

Modern Science, Psychology, and The Enduring Mystery of Consciousness: An Esoteric/Mystical Critique, Part II

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Man stands between two worlds—an external visible world, that enters the senses and is shared by everyone: and an internal world that none of his senses meets, which is shared by no one—that is, the approach to it is uniquely individual, for although all the people in the world can observe you, only you can observe yourself. This internal world is the second *reality*, and is invisible.

... Let me ask you: in which world of reality do you live and have your being? In the world outside you, revealed by your senses, or in the world that no one sees, and only you can observe—this inner world? I think you will agree that it is in this inner world that you really live all the time, and feel and suffer.

Now both worlds are verifiable experimentally—the outer observable world and the inner self-observable world. You can prove things in the outer world, and you can prove things in the inner world, in the one case by observation and in the second case by self-observation.¹

Maurice Nicoll, *Commentaries on Gurdjieff & Ouspensky*, Vol. 1.

Abstract

In the second article of this series, the materialist - mechanist - reductionist paradigm, which dominates modern science and psychology, will be examined in order to identify and elaborate upon some of its most problematic limitations. Drawing on select esoteric sources, an analysis of several critical limitations of the reductionist approach to the study of consciousness will be presented. In addition, Ken Wilber's analysis of the collapse of the Great Chain of Being—that which he terms “the disaster of modernity”—will then be examined to provide both a historical perspective on modern science's commitment to reductionism, as well as an assessment of the reductionist epistemological assumptions, biases, and limitations. These considerations are intended to identify the significance of the lack of scale within modern scientific and psychological considerations of consciousness: that is, the failure to acknowledge that humans are multi-dimensional beings existing in a multidimensional consciousness.

The Reduction Complex

As much as reductionism has become an essential element of the materialist epistemology which has come to dominate modern science, its methodological virtues—reducing complex phenomena to their simpler and thus more experimentally manageable elements—and its apparent explanatory power has blinded its proponents to its inherent limitations. In fact, reductionism has become such an integral aspect of modern science's methodological arsenal and, as such, an implicit theoretical

About the Author

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assumption of conventional scientific thinking that scientists rarely trouble themselves with questions regarding the obvious limitations inherent in that approach. Indeed, they evince a disconcerting faith in the process of induction: whereby the collation and integration of countless studies of manageable and minimal bits and parts of things will lead to an integrated and comprehensive grasp of complex wholes. Nevertheless, the evidence from within science itself, which contradicts that assumption, is overwhelming.

Over the course of the past 50 years, there have been numerous critiques of science's reigning materialist-mechanistic-reductionistic paradigm, which have detailed the striking limitations of any scientific account or explanation based upon that approach. In the 1960s and early 1970s, such seminal works as Floyd Matson's *The Broken Image*, Arthur Koestler's *The Ghost In the Machine*, and Theodore Roszak's *Where The Wasteland Ends* set out thoughtful challenges to the materialist paradigm and its proponents' tacit equation of their theoretical, metaphysical, and methodological choices with legitimate science.² In the intervening years, there has been no shortage of works identifying and explicating the significant limitations of reductionism.³ Despite the cogency of these numerous critiques, the thrust of modern science continues to be pursued on the basis of a largely unquestioned commitment to reductionism as both a methodology and an explanatory framework. In a paper entitled "The Reduction Complex," Stephen L. Talbott characterizes "materialism, mechanism, and reductionism" as "slippery terms";⁴ observing that it is difficult to determine where "the material" is in materialism. Talbott pointedly asks: "What sort of material ... does the quantum physicist believe in?"⁵ The simple fact is that materialists seem blithely unaware and/or unconcerned about the ominous import of such questions, and maintain a peculiar confidence that the alleged problems of reductionism are, in the words of philosopher Daniel Dennett, "too vague to merit a response" Talbott quotes Dennett's dismissal of all charges of "reductionism":

If somebody says to you, "But that's so reductionistic!" you would do well to respond, "That's such a quaint, old-fashioned complaint! What on earth do you have in mind?"⁶

Talbott says that what *he* has in mind is the "intertwined notions" of materialism, mechanism, and reductionism. He quotes David Bohm's definition of science's "mechanistic philosophy" as being founded on the assumption that:

... the great diversity of things that appear in all of our experience, every day as well as scientific, can all be reduced completely and perfectly to nothing more than consequences of the operation of an absolute and final set of purely quantitative laws determining the behavior of a few kinds of basic entities or variables.⁷

Talbott expands on this definition to provide the following definition of the Reduction Complex—in which he includes both materialism and mechanism—to be an expression of the following convictions:

- (1) There are a few simple, fundamental constituent elements of the material universe (Bohm's "basic entities or variables").
- (2) These elements relate to each other externally, like the parts of a machine.
- (3) The fundamental elements and the laws governing them can be precisely characterized mathematically and logically.
- (4) The fundamental elements and laws account for and ultimately explain everything that happens. This explanation proceeds unidirectionally, "from the bottom up."
- (5) The constituent elements and laws of the world possess no intrinsic character of mind.⁸

Quite simply, an impartial weighing of the first four convictions, in terms of scientific evidence, reveals that—when taken as declarations of absolute truths—they are all demonstrably false. The fifth is a metaphysical

assumption which, in terms of the evidence gathered by esotericists and mystics, is clearly mistaken. Talbott argues that reductionism should be understood not as a body of concepts, but rather as “a way of exercising (and not exercising) our cognitive faculties.”⁹ In keeping with Abraham Maslow, who described reductionism as “a cognitive pathology,” and Theodore Roszak, who characterized it as a “psychic contraction,” Talbott defines it as a single-minded cognitive activity aimed at “isolating something so as to grasp it more easily and precisely and gain power over it.”¹⁰ While he acknowledges that we must certainly aim to get hold of our understanding of things, Talbott argues that the one-sided and overly intense pursuit of that aim “sever[s] it from its relationships to everything else.”¹¹ The unintended consequence of mindlessly doing so is that we falsify and decontextualize that which we are attempting to understand.

Within the confines of this article, it is not possible to do justice to the sophistication of Talbott’s analysis or the elegance of his critique of “the reduction complex.” However, his commentary on the popular materialist notion *cum* postulate *cum* faith “that causation flows unidirectionally upward from fundamental building blocks, giving us successive levels of explanation ...”¹² is particularly noteworthy. Describing this idea as being “wholly gratuitous,” Talbott explains that:

Nowhere in our experience—as opposed to the world of our models—do we find such one-direction causation. And what plausible reason do we have for assuming that the smaller the piece of the universe we are looking at, the more fundamental its explanatory value? This is to take the crudest possible reading of human experience in assembling things and to make a controlling scientific principle of it.

Yes, I know how powerfully we are compelled by our habit of taking tiny elements as the most fundamentally constitutive of the world. But the habit proves upon reflection to be vacuous: no significant line of thought supports it, and I’m not even sure whether anyone has ever made a serious at-

tempt at such a line of thought. Our compulsion is *nothing but* habit.¹³

Although the reductionist approach has been an extraordinarily powerful methodological approach in biology, its explanatory limitations are obvious. In *The Turning Point*, Fritjof Capra quotes the eminent biologist Paul Weiss on the insurmountable obstacles that confront a “bottom up” explanation of life:

We can assert definitely ... on the basis of strictly empirical investigation, that the sheer reversal of our prior analytic dissection of the universe by putting the pieces together again, whether in reality or just in our minds, can yield *no complete explanation of even the most elementary living system*.¹⁴ [emphasis added]

Theodore Roszak has identified the hierarchical nature of both human beings and the Universe as the primary reason why reductionism cannot result in comprehensive explanations—because a higher level of a system in Nature cannot be explained by a lower level. The levels of hierarchical systems are separated by a “barrier of complexity” and, therefore, each higher level is, to some extent, autonomous from the lower levels. Roszak states that:

All specialization in science is based on this astonishing process by which each structural level is not only elevated above, but in a significant sense is *liberated* from the governance of the next level down, and so can be understood in its own terms. Each level both depends upon and yet transcends the level below.¹⁵

Biologists would never question that the physical structures and processes they study are comprised of atoms, Roszak says, but they need not possess a mastery of theoretical physics to pursue their discipline. They are studying organisms at another level of organization and extrapolating from observations carried out a higher material level. He adds that anthropologists do not need to know anything about the chemistry of cells to study and comment upon the culture and customs of the people who are composed of those cells. On that basis, Roszak asks:

In what sense, then, is reductionism from higher to lower levels an “explanation” of anything? If it were, how could such autonomous fields of study be possible?¹⁶

As we shall see in the ensuing examination of Maurice Nicoll’s work, Talbott’s characterization of the materialists’ faith in “bottom up” causation as a cognitive habit is in keeping with the esoteric conception that the apprehension of the external world through the senses is properly understood as a function and expression of the lower aspects of the mind. In addition, the comments by Weiss and Roszak on the explanatory limitations of reductionism will be that much more salient when considered in terms of Lama Govinda’s commentary on *māyā* and the illusions of reductionism, and Ken Wilber’s analysis of the collapse of hierarchy into “the flatland” of modern thought.

Maurice Nicoll’s “Invisible Realities”

Maurice Nicoll (1884-1953), a British psychiatrist, studied with Carl Jung and, subsequently, became a pupil of both G.I. Gurdjieff and P.D. Ouspensky. Nicoll’s writings—which include extensive commentaries on the Fourth Way teaching of Gurdjieff and Ouspensky¹⁷—establish him as one of the twentieth century’s most impressive and insightful esoteric scholars. His esoteric interpretations of the Gospels populate those commentaries and are the topics of his books, *The New Man* and *The Mark*.¹⁸ In his book, *Living Time*,¹⁹ Nicoll addresses the importance of grasping one’s “invisibility” as a first step in the study and development of being and consciousness. Typically, Nicoll says, we take the world of appearances—garnered by our senses—as comprising that which is real; however, as he notes, our senses hardly reveal the external world in its totality. We live in a Universe of energies/matters and our senses are attuned and respond to only a few of them. What we call “reality” is, then, a configuration of interpretations derived from those energies/matters as they are selected by our senses. Even knowing this, however, we still take it for granted that objects in the external world are what they appear to be—rather than that

which is arbitrary determined by the receptivity of our senses.

Our illusions regarding this world of appearances arise, according to Nicoll, because sense thinking comprises “the natural action of the mind.” Consequently, we refer automatically to the senses as the final proof of a thing’s existence. Nonetheless, the entirety of one’s inner invisible world exists in a dimension which is *beyond the reach of the senses*. Thoughts, feelings, and imagination—even though they do not occupy any position in three-dimensional space—are no less real than that which we apprehend through our senses. Indeed, it is precisely because we are attached by our senses to the external world that we are immersed in a world of appearances; we live under the spell of illusion or *māyā*. However, the illusory quality of this world of appearances does not mean that *the external world is not real*. Rather, the illusion lies in regarding this world, which the senses apprehend, as *a complete view*—rather than *a partial aspect*—of “reality.” Nicoll explains the significance of “studying the invisible” in overcoming the illusion of the world of appearances, and the role that sense-based thinking plays in resisting this change:

Is not the starting point of illusion ... the taking of appearances for all ultimate reality and the belief that sense perception is the sole standard of the real? The seen world is real but does not embrace reality. It is built out of invisible realities which surround it on every side. The visible world is contained in a much greater invisible world (invisible to us), and we do not lose one by studying the other but enlarge one *into* the other. But as our natural everyday logic is so closely connected with sense-thinking it fights against this enlarging of the world, and its actual *form* of understanding becomes a psychological barrier to further understanding.²⁰

Unfortunately, the entire thrust and direction of modern psychology and science has been to focus on that which is externally observable, and, therefore, quantifiable. Nevertheless, as long as the limits of materialism confront science with numerous phenomena that are nei-

ther knowable in terms of the senses nor measurable—including life, consciousness, love, thought, emotion, belief, creativity, imagination, beauty, spiritual affinities and aspirations—there is a serious problem. But the materialists' faith in reductionism is such that they see no such predicament; they assert that these invisible human realities are “nothing but” and “nothing more” than the expression of material processes and events. Hence, “life” is explicable as being an elegant outcome of an intricate series of fortunate biochemical accidents; “consciousness” and “mind” are nothing more than the end-products of the brain's electro-chemical activities; and “God” is but another name for the laws of Nature (as scientists understand them).

Nicoll's claims, about the illusory nature of sense-based knowledge, identify the essential limitation of any attempt to study consciousness solely in terms of external observation. Indeed, from an esoteric perspective, any scientific knowledge which restricts itself to the observable material realm is ultimately illusory—insofar as it is based on a conceptualization of reality, which it takes to be final and complete, but which esoteric teachings describe as being only a partial aspect of higher, more integrated and inclusive realms. The vast majority of modern psychologists and scientists ignore or are ignorant of the higher states of consciousness and the higher or more subtle dimensions of reality that are said to be knowable by those whose consciousness transcends the limits of normal waking consciousness. While this shortcoming does not invalidate scientific knowledge, it does mean that it is ultimately illusory to the extent that it is regarded as providing a *comprehensive* descrip-

tion of the Universe and the laws of Nature which govern it.

The essential flaw in modern science is its *assumption* that our normal state of waking consciousness is final. Nicoll argues that we have no right to make such an assumption. Cer-

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tainly, we recognize the qualitative change in consciousness between dreams and the waking state, and admit that the degree of awareness and form of relation changes between them. However, materialist scientists do not recognize that further changes in the waking state are possible, manifesting in new degrees of awareness or forms of relation. As Nicoll points out, we fail to understand how our observations, and conceptualizations, interpretations of the world and ourselves are defined and limited by our level and degree of consciousness, and that changes in our consciousness and being would bring about an entirely new relation to them. For all esoteric teachings are premised on the understanding that *the level of one's knowledge is determined by the level of one's consciousness and being.*

From an esoteric perspective, modern psychologists' commitment to studying consciousness solely through external observation constitutes a methodological error which has led them to look for consciousness where it cannot be found. As Nicoll observed, human beings stand between two worlds—an inner and outer reality—and both of those realms are verifiable experimentally. Self-knowledge acquired through systematic self-observation, which is the basis of all esoteric teachings, reveals that consciousness can only be known within oneself and that our normal waking consciousness is most assuredly *not* final. Esoteric methods, practices, and disciplines reveal

that our capacity *to know* may be transformed, to an unfathomable degree, by awakening our dormant faculties of higher consciousness and being. Further, esoteric teachings maintain that the most objective knowledge of the Universe can only be attained by those who *know themselves*—by acquiring the states of higher consciousness and being that allow one to transcend the limitations of the “normal” subjective, egoistic state of consciousness—and, in doing so, realize the Self and its unity with the Universe.

The “Natural” and the “Spiritual” Man

The debate between modern science’s materialism and mystical/esoteric teachings’ metaphysical perspective hardly comprises a new argument—or, to be more accurate, is illuminated by comparing a literal and an esoteric interpretation of the Gospels. In his books, *The Mark* and *The New Man*, Nicoll examines the Gospels in order to present the differences between the “natural” or “sensual man,” who understands life only through the evidence of his senses, and the “spiritual man” who thinks psychologically, that is, in terms beyond literal interpretation. “How does a man walk the Earth?” Nicoll asks in *The Mark*²¹ A sensual man, whose mind is based on the senses—“the mind of the flesh”—thinks *from his feet*; more specifically, from the “shoes” that cover his feet. His truth is always of the same order or on the same level. His understanding of parables is always at one level: he takes everything literally. Nicoll asks: ‘Why does it so frequently say in the Scriptures and other esoteric literature “that a man must *remove his shoes* before entering a sacred place?’²² He says that this refers to the necessity of going beyond sense-based truth in order to understand psychological truth. Hence, a man must remove his shoes—his usual sense-based truth—because a mind based on the senses and the truth derived from their evidence cannot understand higher levels of truth. The mind exists at different levels and *the lower cannot fathom the workings of the higher*. The sensual is unable to comprehend the spiritual:

So *those shoes* must be removed when entering into the sphere of knowledge above sense-knowledge. *To drag psychological understanding down to the level of sensual understanding is to destroy everything in Man that can lead to his internal development and make him a man inwardly.*²³ [emphasis added]

According to Nicoll, this psychological understanding and the psychological man recur in visions, dreams, and parables. The psychological man is divided into inner and outer parts, or higher and lower levels, respectively. The head is the highest or inner division of the psychological man; its thinking concerns the inner meaning of things. The feet constitute the lower level or outer division; their thinking is sensual and forms the shoes. These two orders of truth exist on different levels, rather than being contradictory. But one who thinks only from his feet cannot understand a higher level of truth. Trying to do so, he reduces everything to the familiar categories of a lower level of truth. He turns things into opposites which are not opposites. The result of failing to understand this distinction between orders of truth, Nicoll says, is that “when people lose all sense of levels—of higher and lower—the world turns into opposites and violence.”²⁴

This antagonism between sensual and psychological thinking prevents the natural man from developing consciousness and spiritual being. As long as he remains attached to his senses, he is incapable of the psychological thinking necessary for this development. What *is* necessary to fulfill this development is *faith*. While “faith” is typically equated with unsubstantiated and unverifiable beliefs, Nicoll argues that *faith (pistis)*, as it is translated in the New Testament, means more than belief. It means “*another kind of thinking.*”²⁵ He cites a passage from *Matthew XVI: 10-12* to illustrate this point:

And when his disciples were come to the other side, they had forgotten to take bread. Then Jesus said unto them, ‘Take heed and beware of the leaven of the Pharisees and of the Sadducees.’ And they reasoned among themselves, saying, It is because we have taken no bread. Which when Jesus per-

ceived, he said unto them, ‘O ye of little faith, why reason ye among yourselves, because ye have brought no bread? ... How is it that ye do not understand that I spake it not to you concerning bread, that ye should beware of the leaven of the Pharisees and of the Sadducees?’ Then understood they how he bade them beware not of the leaven of bread, but of the doctrine of the Pharisees and of the Sadducees.²⁶

In this incident, the disciples respond to Christ’s words literally and, therefore, misunderstand him. When he says that they have little faith, he is not referring to “belief.” In this instance, “faith” means understanding on a level other than the sensual man’s literal interpretation. Christ was not speaking sensually, but rather psychologically; his meaning can only be understood psychologically. The leaven of which Christ spoke was *psychological*—not literal. The bread about which he was speaking was not meant literally; instead, he was referring to the *idea* of “falsity infecting good.” There are always Pharisees and Sadducees amongst us: fundamentalists, who understand everything literally, in terms of fixed ideas and prejudices; hypocrites, who do everything for the sake of appearances, without inner belief or conviction. Christ connects the disciples’ littleness of faith with *their inability to understand psychologically*. Sensual thinking cannot make contact with the meaning of Christ’s teaching. Thus, Nicoll states: “*Faith is necessary to open a part of the mind not opened by the senses.*”²⁷

Nicoll continues this examination of the higher meaning of faith by turning to *Hebrews* XI:1, in which faith is called “a *basis* for belief in what *is not seen*.”²⁸ This is not simply a matter of believing in the invisible, but is, according to Nicoll, “a basis or plane on which another world of relations and values can be reached, one that is above the seen world and the cause of it.”²⁹ This perception of a world, which is above the world of appearances and is the cause of it—but invisible to the senses—provides one with a sense of scale. One acquires an understanding of the existence of higher and lower levels. Thus, in *Hebrews* XI:3, it says: “It is faith that lets us understand

how the worlds were fashioned by God’s word; how it was that from things unseen all that we see took their origin.”³⁰

The unknown writer of *Hebrews* continues: “it is impossible to please God without faith.” (XI: 6)³¹ In other words, without a foundation in the faith that allows one to go beyond the evidence of the senses and literal thinking, one cannot perceive the existence of this invisible scale, and understand the meaning of things psychologically. To recognize scale is to realize that meaning exists on different levels and that the same words may be understood literally or psychologically.

Matter Transcends Itself

Nicoll’s commentaries about the limits of sensual thinking, the importance of faith in opening the mind to that which lies beyond the reach of the senses, and the significance of scale are as equally applicable to modern psychology’s study of consciousness as they are to interpreting scripture. It is impossible to overestimate the importance of this concept of scale and how it places one’s perspective and understanding of the meaning of everything—consciousness, being, knowledge, understanding, meaning, reality, matter, mind, spirit, and God—in a new and startling light. Furthermore, these considerations are of the utmost importance in assessing the explanatory limitations imposed by adherence to a reductionist theoretical and methodological framework.

Strangely enough, when the history of twentieth-century physics’ formulations of relativity theory and quantum theory—arguably, modern science’s greatest achievements—are considered, it might be said that those successes have revealed the limits of sense-based thinking, the importance of faith (in terms of another kind of thinking), and the significance of scale. While Newtonian mechanics was regarded for many years as the ultimate theoretical description of the laws of Nature, the discovery of electric and magnetic phenomena was but the first in a series of developments revealing the theory’s essential limitations. In *The Tao of Physics*, Fritjof Capra explains that we know now:

... that the Newtonian model is valid only for objects consisting of large numbers of

atoms, and only for velocities which are small compared to the speed of light. When the first condition is not given, classical mechanics has to be replaced by quantum theory; when the second condition is not satisfied, relativity theory has to be applied.³²

Thus, physicists have discovered that the supposed universality of Newton's model collapses at the sub-atomic level and as bodies approach the speed of light. In these other dimensions—these other levels in the hierarchy of the physical world—our normal conceptualizations of matter fail, and it is necessary to think in new ways to enter the new order of meaning imposed by each particular level of reality. Einstein's magnificent theory of relativity not only defies common sense in its unity of space and time, but also brilliantly overthrows thousands of years of philosophy and science. Quantum mechanics—a collective achievement which represents an even more provocative and astounding challenge to previous thought—provides a mathematical description of a level of reality, at which our normal everyday concepts and assumptions are inapplicable: an impossibly bewildering world, which confirms J.B.S. Haldane's famous assertion that the Universe is “not only queerer than we suppose but queerer than we *can* suppose.” Both relativity theory and quantum theory then have furnished us with a world-view—derived by apprehending reality on another level of scale—in which the limits of our sense-based thinking and language are revealed.

Ironically, then, it is physics—with its ancient quest to determine the elementary constituents of matter—which has developed an understanding of the nature of reality which poses some of the most difficult problems for science's materialist - mechanistic - reductionist paradigm.

Describing the bafflingly incomprehensible sub-atomic world, in which “matter does not exist with certainty at definite places, but rather shows ‘tendencies to exist’, and atomic events do not occur with certainty at definite times and in definite ways, but rather show ‘tendencies to occur,’” Capra writes:

Quantum theory has thus demolished the classical concepts of solid objects and of strictly deterministic laws of matter. At the subatomic level, the solid material objects of classical physics dissolve into wave-like patterns of probabilities, and these patterns, ultimately, do not represent probabilities of things, but rather probabilities of interconnections. A careful analysis of the process of observation in atomic physics has shown that the subatomic particles have no meaning as isolated entities, but can only be understood as interconnections between the preparation of an experiment and the subsequent measurement. Quantum theory thus reveals a basic oneness of the universe. It shows that we cannot decompose the world into independently existing smallest units. As we penetrate into matter, nature does not show us any isolated ‘basic building blocks, but rather appears as a complicated web of relations between the various parts of the whole.³³

It is difficult to grasp the extraordinary significance of what Capra is saying in describing quantum physicists' discoveries about the bewildering and unfathomable nature of reality. In searching for the basic indivisible unit which occupies the lowest rung in the hierarchy of matter, physicists have been confronted by the oneness of the Universe! Instead of identifying some fundamental building block, physicists have discovered the webs of relationships linking parts to wholes. It was these extraordinary discoveries which led philosopher Karl Popper to observe that, in the quantum Universe, “matter has transcended itself.”³⁴ It is the significance of these discoveries that have led Theodore Roszak, Stephen Talbott, and other critics of the materialist-mechanistic-reductionist paradigm to ask: what exactly does it mean to be an ardent materialist?

But the implications of what quantum physics has revealed about the nature of reality are even more incredible. Capra explains that the web of relations:

... always include the observer in an essential way. The human observer constitutes

the final link in the chain of observational processes, and the properties of any atomic object can only be understood in terms of the object's interaction with the observer. This means that the classical ideal of an objective description of nature is no longer valid. The Cartesian partition between the I and the world, between the observer and the observed, cannot be made when dealing with atomic matter. In atomic physics, we can never speak about nature without, at the same time, speaking about ourselves.³⁵

Thus, physics has led us to a dimension in which the external physical world cannot be described or its meaning defined without connecting it to the much greater invisible world which permeates *it*. The materialist's Holy Grail—the fundamental building block—is chimerical; his faith in reductionism has betrayed him, even as it mocks him with his own reflection. Ultimately, what matters is not matter; what is fundamentally material is immaterial. Our attempts to understand the rudimentary constituents of the physical world yield *no thing*, but instead a system of relationship in which consciousness participates.

The challenges to materialism presented by twentieth-century physics become even more striking when considering the work of David Bohm. An esteemed colleague of Einstein's at Princeton University, Bohm's theoretical work had involved attempting to understand the importance of "hidden variables" in resolving the paradoxes of relativity theory and quantum theory. Despite the dramatic contradictions in the two perspectives' interpretation of the nature of physical reality, Bohm was struck by the fact that each theory suggested, *for entirely different reasons*, that an explanation "implying the undivided wholeness of the universe would provide a much more orderly way of considering the general nature of reality."³⁶ It was that paradox which inspired Bohm to develop a theory which began by recognizing the wholeness of the Universe as the primary reality.

In his groundbreaking 1984 book, *Wholeness and the Implicate Order*, Bohm presents a model of wholeness by which he attempts to reconcile relativity and quantum theory, while

also addressing non-local effects and other quantum paradoxes. He distinguishes between an *explicate order*—the world of separate things and events—and an underlying, hidden *implicate order* of undivided wholeness. In the explicate order, there exist all the independent material particles—the quanta—that interact locally in the space/time configuration. Bohm's revolutionary proposal is that there exists an implicate order—an invisible, unmanifested realm—which informs the explicate order. In this deeper level of reality, the quanta—which appear to be separate and unconnected in the explicate order—are connected and unified. Everything in the implicate order is, according to Bohm, enfolded into everything else. Thus, he claims that all the phenomena of the observable explicate order—manifest physical reality—*unfolds* from the implicate order. The implicate order is simultaneously available to each part of the explicate order. Thus, the Universe is conceived of as a hologram in which each part is in the whole, and the whole is in each part—although Bohm, believing that the term "hologram" implied a misleading and untenable stasis, coined the term "holomovement" to describe the dynamic nature of these processes of enfolding and unfolding by which the implicate order informs the explicate order.

Discussing the significance of his theoretical position, Bohm contrasts it with the mechanistic world-view which strangely—in light of physics' revolutionary discoveries—continues to dominate contemporary science:

Whereas the mechanistic picture regarded discrete objects as the primary reality, and the enfolding and unfolding of organisms, including minds, as secondary phenomena, I suggest that the unbroken movements of enfolding and unfolding, which I call the *holomovement*, is primary while the apparently discrete objects are secondary phenomena. ... the whole universe is *actively* enfolded to some degree in each of its parts. Because the whole is enfolded in each part, so are all the other parts, in some way and to some degree. Hence, the mechanistic picture, according to which the parts are only externally related to each other, is denied.

That is, it is denied to be the primary truth; external relatedness is a secondary, derivative truth, applicable only to the secondary order of things which I call the explicate or unfolded order.³⁷

In essence, Bohm turns the mechanistic worldview upside down. Rather than attempting to understand the whole by reducing matter to its most elementary parts, Bohm asserts that what he calls “postmodern physics” must begin with the whole. By turning the supposition as to the nature of the primary reality on its head, Bohm is proposing a radical reformulation of the discipline: one which, in its assumptions, resonates with the assertions of mystical and esoteric teachings throughout the ages.

As astonishing and intriguing as these views about the unity of the Universe are, the concept of non-locality represents perhaps the most revolutionary development in modern physics’ fantastic history. Einstein famously opposed quantum theory and was particularly convinced of its deficiencies because it implied “non-local effects” or “action at a distance”—which he regarded as an absurdity. In 1935, Einstein and his colleagues, Boris Podolsky and Nathan Rosen, devised a thought experiment to illustrate quantum theory’s incompleteness. The so-called “EPR paradox” posed the seemingly impossible existence of instantaneous communication of information—beyond the speed of light—which emerged from a singularity condition. In 1964, physicist John Bell tested the EPR paradox; assuming that reality is local and that measurement of one particle could not affect its paired particle. But Bell’s results revealed that his assumption of locality was incorrect. Consequently, non-locality became a baffling, unsettling, and highly disturbing yet incontrovertible quantum fact. Further research has upheld Bell’s work; as unsettling as the concept of non-locality may be, it is here to stay. On that basis, physicist Nick Herbert maintains that any theory in physics, which does not include non-local effects, is incomplete. Nevertheless, Herbert also notes the decidedly “unscientific” stubborn resistance to non-locality which prevails amongst physicists:

It’s difficult to convey to outsiders the distaste which the majority of physicists feel when they hear the word ‘non-locality.’ ... these guys so treasure locality that they are willing to deny reality itself before accepting a world that’s non-local.³⁸

Despite their radically different approaches, then, both scientists and mystics have concluded that our sense-based perceptions of the externally observable world are fundamentally incomplete and, therefore, illusory. Commenting on the illusory nature of the physical realm, Sir Arthur Eddington declared that “the exploration of the external world by the methods of physical science leads not to a concrete reality but rather to a shadow world of symbols ...”³⁹

That statement is intriguingly reminiscent of Plato’s depiction of the human condition in his famous tale of the cave: wherein he likened men to prisoners chained in a cave, unable to turn round and see the source of illumination behind them, and thus failing to understand that the externally observable figures on the wall before them are insubstantial—merely shadows. According to physicists, matter is almost totally comprised of empty space—but it is only when our senses are *extended by instrumentation*, providing a more comprehensive *order of scale*, that it is possible to understand this truth. According to the mystical/esoteric tradition, the material world is a projection of higher dimensions—but it is only by developing our dormant faculties of consciousness, acquiring *the instrument of receptivity* and experiencing *a more comprehensive scale of materiality and consciousness*, that we can understand the nature of our illusions. In each approach, then, “reality” is defined by a process of observation and relation, within an order of scale, through levels of meaning.

Māyā as a Lesser Degree of Reality

Even without this dissolution of the nature and primacy of matter in quantum physics, the materialist faces some rather exacting difficulties in conceptualizing, if not studying himself. That is, if he maintains that “he” is “nothing more” than the aggregate of material

processes and events, at what level of these processes and events does he assign meaning? How does he reconcile this level of interpretation with mind, self, being, soul, spirit, thought, imagination, emotion, identification and all the other aspects of himself that elude his touch. Typically, he has responded that human beings are “nothing but” and “nothing more” than biochemical mechanisms ... but biochemistry leads to molecules and thence to atoms, and from there ... to what we know is trouble. As Capra explained, the materialist cannot “go all the way” in his quest to reduce matter to its primary state without, in some sense, “knowing himself.” In light of that apparent road to ruin, there is something essentially untenable and incomplete about the scientist’s subscription to a mechanistic-reductionist-materialism as being *the way* to study reality objectively. Lama Anagarika Govinda—the twentieth century German philosopher who became a Tibetan Buddhist monk—poses the question of how objective reductionism can claim to be in this way:

If we examined a master-work of art, say a painting, with a microscope and come to the conclusion that it is nothing but some sort of fibrous matter combined with some coloured substance, and that all this can again be reduced to mere elementary vibrations—this would not bring us one step nearer to the phenomenon of beauty or to the understanding of its significance, its meaning or its message; it would only reveal the senselessness of such a philosophy of ‘nothing but-ism’ and its methods of ‘objective’ analysis. (In reality, reality it is neither ‘objective’, i.e., unprejudiced, nor

an analysis of the thing in question, *because it is an intentional arbitrary suppression of all non-material factors, without which the particular form and composition of matter could not exist.*)⁴⁰ [emphasis added]

We are turned round, like the prisoners in Plato’s cave, taking shadows for substance; without seeing them as projections; without understanding them as partial aspects of a more comprehensive whole; and without relating them to their source. Our understanding of consciousness, knowledge, and reality is partial, and therefore, illusory. As long as we fail to “relativize” each by connecting it with its higher dimensions, we live under the spell and divisions of *māyā*.

Indeed, it is this “intentional arbitrary suppression of all non-material factors” or the reduction of everything to “nothing but” material factors which comprises the materialists’ grand illusion that their science is objective and value-free. It is an indisputable truth that neither the Universe nor our own beings consist of merely what the senses reveal: that which we examine always represents a combination of ourselves with that which we observe. And that combination is much more complex and meaningful than materialist-mechanistic scientists

know or suspect. The precision that they have sought—by adhering to a method which ostensibly eliminates them from the observational process—demands the very opposite. By studying and understanding the extraordinary dynamics, linking levels of consciousness of the observer and levels of reality observed, it is possible to enter a new order of exactitude and meaning. But to do so means, at the very least, to accept that there may be higher levels of consciousness than our normal waking consciousness. And it is precisely the refusal to admit this possibility that is the essential flaw—the blindness—of the materialists’ approach. Seeking to reduce everything to simple material explanations, they arbitrarily suppress the possibility that “consciousness” may be something other than a phenomenon produced by the brain’s material processes, or that it may exist at levels above that which they experience and take for granted as final. Attached to

their senses, they live under the spell of illusion, or *māyā*. They interpret a partial or lower degree of reality as complete, without understanding that it is a projection of higher (more subtle) and more integrated levels of reality. Lama Govinda characterizes and explains the illusory quality of our normal waking state:

Compared with the highest or “absolute” reality, all forms, in which this reality appears to us, are illusory, because they are only partial aspects, and as such incomplete, *torn out of their organic connexions and deprived of their universal relationship*. The only reality, which we could call “absolute,” is that of the all-embracing whole. Each partial aspect must therefore constitute a lesser degree of reality—the less universal, the more illusory and impermanent.⁴¹ [emphasis added]

Lama Govinda continues by stating that “to a point-like consciousness the continuity of a line is inconceivable”⁴²—that is, the higher dimension of a line is invisible. Yet, from the perspective of this linear consciousness, a point-like consciousness is clearly visible; it is understood to be a subsidiary part of the whole defined by a line. To this linear or one-dimensional consciousness, however, the continuity of a plane—a two-dimensional consciousness—would also be inconceivable and invisible. Lama Govinda extends this analogy through the higher dimensions given by three-dimensional space consciousnesses, concluding that:

Thus, the consciousness of a higher dimension consists in *the co-ordinated and simultaneous perception of several systems of relationship or directions of movement, in a wider, more comprehensive unity, without destroying the individual characteristics of the integrated lower dimensions*. The reality of a lower dimension is therefore not annihilated by a higher one, but only “relativized” or put into another perspective of values.⁴³ [emphasis added]

Lama Govinda goes on to explain how the perception and co-ordination of the different phases in the movement of a point proceeding in one direction leads to the perception of a

straight line. Likewise, the perception and co-ordination of the phases of a straight line movement leads to the conception of a plane. The same process applied to a plane leads to the perception of a body, and in turn, when applied to a body, results in being conscious of its “inherent laws and mode of existence.” Succeeding steps in this ascending hierarchy yield: awareness of a conscious being’s individuality and psychic character; the law of *karma*; and finally, a consciousness of “supra-individual *karmic* interrelatedness”:

In short, we arrive at the perception of a cosmic world order, an infinite mutual relationship of all things, beings and events, until we finally realize the universality of consciousness in *Dharmakāya*, when attaining Enlightenment.

Seen from the consciousness of the *Dharmakāya*, all separate forms of appearance are *māyā*. *Māyā* in the deepest sense, however, is reality in its creative aspect, or the creative aspect of reality. Thus, *māyā* becomes the *cause* of illusion, but it is not illusion itself, as long as it is seen as a whole, in its continuity, its creative function, or as infinite power of transformation and universal relationship.

As soon, however, as we stop at any of its creations and try to limit it to a state of “being” or self-confined existence, we fall a prey to illusion, by taking the effect for the cause, the shadow for the substance, the particular aspect for the ultimate reality, the momentary for something that exists in itself.⁴⁴

Lama Govinda articulates the essence of the esoteric viewpoint: that the way to truth and contact with ultimate reality lies in the transformation of one’s being and consciousness. Doing so, it is at once “relativized”—through the co-ordination and simultaneous perception of the hierarchy of dimensions in which reality is manifested—and returns to that unity which is the source of all Creation. Of course, as long as we believe that we know ourselves ... as long as we take our normal state as the only consciousness possible for human beings ... as long as we deny the integral relationship be-

tween consciousness and our capacity to apprehend reality ... as long as we see meaning as nothing more than the end-product of our interaction with the world of our senses ... as long as we regard the Universe as nothing but the culmination of a process in which simple matter has blindly evolved into increasing complexity, life, and consciousness ... as long as we entertain the rather presumptuous conceit that there is no intelligence in the Universe superior to our own ... then we live in *māyā*. We are turned round, like the prisoners in Plato's cave, taking shadows for substance: without seeing them as projections; without understanding them as partial aspects of a more comprehensive whole; and without relating them to their source. Our understanding of consciousness, knowledge, and reality is partial, and therefore, illusory. As long as we fail to "relativize" each by connecting it with its higher dimensions, we live under the spell and divisions of *māyā*.

The Great Nest of Being

Ken Wilber is a contemporary consciousness theorist whose work involves a scholarly and insightful appreciation of the mystical-esoteric tradition. A prolific writer, Wilber's impressive body of work involves an attempt to develop a model of consciousness by incorporating esoteric spirituality, philosophy, psychology and modern science in a comprehensive synthesis. In his book, *The Marriage Of Sense And Soul: Integrating Science And Religion*, Wilber presents a concise and intriguing analysis of the conflict between religion and science in which he argues that much of the supposed antagonism between the two approaches to knowing reality represents a failure to understand that they are grounded in two distinct and radically different epistemologies. In addition, Wilber exposes materialist scientists' self-serving misunderstanding and misrepresentation of the meaning of empiricism and the scientific method. He argues that they cannot claim that their pronouncements on all matters pertaining to the inner domains of being and the subtle realms of reality are based on science—because materialist science long ago banished from consideration all *interior dimensions of reality*. Instead, Wilber ar-

gues for epistemological pluralism: the recognition that there are three fundamental modes of knowing that, when taken together, yield the most comprehensive apprehension of the self and the cosmos. On that basis, he contends that esotericism must be recognized as a science of consciousness and being. Finally, in discussing the collapse of "the Great Chain of Being," Wilber reveals an aspect of materialist reductionism which is generally overlooked—even by its most vocal critics.

The concept of the Great Chain of Being—a hierarchical conceptualization of consciousness, being, and the cosmos—has been consistently articulated in various spiritual and esoteric teachings throughout the ages. In his classic work, *The Great Chain of Being*, Arthur Lovejoy described it as having "been the dominant official philosophy of the larger part of civilized humankind through most of its history."⁴⁵ Houston Smith—perhaps the foremost contemporary authority on comparative religion—states that virtually all the great wisdom traditions have subscribed to the concept of the great chain as "a hierarchy of being and knowing." Noting the inadequacies of the metaphor of a "Great Chain," Wilber proposes that these hierarchies should be more appropriately labeled a "Great Nest." Thus, he characterizes these different levels of consciousness as constituting "nested hierarchies": in which each of the lower levels, while possessing its unique characteristics and laws, is subsumed by those levels above it. As such, the higher levels contain and inform those levels below which remain intact. Furthermore, as each level of human consciousness is "nested" within those above it, so too are the different dimensions of Creation. Hence, the esoteric maxim asserts that: "man is a microcosm of the macrocosm." This means that, within human beings—their "inner Universe"—there exists a "cosmos" which mirrors the essential principles and structure of the external cosmos.

In essence, the view put forth is that of a nested hierarchy of different levels of being, in which each higher level both *transcends* and *includes* that which is lower. Wilber describes this position to mean that:

... reality is a rich tapestry of interwoven levels, *reaching from matter to body to mind to soul to spirit*. Each senior level “envelops” or “enfolds” its junior dimensions—a series of nests within nests of Being—that everything, and event in the world is interwoven with every other, and all are ultimately enveloped and enfolded by Spirit, by God, by Goddess, by Tao, by Brahman, by the Absolute itself.⁴⁶

While the number of levels within the Great Nest may be divided in different ways in different traditions—from three to five to seven to the twelve that Plotinus describes—Wilber states that there is widespread recognition that there are, at the very least, three distinct levels. Thus, in Buddhism and Hinduism, there exist the three great stages of being: *gross* (matter and body); *subtle* (mind and soul); and *causal* (spirit). No matter what model one considers, Wilber states that the fundamental idea recurs throughout various esoteric teachings and wisdom traditions:

Reality is a series of nests within nests within nests, reaching from matter to mind to Spirit, with the result that all beings and all levels were ultimately enfolded in the all-pervasive and loving embrace of an ever-present Spirit.⁴⁷

Wilber explains that the post-Enlightenment, modern West “became the first major civilization in the history of humanity to deny almost entirely the existence of the Great Nest of Being.”⁴⁸ When scientific materialism became “the dominant official philosophy of the modern West,”⁴⁹ the Great Nest—a ladder of Creation which ascended from matter to God—collapsed into the “flatland” of matter. Describing the essential consequences of the triumph of materialism, Wilber states:

According to scientific materialism, the Great Nest of matter, body, mind, soul, and spirit could be thoroughly and rudely reduced to systems of matter alone; and matter—whether in the material brain or material process systems—would account for all of reality, without remainder.⁵⁰

Max Weber summarized this transformation of worldviews—which led to “the death of God,”

the replacement of quality with quantity, the loss of value and meaning, the denial of the significance of experience, and a host of other materialist secular assumptions—by characterizing it as “the disenchantment of the world.” Lewis Mumford coined the memorable phrase, “the disqualified universe,” to describe the fulfillment of Galileo’s objective of reducing all aspects of “reality” to only that which the senses can apprehend and that which can be measured.

The Three Eyes of Knowing

Despite the enduring and significant problems created by the collapse of the Great Nest, Wilber points out that there have been numerous significant advances and positive developments which have accompanied the emergence of Western modernity: such as the establishing of liberal democracies; widespread ideals of equality, freedom, and justice for all; modern medicine, physics, biology, and chemistry; the end of slavery; and the rise of feminism, amongst others. In attempting to define modernity, Wilber notes that various scholars—including Max Weber and Jurgen Habermas—have identified “the differentiation of the cultural value spheres” as its essential feature; particularly, the differentiation of the domains of the arts, morals, and science. Prior to the Enlightenment, each of these spheres was “fused,” and; therefore, a scientist such as Galileo could not freely report that which he had observed or his theories because art and morals and science were all under the Church’s authority. With the rise of modernity, each sphere freed itself from the Church and became a distinct domain, free to develop at its own pace, using its own tools, and no longer fearful of the intrusions from other spheres. This differentiation led to science being able to pursue truth on its own terms, without interference from religious or state authority. Similarly, artists and moral theorists pursued their aims without fear of being sanctioned or suppressed by the Church or the state. The fulfillment of this differentiation is what Wilber terms “the dignity of modernity.” It is this differentiation which freed science from the Church’s condemnation; liberating it to

search for truth in terms of its own methods, standards, and protocols.

By contrast, Wilber argues that the “bad news” of modernity was that differentiation “went too far into actual *dissociation*, fragmentation, alienation.”⁵¹ Scientific materialism’s dominance became so thorough and so unquestioned within its own ranks that it devolved into “scientism”—as evidenced by its adherents’ dismissal of all other value spheres as being worthless or illusory. Accordingly, Wilber says, scientific materialism “*pronounced the Great Chain of Being to be non-existent.*”⁵² He describes the results of this wholly arbitrary and decidedly unscientific declaration:

Gone was mind and gone was soul and gone was Spirit—gone, in fact, was the entire Great Chain, except for its pitiful bottom rung—and in its place, as Whitehead famously lamented, there was reality as “a dull affair, soundless, scentless, colorless; merely the hurrying of material endlessly, meaninglessly.”⁵³

To fully understand the significance of the “disaster of modernity,” Wilber argues that it must be understood within the context of scientific materialism’s simultaneous rejection of not just the Great Nest, but also “epistemological pluralism.” Scientific materialism routinely asserts that it represents the most reliable and objective means of knowing. In order to expose the dogmatic nature of that assumption, Wilber undertakes an examination of the traditional conceptualization of the three ways of knowing—the *eye of the flesh*, the *eye of the mind*, and the *eye of contemplation*—as articulated by Christian mystics such as Bonaventure and Hugh of St. Victor. Each of these modes of knowing, he explains, discloses its own dimension of being: respectively, *gross*, *subtle*, and *causal*. Further, the realities apprehended by each mode, when taken together, yield a balance of *empirical knowledge* (science), *rational knowledge* (logic and mathematics), and *spiritual knowledge* (gnosis).

In elaborating on the distinction between the three eyes, Wilber characterizes the eye of the flesh as being *monological*, the eye of the mind

as being *dialogical*, and the eye of the spirit as being *translogical*. The eye of the flesh is monological: speaking to oneself, in so far as it deals with objects and things in the external world—various “Its”—whether they are rocks, stars, kidneys, atoms, or gases. One does not talk to objects or things; one simply apprehends them through the senses or through instruments that extend the senses—such as microscopes, electroencephalograms, and telescopes. The eye of the mind is dialogical—insofar as the attempt to interpret the meaning of symbols involves an exchange of ideas. The act of interpretation does not involve treating the author of a text or a formula as an *object*—such as a rock or a star—but rather as a *subject*, with whom one would converse if he or she were present. There is a presumption of an operative intelligence which has devised language, mathematics or logic and which could amplify upon its meaning or revise it in response to another speaker’s commentary. Translogical refers to that which transcends the rational, the logical, and the mental. The eye of the spirit is translogical: in that it sees *beyond the reach of the senses and mental functioning*, apprehending through gnosis—a direct non-dualistic knowing—that which is revealed only to the eye of contemplation.

Wilber notes that it is common amongst many of those who identify themselves as proponents of a “new [scientific] paradigm” to disclaim the validity of the mechanistic Newtonian-Cartesian worldview in which the Universe is conceptualized as being atomistic, fragmented, and divided. They note the similarities between the holistic perspectives of the wisdom traditions, and the “web of life” views that have arisen from systems and complexity theory, relativity and quantum mechanics. Doing so, they herald the creation of a new quantum self/quantum society holistic paradigm which will be ushered in by science itself. But Wilber argues that such arguments miss the point entirely about the essential limitations of all of these scientific perspectives: that they are all *monological*. They are all based on that which is grounded in sensory apprehension. Thus, he states:

... the real problem of our modern fragmentation is not that empirical science is atomistic rather than systems-oriented; the real problem is that *all higher modes of knowing have been brutally collapsed into monological and empirical science*. Both atomism and systems theory are monological/empirical, and *it is the reduction of all knowledge to monological modes that constitutes the disaster of modernity*.⁵⁴

In further analyzing the “disaster of modernity,” Wilber focuses on the significance of the different types of language which are spoken in the spheres of arts, morals, and science. He notes that the expressive-aesthetic language of the arts is an “I” language, while that of morals is a “We” language, and that of objective science is an “It” language. With the modern differentiation of the three spheres, Wilber claims that they became the realms of the I, the We, and the It; each being insulated from the others and allowing for the dignified pursuit of its own truths on its own terms. But, as noted, this differentiation—which Wilber says began in the sixteenth and seventeenth centuries—began to devolve into a “pathological dissociation” as the stunning ascendancy of monological materialist science resulted in its dominance of “serious discourse in the Western world.”⁵⁵ As a result, Wilber says, “the I and the WE were colonized by the IT”⁵⁶ and materialist science’s monological truth:

... became grandiose in its own conceit and cancerous in its relations to others. Full of itself and flush with stunning victories, empirical science became *scientism*, the belief that there is no reality save that revealed by science, and no truth save that which science delivers. The subjective and interior domains—the I and the WE—were flattened into objective, exterior, empirical processes, either atomistic or systems. Consciousness itself, and the mind and the heart and the soul of humankind, could not be seen with a microscope, a telescope, a cloud chamber, a photographic plate, and so all were pronounced epiphenomenal at best, illusory at worst.

The entire interior dimensions ... were dismissed by monological science because

none of them could be registered by the eye of the flesh or empirical instruments. Art and morals and contemplation and spirit were all demolished by the scientific bull in the china shop of consciousness. And there was the disaster of modernity.⁵⁷

According to Wilber, the problem with modern materialist science is not that it is atomistic; on the contrary, he asserts that it was basically holistic from its inception. No, the problem is that it is a “*flatland holism*” which deals with Its and *nothing but Its*. Within that flatland, there are no “I”s or “We”s interwoven Its”⁵⁸—which scientists assure us provides the most objective and comprehensive understanding and description of reality.

The triumph of materialist monological science meant that only that which could be described in valueless, empirical, process It-language was real and meaningful. Whitehead described such Its as having simple location: you can apprehend them with your senses or, literally, put your finger on them. But, as Wilber points out, you cannot put your finger on compassion or consciousness ... or honor or value or justice—none of the interior dimensions of I and We—because they do not have simple location. Nevertheless, under the imperial rule of materialist science, all interior dimensions were reduced to exterior Its. As R.D. Laing argued, this is the fulfillment of Galileo’s vision: a world in which only that which is quantifiable is real. Never mind that it represented what Laing terms a “*most profound corruption*” of the Greek view of Nature as being alive, dynamic, and integrally related to human consciousness and being. Ironically, then, it is Galileo—the fabled victim of religious persecution by those too ignorant and fearful to overcome their dogmatism and attempt to understand the Universe as it is, rather than how it is supposed to be—who himself prescribed an epistemological monopoly which was fulfilled in the disaster of the modern scientific mind.

Wilber concludes that when modern science rejected the reality of the interior domains, it effectively rejected the Great Chain of Being “because all of the levels of the Great Chain except the lowest (the material body) happen

to be *interior realities* of the I and the WE, of the subjective and interior-subjective domains.”⁵⁹ In turn, this rejection constituted the rejection of spiritual teachings and the wisdom traditions. Moreover, it did away with all questions regarding the relationship between interior and exterior realities; there is no need to relate the substantial reality of that which is externally observable to that which is internal, insubstantial, and unreal. Wilber succinctly and poignantly summarizes the effects of the rejection of the Great Chain of Being to mean that:

... all interiors were reduced to exteriors. All subjects were reduced to objects; all depth was reduced to surfaces; all I’s and all WE’s were reduced to ITS; all quality was reduced to quantity; levels of significance were reduced to levels of size; value was reduced to veneer; all translogical and dialogical were reduced to monological. Gone the eye of contemplation and gone the eye of mind—only data from the eye of the flesh would be accorded primary reality, because only sensory data possessed simple location, here in the desolate world of monochrome flatland.⁶⁰

Empiricism and “The Myth Of the Given”

Wilber argues forcefully and compellingly that scientific materialism’s claim to be the most objective approach to studying and apprehending the nature of reality is not only fraudulent, but based on a blatant misrepresentation of the scientific method. He notes that empiricists—behaviorists, positivists, and materialist scientists—typically subscribe to what he terms “the myth of the given”: the contention “that the sensorimotor world is simply given to us in direct experience and that science carefully and systematically reports what it there finds.”⁶¹ But that view is a fantasy. As Wilber explains, philosophers of science are essentially unanimous in agreeing that this is most certainly *not* how scientists study and interpret anything. Nevertheless, by clinging to this myth, scientific materialists invoke its power and glory as the basis on which they

deny the significance of interior realities, including all spiritual influences and forces.

Continuing, Wilber asserts that exposing the myth of the given reveals *the necessity of recognizing the reality of interiors and the need to address the question of how interiors are related to that which is exterior*. He adds that science’s rejection of interior knowledge is absurd—insofar as logic and mathematics are derived from interior knowledge. Any scientist who uses mathematics already knows that reality does not simply consist of that which is apprehended by the senses. For that reason, most scientists reject the myth of the given. Nevertheless, most scientists who subscribe to the materialist-mechanistic-reductionist perspective routinely make pronouncements about the nature of reality which reveal that they are tacitly and unequivocally subscribing to the myth of the given! Commenting on that paradoxical position, Wilber states that, while the subjective and inter-subjective domains are clearly integral to the development of scientific knowledge, *scientists seem to be in denial about what they do and how they do it*. Thus, he explains that:

... science approaches the empirical world with a massive conceptual apparatus containing everything from tensor calculus to imaginary numbers to extensive intersubjective linguistic signs to differential equations—virtually all of which are *nonempirical* structures found *only* in interior spaces—and then it astonishingly claims it is simply “reporting” what it “finds” out there in the “given” world—when, in fact all that is given is colored patches.”⁶²

Wilber states that empirical science can hardly deny the importance of these interior tools—given that its objective operations are dependent upon them. Yet, that is precisely what has happened with the degeneration of science into scientism: a denial of the interior domains, both subjective and intersubjective. Empirical science, in its most brutish forms, has simply rejected these interiors altogether because they cannot be accessed by the monological eye and sensorimotor methods. He then provides this scathing summary of the reductionist-

materialists' misrepresentations of what scientists do and how they do it:

This self-obliterating reductionism is not genuine science, it is simply science the village idiot. And, as everybody knows, it takes a village to raise a complete idiot—the village of collapsed modernity, in this case. Science becomes imperial scientism and falls into the simpleminded myth of the given, naively ascribing to its colored patches a great deal of what is found in the conceptual apparatus, whose existence it has just denied.⁶³

One of the most important aspects of “the myth of the given,” according to Wilber, is the idea that the “scientific method” deals only with “sensory empiricism”: that is only, the sensory domains or sensory experience. Although he acknowledges that, historically, empiricism has been associated with sensorimotor evidence, Wilber explains that there is certainly mental empiricism: for example, mathematics is grounded in interior mental experiences, perceptions, and processes. Similarly, the wisdom traditions are premised on the rigorous and systematic observation and examination of the interior domains of consciousness and being. To be an empiricist means, then, that one demands *evidence* to verify pronouncements of truth, rather than accepting assertions on the basis of dogma or faith. Consequently, Wilber asserts that there is “*sensory empiricism* (of the sensorimotor world), *mental empiricism* (including logic, mathematics, semiotics, phenomenology, and hermeneutics), and *spiritual empiricism* (experiential mysticism, spiritual experiences.)”⁶⁴ There is evidence that is apprehended through the eye of the flesh, the eye of the mind, and the eye of contemplation; there is monological, dialogical, and trans-logical science. If we extend empiricism to the interior domains, we then have “a science of sensory experience, a science of mental experience, and a science of spiritual experience”⁶⁵

A “Spiritual Science”

In developing his argument for a spiritual science, Wilber asserts that there are three essential aspects of the scientific method: that

which he terms the “three strands of all valid knowing.” They consist of: (1) *an instrumental injunction*; (2) *a direct apprehension*; and (3) *a communal confirmation or rejection*. The injunction involves a practice, an experiment ... a directive that says: “If you want to know this, do this.” The direct apprehension is “an immediate experience of the domain brought forth by the injunction”⁶⁶ Communal confirmation is “a checking of the results—the data, the evidence—with others who have adequately completed the injunctive and apprehensive strands.”⁶⁷ Authentic spirituality must be falsifiable, Wilber argues. As such it cannot be imaginal, mythic, mythological or mythopoeic. But insofar as it apprehends the world through the eye of contemplation and fulfills these three strands, a religious or spiritual teaching is “*a science of spiritual experience*.”⁶⁸

When we examine the great religious and spiritual traditions, Wilber notes, we find that their founders underwent a profound *spiritual experience*. Their experiences involved “direct union or even identity of the individual and Spirit”⁶⁹ And that realization conferred “a great liberation, rebirth, metanoia, or enlightenment on the soul fortunate enough to be immersed in that extraordinary union”⁷⁰ Rather than imparting a series of dogmatic beliefs, these spiritual pioneers gave their followers practices, disciplines, methods, *instrumental injunctions*. Wilber describes the “do this” injunctions as including:

... specific types of contemplative prayer, extensive instructions for yoga, specific meditation practices, and actual interior exemplars: if you want to *know* this Divine union, you must *do* this.

These injunctions reproduced in the disciples the spiritual experiences or the spiritual data of the evolutionary pioneers. In the course of subsequent interior experiments (over the decades and sometimes centuries), these injunctions and data were often refined and sophisticated, with initial or preliminary methods and data polished in the direction of more astute observations.⁷¹

To answer the question, then—“does Spirit exist?”—Wilber states that the answer is straight forward and clear: “Take up the injunction, perform the experiment, gather the data (the experiences), and check them with a community of the similarly adequate.”⁷² As he explains, you cannot mentally or verbally or rationally answer the question; you have to take up the injunction. Otherwise, you are attempting to apprehend with the eye of the mind that which can only be seen or stated with the eye of contemplation. This is precisely what scientific materialists have failed to grasp and which, in light of the esoteric tradition’s adherence to this protocol, reveals all of their pronouncements about consciousness, the soul, Spirit, and God to be transparently ill-informed and dogmatic assertions of their own beliefs—in other words, *nothing but* and *nothing more* than unsubstantiated subjective statements. They have not done the experiments; they have no knowledge of the results that those who have done them have attained; and they are unaware of the communities of those possessing this expertise. Nevertheless, Wilber explains:

The great and secret message of the experimental mystics the world over is that, with the eye of contemplation, Spirit can be seen. With the eye of contemplation, God can be seen. With the eye of contemplation, the great Within radiantly unfolds.⁷³

Concluding Remarks

There exists a profound disconnection between scientific knowledge and the continued reign of the materialist-mechanistic-reductionist paradigm. Indeed, in light of physicists’ discoveries about the inadequacies of the material-mechanistic model in conceptualizing the physical Universe and the unequivocal limitations of reductionism in studying and analyzing it, the extent to which the materialist paradigm continues to dominate scientific research is perplexing. Despite the astonishing implications of quantum theory, most scientists continue to adhere to a materialist perspective of both the Universe and themselves—one which has been unequivocally disproved.

Within the life sciences, the continued application of the materialist paradigm and enduring faith in reductionism leads biologists to evince an exaggerated faith in the explanatory power of genes and psychologists to regard neurons as somehow harboring the key to unraveling the mysteries of consciousness. Such views attest to the power of habitual thinking—even within science—and the resistance to revisiting and re-examining the assumptive framework which underlies conventional knowledge and understanding.

Ken Wilber’s claim about the “disaster of modernity”—wherein the triumph of science has collapsed the Great Chain into the flatland of scientific materialism—identifies the wholly arbitrary and indefensible denial of the significance of all interior domains. Scientific materialism begat “the myth of the given” and “the myth of the scientific method” which, in turn, begat scientism. As a result, psychologists and scientists have pursued the study of consciousness in terms of a materialist-mechanistic-reductionist paradigm which addresses only that which is externally observable. Because materialists conceive of the Universe as being nothing but the manifestation of insentient matter and energy—devoid of intelligence, purpose, meaning, and Spirit—they have concluded that consciousness must be generated by the human brain. In doing so, human consciousness has been torn out of its organic connections and universal relationship.

In the next article in this series, an esoteric model of consciousness—that of G.I. Gurdjieff’s Fourth Way teaching—will be presented and evaluated as a reply to the deficiencies of the materialist paradigm. Gurdjieff’s conceptualization of consciousness will be contrasted with that of modern psychology, and assessed in terms of its potential to accommodate the most startling advances in physics, as well as those altered states of consciousness about which modern psychology remains, for the most part, tellingly mute. Finally, Gurdjieff’s startling claim—that the separation of psychology and cosmology is essentially arbitrary and untenable—will be explicated with the purpose of suggesting the basis for a radical re-

conceptualization of the origins and nature of human consciousness.

¹ Maurice Nicoll, *Psychological Commentaries on the Teachings of Gurdjieff and Ouspensky*, vol. I, (York Beach, ME: Samuel Weiser, Inc., 1996), 48.

² Floyd Matson, *The Broken Image: Man, Science and Society* (Garden City, NY: Doubleday & Company, Inc., 1964); Arthur Koestler, *The Ghost in the Machine* (London, ENG: Hutchinson of London, 1967); Theodore Roszak, *Where the Wasteland Ends* (Garden City, NY: Doubleday & Company, Inc., 1972).

³ Over the past 35 years, there have been numerous works addressing the inherent limitations of reductionism as a method of studying both the psyche and the cosmos: Jacob Needleman, *A Sense of The Cosmos* (New York, NY: Arkana: Penguin Books Ltd., 1975); Morris Berman, *The Reenchantment of the World* (Ithaca, NY: Cornell University Press, 1981); Rupert Sheldrake, *A New Science of Life: The Hypothesis of Formative Causation* (London, ENG: Blond & Briggs, 1981) and *The Rebirth of Nature: The Greening of Science and God* (Toronto, CA: Bantam Books, 1992); Ken Wilber, *The Holographic Paradigm and Other Paradoxes: Exploring the Leading Edge of Science* (Boulder, CO: Shambhala, 1982), *Eye to Eye: The Quest for the New Paradigm* (Boston: Shambhala, 1990), and *The Marriage of Sense and Soul: Integrating Science and Religion* (New York, NY: Broadway Books, 1998); Fritjof Capra, *The Turning Point: Science, Society, and the Rising Culture* (Toronto: Simon and Schuster, 1983); Da Free John, *The Transmission of Doubt* (Clearlake, CA: The Dawn Horse Press, 1984); David Ray Griffin, editor, *The Reenchantment of Science: Postmodern Proposals* (Albany, NY: State University of New York Press, 1988); David Ray Griffin, *Religion and Scientific Naturalism: Overcoming the Conflicts* (Albany, NY: State University of New York Press, 2000); Theodore Roszak, *The Voice of the Earth* (New York: Simon & Schuster, 1992); Ervin Laszlo, *Science and the Akashic Field: An Integral Theory of Everything* (Rochester, VT: Inner Traditions, 2004), and *Science and the Reenchantment of the Cosmos: The Rise of the Integral Vision of Reality* (Rochester, VT: Inner Traditions, 2006).

⁴ Stephen L. Talbott, "The Reduction Complex." <http://www.natureinstitute.org/txt/st/m-qual-/ch04.htm>.

⁵ Ibid., 1.

⁶ Ibid., 1. Daniel Dennett, *Darwin's Dangerous Idea: Evolution and the Meanings of Life* (New York, NY: Simon and Shuster, 1995), 81.

⁷ David Bohm, *Causality and Chance In Modern Physics* (Philadelphia, PA: University of Pennsylvania Press, 1971) 37.

⁸ Ibid., 2.

⁹ Ibid., 2.

¹⁰ Ibid., 2.

¹¹ Ibid., 3.

¹² Ibid., 9.

¹³ Ibid., 9-10.

¹⁴ Fritjof Capra, *The Turning Point*, 102.

¹⁵ Theodore Roszak, *The Voice of the Earth*, 175.

¹⁶ Ibid., 175.

¹⁷ Maurice Nicoll, *Psychological Commentaries on the Teachings of Gurdjieff and Ouspensky*, vol. I-VI, (York Beach, Maine: Samuel Weiser, Inc., 1996).

¹⁸ Maurice Nicoll, *The Mark* (Boston, MA: Shambhalah, 1985) and *The New Man* (New York: Penguin Books, 1972).

¹⁹ Maurice Nicoll, *Living Time and the Integration of the Life* (Boulder, CO: Shambhalah, 1984).

²⁰ Ibid., 11.

²¹ Maurice Nicoll, *The Mark*, 3.

²² Ibid., 3.

²³ Ibid., 4.

²⁴ Ibid., 5.

²⁵ Ibid., 12.

²⁶ Ibid., 12.

²⁷ Ibid., 13.

²⁸ Ibid., 13.

²⁹ Ibid., 13.

³⁰ Ibid., 13.

³¹ Ibid., 14.

³² Fritjof Capra, *The Tao of Physics* (Boston, MA: Shambhalah, 1975), 42.

³³ Ibid., 68.

³⁴ Theodore Roszak, *The Voice of the Earth*, 106.

³⁵ Capra, op. cit., 68-69.

³⁶ David Bohm, *Wholeness and the Implicate Order*, (London, ENG: ARK Paperbacks, 1983), xi-xii.

³⁷ David Bohm, "Postmodern Science and a Postmodern World," in *The Reenchantment of*

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- 38 *Science: Postmodern Proposals*, ed. David Ray Griffin, 66.
- 38 Nick Herbert, *Quantum Reality: Beyond The New Physics* (New York, NY: Anchor Books, 1987), 234.
- 39 Arthur Eddington in *Quantum Questions: Mystical Writings of the World's Greatest Physicists*, ed. Ken Wilber, 181 (Boulder, CO: Shambhala, 1984).
- 40 Lama Anagarika Govinda, *Foundations of Tibetan Mysticism* (New York, NY: Samuel Weiser, Inc., 1982), 275.
- 41 Ibid., 217.
- 42 Ibid., 217.
- 43 Ibid., 218.
- 44 Ibid., 219.
- 45 Arthur Lovejoy in Ken Wilber, *The Marriage of Sense and Soul*, 7.
- 46 Ibid., 6-7.
- 47 Ibid., 8.
- 48 Ibid., 9.
- 49 Ibid., 10.
- 50 Ibid., 13.
- 51 Ibid., 13.
- 52 Ibid., 13.
- 53 Ibid., 13.
- 54 Ibid., 38.
- 55 Ibid., 56.
- 56 Ibid., 56.
- 57 Ibid., 56.
- 58 Ibid., 57.
- 59 Ibid., 60.
- 60 Ibid., 61.
- 61 Ibid., 145.
- 62 Ibid., 146.
- 63 Ibid., 148.
- 64 Ibid., 152-153.
- 65 Ibid., 155.
- 66 Ibid., 155.
- 67 Ibid., 156.
- 68 Ibid., 169.
- 69 Ibid., 168.
- 70 Ibid., 168.
- 71 Ibid., 168.
- 72 Ibid., 172.
- 73 Ibid., 174.