy.

In other words, the terms "**cosmos**" (or "universe") will be used to refer to a self-bounding system of dimensionally restricted scope while the term "**hyper-universe**" will refer to the dimensionally unlimited context out of which the cosmos is drawn. It is conceivable that the hyper-universe contains an infinite number of uniquely different dimensions—each providing a new context for extension, appreciation, and learning.

Figure 1: Hyper-universe and Cosmos

"Hyper-universe"
 (1st Dimension plus
 8+ Dimensions)

"Cosmos"
 (2nd-7th Dimensions)

The **cosmos** is assumed to be of limited age—some 14 billion years old—while the **hyper-universe** is assumed to be of infinite duration or age. Continuous creation theory assumes the **cosmos** has been created by contracting the unbounded life-energy of the **hyper-universe** into a self-organizing and self-referencing system. Like a cloud that is drawn from, and exists within, the earth's sky and atmosphere, our **cosmos** is drawn from, and exists within, a **hyper-universe** of potentially infinite dimensionality. Our **cosmos** is a self-bounding process—it's like a "cloud" of matter-energy-space-time that continuously coalesces from the "atmosphere" of the dimensionally unbounded **hyper-universe**.

To describe the continuous creation of reality, we require more spaciousness than is provided by four dimensions. Within a four dimensional view, it is difficult to account for a cosmos that emerges from "nothing," is pervasively in motion, profoundly connected with itself, instantaneously self-referencing, and immersed in a hyper-universe of unlimited dimensionality.

Fortunately, this is a pioneering time for physics and the restrictive boundary of four-dimensional thinking has already been broken. Physicists are developing new models that go far beyond four dimensions—for example, ten dimensional mathematical models and "superstring" theories. Despite the absence of mathematical formulation, this model is offered as grist for the mill in this new dimensional dialogue. The author hopes that the dimensional logic and language of this theory will provide a catalyst for the development of a corresponding seven dimensional mathematics.

Because this process view of reality is built upon new patterns of relationship among dimensions, we turn to consider the nature of dimensionality and reality.

Dimensionality and Reality

Dimensions are assumed to represent far more than sterile mathematical terms or simple "open space"—they are the organizing frameworks within which reality presents itself and evolves itself. Because each dimension has characteristic qualities and potentials, a "dimensional language" is required to describe the spectrum of dimensional functions and their interrelations.

Here are the basic assumptions the theory of continuous, cosmic-scale creation makes about the nature of dimensions:

- 1) Dimensions are the building blocks of reality. Dimensions are the living geometry in which, and through which, reality is created. Johan Kepler remarked: "Geometry provided God with a model for the Creation." There is no reality without dimensionality. The miracle that anything exists at all is a miracle that depends upon the existence of dimensions to provide the context within which "things"—including the fabric of space-time—can become manifest.
- 2) A dimension is open but not empty. Each dimension is filled with invisible structure that constrains how reality manifests itself (for example, the limiting barrier of the speed of light). Each dimension has unique functions and organizing principles that include both a "time aspect" and a "spatial aspect." It is assumed the synergy of the two gives each dimension much of its unique character.
- 3) Dimensions are nested so interior dimensions fit exactly within more embracing dimensions. The interrelation of dimensions is analogous to a two-dimensional circle and three-dimensional sphere that exactly overlap. A circle has total freedom to move within the context of a sphere. Similarly, each dimension provides complete freedom of expression for the unique qualities of other dimensions. Dimensions are mutually arising and non-interfering.
- 4) Our cosmos is a self-organizing system that uses an interconnected pattern of dimensional functions to create, maintain, and evolve itself. There is an ecology among dimensions and, together, they work to provide the dynamic platform upon which matter-energy and space-time can be concretely and persistently manifest.
- 5) Our cosmos works on the basis of an elegantly simple design that is reflected in the symmetry among dimensions. We can, for example, use our understanding of the three material dimensions to make symmetrical inferences about the nature and function of the three "observer dimensions."
- 6) Continuous creation theory assumes our "cosmos" is a system of seven dimensions that exists within a "hyper-universe" of unlimited dimensionality. The possibility of a hyper-universe with an infinite number of dimensions, each with a unique evolutionary potential, makes a seven dimensional cosmology seem of much more modest scope. Given the scale and complexity of the cosmos that has been created from a "handful" of dimensions, it is stunning to consider that the deep ecology of our hyper-universe may contain countless additional dimensions. It is humbling to consider we are living at the very beginnings of dimensional existence and evolution.

With this brief overview of dimensions as the active and intentional geometry within which reality is constructed, we turn to develop a fuller description of the seven dimensional model, and then to explore the relevance of this model to contemporary physics and cosmology.

Symmetry of Material and Mirroring Dimensions

The cosmology presented here makes radical simplifying assumptions based on deep symmetries within the dimensional structure of reality. Given these symmetries, the theory of a self-weaving cosmos is approachable by anyone already familiar with relativity theory and four-dimensional cosmology.

As already noted, a key simplifying assumption is that our dimensionally unlimited hyper-universe generates a dimensionally limited, self-bounding system comprised of three material dimensions and three mirroring dimensions. Continuous creation theory postulates that three self-referencing dimensions connect and reflect the actions occurring in three material dimensions and, together, they work to dynamically generate our cosmos as a self-organizing system:

- o **Three material dimensions (2nd-4th)** give the cosmos concrete expression through diverse material forms.
- o **Three mirroring dimensions (5th-7th)** provide self-referencing feedback and connect the overall cosmos into an integrated system.

Mirroring or self-referencing or observing dimensions involve much more than the "consciousness" or reflective knowing of biological systems. Mirroring dimensions are assumed to coordinate the flow of manifestation of material reality by connecting the cosmos into a single, ecological system. Where three material dimensions give fact, depth, and dynamism to material existence, the three mirroring dimensions provide the cosmos with a corresponding facticity, depth, and dynamism of self-referencing feedback and ecological interconnection.

The three mirroring or self-referencing dimensions (5th, 6th, and 7th) are assumed to perform two key functions in co-creating reality.

- 1) **Connective Function**—Mirroring dimensions bridge the vast space-time distances of our cosmos and instantaneously distribute "operating information" throughout. Like a holographic plate where each part contains within it information about the whole picture, each part of our cosmos contains within it dynamically distributed information about the entire cosmic system. Through the operation of the referencing dimensions, a change anywhere is instantaneously registered as a change everywhere. The three referential dimensions coordinate the mechanics of manifestation at every scale to maintain the seamless and unbroken fabric of reality.
- 2) **Reflective Function**—Our cosmos cannot be self-organizing unless it has the

capacity to know itself as an operating system. The three mirroring dimensions provide this essential knowing or self-referencing capacity. This observing capacity should not be equated with "biological consciousness" or knowing. A self-referencing capacity is assumed to be universally distributed and intensively used in ways that are appropriate for systems at every scale—subatomic, atomic, molecular, human, planetary, and even the entire cosmos. Because a significant evolutionary advantage is conferred on those living systems most conscious of and responsive to their environment, we should expect evolution to include development of a self-referencing capacity throughout nature.

While it is stunning to consider that every level of the cosmos has some form of reflective capacity, it is no more remarkable than to imagine, for example, that our cosmos emerged in a big bang from nothing fourteen billion years ago. If anything, it seems less of a miracle to propose the cosmos contains a pervasive self-referencing capability than it does to propose the cosmos is made from a vacuum fluctuation—where "nothing" pushes on "nothing" to create everything.

Material and mirroring dimensions are assumed to be mutually interdependent and mutually supportive in co-creating and maintaining reality.

Figure 2: Mutual Interdependence of Material and Mirroring Dimensions:

"Objective reality" is a resonance pattern or "standing wave" generated by the dynamic interaction of material and mirroring dimensions. Both sets of dimensions are required to weave together a unified material reality that is infused with an observing potential.

These two sets of dimensions are intensely synergistic. Without the interference pattern of manifest reality neither material nor mirroring dimensions could "exist." Just as a mirror reveals the presence of an object and, conversely, the reflection of the object reveals the existence of the mirror, so too do mirroring and material dimensions mutually support the existence of one another:

- o **Without matter** to push against, the self-referencing dimensions would remain undisturbed and unknown. Matter makes life specific, tangible, and undeniable. The subtle feedback of the mirroring process is anchored by the

concrete reality of the material dimensions.

- o **Without a self-referencing capacity**, matter would remain invisible to itself. Without an observing potential, matter would never "know" of its existence nor have the ability to "pull itself together" and evolve to higher levels of self-organizing structure.

A meaningful and tangible reality is dynamically constructed from these two sets of mutually interpenetrating and simultaneously arising dimensions. Mirroring and material dimensions are intensely complementary and depend upon one another completely. Trying to understand the nature of material and mirroring dimensions separately is like dismantling a tornado to discover its structure—and then, with the flows gone, wondering where "it" went. Similarly, it is only in the dynamic interchange of mirroring and material dimensions that a meaningful reality emerges. Neither set of dimensions is "superior" to the other. Material and mirroring dimensions are co-equal in creating a self-organizing and self-referencing cosmos.

The mirroring or reflective process is assumed to always emerge in conjunction with its material counterpart. The mirroring process is not a freestanding presence but a transitory process that is indivisible from its material "object." Both mirroring and material aspects emerge together from the deeper life-source. We require a new "observer physics" to discover the lawful properties of the three referential dimensions.

Patterns of Dimensional Symmetry

Given dimensional symmetry, we can infer the geometric aspects of the mirroring dimensions from the geometrical aspects of the material dimensions:

- o **2nd/5th Dimensional Symmetry**—The second dimension provides the minimum space required for the bare fact of material existence to present itself. Symmetrically, the fifth dimension provides the minimum spaciousness for the self-referencing interconnection that spans the cosmos.
- o **3rd/6th Dimensional Symmetry**—The third dimension provides the geometric depth for the variety, texture and fullness of form to be expressed. Symmetrically, the sixth dimension provides the spaciousness necessary to connect the full span and depth of the cosmos into a single ecological system that ranges from the subatomic to the astronomical scale.
- **4th/7th Dimensional Symmetry**—The fourth dimension provides the geometric space for objects to move independently with respect to other objects. Symmetrically, the seventh dimension provides the geometry to achieve dynamic reconciliation among all relativistic motion occurring throughout the four dimensional cosmos at each instant.

Figure 3: Patterns of Dimensional Symmetry

Material Dimensions	Mirroring Dimensions
<hr/>	
4th D— DYNAMISM of Matter	7th D— DYNAMISM of Self-reference
<hr/>	
3rd D— DEPTH of Matter	6th D— DEPTH of Self-reference
<hr/>	
2nd D— FACT of Matter	5th D— FACT of Self-reference
<hr/>	

These patterns of symmetry are essential for the cosmos to be able to create itself as a bootstrapping system. With material expression and self-referencing observation in dynamic interrelation to one another, the cosmos can exist and develop as a self-organizing system.

Neither material nor mirroring aspects of reality are primary as both arise together from the deeper, hyper-universe. Underlying everything is the first or "foundation dimension" which is assumed to be profoundly connected with the hyper-universe of 8+ dimensions. In this way, our cosmos is dimensionally bounded and "held" by the first and 8th+ dimensions.

The Topology and Flows of Unification

How can we visualize the structure of reality that arises from the dynamic interaction of material and mirroring dimensions? Topologically, the "torus" or doughnut shape provides geometry well suited for describing self-referencing systems. The torus is simple geometric structure that can describe a dynamically self-organizing process. Also, the torus is also one of the basic shapes in the universe—we see it in tornadoes, whirlpools, the shape of galaxies, the structure of magnetic fields, and elsewhere throughout nature. Although the torus is used here to picture the nature of self-organizing processes, it may have mathematical relevance as well.

Figure 4: Dimensional Symmetry In A Systems View of the Cosmos

- o **8+ Dimensions or Hyper-universe**—This is the "generative ground" of unbounded dimensionality, energy, and creative potential. The cosmos is assumed to be a self-referencing system that is born from, grows in, and returns to the hyper-universe of eight dimensions and beyond.
-

- o **7th D—Dynamism of Self-reference:** Provides the context for feedback on and reconciliation of relativistic differences of all objects in motion.
 - o **6th D—Depth of Self-reference:** Provides sufficient spaciousness to enable the cosmos to be connected with itself as material systems move through cyclical dynamics.
 - o **5th D—Fact of Self-reference:** Provides the context and capacity for self-referencing observation and connection—for both individual systems and the overall cosmos.
-
- o **4th D—Dynamism of Form:** Provides the room for matter to move independently relative to other matter.
 - o **3rd D—Depth of Form:** Enables matter to achieve depth and diversity of form and to move through cyclical dynamics.
 - o **2nd D—Fact of Form:** Enables the bare fact of material existence to be represented in the moment.

-
- o **1st Dimension—**The first dimension is assumed to be intimately connected with the deeper generative ground of 8+ dimensions. Because one dimension represents the collapse of material reality—the physics of a black hole—two dimensions are required to create an arena for matter to "represent" itself (to stand back from itself, be visible to itself, and know itself). Therefore, this typology begins with the second dimension as the first "manifest" dimension.

Because two flows mutually hold and shape one another into a dynamic structure with great strength to persist, it seems an ideal "building-block" for reality. Using the torus analogy, mirroring and material dimensions are assumed to relate to one another as follows.

Figure 5: The Torus as a Basic Building-Block of Reality

Material and mirroring aspects of reality flow together, mutually containing and mutually defining one another. Like two whirlpools of energy that mutually contain and focus one another, material and mirroring dimensions mutually strengthen one another and produce a dynamic structure with great power to persist despite its completely flowing nature. Together, material and mirroring dimensions create a self-bounding process that manifests as a single, seven dimensional "body" that is dynamically drawn from, and exists within, the hyper-universe.

Figure 6: The Cosmos as a Seven-Dimensional Torus Arising from an 8+ Dimensional Hyper-universe

8+ Dimensions—The Hyper-universe is made from life-energy of unlimited dimensionality.

5-7th Dimensions—Mirroring dimensions connect and synchronize the functioning of material dimensions.

2-4th Dimensions—Material reality is a dynamic resonance pattern with depth, diversity, and dynamism of expression.

Mirroring and material dimensions co-create "aligning structures" that enable the deeper life-energy to come into dynamic self-referencing existence. Our cosmos is a self-organizing system that hangs suspended in an infinite ocean of life-energy. Matter is neither static nor solid but is a persisting standing wave or pattern of resonance infused with a self-referencing potential.

Every "thing" that exists is assumed to be made from three interacting and intersecting flows: material manifestation, mirroring processes, and hyperdimensional life-energy.

- 1) **Material Manifestation**—2nd-4th Dimensions, give fact, depth and dynamism to reality. Material reality is the platform of existence, the vehicle of visible expression, and the medium through which evolution occurs.
- 2) **Mirroring Process**—The 5th-7th dimensions are the observing dimensions that connect all time, space, matter, and motion occurring throughout the cosmos into a self-consistent whole. Mirroring dimensions provide fact, depth, and dynamism of self-referencing feedback at every level of the cosmos.

3) **Generative Ground**—The 1st dimension and 8+ dimensions, provide the unbounded source of creative life-energy from which our seven dimensional cosmos is dynamically constructed as a self-bounding system. The field of life-energy is assumed to have a freestanding or "independent" existence that is prior to, and not conditioned by, the relative and transitory flows of material and mirroring dimensions. Because this domain is literally beyond our dimensional grasp, it remains ineffable.

**Figure 7: Material and Mirroring Dimensions
Co-create an Aligning Structure for the
Flow-through of Hyperdimensional Energy**

These three aspects combine to create an intensely synergistic and symbiotic process. The cosmos creates itself by continuously coalescing the hyperdimensional life-energy, and simultaneously sustains itself by "consuming" this life-energy. In turn, our cosmos provides the unbounded field of life-energy with a "spawning ground" for freely born, living systems of every level and nature—atomic, human, planetary, galactic (and beyond). Each of these innumerable material forms constitutes an aligning structure that enables the life-energy to uniquely encounter and "know" itself. A deep level of unification is implied when cosmos and life-energy serve one another so profoundly: the cosmos is made from and sustained by the life-energy, and the life-energy achieves creative, self-referencing expression through the living systems of the self-bounding cosmos.

This theory of a self-organizing cosmos assumes that toroidal structures—that are made from and support the flow-through of hyperdimensional life-energy—are the basic building blocks of reality. From the subatomic to the astronomical scale, toroidal processes are assumed to be nested within a hierarchy of toroidal processes.

**Figure 8: Toroidal Structures
as the Building Blocks of Reality**

With these dynamic structures as all-purpose building blocks, the hyper-universe is able to generate the complete range of forms that comprise our complex cosmos.

What evidence is there that material reality is being continuously coalesced from, and sustained by, a deeper energy field? Intriguing evidence of this comes from recent work by the physicist Harold Puthoff. Puthoff explored why the electrons spinning around atoms don't

radiate their energy and collapse into the nucleus. He concluded that atoms are sustained by constantly drawing energy from a background vacuum to exactly compensate for the energy that radiates from the electron.

Basic to Puthoff's theory (and quantum theory) is the idea that even a small area of empty space contains a uniform sea of enormously powerful background energy called "zero-point energy"—the point from which all other energies are measured. As the electron radiates away energy, Puthoff asserts that it absorbs a compensating amount of energy from the zero-point field so as to exactly balance the loss and thereby maintain dynamic stability. He concludes that the stability of matter verifies the presence of an underlying sea of immensely powerful energy that is universally present.

The Cosmos as a Self-Referencing Resonance Pattern

Everything is in motion in an unceasing dance that extends from the smallest detail to the largest-scale features of the cosmos. All motion is orchestrated into the single, seamless field that extends from the atomic to the astronomical scale.

This motion is not haphazard but possesses a deep coherence and lawfulness. The cosmos is not comprised of static physical structures; rather, it is made from coherent wave forms. Every aspect of "objective" reality is a seven dimensional resonance wave or flowing process. Coherent patterns of flow-through are nested within larger patterns of flow-through.

Material objects are dynamically constructed resonance patterns that exist within the larger resonance pattern or standing wave that is our cosmos. A person (or a tree or a planet, etc.) is a dynamically stable, flowing process. Matter is not intrinsically "hard," rather, it is a wave-form that manifests with great precision. Matter has the appearance and feel of solidity because of its precise, dynamic consistency. When two objects meet—as precisely matched waveforms—they interact as if they were "hard." The precision and speed with which the cosmos coalesces produces the illusion of persisting and solid structures. We interpret the precise, dynamic consistency of material forms as static solidity.

Because all is in motion, the unfailingly precise correlation of all motion is essential to maintain stable material forms with lawful and predictable interrelations. Every aspect of the cosmos—from the emergence of the smallest particle to the movement of the largest-scale galactic structures—must be precisely synchronized to achieve an orderly reality. Viewed from within four dimensions, the cosmos appears as a single, integrated resonance pattern or standing wave, the manifestation of which is omnidirectional (coalescing from every direction at once). Like a 360-degree circle of no volume, each point of space-time provides a center for the flow-through of hyperdimensional energy to generate material reality.

The pervasive dynamism of reality is not confined to matter. Space is not a static "emptiness" waiting to be filled out by matter, but is a continuous opening process that creates the room for matter to manifest itself. Rather than the mere absence of form, "space-time" is a dynamic opening process that makes room for objects to present themselves. Because space-time is inseparable from motion, and motion is inseparable from energy, vast amounts of energy

must be required to generate the "empty" or "open" space-time within which matter can present itself.

The dynamism of matter-energy and space-time converge to create reality as an integrated resonance pattern. At the largest scale, the cosmos is maintained by the continuous flow-through of energy. Like the vortex of a tornado or whirlpool, our cosmos has a dynamic structure that arises from, and is maintained by, the continuous flow-through of energy. Being thoroughly dynamic, our cosmos has no independent existence of its own, but exists solely because of the flow-through of energy. If the flow-through were to cease for even an instant, our cosmos would disappear.

We are immersed in a process of creation that has continued from the moment the cosmos was born. Our cosmos was not disgorged in an instant of creation and then abandoned 14 billion years ago. Every aspect of reality is immersed within and recreated from a dynamic flow of energy that has continued throughout the entire span of evolution. The cosmos is being continuously generated by the flow-through of unimaginable amounts of energy in an unutterably vast and intensely alive process of awesome precision and power.

The Speed of Light and the Flow of Creation

From the most minute aspect of the subatomic realm to the largest scale features of the cosmos—all is assumed to be continuously manifesting as a single whole. Defining the rate of this flow brings us to one of the most fundamental attributes of the cosmos—the constancy of the speed of light. Central to the theory of continuous creation is the hypothesis that the speed of light reveals the pace at which our cosmos is being dynamically generated as a self-consistent whole. The speed of light is intimately tied to the rate at which the fabric of matter-energy and space-time is being woven together. Everything—atoms, human beings, galactic systems, even seemingly "empty" space—is being generated in a vast rush of creation that proceeds at a pace associated with the constancy of light speed.

When Einstein developed the theory of relativity, he began with the observed constancy of the speed of light and proceeded to develop a theory consistent with this fact. The theory that emerged was descriptive rather than causal. Einstein did not provide a causal explanation for why the speed of light is constant; rather, he took this as a given and proceeded to develop a theory consistent with this unyielding fact.

The unflinching constancy of the speed of light in a cosmos where relativistic effects abound indicates there must be a process at work beyond four dimensions. Without a larger dimensional context, relativistic differences could not be reconciled and balanced, instant by instant, to insure the large-scale constancy of the speed of light. The unbroken continuity and seamless structure of our reality points to the workings of a much larger dimensional ecology.

Continuous creation theory postulates that the three reflective dimensions are the context within which all relativistic differences are reconciled so as to produce the constancy of the speed of light. The seven dimensional cosmos is an ecological system whose mirroring dimensions are able to register, and instantly account for, all relativistic motion throughout the

material dimensions and thereby maintain the cosmos as a precisely equilibrated, and self-consistent system. All motion in four dimensions is brought into dynamic equilibrium in the higher dimensions, thereby producing unbroken continuity and precise consistency in the dynamic weaving of the fabric of four-dimensional reality.

Fundamental to the theory of continuous creation is a basic hypothesis concerning the nature of light speed. The constancy of the speed of light is assumed to be a by-product of the precise self-consistency with which the fabric of four-dimensional reality is dynamically woven together. In other words, the constancy of the speed of light is not itself a fundamental attribute of reality; rather, it reveals the "weaving rate" or the speed of "flow-through" as the cosmos regenerates itself as a unified resonance pattern or standing wave. The dynamic consistency of this flow of cosmic manifestation in seven dimensions has been interpreted as the constancy of the speed of light in four dimensions.

The cosmos is lifted into existence at each instant in a vast wave that reaches across its entire breadth—a single symphony of expression that unfolds at a pace revealed by the constancy of the speed of light. From the most minute aspects of the subatomic realm, through the middle ground of human experience, then on to the unimaginably vast reaches of the larger cosmos with its billions of galactic systems—ALL is assumed to be the basic unit of manifestation. The cosmos is profoundly democratic. All "things"—including the fabric of space-time—share equally in the flow of creation. This flow comes in one size—the entire cosmos, all at once, is the basic "unit of creation."

A New Simultaneity or "Cosmic Now"

Continuous creation theory implies a new level and kind of simultaneity. A "cosmic now" is assumed to embrace all the workings of the fifth through seventh dimensions, even while each object is assumed to retain a unique time status in the second through fourth dimensions. Our cosmos can recreate itself with millions of years of time-delay or relativistic lag-time built into its second through fourth dimensional aspect (for example, the time it takes a signal to travel from the Andromeda galaxy to our own), while simultaneously being completely up-to-date in its fifth through seventh dimensional aspect. As the entire of cosmos is manifest anew at each moment, the material dimensions emerge with millions of years of relativistic time delays built-in, and simultaneously, the referential dimensions emerge with their capacity for instantaneous functioning.

While relativity theory rightly dismissed simultaneity in four dimensions, continuous creation cosmology reintroduces simultaneity as a basic property of the fifth, sixth and seventh dimensions. Simultaneity serves a vital purpose—to instantaneously distribute "operating information" regarding the status of sub-systems to all parts of the cosmos and thereby keep the dynamic structure of the universe in equilibrium with itself. With simultaneity in the fifth through seventh dimensions, no interval of "material time" is required to factor changes into the flow of manifestation of the overall cosmos.

Each object has its unique four-dimensional existence. At the same time, all objects (as seven dimensional resonance patterns) share democratically in the flow of continuous creation.

Therefore, irrespective of relativistic differences (or separation in time and space), all things throughout the cosmos share equally and simultaneously in the flow of continuous manifestation. The "NOW" of dynamic manifestation is the same now for all entities, and all places, throughout the cosmos. Relativistic time is "stretchy" and varies for each object, while the time of the mirroring dimensions is absolute and unvarying for all objects.

We require an additional kind of "time" to describe the cosmic now so integral to the functioning of the fifth through seventh dimensions. Because relativity theory was built upon the assumption that there is no such thing as a "cosmic time" (or a definite instant that applies equally throughout the cosmos), it is important to understand how simultaneity in the fifth through seventh dimensions is very different from the "universal time" associated with three dimensional or classical physics.

Before the emergence of relativity theory, classical physicists, such as Newton, assumed there existed an absolute time that flowed steadily throughout the universe. Along with this notion of absolute time, classical physics also assumed the presence of an absolute, three-dimensional space within which all activity occurred. Thus, classical physics visualized a material universe existing within an absolute space while time flowed evenly throughout it all—a clockwork system separating matter, space, and time. Physical objects were assumed to have an independent status distinctly different from stationary space and the unvarying flow of time.

Relativity theory changed this view by dismissing the concept of absolute time flowing evenly throughout the cosmos, and discarding the notion of a stationary space or absolute frame of reference. In place of these, relativity theory developed the notion of a four-dimensional, interconnected fabric of reality—a "space-time" field.

A cornerstone of relativity theory became, in Einstein's words, the "relativity of simultaneity." Simultaneity was viewed as no longer absolute, but depended entirely upon the motion of the observer. No longer was it possible to consider a definite "instant;" instead, only relative time existed—a time uniquely associated with each individual object.

While relativity theory dismissed a universal time of a three-dimensional character, it did not dismiss (or comment upon) the possibility of a universal time of a five dimensional nature (and beyond). The dismissal of simultaneity by relativity theorists was, perhaps, necessary to move theorizing beyond the three-dimensional reference frame of classical physics. Still, it had the unfortunate consequence of distracting inquiry from a key doorway that leads into the fifth dimension and beyond—the notion of "simultaneity" that embraces a dynamically arising cosmos.

By rejecting the notion of simultaneity, relativity theory turned attention away from the possibility of a grand-scale, cosmos-embracing "NOW." While it is correct to deny simultaneity within four dimensions, it is vital to reintroduce this notion when we expand to five dimensions and beyond. Simultaneity in the fifth through seventh dimensions does not obstruct or interfere with relativity in the fourth dimension. To the contrary, it is in the fifth through seventh dimensions that all relativistic differences are reconciled and woven together into the seamless reality that is our cosmos.

The Dimensional Evolution of Time

Instead of "time" being defined by a single dimension, we should expect to find a nested series of time aspects that correspond to the geometric aspects of the various dimensions. Each new dimension is assumed to reveal new qualities of the overall nature of "time." The unique time qualities of each dimension are assumed to be synchronized to produce an integrated, cosmic scale time of great complexity and richness. The complementary aspects of this unified time are described below:

Figure 9: Dimensionality and Time

- o **Second Dimensional Time Aspect**--With flat space, the expression of time is also flat. As with space, time appears to be a series of "snap shots" or "whole gestalts." Because there is not enough depth to reveal nature's cycles, time consists of episodic pulses, quanta, or "flat sheets" that reflect the spatial nature of this dimension.
- o **Three Dimensional Time Aspect**—With greater dimensional depth, the cyclical aspects of time become more evident; for example, the recurring seasons and rhythms of nature. Three-dimensional time is the time of dynamic stasis—time is moving but is not "going anywhere." Time's flow is that of a clockwork universe moving through endless cycles. There is not enough depth to reveal relativistic motion, so time seems to flow evenly throughout the universe.
- o **Four Dimensional Time Aspect**—Time and space are no longer separate, but merge into a stretchy, local reality-fabric. Each object is assumed to have a unique time that depends upon its motion relative to other observers. The dynamic stasis of the wheel of time in three dimensions becomes, for individual objects, open and progressing movement in four dimensions.
- o **Five Dimensional Time Aspect**—In the fifth dimension, micro-scale and macro-scale motion are assumed to be integrated completely into a single whole. The cosmos becomes a single, unbroken entity that itself is manifest in a series of "snap-shots" of creation. All of objective reality—from the subatomic to the astronomical scale—is being generated at the same instant of absolute space-time. The local reference frames of four-dimensional relativity are now connected in an integrated cosmic field that is manifest through ongoing pulses of creation. (However, this is not the full timing of continuous creation as seven dimensions are assumed to be required to bridge from pulses of cosmic-scale manifestation to an unbroken flow.) The dashed lines below suggest that the totality of the material cosmos (matter-energy and space-time) is being "holographically" manifest all at once.
- o **Six Dimensional Time Aspect**—Where five dimensions reveal the momentary fact of cosmic-scale manifestation, six dimensions provide the basis for a deeper

ecology of connection. Beyond the discrete pulses or snap-shots of five dimensional time, six dimensions provide the ecological depth to support limited continuity of the cosmic dynamics. However, six dimensions do not provide sufficient depth to account for the dynamic manifestation of objects in relativistic motion throughout the cosmos.

- o **Seven Dimensional Time Aspect**—Seven dimensions provide sufficient geometric space to instantaneously account for, and achieve dynamic balance among, all relativistic changes occurring everywhere throughout the dynamically manifesting cosmos. With seven dimensions, "time is timing itself" to maintain the coherence of the overall cosmic system in its process of continuous creation. Despite its varied nature and great richness, "time" is a single, unbroken flow—a continuous thread of creation.

With seven dimensions, everything is seen to be generated at the same "time" (the cosmic now) and at the same base weaving "rate" (revealed by the constancy of the speed of light). The seventh dimension "closes the loop" and produces a fully connected, self-referencing, and self-organizing cosmic system. With seven dimensions, "time is able to time itself" and produce a coherent and stable reality (that includes the stretchy fabric of space-time).

With three additional dimensions of time, a cosmos of flowing movement can be described that extends from the micro to the macro scale. The unified flow of time embraces a range of temporal aspects or qualities that, taken together, are able to produce the self-bounding system that presents itself as "ordinary" reality.

The Dimensional Evolution of Observing Systems

Three major and contrasting views exist concerning the nature of the observer or the self-referencing capacity:

- 1) **Matter is primary**—The observing capacity is a by-product of material organization and functioning. A self-referencing capacity emerges when any material system reaches a critical level of complexity.
- 2) **Consciousness is primary**—The observing capacity or consciousness is the fundamental constituent of all existence and material forms are secondary. Matter is coalesced consciousness or knowing.
- 3) **Material and mirroring aspects are co-equal in creating the cosmos and the generative ground is primary**—A third view is that material and reflective aspects are equal: each requires three dimensions, each is profoundly symmetrical with the other, and each is a momentary and contingent construct that emerges from the unbounded life-energy of 8+ dimensions (see Figures 2 and 6).

This theory of a self-weaving cosmos assumes the third view most accurately describes our situation. Because the self-referencing capacity is fundamental to all of reality, "it" should not be naively equated with (and restricted to) the observing process of human beings. Some level of reflective potential—from unconscious and automatic to conscious and free—is assumed to permeate every aspect of the cosmos:

- o At the **subatomic scale**, "superstrings" may be tied into toroidal-like loops to form micro self-referencing systems.
- o At the **atomic scale** some level of self-referencing connection seems essential to hold together the flowing process that makes up an atom.
- o At the **human scale**, self-reflective consciousness is essential for life to both organize and evolve itself.
- o At a **planetary scale**, the earth is being described increasingly as a self-regulating, living organism.
- o At the **galactic scale** and beyond, the cosmos appears to be a vast, self-organizing and self-referencing system.

At every scale, the reflective capacity seems to play a vital role by enabling systems to adapt creatively, and survive, in an ever-evolving universe. A self-referencing capacity confers a significant evolutionary advantage: it enables systems to respond more rapidly and creatively to challenges and opportunities in the surrounding environments.

Each dimension is assumed to contain a unique self-referencing or observing potential. Although the self-referencing attributes of each dimension are described from the point of view of a human observer, they are assumed to have broad relevance for systems throughout the cosmos.

Figure 10: Dimensional Evolution of the Observer

- o **2nd Dimension—Observe Fact of Material Existence:** Two dimensions provide a geometry sufficient to enable the observer to recognize the external fact of existence. This is a momentary and flat scope of observation that corresponds to the temporal qualities of the second dimension. The bare fact of external material existence in the moment is the object of attention. The interrelation of material and mirroring aspects is suggested below (the solid line represents the material aspect and the dashed line represents the mirroring aspect).
- o **3rd Dimension—Observe Depth of Material Existence:** Three dimensions provide sufficient geometry for the observer to see the fullness or depth of

external material existence which, in turn, supports conscious recognition of matter moving, for example, through cyclical dynamics.

- o **4th Dimension—Observe Dynamism of Material Existence:** Four dimensions provide sufficient "room" for the observer to see matter moving freely in relativistic or independent motion. The observer is attentive to the dynamics of material reality but is not attentive to the observing process itself. The observer is self-referencing without being directly conscious of that fact--and so largely runs on automatic.
- o **5th Dimension—Observe Fact of Self-Reference:** While the observing function is present in the second through fourth dimensions, it does not "observe the observer" or examine the observing process itself; instead, it is directed outward at the external world. With the fifth dimension, the observing capacity is deliberately turned back upon the observer. This is not "thinking about" the observer, but "direct reflection upon" the facticity of the observer. Material form provides the vital aligning structure for achieving this self-referencing capacity.
- o **6th Dimension—Observe Depth of Self-reference:** Six dimensions provide sufficient depth to enable the observer to reflect on the source of the self-referencing capacity. Direct attention to the origin or source of the observing process is the conscious object of attention by the observer.
- o **7th Dimension—Observe Dynamism of Self-reference:** Seven dimensions enable the "observer" to become the fully involved "participator." The observing process no longer stands apart from any aspect of the system being observed. The flow of observation combines with the flow of material manifestation to produce an integrated flow of knowing participation and self-directed action.

The mutually supportive symmetries of material and mirroring dimensions connect the cosmos into a self-organizing system. Although the reality generated by this bootstrapping process is necessarily conditional, relative, and momentary, it does provide a powerful platform for living systems to become self-referencing and self-directing in their evolution. With seven dimensions, the cosmos can exist as a fully unified, self-organizing and self-referencing system within a dimensionally unbounded hyper-universe.

Summary

Our cosmos is a unified, living system that continuously recreates itself as a self-consistent whole at a rate revealed by the constancy of the speed of light. Beyond the first or foundation dimension, three material dimensions are assumed to give expression to life and three additional, mirroring dimensions enable that expression to know itself and become self-directing in its evolution. With seven dimensions, the self-organizing cosmos achieves material

unification, temporal unification, and unification of observing processes. The cosmos is assumed to be immersed in, and dynamically drawn from, a hyperdimensional ecology of life-energy of eight dimensions and beyond.

SECTION II: IMPLICATIONS FOR PHYSICS & COSMOLOGY

A key challenge for any model of reality is to be useful. While the continuous creation model is still largely metaphorical, it does suggest new insights into issues basic to contemporary physics and cosmology. An illustrative range of topics are briefly examined to suggest the relevance of this theory. Rather than "final conclusions," these are offered in the spirit of creative speculations that flow from the logic of continuous creation theory.

Physical Compression Approaching Light Speed

Relativity theory predicts that as an object approaches the speed of light, it will shorten in the direction of motion. This prediction follows directly from the experimentally observed constancy of the speed of light. While relativity theory describes the relationships between different reference frames, it does not provide a deeper reason or underlying causal mechanism for the constancy of the speed of light. In continuous creation theory, however, the constancy of light is derived from a deeper process; namely, the precise self-consistency with which the fabric of four-dimensional reality is dynamically woven together (as the material aspect of a seven dimensional process of continuous regeneration of the cosmos).

Continuous creation theory views an "object" as a dynamically generated resonance pattern that exists within a larger resonance pattern, the overall cosmos. Because the entire cosmos is being generated at a pace intimately related to light speed, when an object is accelerated in any direction, it will necessarily run into itself in the process of becoming itself. The reason an object will get shorter in the direction of motion as it approaches the speed of light is that the "object" is running into itself in the process of regenerating itself and this results in a literal compression of its "physical" structure.

No "object" can move ahead of the flow that sustains it (and, as a dynamic ecology of becoming, IS it). No "object" (or dynamically generated resonance pattern) can move faster than it is becoming itself as a material system. An object that tries to move ahead of the pace at which it is becoming manifest, will increasingly run into itself becoming itself—a self-limiting process. As an "object" (or sub-system) tries to get ahead of itself in the process of its own manifestation (as a part of the seven dimensional macro-system), it will press against its own dynamically generated structure in the direction of motion. Relativistic motion of the object will press increasingly against the ecological flow of manifestation of the overall cosmos and the object will literally become shorter in the direction of motion.

This view of literal compression contrasts sharply with Einstein's view that contraction is a kind of optical illusion. He did not attach any meaning to the motion in itself, but gave

primary importance to motion with respect to the body of reference. Where Einstein did not consider motion as the source of contraction, continuous creation theory gives motion primary causal importance.

The concept of a literal contraction is not new. In the early 1890s two persons, Lorentz and Fitzgerald, independently proposed that when an object moves, it runs into the "ether wind" and the resulting pressure compresses matter, resulting in shortening. Continuous creation theory supports the idea of literal contraction but suggests a different cause: Instead of matter running into ether "out there," the object runs into its own dynamically maintained, seven dimensional structure "in here." As an object runs into itself becoming itself—ultimately, a self-limiting process—it becomes compressed in the direction of motion.

Increasing Mass with Acceleration

This theory of a self-weaving cosmos also suggests why the mass of an object increases as it accelerates toward light speed: an "object" is actually a seven dimensional resonance pattern that is connected with the dynamic ecology of the entire cosmos as it coalesces at each instant. Therefore, as an object approaches light speed, it will have to draw ever greater increments of energy from the larger ecological system in order to attempt to move ahead of the ecological processes that dynamically create it. Increasing energy is required to approach light speed for, in reality, the object is trying to overcome itself in the process of becoming itself—a self-limiting process that requires drawing ever greater increments of energy from the seven dimensional ecological system. As the object "draws down" ever greater increments of energy to maintain its dynamic structure, mass must also increase (given the convertibility of matter and energy).

Slowing Relativistic Time with Acceleration

This theory of light speed manifestation at the cosmic scale suggests why relativistic time slows down as an "object" approaches light speed. As an object approaches light speed, it runs into itself in the process of its own becoming and compresses what, otherwise, would have been realized actuality back into the domain of unrealized potential. The process seems analogous to walking against the direction of motion on a moving conveyer belt, or walking up an escalator as it moves down. By walking against the direction of movement, dynamic stasis is approached. Similarly, as an "object" approaches light speed, it increasingly runs into its dynamically generated structure, thereby compressing itself relative to the rest of the freely manifesting cosmos—one measured result being a slowing of relativistic time.

If the object were to reach light speed, then it would be running into itself as fast as it manifests, and this would effectively cancel out its process of becoming relative to the rest of the four dimensional flow—thereby effectively stopping relativistic time. As an object moves faster than the "natural flow" of the surrounding cosmos, it will literally press against its own ecological flow of becoming and compress its continually emerging wave-form back against itself and this, in turn, will become evident as a slowing of relativistic time.

Inertia—Pushing on the Flow of Creation

Ernst Mach attributed inertia (or resistance to motion) to an object's interaction with the totality of matter throughout the universe. The stars and other matter form the "inertial framework" relative to which objects move. This material framework is assumed to resist motion outside the natural path of the object. Any attempt to move an object outside its "path of least resistance" will be resisted by all the matter in the cosmos.

Mach's theory presents a major difficulty: An unknown force must act instantaneously between all material objects throughout the cosmos. Yet, within the confines of a four dimensional cosmology, it is impossible for forces to act instantaneously. The continuous creation model provides a source for instantaneous connection—it assumes each object is a dynamically generated, seven dimensional resonance pattern that is always connected with the entire cosmos at each instant. Inertia results when an "object" presses against the "cosmos"—a giant, unified resonance pattern. If an "object" moves outside the natural flow of the surrounding cosmos, it will immediately push against the flow of the cosmos becoming itself and this will be experienced as resistance to motion or "inertia."

Inertia is a measure of the energy required to change the motion of an object relative to the natural momentum of the entire fabric of the dynamically manifesting cosmos. To accomplish a path change anywhere requires an instantaneous and compensating change everywhere. Inertia is a cosmic activity—the force required to shift the entire ecological motion of the seven dimensional cosmos.

The model of a self-weaving cosmos goes beyond Mach and attributes inertia, not only to stars and other heavy masses, but also to the flow dynamics of the seven dimensional cosmic system (which includes, not only matter-energy, but also the fabric of space-time, and the mirroring functions and dynamics).

Planck's Constant—A Conversion Factor for Manifestation

No matter what energy level a photon of light may have, it must be packaged (as a quanta) in such a way that its combined energy and wavelength are exactly equal to the universal constant "h"—Planck's constant. A shorter wavelength is accompanied by higher frequencies and higher energies and vice versa. Assuming four dimensional reality is generated "at light speed," Planck's constant could represent the conversion factor for keeping all differences in motion, mass, and energy in precise orchestration with one another—thereby preserving the unbroken fabric of four dimensional reality. Differences in the frequency, wavelength, and energy of light (as it coalesces from the fifth plus dimensions and into the fourth), could be used to produce the diverse material world we inhabit. Planck's constant seems to be the conversion factor for governing precisely the flow of light as it enters into four-dimensional reality and visible manifestation.

Bell's Theorem

Bell's theorem concerns whether or not faster than light signaling is possible when distance separation seems to make that physically impossible. Results of recent scientific experiments indicate that reality is connected in surprising ways and we now have to give up either: 1) the idea there is an independent reality "out there" that is separate from the observer, or 2) the idea that no signal can travel faster than light speed.

The theory of a self-organizing cosmos offers alternative views that can help resolve this dilemma:

- o **Simultaneous Arising of Material and Mirroring Aspects**— Continuous creation theory assumes there is no separate reality "out there" that is cut off from the observing function. All of material reality is generated with a built-in potential for self-referencing functioning.
- o **Relative Locality and Absolute Simultaneity**—Faster than light communication is barred by relativity theory but is integral to the theory of continuous manifestation. Local isolation is assumed to exist only within four dimensions and is transcended in the fifth dimension and beyond. In the flow of manifestation, half of the operating system—the mirroring dimensions—are assumed to function instantaneously. Because there is no lag time in the self-referencing dimensions, there cannot be "signaling" in a strict sense (with a sender and receiver identified by time delays). Time paradoxes are thereby avoided (see further comments below).

The theory of continuous creation seems fully compatible with recent experimental evidence and the logic of Bell's theorem.

Resolving Time Paradoxes

A key conceptual problem with faster than light signaling is that it can generate time paradoxes. If a signal is able to reach into the past or future, time order and causality are impossible to establish, resulting in immense confusion. Continuous creation theory resolves this dilemma by postulating that, while events can have a space-like separation in four dimensions, they have fully instantaneous connection in the fifth through seventh dimensions. Because the entire, four-dimensional cosmos is created whole at each instant, the flow of manifestation includes all lags and differentials in relativistic time.

Because of full simultaneity, there can be no time-forward or time-reversed signaling in the referential dimensions. There can be no "stand back" signaling because all times are complete at each instant. All of the different kinds of time are "up to date" at every instant and do not flow into a past or future. With full simultaneity in the mirroring dimensions, no time paradoxes are generated by the self-organizing cosmos.

Comparison with Bohm's Holographic Model

The physicist, David Bohm, has pioneered a holographic view of reality that describes our cosmos as having an explicate order (material), implicate order (non-material), and a deeper Source. The theory of continuous creation seems generally congruent with Bohm's views, particularly regarding the pervasive dynamism of reality, and the instantaneous distribution of information throughout the cosmos. However, the continuous creation model generates a number of additional assumptions about the nature of reality; for example:

- 1) Continuous creation theory gives a specific scale to its cosmology by assuming we inhabit a seven dimensional cosmos that exists within a hyper-universe of unbounded dimensionality.
- 2) The seven dimensional cosmos is assumed to be generated by the dynamic interaction of mirroring and material dimensions. Basic symmetries are defined for both clusters of dimensions regarding the facticity, depth, and dynamism of reality. These two sets of dimensions are assumed to be co-equal in manifesting our cosmos.
- 3) The weaving rate for generating the fabric of four-dimensional reality is assumed to be revealed by the speed of light (i.e., the constancy of the speed of light is assumed to be a by-product of the consistency of weaving of the overall fabric of reality).
- 4) Self-referencing processes are assumed to be built into the manifestation of the cosmos at every level—the "observer" is integral to the dynamic creation of reality.
- 5) A spectrum of dimensional aspects of time are assumed to exist and, taken together, they describe a unified reality of flowing movement. As well, a "cosmic now" or higher-order simultaneity is assumed to characterize the functioning of the three mirroring dimensions.

The Cosmological Principle

The cosmological principle asserts there is a relatively even distribution of matter throughout the cosmos. Although the large-scale structure of the cosmos is lumpy with clusters of super-galaxies, still, there seems to be a relatively uniform distribution of matter. Uniformity across such vast scales implies the existence of an even larger frame of reference that transcends local relativity. If matter is uniformly distributed, it may be possible to describe that evenness as the result of a deep geometry—a larger dimensional framework that is able to coordinate the interrelation of matter and produce the large-scale orderliness of the cosmos. Integral to continuous creation theory is just such a larger reference frame (the three referential or mirroring dimensions).

Superstring Theory

Superstring theory is based on a ten dimensional view of reality—with nine dimensions of space and one of time. The basic building blocks of reality are assumed to be extraordinarily small "strings."

String theorists assume the "universe" was originally ten dimensional until it broke apart at the big bang. Two "universes" peeled apart from one another—a smaller, four-dimensional universe (with three spatial dimensions and one time dimension) and a larger six dimensional universe (all space dimensions, tightly rolled up).

How does seven dimensional, continuous creation theory tie-in with ten dimensional, string theory? At first, they would seem to have little in common:

- o String theory assumes a ten dimensional universe whereas continuous creation theory assumes a seven dimensional cosmos and a hyper-universe of unlimited dimensionality.
- o String theory has only one time dimension whereas continuous creation theory assumes there is a nested spectrum of temporal qualities, with a unique "time aspect" being associated with each dimension.
- o String theory creates reality by splitting the universe apart with no apparent symmetry, leaving a majority of itself curled up and seemingly unused—an image contrary to the symmetry and full use of dimensions in continuous creation theory.

Despite these many differences, continuous creation theory may have important relevance for string theory. If superstrings are assumed to be connected—looped together—then a toroidal structure is created that may be congruent with the model of a self-organizing cosmos. Could the usefulness of string theory be achieved with the simplicity of seven dimensions? If so, there would be a productive connection.

Big Bang or Hypergrowth?

Was the birth and early development of our cosmos a mechanical explosion only, or was it also an organic process of growth? Continuous creation cosmology suggests that fifteen billion years ago, the unbounded field of life-energy emerged as a seven dimensional seed of "cosmic-genetic material" with all the instructions necessary for growing a whole cosmic system. This "mini-cosmic factory" has grown into our universe by continuously transforming ambient, hyperdimensional life-energy into manifest existence. In other words, the cosmos has grown by continuously "feeding upon" or "consuming" hyperdimensional life-energy and transforming it into "material" reality. Therefore, the development of our cosmos would seem to be more characterized by explosive growth than by a mechanical explosion.

SECTION III: OTHER IMPLICATIONS

Particle Physics, Observer Physics, and Mystics

Beyond the traditional domain of particle physics, continuous creation theory points to a new physics—an "observer physics" that describes the workings of the referential or mirroring dimensions. A vast domain—the workings of the fifth, sixth, and seventh dimensions—is assumed to be accessible through inference from patterns of symmetry with the material dimensions. An observer physics will explore more than the nature of self-referencing systems and their interaction with material reality, it will also explore the interface between material systems and the "zero point" energy field, the multi-dimensional nature of "time" and reality, and much more. Because we are constituted from—and constantly use—both material and mirroring dimensions, they are not beyond our grasp, either conceptually or experientially. Therefore, an observer physics that explores self-referencing and self-organizing processes seems a likely next stage of work.

The third realm—the hyper-universe of 8+ dimensions—is assumed to be beyond the "grasp" of science. This is the unbounded field of life-energy that we are immersed in, made from, and evolve through. We can experience it directly because we are, at each moment, created from "it." However, because we do not have dimensional concepts to constrain or limit the unbounded ocean of life-energy, this realm must remain ineffable or "mystical."

Determinism and Freedom

The theory of continuous creation includes elements of both determinism and free will. Because the entire cosmos is assumed to bootstrap itself into a fresh creation at each instant, every moment offers—in principle—the possibility for completely free expression. In practice, the ability to be self-determining requires a high degree of self-referencing functioning. Therefore, this theory assumes that a primary purpose of the cosmos is to support the evolution of living systems as they develop their capacity for freely chosen, creative action. However, in the early stages of evolution (where a conscious capacity for self-referencing functioning has not yet emerged), systems are assumed to run on automatic and carry forward the natural momentum of their built-in dynamics.

Paranormal Phenomena

The theory of continuous creation provides a cosmology where some so-called paranormal processes (e.g., "non-physical" remote perception) can be viewed as a normal part of reality. Because the entire fabric of material reality is assumed to be continuously regenerated, and because the referential dimensions are assumed to instantaneously distribute operating information throughout the cosmos, and because consciousness or the self-referencing capacity of humans is assumed to directly partake of the larger referential field and process, there is a direct systems basis and rationale for the non-physical communication associated with so-called "paranormal phenomena."

Dimensional Evolution

An invisible dimensional geometry is assumed to infuse reality and provide a framework for organizing the continuous manifestation of existence. Living systems are also assumed to use this same dimensional geometry to develop progressively higher levels of self-referencing awareness, creativity, and expression. Therefore, the seven-dimensional cosmos provides both a platform for existence and a structured medium for learning.

The dimensional structure of reality serves many purposes simultaneously, including an evolutionary one. Evolution is dimensional in the sense that all systems are assumed to employ the same patterns of dimensional geometry in their development. "Dimensional evolution" refers to the movement of living systems through the nested series of dimensional contexts and their creative response to the unique challenges and opportunities of each. Living systems are challenged to "fill out" or actualize the unique evolutionary potentials made possible by the geometry of each dimension.

Conclusion

The seven dimensional, continuous creation model assumes that the totality of "material" reality (space-time as well as matter-energy) is being continuously re-created by the flow-through of energy at a pace revealed by the constancy of the speed of light. Because this cosmology has numerous implications for modern science and philosophy, tests of its validity--either direct or inferential--seem likely to be found.

Assuming the cosmos is a seven dimensional self-organizing system with three mirroring dimensions to provide a context for the functioning of the observing capacity, then, "physics" still has a vast territory left to explore. A new "observer physics" is needed to research the nature and functioning of the three mirroring or referential dimensions, and a new "systems-physics" is needed to describe the overall cosmos as a seven dimensional, self-organizing ecology.

We began by describing the cosmos as a unified, living organism. Analogously, we inhabit a cosmos whose visible (or four dimensional) "body" is billions of light years across, whose "organs" include hundreds of billions of galaxies, whose "cells" include trillions of suns and planetary systems, and whose "molecules" include an unutterably vast number and diversity of unique life-forms. Yet, even this fails to communicate the breadth and depth of the life-ecology that is assumed to be at work. An unbounded ocean of life-energy has given birth to our seven dimensional cosmos which, in turn, is the spawning ground for freely born, self-referencing life-forms that provide aligning structures for the deep field of life-energy to come into self-referencing connection with itself. We are living beings that exist within a living system--our cosmos--that exists within an unbounded ocean of life-energy, the hyper-universe. Life is nested within life, which is nested within life. Infinite life-energy achieves manifest expression by building upon itself in a self-organizing flow of continuous creation.

SELECTED BIBLIOGRAPHY

- Bergman, Peter G., **The Riddle of Gravitation**, New York: Charles Scribner's Sons, 1968.
- Bohm, David, **Wholeness and the Implicate Order**, London: Routledge & Kegan Paul, 1980.
- Bondi, H, **Cosmology**, London: Cambridge University Press, 1952.
- Born, Max, **Einstein's Theory of Relativity**, New York: Dover Publications, 1965.
- Capra, Fritjof, **The Tao of Physics**, Boulder: Shambhala Publications, 1975.
- Davies, Paul, **Space and Time in the Modern Universe**, London: Cambridge University Press, 1977.
- _____, **Other Worlds**, New York: Simon and Shuster, 1980.
- _____, **Superforce**, New York: Simon and Shuster, 1984.
- _____, and J.R. Brown, **The Ghost in the Atom**, London: Cambridge University Press, 1986.
- Duncan, Ronald, and Miranda Weston-Smith, **The Encyclopaedia of Ignorance**, New York: Pergamon Press, 1977.
- Eddington, A.S., **The Nature of the Physical World**, New York: The Macmillan Co., 1928.
- Einstein, Albert, **Relativity**, New York: Crown Publishers, 1961.
- _____, and Leopold Infeld, **The Evolution of Physics**, New York: Simon and Schuster, 1938.
- Elvee, Richard, Ed., **Mind In Nature**, New York: Harper & Row, 1982.
- Friedman, Michael, **Foundations of Space-Time Theories**, New Jersey: Princeton University Press, 1983.
- Herbert, Nick, **Quantum Reality**, New York: Doubleday, 1987.
- Hey, Tony and Patrick Walters, **The Quantum Universe**, London: Cambridge University Press, 1987.
- Jeans, Sir James, **The Mysterious Universe**, London: Cambridge University Press, 1931.
- Kaku, Michio and Jennifer Trainer, **Beyond Einstein**, New York: Bantam Books, 1987.
- Koslow, Arnold, Ed., **The Changeless Order**, New York: George Braziller, 1967.
- Malville, J. McKim, **The Fermenting Universe**, New York: The Seabury Press, 1981.

- Merleau-Ponty, Jacques and Bruno Morando (Helen Weaver, Trans.), **The Rebirth of Cosmology**, Ohio: Ohio University Press, 1982.
- Munitz, Milton, **The Mystery of Existence**, New York: Dell Publishing, 1965.
- _____, **Space, Time and Creation**, New York: Dover Publications, 1981 (Second Edition).
- Puthoff, Harold, "Ground state hydrogen as a zero-point-fluctuation-determined state," in **Physical Review D**, Vol. 35, No. 10, May 15, 1987; also see, "Why atoms don't collapse," in **New Scientist**, July 9, 1987.
- Reichenbach, Hans, **The Philosophy of Space & Time**, New York: Dover Publications, 1958.
- _____, **From Copernicus to Einstein**, New York: Dover Publications, 1980.
- Rucker, Rudolph, **Geometry, Relativity, and the Fourth Dimension**, New York: Dover Publications, 1977.
- Sciama, D.W., **The Unity of the Universe**, New York: Doubleday & Co., 1961.
- Sears, Francis W., **Mechanics, Wave Motion, and Heat**, California: Addison-Wesley Publishing, 1958.
- Singh, Jagjit, **Great Ideas and Theories of Modern Cosmology**, New York: Dover Publications, 1961.
- Sklar, Lawrence, **Space, Time, and Spacetime**, Berkeley: University of California Press, 1976.
- Taylor, Edwin and John Wheeler, **Spacetime Physics**, San Francisco: W.H. Freeman and Co., 1966.
- Tornebohm, Hakan, **Concepts and Principles in the Space-time Theory Within Einstein's Special Theory of Relativity**, Stockholm, Sweden: Goteborg, 1963.
- Weber, Renee, **Dialogues With Scientists and Sages**, New York: Routledge & Kegan Paul, 1986.
- Whitrow, G.J., **The Natural Philosophy of Time**, Oxford: Clarendon Press, 1980 (Second Edition).
- Wilber, Ken (ed.), **Quantum Questions**, Boulder: Shambhala Publications, 1984.
- Young, Arthur, **The Reflexive Universe**, USA: Delacourt Press, 1976.