

Ways of Knowing, Part 1

By Michael Mannion

Increasingly, people worldwide are becoming concerned about the survival of human life on earth. Scientific evidence is mounting that indicates humanity is at a crossroads in its existence. Even those on religious or spiritual journeys are now offering scientific messages to mankind. These spiritual or metaphysical contributions do not come through the discipline of science, but rather, through non-scientific, non-rational ways of knowing. A look at the development of human thinking can provide insight into the complex nature of such contributions and help to prevent potentially valuable knowledge from being rejected out-of-hand.

Science and Religion: Basic Ways of Human Knowing

Human beings have created two basic thought systems to help them understand themselves and the world in which they live—Religion and Science. They are the two dominant “ways of knowing” that humanity has devised so far. “Science” and “Religion” are broad categories. Many types of science have been developed in the last four to six thousand years. Far greater numbers of religions and spiritual disciplines have come and gone in humanity’s brief time on Earth.

These thought systems have led to the formulation of two major concepts that have shaped human inquiry for most of recorded history, namely, the religious, metaphysical or spiritual concept of “god” and the scientific or physical concept of “ether,” an all-pervading force penetrating everything that exists. These two systems, which are the opposite of one another, most likely arose independently and have existed side by side for thousands of years.

In Wilhelm Reich’s book *Ether, God and Devil*, published in 1949, the similarities between these two great “ways of knowing” are explored. God’s domain is that of the spiritual and subjective in life. Ether is the province of physical, objective processes in nature. Religion, metaphysics and mysticism are the disciplines that seek to elucidate the mystery of the divine; mechanistic science, and other objective approaches to science, strive to comprehend physical reality. Religion deals with perception, soul and spirit. Science deals with energy, body and matter.

Despite their differences, the two thought systems share much in common. Reich observed that both “God” and “Ether” share the following features: each is universal; the source of all existence; perfect; all-knowing; eternal; static, the prime mover and creator of celestial bodies; and the origin of all matter and energy. God is also unknowable, while ether cannot be proved.

In our era, the ancient concepts of god and ether have been discarded by both

metaphysicians and scientists. In the 19th century, the philosopher Friedrich Nietzsche declared that “God is dead,” and this view was echoed, albeit in a much shallower way, a century later in 1966, when TIME Magazine featured the death of God on its cover.

A famous experiment in physics—the Michelson-Morley Experiment—led many scientists, including Albert Einstein, to conclude erroneously that “space” is a vacuum. Contemporary physics, echoing Reich, now asserts that space is not a vacuum at all, but an infinite energy ocean.

However, both the concept of “god” and that of the “ether” have been resurrected again and are flourishing in our era in physics and metaphysics. Neither Religion nor Science has devised a story about the origin and nature of life powerful enough to replace these two enduring explanations that human beings have created.

Today, human thinking is still split between objective and subjective; quantity and quality; soul and body; spirit and matter; metaphysics and physics; religion and science. There are many attempts now underway to reconcile religion and science, to bridge the ways of knowing of the East and the West, to unify the metaphysical and physical views of reality. But no one has yet succeeded completely in doing so.

Ironically, as Reich notes in *Ether, God and Devil*, materialistic thinking in Greek philosophy did not start out by asking mechanistic questions. Instead, those early seekers and searchers asked questions that we would define as biopsychological in nature, for example, “What is sensation?” and “How can matter perceive itself?” The scientists of antiquity were focused on questions such as these, and not on the mechanical laws of the physical universe.

The Rational Western Mind

The development of “ways of knowing” in the West is the subject of *The Passion of the Western Mind*, Richard Tarnas’s landmark contribution to the history of thought, which presents the reader with “a narrative history of the Western world view from the ancient Greeks to the postmodern.” Tarnas explores the West’s changing concepts of reality, a process very much alive today. It is important to understand something of these developments because, as Tarnas correctly notes, we have all been shaped by the struggle to understand and define reality. Whether we are aware of it or not, the influence of mainstream thought profoundly shapes what we consider to be real and possible or illusory and impossible.

For Tarnas, the underlying logic of our thinking is fundamentally Greek. The Greeks may have been the first people to look at the world as a question to be answered. It was their hunger to know, their passion to understand, that created what is now called “the Western mind.” In his book, Tarnas presents an outline of key elements in the Greek view of reality.

According to Tarnas, the Greeks achieved a synthesis of rationalism and religion and many of their concepts may still appear “self-evident’ to us today:

1. The world is ordered in a manner similar to that of the human mind, making the cosmos understandable.
2. There is an intelligence throughout the cosmos, the source of its design and purpose. Human intelligence has the potential to make direct contact with this intelligence.
3. There is a timeless, eternal, transcendent dimension that is both the source and the goal of the transient dimension of the spacetime of our physical world.
4. The structure and meaning of the world can be understood through a wide range of human “ways of knowing,” for example, rational, empirical, intuitive and imaginative.
5. A direct comprehension of the meaning of reality satisfies both the soul and mind.

The immense influence of these concepts, which Tarnas feels cannot be exaggerated, has lasted for thousands of years. But he points to another legacy from the Greeks as well, one that is equally influential but that is in many ways in opposition to the concepts described above:

1. It is only through human reason and empirical observation that humans can know at all.
2. The present world is the “ground of truth,” the only reality that is knowable. Other realities or transcendent realms that cannot be demonstrated in this reality cannot be known.
3. Mythological and supernatural explanations of all natural phenomena are merely anthropomorphic projections that do not advance human knowledge. The natural phenomena of nature are objectively observable and can be comprehended by human reasoning.
4. Concrete physical data, empirically demonstrated, must form the foundation for broader theoretical explanations of reality.
5. Fallible human knowledge needs constant revision, evaluation and analysis. Criticism and self-criticism are essential elements of the search for truth.

According to Tarnas, in broad terms, the Greek mind arose from the interaction of these two ways of looking at the world and the possibility of understanding reality. Because these viewpoints partly complement one another and partly oppose each other, a tension developed at the center of Greek thinking. At one and the same time, Greek thought posited an ordered universe and a cosmos in flux.

As it reached its peak, Greek culture fell to the conqueror, Alexander the Great. However, Alexander had been tutored in his youth by Aristotle and raised on the heroic poetry of Homer. So while Greece fell politically, its wisdom was preserved, thrived and spread by Alexander who used military force to create a unified society from many disparate cultures. The empire of Alexander rose and fell, and was replaced by the Roman Empire, which also rose and fell. But the Greeks remain with us.

From Jesus to Paul

Christianity, whose origins are in Judaism, has flourished for the past 2000 years, and profoundly affected the Western view of reality. Because it is now an integral part of Western culture, it is often forgotten that primitive Christianity was an Eastern religion. As a young man, according to scholars, Jesus went to the east to study and the influence of the Eastern view of reality is evident in many of his sayings. (A beautiful book, *Buddhist Sermons on Christian Texts* by R.H. Blyth, concludes with a comparison of parallel passages from the writings of Christian mystics and Zen practitioners.)

Once it began to spread beyond the land in which Christ lived and died, Christianity was greatly influenced by Greek thinking and culture. This is most evident in the Gospel of St. John, the last of the four gospels approved by most Christian denominations, including the Roman Catholic.

The simple gospel of love preached by Christ was far too radical for its day, even for the early Christians. (In fact, it is still too radical for our era.) The antisexual, anti-body Christianity that was severely persecuted, yet still thrived, during the rule of the Roman Empire, was created by Saul of Tarsus, not by Jesus Christ. Saul was a Jewish citizen of Rome, whose worldview was shaped by Greek culture. It was through his missionary efforts as St. Paul that a small religious "cult" spread throughout the Mediterranean and Asia Minor to become a world power that transformed the classical Greco-Roman world.

In the beginning of the fourth century A.D., the Roman emperor Constantine converted to Christianity and by the end of that century, Christianity had become the state religion of Rome. Within 100 years, the Roman Empire collapsed and during the "Dark Ages" that followed in Europe, the Catholic Church was the one institution that survived and provided a link to the classical past.

The worldview of Christianity replaced that of the Greeks and formed the vision of reality held in the West by the majority of people. The "barbarians" who conquered Rome converted to Christianity, as had the Romans before them, and for a thousand years, they preserved the writings of classical culture and the writings of the early Christian thinkers.

The form of Christianity that still influences society today incorporates elements of thought from many other traditions, such as Judaism, Greek, Roman and near-eastern philosophies and Gnosticism. According to Tarnas, Christianity was able to firmly establish monotheism as the prevailing worldview. The Christian view is hierarchical: God is above, the animals and the rest of the natural world are below, and man is in the middle. In addition, the Church found fertile ground for its concept of "original sin" and the "fall of man." The classical Greek duality of spirit and matter became the Christian duality of "good" spirit and "evil" matter.

Many thinkers who are presently grappling with our changing perceptions of the nature of reality believe that mankind needs a "new story." In its day, the Catholic Church introduced a new story: the original sin from the beginning of time necessitated salvation from the

apocalypse to come at the end of time, through belief in Jesus Christ, as mediated by the Church. This linear view of history greatly influenced secular and religious thinkers for centuries.

The Church also demanded faith in its teachings and subordination of the human will to the will of God, as defined by the Church. Understanding the natural world through observation and analysis were denigrated in favor of eternal, unchanging moral and spiritual beliefs founded on faith and not reason.

The Christian view was profoundly antisexual. In fact, over time, human sexuality became identical with the original sin. The deeply entrenched sex-negative attitude of the Catholic Church persists to this day. An encyclical written by the pope in the 1990s affirmed the teaching that sexual intercourse within marriage is an evil, a sin, unless it is engaged in solely for the purposes of procreation.

The antisexual teachings of the Church are now being inculcated in children in South America, Africa and Asia. The negative views of the Church concerning human sexuality are more important than any of its theological tenets because of the crippling impact these ideas have on infants and children. For billions of people on earth, the Christian religion shapes their view of who we are and what our place is in the universe. In that view, we are born evil; the body and sexuality are constant temptations to sin; and this world is a “vale of tears” to endure until death and reunification with God in heaven.

The cultural contributions of the Catholic Church are many. The preservation of the knowledge of antiquity is one of its major achievements. Its ability to unite humanity and keep it struggling through the centuries from the fall of Rome to the Renaissance is admirable. However, its life-negative, sex-negative authoritarian foundations undermined the very goals it sought consciously by destroying the unitary functioning of the newborn and creating the conflicted character structures of adults who struggle in life with their “evil” impulses, that is, their inhibited natural desires.

Science Challenges Religion

The modern view of reality was shaped by the great cultural upheavals of the Renaissance, the Protestant Reformation, and the Scientific Revolution. With the Renaissance, human thought was once again free to inquire and to explore. Individuals were able to come to their own judgments and conclusions. Art, science and mathematics flourished. Explorers discovered lands and peoples unknown to Europeans. The image of the globe itself was radically transformed. Humanism—the view that human life in this world has an innate value—replaced the focus on the afterlife as the only true thing of value.

The light of the rebirth of humanity in this period was balanced by the darkness of the plague, which killed one-third of the population of Europe; wars which ravaged the land for centuries; and religious conflicts which resulted in great carnage and death. Travelers from around the world brought unknown diseases back with them. The Inquisition arose and

caused immense suffering. And “Holy Mother Church” itself, so long a bulwark against chaos and the dissolution of society, seemed a hopelessly corrupt institution.

The spirit of individualism that developed with the Renaissance led to the Reformation and the Scientific Revolution, both of which gradually ended the stranglehold Catholicism had on human thinking. According to Tarnas, the Scientific Revolution was simultaneously the culmination of the Renaissance and the first major contribution to the modern world. Between the 1400s and 1600s, a new way of thinking and being arose in the West. The Scientific Revolution led to a new way of knowing. New tools for exploring reality were developed. The understanding of reality that had prevailed for over 1000 years was changing drastically.

Tarnas outlined some of the major changes that define the so-called “modern outlook” on life:

- The medieval personal god was replaced by impersonal natural law.
- The Christian dualism of spirit-matter/God-world gave way to the secular dualism of mind-matter/man-cosmos.
- The Greek universe, intelligent and purposeful, which the mind could comprehend was replaced by a cosmos in which the objective outer world and subjective inner world of man operated according to different principles.
- Many “ways of knowing” were replaced by scientific investigation alone, using reasoning and intellect.
- A finite, geocentric, hierarchical cosmology yielded to a view of the cosmos as infinite, acentric, material realm in which natural processes and celestial objects had no symbolic or supernatural meanings for man.
- Earth was no longer at the center of the universe and man no longer the center of creation on Earth. Newton’s physical concepts of inertia and gravity in physics, and Darwin’s evolutionary concepts of random variation and natural selection in biology, are key concepts in the new view of reality.
- Doctrines of original sin and the fall of man were replaced by human autonomy, free will, belief in the perfectibility of man, and the triumph of rational science over natural and social problems.

In the ancient Greek world, a major goal of human knowing was to unite, or reunite, man with the intelligence that permeated creation. In Christian terms, this was expressed as the soul’s joining with God in heaven after the physical death of the body here on earth. However, the emerging modern view focused on creating human independence from all of the limiting superstitious shackles of the past. Man would investigate, and unravel, the mysteries of the natural world around him. Despite all the change and progress, it is Tarnas’s belief that the Greek mind still existed, though in a new form, in the quest for knowledge that continued to live on in the hearts and minds of searching men and women.

Copernicus removed the earth from the center of the solar system; Giordano Bruno took away the very concept of a center in his writings on the infinite universe and worlds. Bruno also did away with the idea that man was the pinnacle of creation. He wrote of other worlds with inhabited beings—including intelligent beings—that existed throughout the cosmos.

Galileo's telescope showed all with the eyes to see that the old cosmology was incorrect. Newton's science removed the physical world from the control of an invisible authoritarian bearded man in the sky and described natural mechanisms of force and matter that applied to a universe that increasingly seemed to work like a machine.

Karl Marx's writings undermined the enlightened views of the educated economic elite that the story of man was one of harmonious social progress and achievement. Marx clearly portrayed the struggle for power that dominated the economic and political life of society. He also described how social structures evolve, changing human beings in the process. Marx's greatest contribution, one which is generally unrecognized, is that he understood that it is the living qualities of human beings gives the objects they create their value. He was no dry economist. The tragedy is that his insights were twisted, debased and abused by power politicians who caused immense harm to millions.

Darwin demonstrated that man is an animal, one that evolved from nature, and for this, more than any other idea, he was vilified. For millennia, "the animal" in man had been reviled; it was to be curbed, suppressed and extirpated. Man's "nobler" or "higher" spiritual qualities were exalted. Great philosophies devoted to the suppression of humanity's "animal instincts" rose and fell.

Anti-Nature and Antisexual Aspects of Science and Religion

The control of the "evils of the flesh" was, and is, at the heart of Catholicism and Christianity. The most obvious manifestation of the anti-natural thrust of much of Western science and philosophy is its moralistic attitude toward sexuality. This life-negating ideology is at the core of the worldview expressed in the phrase "Man Against Nature."

The common mechanism, used in a wide range of cultures beyond the Christian, to achieve this suppression and repression is the inhibition of the natural sexual function in infants and children. The life energy in the organism expresses itself in sexuality, growth, creativity, intellectual capacity and other vital functions. When the sexual function is impaired, it has negative consequences regarding these other areas of life as well. The new medical discipline of psychoneuroimmunology (PNI) has clearly documented this phenomenon.

Some may wonder what relevance the topic of human sexuality has to this overview of "ways of knowing." It is extremely relevant to an understanding of the structure of the human being who is attempting to learn and to know. Sexual repression and inner conflicts due to sexual problems take a tremendous toll on humanity. One of the repercussions of this repression is its deleterious effect on intellectual capacity and the ability to think clearly. These factors are related to a person's ability to know himself or herself and to comprehend nature at large.

In the early 20th century, Freud's contributions began to have widespread social impact. His discoveries of the existence of the unconscious mind and of the great irrational conflicts

within the average human being radically changed the view of educated people in the West about such self-evident truths as “free will,” “morality,” the “perfectibility of man,” and the innate rationality of human thinking itself. Human activity appeared to be motivated by unconscious destructive and self-destructive drives more than by the more exalted spiritual and moral values espoused by human beings.

Freud’s greatest discovery was that of infantile sexuality. He demonstrated that human sexuality evolves and changes throughout an individual’s lifetime. This scientific finding connected human beings with the natural world, the “lower” animal world. For this discovery, the world rewarded him with great abuse, calling him “the Jewish pornographer” among other things. Children at the time were considered “pure” and the thought that anything as “unclean” or “sordid” as sexuality touched them horrified the average person of the day.

In his later years, Freud became more of a conservative philosopher, and abandoned his revolutionary scientific discoveries for cultural speculation. It was in this period that his writings took on an anti-sexual quality that made his ideas compatible with those of Roman Catholicism and other antisexual moral systems. The Christian and other moral systems had long advocated suppressing human sexuality as a major mechanism of control. But such attitudes are not generally attributed to the founder of psychoanalysis. In *Civilization and Its Discontents*, Freud wrote “A cultural community is perfectly justified, psychologically, in starting by proscribing manifestations of the sexual life of children, for there would be no prospects of curbing the sexual lusts of adults if the ground had not been prepared for it in childhood.” This belief is in accord with most of the religions of the world today. We can see that even Freud’s brave attempt to understand human sexuality was transformed into another method of sexual repression.

It is not well-known that Freud’s *Civilization and Its Discontents* was written as a rebuttal to ideas put forth by his pupil, Wilhelm Reich at the monthly meetings of Freud’s inner circle. Freud’s book contains exact sentences he used during these meetings to counter Reich’s views. Freud argued that the human being must renounce the “pleasure principle” and embrace the “reality principle.” In other words, people must renounce pleasure and become “adjusted” to “reality,” that is, the social order of his day. In *The Function of the Orgasm*, Reich noted that “Freud neither questioned the irrational in this ‘reality,’ nor did he ask which kind of pleasure is compatible with sociality and which kind is not.”

As humanity entered the 20th century, Darwin, Marx and Freud had radically altered mankind’s view of itself. In the first half of that century, Wilhelm Reich’s contributions broadened and deepened the work of these pioneers and his discovery of orgone energy advanced human knowledge greatly. The ideas of these searchers caused great consternation among religious people, moral philosophers and ethicists.

Simultaneously, new discoveries were shattering the worldview of mechanistic scientists. Physics was undergoing astounding developments because of the Maxwell’s work in electromagnetics, Becquerel’s discovery of radioactivity, Planck’s reports on quantum phenomena, Einstein’s general and special theories of relativity, and the formulation of

quantum mechanics by Bohr, Heisenberg and others. Both Einstein and Bohr wrote that the foundations of their physics were moving out from under them.

Strict determinism in science was replaced by the uncertainty principle. Time and space were not what they seemed and neither was the atom. Space-time had four dimensions, not three. And the atom did not resemble the solar system as had been thought. Matter was energy and energy was matter. The very act of observing nature scientifically changed nature. Nonlocal connections between particles contradicted basic assumptions of mechanistic science.

The “great machine” of the Newtonian-Cartesian worldview had broken down. Now the universe did not seem like a machine at all. Sir James Jeans put it succinctly when he observed that the universe did not resemble a machine but rather a thought.

Increasingly, thinkers were coming to believe that reality might be structured in such a manner that the human mind cannot comprehend it. Philosophers and scientists were beginning to wonder if humans can ever really know anything. The technology derived from science was reshaping the planet but new knowledge was calling into question the very nature of knowing.

However, one broad theme emerges from the contributions of Copernicus, Bruno, Galileo, Newton, Marx, Darwin, Freud and the quantum physicists—change. Each of these thinkers was able to break free from the static erroneous thought systems of their day to create new views of reality. Each brought about radical change. Over time, however, the heirs of these great thinkers turned their thoughts into rigid, deterministic systems. The radical discoveries that had changed society and human were reincorporated into the old systems of thought, depriving them of much of their power and ability to produce even greater change.

Past eras had looked for and believed in eternal, immutable truths. Religious, spiritual and moral beliefs were seen as unchangeable and perfect. They existed in an ideal realm to which humanity sought to attain a connection. However, by the 20th century, it had become apparent that everything changes and evolves, including humanity’s ideas about god, nature, cosmos, religion, society, political structures, family life, and work life. The static and eternal had dominated human thinking since antiquity in one form or another, though it had been chipped away at by many philosophers, natural philosophers and scientists.

In our own period of human development, the certainty of change is generally recognized, as is the concept that what we see around us today—whether it be biological, geological, social, religious or scientific—evolved from earlier forms or systems. The recognition of the evolution of ideas is having a great impact at present on our notions as to the nature of reality itself.

“Anomalies” and Definitions of Reality

The nature of reality is central to an understanding of phenomena now called “anomalies,” that is, experiences that cannot be explained by the prevailing worldview. While some people may have no difficulty accepting spiritual, religious or parapsychological views, they may question scientific claims based on such views. Beliefs in spirit guides, the existence of extraterrestrials with whom some claim to be in contact; and channeled information about man’s ancient history and origin on Earth that conflict with today’s scientific views, are just a few examples of anomalous phenomena that are increasingly being taken seriously by significant thinkers.

To the contemporary mind, the experiential evidence reported concerning anomalies may not be seen as “proof.” However, open-minded individuals are coming to appreciate the significance of the reports of a wide range of extraordinary experiences. Still, to those steeped in viewing reality through the prism of “cause and effect,” anomalies will always remain elusive.

If one cannot accept, or does not try to comprehend, the basic assumptions of a particular way of knowing, it will be impossible to make sense of the assertions made by those using that tool of thought. The inner logic of the way of knowing will be elusive or not seem to be present at all.

For example, in one segment of the television show *Healing and the Mind*, Bill Moyers is in a Chinese hospital watching herbal remedies being compounded. He asks Harvard’s Dr. David Eisenberg, a leading expert in complementary medicine, to name the chemicals the Chinese believe make the remedies effective. Dr. Eisenberg smiles and explains that they are not interested in the chemistry of the plants. Rather, they are focused on the chi or life energy within the plants. The viewer sees that it is very difficult for Moyers to make the shift to a completely different way of thinking.

Unless one enters into the thought system being used, and learns and embraces its assumptions, it will not be understandable or usable. However, once one accepts the basic premises of the specific way of looking at reality, the logic usually becomes apparent. So much of what we bring to a situation helps create what we are able to see and know about reality.

Roberta Colasanti, a clinical psychologist in private practice in Massachusetts, often uses a slide in her talks that illustrates this point. The slide is of a simple line drawing with a stick figure. To Westerners, the drawing looks like a person inside a room looking out of a window or a person outside of a building looking in a window. However, when Ms. Colasanti showed this slide to an audience in Africa, people did not see that at all. Instead, the African audience saw a woman with a basket on her head sitting under a tree. And as soon as Western audiences are told this, the slide suddenly looks to many people to be of a woman with a basket on her head sitting under a tree and no longer of a person looking in or out of a window. In each culture, perception is shaped by different experiences and values. As a result different ways of knowing develop, revealing different “truths.”

To understand another truly requires entering into her or his way of thinking and looking at reality. One can later step back into one's own view of reality and decide for oneself what value a scientific and spiritual contribution has, or does not have, for oneself or society as a whole.

Today, the split between science and spirit is deep among the scientist, the spiritual person and the secular agnostic, who believes in neither "scientism" nor "the spiritual." Yet many of the founders of the contemporary world view bridged science and spirit in their lives, if not in their work. For example, Newton was a mystic who was as absorbed with the question of the nature of God as he was with the mechanics of God's universe. Kepler, who formulated his three harmonic laws and radically changed our understanding of the cosmos, was an animist and an astrologer. And the great relativist himself, Albert Einstein, was a deist who believed that his god did not "play dice" with the universe. Einstein did not think chance ruled creation.

Although there has been a journey from superstition to science in the West, the esoteric or occult practices which science has fought never really vanished. Some think, erroneously, that the so-called "New Age" that is flourishing in the West today constitutes a resurgence of interest in the old ways of knowing. In reality, "magic" or the "occult" has existed continuously alongside both Christian dogmatism and scientific rationalism for thousands of years.

At one point in human history, magic was science. They were indistinguishable. Centuries of technological advances have brought about major changes in the relationship between the esoteric arts and contemporary science. But, as Arthur C. Clarke noted, any sufficiently advanced technology will appear to be magic. To many people on earth, both in the industrialized West and in developing nations, Western science does indeed appear magical. And for a majority of mainstream scientists, the claims of contemporary "frontier" scientists seem to have more in common with occult practices than science. But the dominant science of today inevitably will be surpassed in due time and many of our most widely held scientific beliefs will be shown to be errors.

A look at a physics textbook from 100 years ago will demonstrate convincingly the truth of the old saying, "What is the scientific truth of today? The error of tomorrow." The errors of the year 2000 will be crystal clear to those alive in 2100, just as the mistaken beliefs of those in 1900 are evident to us today. Science will change with the times, just as the esoteric arts of alchemy, astrology and various forms of divination have changed over the millennia.

Both science and the occult seek the same thing: to understand who we are and to know what is our place in the cosmos. The scientific mind honors the "rational" and too often dismisses other ways of knowing as "irrational." There is knowledge gained, and verified as true by experience, that does not arise from rational, scientific ways of knowing. Yet the knowledge is valuable and true. Nothing is to be gained by simply dismissing ways of knowing that do not fit one's established picture of reality. There may be a great deal to learn by looking at these other systems.

As Rationalism Thrives, the Esoteric Survives

Anthony Aveni, Ph.D., the author of *Behind the Crystal Ball—Magic, Science and the Occult from Antiquity Through the New Age*, has studied the co-existence of science and the occult. A professor of Astronomy and Anthropology at Colgate University, Dr. Aveni understands that much of what we call “magic” today is the barest remnant of an ancient system used by people to determine what is “real.”

In his fascinating book, he traces the history of these divergent ways of knowing with an open mind. He writes, “Treating both magic and science as belief systems about how the real world works, I will explore the tangled territory between these two oft-retreating, sometimes converging, oppositely charged accounts of reality.” Aveni states clearly that he has no desire to dismiss all magic as “superstitious flotsam,” but neither does he seek to discredit scientific thinking.

In the West, Aveni observes, many people do not believe in the possibility of the paranormal events others report, such as unseen spirits, ghosts, poltergeists and so forth. These reports defy what doubters call “common sense.” However, these same individuals have no difficulty at all believing in other claims that describe unseen realities that also defy common sense, such as black holes in space or the dark matter and dark energy of the cosmos. Aveni asks a number of pertinent questions at the close of the Preface to his book, among them, “Are we too shackled to belief in a world that science determines for us? Have we for too long been non-participatory residents of an indifferent world that has lost its magic for us?”

Today, common sense tells us that the mechanistic scientific view is closer to the truth than the metaphysical. Yet, billions of people—including scientists—pray to God daily. Prayer is a way to discover truth for these individuals. Mechanistic science shows us a universe in which we ourselves and all we love are insignificant and meaningless. Spiritual disciplines describe a meaningful world in which all is interconnected, every grain of sand is numbered and “His eye is on the sparrow.” In the secular view, we are alone, truly lost in the stars. In the spiritual view, the stars are our home and we are “found” in “God.” Human beings still seek to comprehend the elusive truth of the universe in which we live through scientific knowledge, mysticism or magic.

So it is not surprising that the esoteric arts have spanned the millennia, from Sumer and Babylon through Egypt and Greece all the way to the American Empire; from Merlin to modern quantum physicists, psychics and seers. Belief in magic or occult powers today extends from lucky charms, such as a horseshoe or rabbit’s foot, to a consultation with a medium or Tarot reader. To scientists, the occult is superstition, pure and simple. To many devout adherents of the major religions on earth, the esoteric arts are sorcery that brings one into contact with evil or the devil. But to others, magic or the occult is a path that leads to contact with “alternate realities” or “other dimensions” of reality. Methods of divination, such as the I Ching and the Tarot, are ways many use to access the “unconscious” or “higher self.” The various systems comprised under the heading of esoteric are superstitions to

some and ways of knowing to others.

Science, as we understand and practice it, is only a few hundred years old. The esoteric practices have existed for thousands of years. Six thousand years ago, in Mesopotamia and the Nile Valley, we find evidence of both science and the occult or magic. Science and the esoteric arts also made their appearance four thousand years ago in the Tigris and Euphrates valley, the so-called cradle of Western civilization.

The people who practiced these ancient ways of knowing had some spectacular achievements to their name. The Sumerians, who gave us the wheel, created a viable trade network and irrigated the desert lands, making them fertile and productive. In addition, the Sumerians created a system of writing called cuneiform in which they wrote on clay tablets with a stylus. Their astronomers could predict many celestial events and the arithmetic they devised is the foundation of our system. It is important to note that the Sumerians claimed that long-lived, mortal beings from other planets taught them this advanced knowledge. By 2000 B.C., the Semites had achieved dominance over the Sumerians, developing the distinct culture of Babylonia, noted for its architecture and beautiful temples.

A large body of work about the ancient magical ways of knowing from the Mesopotamia of 5000 years ago has been preserved and handed down to us. In this distant culture, the world was not viewed as a machine but was filled with life. Their cosmos was infused with living forces that produced health and illness in individuals as well as guided the celestial phenomena above. Physicians used herbs and potions to heal; exorcists were employed to drive out demons; astrologers divined the meanings of comets and other astronomical events; and other seers divined the future through such practices as the study of entrails. In fact, reading the inner organs was quite common all across the globe. Humans went to what was then considered to be the source of the life force or life principle for answers to life's mysteries.

With the emergence of Greece, magic and science confronted one another. The personal cosmos, mediated by magic, faced the new worldview of an impersonal cosmos that functioned independently of the influences of unseen gods or spirits. Plato's logic, and Aristotle's extension of Plato's teaching, created a vision of an ordered world, one which could be understood by reason rather than intuition or divination.

Yet both Plato and Aristotle believed in some magical or occult knowledge. Plato rejected the magical technique of hepatoscopy (i.e., divination through inspection of the liver) but he believed that the liver mirrored the soul and was connected to the mind's thoughts. Aristotle accepted the ancient mystical principle of "as above, so below," one of the core elements of astrology and mystical thought in general.

Greek astrology and early astronomy co-existed. The movement of the heavenly bodies was the domain of astronomy and the effect of those movements on human beings was the concern of astrology. Scholars have traced Greek astrology back thousands of years to the Sumerian culture, which bequeathed to us many of the names we still use for the

constellations. Both ways of knowing believed that celestial influences gave off rays which influenced humans whose vibrations were affected by these cosmic influences. The revered thinker, Ptolemy of Alexandria, wrote the most influential book on astrology in the ancient world. Ptolemy also devised an astronomical system which lasted, with constant alterations, for well over 1000 years, until Copernicus.

Many aspects of Greek magical “technology” survive to this day, for example, the magic wand and the voodoo doll. Today’s psychics, seers, mediums, clairvoyants, and other prognosticators can all trace their roots back to the Greek oracles, such as the oracle of Delphi. Contemporary physics, oddly enough, is also linked to one of the most famous of all Greek forms of magic—alchemy. This discipline involves the transmutation of one element into another, most famously, the quest to turn lead into gold. Modern physicists now regularly turn one element into another.

To many people, the priests of our era are the scientists. Among scientists, the physicists are at present generally considered to be at the highest level. They are the bishops and cardinals of the new religion, “Scientism.” Our culture honors its past contributions from the Scientific Revolution, the Renaissance and the Greeks. In ancient Greece, the contributions of the Egyptians were so honored. And no one was more respected than Hermes Trismegistus, the greatest of kings, philosophers and priests. His influence, through Hermetic Philosophy, lasts to this day. According to the Judeo-Christian Bible, Sarah, the wife of Abraham, found the mummy of Hermes in a secret passageway of the Great Pyramid. In the mummy’s hands was the Emerald Tablet on which was written the magician’s credo of Hermes Trismegistus. Copernicus, Kepler and Newton—founders of the modern physical worldview—all recognized the value of the writings of Hermes Trismegistus.

Another powerful form of occult knowledge that has persisted for centuries is the Kabbalah. The word itself means “received love.” The original intent of this occult practice was to help practitioners reach higher levels of understanding and insight. One of the most famous books related to the Kabbalah is called the “Book of Creation” (Sefer Yezira) which describes God’s 32 secret paths to wisdom. The unique sound of each of the 22 letters of the Hebrew alphabet is central to achieving wisdom through this way of knowing.

The Kabbalah was resurrected during this period, primarily by the German thinker known as Agrippa. He wrote the first comprehensive Renaissance surveys of magic and believed that the whole universe in its entirety was God; that Man is made in God’s image, a miniature cosmos; and that everything is an interconnected part of the World Soul.

The Hermetic Tradition, the Kabbalah and the Bible have all survived for thousands of years. Why? Aveni speculates that these ways of knowing share a basis believed in by both scientists and occult practitioners, namely, that the world is an ordered place understandable by logic, symbols and mathematical principles.

The wisdom of antiquity was preserved by Arabic scholars and European monks during the long period from the fall of Rome to the Enlightenment. Many of the forms of esotericism

that exist today, such as astrology, alchemy, and divination through the Tarot, took shape during this era. Negative developments—outgrowths of the spiritual, occult and esoteric worldviews—also occurred and have taken heavy tolls throughout human history, for example, the creation of the idea of The Devil, the murderous fear of witches, and the persecution of practitioners of “Black Magic,” the Christian Crusades, the mysticism of the Nazis and the Jihads of Islamic Fundamentalism.

In the period from the Dark Ages through the Renaissance to the Enlightenment, magical ways of knowing could be accurately described by a word widely used in our era—holistic. Contemporary cause-and-effect explanations were not applied then. Other ways of thinking were used to describe reality. Mysterious relationships seemed to exist between objects and events. The Tarot is an example of this belief.

The Tarot is widely popular today, though it unfairly has a bad reputation because of the debased form practiced by storefront psychics who are too often con artists misusing the Tarot. Is it really possible to use the archetypal symbols found on the 78 cards of the Tarot deck to access truth and inner knowing? Modern Tarot practitioners believe that the “energy” and ancient meanings of the cards of the major and minor arcana are the source of the benefits derived from consulting the Tarot.

Modern astronomers, like today’s astrologers, explore the hidden mysteries and harmonies of the universe. As did Ptolemy and Pythagoras, modern mathematicians wonder if their equations and formulae have an existence independent of their minds and the uses to which they are put in the physical world. Nuclear physicists have achieved the dream of the alchemists in the transmutation of hydrogen into helium in the process of nuclear fusion. Ancient physicians believed in hepatoscopy, the powers of herbs and incantations; we believe in unproven surgical techniques, synthetic “wonder” drugs and consult the PDR and DSM-IV.

In Europe, in the 18th and 19th centuries, the leading scientists and philosophers promoted scientific rationalism. However, the popular literature of the day clearly indicates that, for the majority of people, magic and the occult were far more powerful influences than empirical, rational science. In the mid-nineteenth century, America became a hotbed of spiritualism. A new spiritualist movement began which had a worldwide impact, one that continues to this day. In fact, one can place many of today’s spiritualist churches and disciplines into the tradition that began in upstate New York in the spring of 1848 with the Fox Sisters.

The story of the Fox Sisters’ contact, through rapping sounds, with spirits of the dead spread rapidly throughout America. Over decades, they attracted fierce supporters and detractors. Horace Greely, the famous New York newspaper editor who coined the phrase “Go west, young man,” was drawn to the occult work of the women and invited them to New York City to perform their magic. William Cullen Bryant, James Fennimore Cooper and other notables attended their demonstration and all were impressed. About that time, three physicians from the University of Buffalo School of Medicine became the first scientists to study the Fox Sisters.

Within two decades of the appearance of the Fox Sisters on the public scene, about 30 percent of Americans believed in life after physical death and in the reality of communication with the dead by the living. At the time, there were about 60,000 mediums practicing alphabetic rapping in the style of the Fox Sisters, as well as spirit writing, clairvoyance, clairaudience, clairsentience and other forms of esoteric arts.

Magic, the occult and the esoteric arts were further developed by talented, intelligent men and women such as Mesmer, Swendenborg and Madame Blavatsky, who founded the Theosophical Society and counted among her supporters such prominent figures as Gandhi, Alfred Lord Tennyson and Thomas Alva Edison.

The Society for Psychic Research, founded in London in 1882, was the first attempt by scientists to investigate “paranormal” or “parapsychological” events associated with magic and the occult. An American Society for Psychic Research was founded a few years later.

In the 20th century, the names of Harry Houdini and Uri Geller are immediately associated with magic and the occult by most people. Surveys of the American public reveal that belief in the occult is alive and well in the midst of our age of scientific materialism. The discipline of parapsychology began to attract attention and controversy as its investigators studied claims of telepathy, ESP, macro- and micro-psychokinetic abilities, and other paranormal powers.

Beginning in June 1947, with the report by Kenneth Arnold of a sighting of strange craft flying over the Cascades in Washington State, a new chapter in anomalous phenomena began, that of unidentified flying objects (UFOs) and extraterrestrial life.

In the United States in 2002, there are approximately four times as many people who believe in UFOs as there are fundamentalist Christians. Since 1947, despite the rise and fall of popular movies or TV shows about UFOs, or news reports of major sightings, the number of people who report seeing these craft remains basically the same, fluctuating between 7-11 percent of Americans. In the 1990s, polls began to reveal that about 1-2 percent of Americans feel they have had some kind of direct interaction with the occupants of the UFOs. Surveys indicate that 58 percent of Americans think that UFOs are real and that they are operated by intelligent life from other planets or dimensions.

About one of every four Americans today believes in astrology. Nearly 70 percent believe that angels are real, compared with 49 percent who believe in the Devil. Nearly half of all Americans believe in ESP; slightly more than half believe in déjà vu; about 20 percent accept the reality of clairvoyance; and 14 percent think communication with the dead is possible.

The phenomenon known as the near-death experience (NDE), popularized in a dozen or more best-selling books over the past 25 years, seems to support the reality of life after life, if not necessarily the possibility of communication with the deceased. Out-of-body experiences (OBE), as reported by Robert Monroe and others, as well as the phenomenon

of remote viewing, are also of great interest to millions. These phenomena demonstrate the powerful hold that other ways of knowing have on people today.

The claims of remote viewers or those who have had NDE, OBE or UFO experiences have been neither explained nor refuted by mainstream science. They have simply been ignored or denied. One of the most popular of the esoteric arts at present is channeling. Today, in the United States alone, there are thousands of “channelers” transmitting messages from discarnate spirits to mankind. Channeling by Joe Klimo is an excellent book about this complex way of knowing and the men and women around the world who practice it.

Mysterious Flowing Possibilities

For most physicists today, reality is not what we think it is. It is not a “place” with “things” or “stuff” in it, such as tables and chairs, planets and stars. It is, in the words of physicist and author Fred Alan Wolf, PhD, a realm of “mysterious flowing possibilities.” The dualities that we perceive in our world—for example, matter and spirit, body and mind—seem to rise from an underlying unity in the universe. It may well be that what we call “matter” and what we call “spirit” are one. The nature of this underlying unity is, and the specific manner in which “matter” and “spirit” are one, still elude the grasp of both mechanistic science and mysticism.

An important step in the path toward a deeper comprehension of reality was taken in Norman Friedman’s book, published in 1990, *Bridging Science and Spirit—Common Elements in David Bohm’s Physics, the Perennial Philosophy and Seth*. This excellent book has opened, and will continue to open, many minds.

In Friedman’s experience, when considering new concepts foreign to one’s own worldview, it is vital to allow oneself “to provisionally accept some of these ideas, even if you don’t entirely follow the reasoning behind them.” Why is it beneficial to do this? Friedman believes that doing so “may open the way to a general and often deeper understanding later on.”

Friedman analyzed three radically different ways of looking at the world: the scientific, the mystical and the paranormal. David Bohm viewed things from the perspective of a theoretical physicist. The Perennial Philosophy is based on the experience of the mystical. And the channeled wisdom of the discarnate entity, Seth, is from the realm of the paranormal. The ideas that derive from these three sources have an unexpected and uncanny consistency. The paths of reason, revelation and channeling seem to lead to the same observations.

The Riddle of Consciousness

Central to Friedman’s book is the phenomenon of consciousness. In 1943, Wilhelm Reich wrote “...the enormous problem of consciousness has been haunting natural philosophers

for thousands of years and natural scientists for hundreds of years, without anybody so far finding a solution. I personally regard it as the most difficult and most decisive problem facing all of natural science..."

Before the 20th century, physicists did not consider the phenomenon of consciousness relevant to their work. Today, there is an ongoing debate among philosophers and scientists from many disciplines about the nature of consciousness. Some believe that consciousness arises from matter. It is called "an epiphenomenon of matter." In more crude terms, the question is often put, "How can meat think?"

In mainstream science, consciousness is thought to derive from the physiology of the human nervous system and from the biochemistry of the body. However, the findings of quantum physics seem to indicate that this view is in error. From that perspective, consciousness is not a byproduct of the material world. Rather, it is inextricable from reality. Physicist Amit Goswami, in his book *The Self-Aware Universe: How Consciousness Creates the Material World*, goes even further, stating the consciousness is primary; the material world is the epiphenomenon.

At present, there is no consensus of opinion on the subject in science or society. The question as to whether matter is primary or consciousness is primary is still hotly debated. Physicists and discarnate entities often promulgate the same view. Friedman writes that Seth claims that all energy contains consciousness, while the noted physicist Freeman Dyson believes that all particles in the universe are active agents that make choices. The search for a definitive answer is certain to continue for some time to come.

Throughout modern physics and philosophy, there is a search for "other levels," "hidden variables," "parallel worlds," "unseen dimensions," or "deeper levels of extradimensional space." Whatever the terminology used—be it "underneath," "beyond," "hidden," or "unseen"—it increasingly appears to many that our three-dimensional physical world is a manifestation of "something else" that is occurring "outside" of this material realm.

This elusive reality cannot be measured, classified and defined by mechanistic scientists. Neither can its subjective experience be proven "real" by mystics. The new physics, mystical experiences and paranormal approaches do give tantalizing hints that, in the words of Bob Dylan, "something is happening, but you don't know what it is, do you, Mr. Jones?" The experiences of both contemporary physicists and mystics are likewise explained as coming from a "pluriverse" or "multiverse," from another dimension beyond this plane, from a hidden or unseen level of existence that somehow interacts with this world in ways that are as yet unexplainable. But these words fail to explain the reality itself.

It is obvious from the descriptions of varied anomalous experiences that something real is happening. But what? There are nearly as many explanations, and doubts about the explanations, of exactly what is occurring as there are investigators and skeptics.

The claims of those having extraordinary experiences defy our current understanding of

space and time. But these experiences may be better understood in terms of new emerging views of space-time and the nature of reality. Noted physicist John Bell has produced experimental facts (not theory) proving that our Einsteinian concepts of space and time are not tenable. According to Bell, there is another, deeper level of reality than our universe. David Bohm suggests that all times and all places merge in a transcendental realm. Einstein himself once said “time and space are modes by which we think, not conditions in which we live.”

For David Bohm, the universe is a sea of energy and he sees the fundamental activity of nature as light. To him, matter is condensed light. In other words, matter is frozen light. Prior to Bohm, Wilhelm Reich had written that the universe is an infinite ocean of mass-free physical energy; that matter is frozen energy; and that light is a function of this energy, which he named orgone. In his work with the life energy, Reich said that he felt at times that the orgone energy was striving to become conscious of itself. For Bohm, life energy reaches into intelligence and can do almost anything.

A significant number of people who say they have had experiences with the extraterrestrials also report learning that everything is light. They come to believe that they themselves are made of light, as are the entities with whom they interact. Many of these “experiencers,” to use John Mack’s term, say that the outside of the environment in which they meet the non-human intelligences—the space ship—has a hard metallic outer hull. However, the inside is entirely composed of light, including all apparent physical objects, which the entities create simply to provide a familiar setting for the humans.

According to Friedman, mystical experiences are founded on an altered state of consciousness. Problems occur when individuals attempt to describe their extraordinary experiences. Our languages developed in an attempt to describe the outer physical world, not the subjective inner world. Many who study the Perennial Philosophy feel, as did Aldous Huxley, that it is not even possible to convey accurately what the mystical experience is. But we try.

According to Huxley, the basic premise of the Perennial Philosophy is that there is an Absolute and the Eternal Self is one with it. It is his belief that each individual is on a journey to discover that fact and thereby fulfill his or her destiny, which is to return home. In this view of reality, consciousness is manifest as an ordered hierarchy of dimensions. We all unfortunately limit ourselves in our view of reality, to only one degree or another. To Huxley, the individual’s journey is a process in which those self-limitations are overcome and one’s understanding of the self and reality is broadened and deepened. Along the path, higher levels of consciousness unfold for the individual.

According to Seth, as channeled by Jane Roberts, consciousness is the basis of reality. He also speaks of the “unconscious mind ” and the “collective unconscious,” terms commonly associated with Freud and Jung respectively. Seth, too, comments on how human beings limit themselves with self-imposed restrictions. Therefore, people are not able to comprehend fully who they are or the nature of the universe they inhabit.

Seth describes what he calls “CUs” or consciousness units and shows how they are linked with “EEs” or electromagnetic energy units. Combinations of CUs form consciousness. The EEs emanate naturally from consciousness and exist, not in three-dimensional space, but “just beneath” physical matter. According to Friedman, the philosopher Alfred North Whitehead proposed a concept similar to Seth’s when he wrote that the energetic activity of physics is the emotional intensity experienced in life.

Seth said that the EE units travel faster than light and do not emerge as matter in our physical realm. They originate as mental activity and, under certain conditions, become the building blocks of matter. These units pervade the entire space beneath the surface of what we call reality. Friedman notes the links between Seth’s concept of EEs arising from mental activity; Bohm’s theory that there is a similarity between matter and thought; and the observation of the mystical philosopher, P.D. Ouspensky, “The true motion which lies at the basis of everything is the motion of thought. True energy is the energy of consciousness.”

Robert Jahn, founder of the Princeton Engineering Anomalies Research (PEAR) Lab, has looked into this question and written “...it may indeed be consciousness that establishes our physical reality, even on the cosmological scale...Perhaps another step needs to be taken along the road of scientific conceptualization...It is the step that explicitly acknowledges consciousness as constructor of the same reality it perceives, ponders and postulates.”

In terms of the big questions as well as the small, basic phenomena of our existence need to be explained far more satisfactorily. Among them, Friedman includes consciousness, the mind-body problem, motion, the formation of matter, the issue of multidimensional space, the question of wholeness, the nature of light, and the possibility of purpose in the Universe.

The generally accepted definition of reality is undergoing great change, even though most of us are not aware of this. Friedman’s study demonstrates that whether one approaches the question of the nature of reality through mysticism, science or the paranormal, it becomes obvious that our limited definition of reality is in need of radical revision. Each of these three ways of thinking takes a different path toward answering that question, offering differing points of view along the way, but all of them understand that the question of the nature of reality is truly an open question.

Noetic Sciences and the Nature of Reality

Another explorer of the “mysterious flowing possibilities” of life was Willis Harmon, the author of *Global Mind Change*, who joined the Institute of Noetic Sciences at the invitation of its founder Apollo 14 astronaut Dr. Edgar Mitchell, and served as its president from 1977 until his death in 1997.

The word “noetic” comes from the Greek word, “nous,” and means mind, intelligence, understanding. The term applies to the three main ways we gather knowledge: intellectual

reasoning, sense perception and intuitive ways of knowing. These ways of knowing are the basis of how we perceive the world, each other and ourselves.

For Harman, a central tenet of the Perennial Philosophy was an understanding that “the world of material things is somehow embedded in a living universe, which in turn is within a realm of consciousness, or Spirit... Things are not—cannot be—separate; everything is a part of this ‘great chain of being.’” (p.115)

Much of his work was focused on creating a comprehensive science of consciousness. A deeper understanding of consciousness would have to take into account a new understanding of the self; an appreciation for the importance of anomalous phenomena; the unification of science and religion; and the development of a new story about the origins of the universe, life itself and mankind.

A true appreciation for anomalous phenomena has great social significance because people are reporting anomalous experiences more frequently and some individuals have important messages to deliver as a result of these experiences. For most of the 20th century, the tendency was to dismiss all of these reports as either outright fraud or delusion of one form or another. However, as reliable people the world over continue to report extraordinary experiences, it is becoming less and less possible simply to dismiss them.

The refusal of anomalies to disappear has led a number of researchers to conclude that it is not the extraordinary reports that are “irrational,” but rather, the scientific response to anomalous phenomena that does not make sense. As Harman noted, “This last possibility—that science unnecessarily limits itself from dealing with significant aspects of reality—is seriously considered by some scientists. They are now questioning the assumptions and methodologies of science in ways, and to an extent, that would have been unthinkable a few decades ago.”

The men and women studying this new knowledge are sometimes referred to as “frontier scientists.” Their work is challenging the dominant theories of the nature of reality in biology, psychology, physics, cosmology and many other established disciplines. They are re-thinking science and, if their efforts are proven correct, they will create a revolution equal to or greater than the Copernican, Darwinian and quantum revolutions of earlier eras.

A different reality is evident in the reports of out-of-body experiences, near-death experiences, and encounters with non-human intelligences from beyond earth. Native American shamans and those from other indigenous cultures view reality in a way that is radically different from the Western mind. Frontier scientists are exploring all these phenomena with the tools of Western science and reporting their findings in such excellent peer-reviewed publications as the *Journal of Scientific Exploration*.

For Harman, there are four broad categories of anomalies: (1) the ultimate nature of things; (2) the fundamental self-organizing force in living systems; (3) the consciousness of the

observer; and (4) the puzzling phenomenon of “action at a distance” or nonlocal causality of events (e.g., meaningful coincidences). The comprehension of these anomalous phenomena will undoubtedly transform both science and religion, reconciling their differences into a greater unity. In addition, the new knowledge being gained by frontier scientists is already leading to the possibility of understanding and validating the extraordinary experiences and ways of knowing of men and women on every continent.

It has been said that the universe is not only stranger than we conceive it to be—it is stranger than we are able to conceive. What kind of universe do we inhabit? Harman believed that the ultimate answer to that question may lie in unraveling the mystery of consciousness. In his view, consciousness did not evolve over billions of years. Consciousness was present all the time. His belief is that we inhabit a “self-organizing universe” in which there is a “Great Hierarchy of Being.” The challenge today is to apply the tools of science to these elusive anomalies in a way that produces knowledge that deepens our understanding of ourselves and our world. Perhaps new scientific tools need to be created as well.

Apollo 14 astronaut, Dr. Edgar Mitchell, undertook just such a task after undergoing a transcendent experience in outer space. Dr. Mitchell, an MIT doctor of astronautics and aeronautics, was an explorer of outer space who reached the pinnacle of his field—a successful voyage to and from the moon. On his way home, he had a sudden, profound insight into the nature of the universe that changed him forever. The explorer of outer space then became an explorer of inner space.

Edgar Mitchell was not the only one changed by flight into outer space. In a recent unpublished paper, Dr. Mitchell wrote “Most astronauts and cosmonauts have had a heightened awareness and profound insights during prolonged space exploration..” He states that these experiences are discussed privately but not reported publicly. Dr. Mitchell also briefly described an unusual report that recorded the experiences of two cosmonauts who lived on the Mir space station for six months. The two men have remained anonymous because they fear a negative official reaction to their account. Each cosmonaut had extraordinary perceptions in both the dream and waking states. And each experienced distorted time perception during these events. Frequently, the cosmonauts saw themselves as other earth animals—including dinosaurs—and as other beings, both human and extraterrestrial.

The cosmonauts heard voices and even received instructions from the voices. They also experienced precognitive knowledge of future problems aboard the Mir space station, problems that did later occur. The two men both felt that the information came from a source outside of themselves. The unusual experiences of the cosmonauts and astronauts certainly present challenges to our understanding of reality. What do these events mean and what do they imply? Much work will have to be done before we get a glimpse of a possible answer to these and other related questions.

Throughout history, many human beings have learned information in ways that cannot be comprehended or have had experiences that defy explanation. There is a great deal to learn

by taking a look at a few examples of this phenomenon.

How Did They Know What They Knew?

We have looked at the two great systems of thought that mankind has created—Religion and Science—and briefly surveyed the development of the Western mind, which emphasizes the rational, scientific approach to understanding reality. However, we have also seen how the non-rational, esoteric or occult ways of knowing have persisted since antiquity and how they have co-existed with the scientific point of view. Often, when studying the lives of those who have contributed to the development of human thought, it becomes apparent that in their lives and work, there is not a clear-cut distinction between the scientific and the mystical.

This should not be surprising because the dominant thought system today can best be described as mechanistic-mystical. There are very few individuals who are entirely either mechanistic or mystical in their thinking. Frequently, mechanistic scientists become mystical when they reach the limits of their knowledge. And many of the great religions of the world have “mechanized” the simple spiritual messages of their founders into rigid codes of behavior and theologies.

Generally, when an individual undergoes fundamental changes in the way he or she views the world, it is an inner experience. The reality of the subjective shift within the individual cannot be demonstrated to others. It cannot be proven objectively. However, more often than is generally known, subjective experiences lead to extraordinary knowledge that can be demonstrated to others and can be verified objectively. Non-ordinary ways of knowing are more commonly involved in the advancement of human knowledge than is acknowledged. Having considered the broader issues involved in our ways of knowing, it will be helpful to look at specific examples of knowledge gained from non-ordinary ways of knowing that were later objectively verified in the “real” world.

Goethe wrote that “Man cannot persist long in a conscious state. He must throw himself back into the unconscious, for his root lives there.” The altered consciousness of sleep, whether it be twilight sleep or the dreaming state, is fertile ground for the creativity of the artistic and scientific mind. In 1965, Paul McCartney, the world-renowned pop singer-songwriter, wrote one of his most beloved songs, Yesterday. Since its release, it has been played on the radio 24 hours a day, seven days a week all over the world. During this period, there has not been a moment when the song was not being listened to somewhere on Earth by many thousands of people. What makes this tune even more unusual is that McCartney created the song in a dream, not in the waking state.

In *Ether, God and Devil*, Wilhelm Reich addressed this point when he wrote, “The orgone biophysicist knows that in sleep one often finds solutions to problems one has tried to solve in vain while awake. I myself have worked out a whole series of functional equations during twilight sleep, which will have to be set forth in another context. I do not mind admitting this because I am not interested in the superiority of ‘pure intellect’ over the

'emotions.' I know furthermore that the human intellect is only the executive organ of the living plasm investigating and probing the world around us."

August von Kekule

August von Kekule was a professor of chemistry in Ghent who found clues in a dream that led him to make one of the most brilliant predictions in the history of organic chemistry. In fact, what Kekule discovered, because of his dream, became one of the cornerstones of contemporary science.

One afternoon in 1865, Kekule fell asleep and dreamed of tiny atoms dancing before his eyes. All of them began to spin and then swirl together into a snake-like form. One of the snake-like shapes bit its own tail. Suddenly, Kekule awoke. The dream image of the snake biting its own tail eventually helped the chemist see that the molecules of some organic compounds are closed "chains" or "rings," and not open structures as had been previously thought. Apparently, Kekule's unconscious mind made connections in sleep that his conscious mind was later able to recognize. How do these spontaneous insights arise from the unexplored depths of our minds? We do not really know.

Johannes Kepler

Johannes Kepler, the astronomer who helped to create modern science, formulated his three harmonic laws of planetary motion that are used to guide space craft today. He did not know of the principle of inertia and had only the vaguest idea that something akin to what we call gravity existed. Yet he had a brilliant, correct intuition. He felt that two antagonistic forces acted on the planets to produce their motions through space. Nobody in the history of astronomy before Kepler had even suspected that there were physical forces acting between the sun and the planets.

The erratic orbit of Mars could not be brought into accord with the ancient belief in geometry that planets exhibited "uniform motion in perfect circles." According to Arthur Koestler, author of *The Act of Creation* and also *The Sleepwalkers*, Kepler succeeded in discovering that the orbits of the planets do not move in perfect circles, as had been thought for thousands of years, but rather in "imperfect" ellipses. Kepler made his discovery through a series of errors that somehow cancelled one another out and led to the correct answer. Kepler himself wrote "...these two errors—it's like a miracle—cancel out in the most precise manner, as I shall prove further down."

It was only after Kepler had freed himself from the old framework of thought that he was able to make his new discovery. Kepler had reached his goal, but he did not understand how he had gotten there. After immersing himself for years in calculations of celestial orbits, an unusual number had become fixed in Kepler's mind—0.00429. One day, while inspecting an ordinary scythe with a thickness of 0.00429, Kepler realized that the number that had been haunting him contained the solution to the problem of planetary orbits. He

wrote, “When I realized (this)...I felt as if I had been awakened from a deep sleep.” Kepler experienced profoundly how the roads that lead to knowledge—the ways of knowing—can be as marvelous as what is learned.

Although he made three incorrect steps, and defended them with erroneous reasoning, Kepler’s intuition of two antagonistic physical forces kept him on the right track. The subtle connections between his conscious mind and his unconscious knowing allowed him to make the unusual connection between the number 0.00429 in the scythe and in the orbits of celestial bodies. (Sleepwalkers, p328-336)

This story clearly illustrates that a scientist may take the wrong steps, provide incorrect explanations for his assertions, and yet arrive at the correct conclusions. Obviously, more is going on in the process of discovery than simply the objective analysis of the physical world by the reasoning scientific mind. Exactly what is going on, though, remains to be discovered.

Giordano Bruno

The great Italian philosopher Giordano Bruno believed in an infinite universe filled with life, including intelligent life. Before the invention of the telescope, Bruno knew that the stars in the sky were suns, like our sun. And he knew that there were planets revolving around these stars, as the planets in our solar system revolve around our sun. He further understood that there were living beings on many of these worlds. Some were at our stage of development, others were at earlier stages, and many were more highly evolved than we are. For these beliefs, he was burned at the stake in February of 1600 by the Catholic Inquisition, after having been imprisoned and tortured for eight years.

How did Bruno know facts about the heavens that were discovered only after the invention of the telescope? How did he know there were planets around the stars when astronomers only began finding them in 1995, over 400 years after Bruno? How did Bruno come to see that the universe was an infinite, evolving, interconnected whole, as he wrote in 1583 in his book *On the Infinite Worlds and Universe*, at a time when the earth was considered to be the center of a closed, perfect unchanging cosmos? We do not understand how he knew these things, but he knew them and was later proven correct.

Even today, four centuries after Bruno’s death, his insights about the infinite nature of the universe, and about the existence of intelligent life throughout creation, are not widely accepted by scientists and are fought by proponents of both spirit and science. But it is likely that these ideas, too, will become accepted over the course of time.

The I Ching and the Genetic Code

In the late 1960s, according to Lily E. Kay, PhD, author of *Who Wrote the Book of Life? A History of the Genetic Code*, a number of people in Europe and the United States noticed

that the ancient book of Chinese wisdom, The I Ching or Book of Changes, and the genetic code of mankind, have some quite uncanny similarities.

Could it really be possible that the 3000 year-old symbolic text, and the most modern discovery of “hard” mechanistic science, share something in common? Both the Book of Changes and the genetic code or “Book of Life” are attempts to understand reality, expressed in the thought systems of their day. Both are in fact symbolic systems. Each way of knowing attempts to explain the patterns that govern diversity in nature as arising from the interactions of four basic elements, which are grouped in threes, thereby producing 64 building blocks.

The I Ching refers to these building blocks as the 64 hexagrams. In the language of the geneticists, there are 64 “codons” in the genetic code. In both symbolic systems, the diversity of life comes from the interaction of two antithetical or opposing principles. In Chinese thought, these are called Yin and Yang. Yin represents the passive or female principle and Yang the active or male principle. To the Chinese mind, Yin and Yang are not opposites or dualities; they are polarities that complement one another.

According to Chinese cosmology, the universe is characterized by the principles of unity, duality and change. In the Book of Changes, the shifting patterns of the cosmos are captured in the interactions of the 64 hexagrams. The flow of life is represented accurately in the transmutations of the complementary elements of the hexagrams.

In his 1972 book, *The I Ching and the Genetic Code: The Hidden Key to Life*, Martin Schonberger created a system in which each one of the 64 hexagrams of the Book of Changes represents one of the codons of the “Book of Life.” A number of scientists and scholars realized that the similarity between the ancient system and the modern one was quite amazing. One scientist even suggested that students of the genetic code might find it worthwhile to consult the commentaries on the I Ching for information that could possibly help them unravel the mysteries of DNA.

According to Kay, Schonberger was the first to work out the similarities between the Book of Changes and the genetic “The Book of Life.” Schonberger drew rather broad conclusions. He saw both attempts to understand reality as ways of knowing that resulted from a universal flow of information. He felt that both were representations of a cosmic principle. Schonberger is quoted by Kay as asking “Are both ‘books’ a manifestation of a common principle? Is what is involved here perhaps one universal code which was discovered 5,000 years ago by the Chinese—and 10 years ago by Watson and Crick? In other words, is there only one spirit whose manifestation (=information) must of necessity find its expression in 64 words of the genetic code on the one hand or in the 64 possible states and development of the I Ching ...on the other?”

To Schonberger, the answer to those questions was Yes! He did not view DNA-based life as resulting from chance. He believed that there is a physical and spiritual internal natural order. There is spontaneity and chance in the cosmos but it is subject to the influence of the patterns that already exist in nature.

Most modern scientists are not aware of the links between the Book of Changes and the “Book of Life,” or of the implications of this connection for our understanding of ourselves and the nature of reality. However, scientists and non-scientists alike are aware of a powerful analogy that has made great inroads in society—that the genetic code is like a language. This analogy is so powerful that many now act as if it were a reality. No longer a metaphor in many minds, the “language of DNA” has become a potent icon that greatly influences our social, educational, medical and political life.

Kay observes that scientists are likely to reject the seeming connection between “The Book of Life” and The Book of Changes but feels this represents a double-standard. She writes, “if one were unwilling to consider the validity of striking an analogy between the I Ching and the genetic code, then how could one embrace the far weaker analogy between language and DNA and even treat it as an ontology?”

One way of conceiving the world is comfortable with, and accepts, the metaphor of the genetic code as language. This images fits in with the dominant mindset and seems sensible and rational. Another way of looking at reality reveals a link between the structure of the genetic code and the structure of an ancient text. This viewpoint does not fit the dominant mindset and so seems non-sensical and irrational. The accepted cultural definition of reality determines which way of knowing is accepted and pursued, not its objective validity.

But the questions remains—how is it that there exists such a similarity between a 5,000 year-old Chinese way of knowing and a contemporary mechanistic, reductionistic, scientific way of knowing? Have they both tapped into a deeper underlying cosmic principle? If so, does this not suggest that other non-ordinary ways of knowing can tap into this underlying cosmic reality as well?

Indigenous Wisdom

Many in the “developed” nations of the world consider their way of life and ways of knowing to be superior to those of the “less developed” peoples of earth. The interaction between indigenous people and the pharmaceutical industry provides an excellent example of the contrast in mindsets between “civilized” and “primitive” cultures. Modern medicine is considered miraculous in the West and the “pill for every ill” attitude is promoted by the billions of dollars the drug industry spends annually on marketing and advertising.

In *The Cosmic Serpent—DNA and the Origins of Knowledge*, author Jeremy Narby, PhD, provides a radically new understanding of the interrelationships between consciousness and ways of knowing. His first-person narrative takes the reader to the limits of the Western way of knowing and then beyond.

Most people in the West believe in drug medicine. Yet, Narby observes, few know that 74 percent of today’s drugs—most of which are plant-based—were first discovered by

indigenous peoples. Even fewer in the West are aware that our pharmacopoeia is derived from only two percent of the plants on Earth. The benefits of the other 98 percent remain undiscovered, probably forever, as we destroy our planet.

In the 1980s and 1990s, as environmentalists became more aware of the critical role the tropical rain forests play in the health of the planet, the biotechnology and pharmaceutical industries also became more aware of the rain forests—as sources of new blockbuster drugs. Western scientists regularly scoff at the idea that indigenous healers can help them better understand plant medicine. However, drug businessmen know that if profits are to be made by exploiting the plants in the rain forests, they will need the help of the indigenous peoples.

Throughout their short history, the pharmaceutical companies have gone into areas such as the Amazon, taken samples of the plants used in healing, and returned to their labs to create synthetic versions of the natural remedies. Curare is a well-known example of this kind of corporate poaching. Scientists have made a number of versions of synthetic curare over the decades. Indigenous peoples have also shared their knowledge of the medical use of plants to help scientists produce a glaucoma remedy, an anticoagulant, an antifungal agent, and remedies for snakebite, stomach upset, diarrhea and many other problems. Despite all this assistance, until recently, no one has ever paid a penny to the indigenous people who alerted scientists employed by the drug companies to the existence of the natural plants, taught them how to use them, and showed them where to get them.

Narby clearly demonstrates that the indigenous people have extensive knowledge of the medicinal value of the plants in their environment. This knowledge cannot be doubted because it has been verified by Western science. What is questioned by the Western mind is how the indigenous people know what they know. Many medicine men insist that they are taught by the plants themselves through hallucinatory experiences they have as shamans.

Could the botanical expertise of indigenous shamans really come from hallucinations in which plants not only speak but teach? This contradicts the basic principles of Western thought. Hallucinations cannot be the source of accurate knowledge, in the Western view. And plants cannot communicate with human beings in any manner. They most certainly do not provide human beings who are under the influence of hallucinogenic drugs with detailed information about botanical medicine.

Yet this is what the indigenous shamans claim actually happens. Narby writes, “It was in Rio that I realized the extent of the dilemma posed by the hallucinatory knowledge of indigenous people. On the one hand, its results are empirically confirmed and used by the pharmaceutical industry; on the other hand, its origin cannot be discussed scientifically because it contradicts the axioms of Western knowledge.”

Narby speculates that the indigenous shamans “take their consciousness down to the molecular level and gain access to biomolecular information.” The pharmaceutical and biotechnology scientists, too, use the tools of their disciplines to explore the molecular level to gain access to biomolecular information. And all of them come up with the same basic

knowledge about the effectiveness of certain plant remedies.

Because of its attitude of superiority, Western science assumes that only its methods are correct, rational and lead to valid knowledge about the physical world. The indigenous shamans, in this condescending view, must have come by whatever wisdom they possess entirely by accident or through chance. However, many of the findings of the shamans have been verified by Western science in these instances. We know the shamans do not understand molecular biology or pharmaceutical science. If they do not gain their knowledge in the manner they describe, then how do they know what they know? The answer to that question still remains to be discovered.

Nobel Prize Winner, Dr. Kary Mullis

In 1993, Kary Mullis, PhD, was awarded both the Nobel Prize and the Japan Prize for his invention of the polymerase chain reaction (PCR), a technique that revolutionized biochemistry. With this simple tool, any scientist on earth can now make as many copies as needed of any DNA sequence. According to Dr. Mullis, at the outset, the odds of his solving this problem were not good. It would be, he wrote, "like reading a particular license plate out on Interstate 5 at night from the moon." It took all his knowledge of biochemistry and computer programming to begin even to think about how to start searching for a solution. How did he do it? How did he arrive at the answer?

Suddenly.

The answer came to him while he was driving, with his girlfriend asleep in the passenger seat beside him. According to Dr. Mullis, "Suddenly, I knew how to do it...We were at mile marker 46.58 on Highway 128, and we were at the very edge of the dawn of the age of PCR. I could feel it." He pulled off to the side of the road to jot down some important calculations and then continued on his way.

Only a mile down the highway, Dr. Mullis again pulled off to the side of the road. Why? "The thing has just exploded again," he wrote. "A new and wonderful possibility." He saw clearly how he could make a zillion copies of DNA that would always be the same size. "That was important," he wrote. "That was the almighty, the halleluja! clincher...I had just solved the two major problems in DNA chemistry. Abundance and distinction. And I had done it in one stroke."

He knew immediately that he would win the Nobel Prize for his discovery. But he began to doubt his findings because they seemed too simple and were not based on anything new. His discovery involved a different way of looking at what was already known, of connecting known facts in a new way. That was his major achievement.

At his Nobel lecture, Dr. Mullis gave a personal account of how he came to discover PCR. He told the august audience that for most of his life he had believed that science was fun. To him, his discovery of PCR was simply an extension of what he had begun doing as a child—

questioning and searching for answers. “It had not been my intention to revolutionize the world of biochemistry,” he wrote, “when I invented PCR; PCR was a tool I created because I needed it to do an experiment.” He noted that if he had known more about what he was doing, he probably would never have invented PCR.

How does it happen that a sudden insight flashes into the mind? From what source does the “Aha!” moment arise? How do the bits and pieces of factual knowledge that we gain arrange and re-arrange themselves in our minds, while we are sleeping, daydreaming or driving down the road, and lead us to simple but fundamental insights that profoundly change how we see reality?

At the end of his book, Dr. Mullis observes that “The vast majority of the world is invisible to our eyes regardless of our brightest lights, and we can’t hear more than a tiny bit of the sound of it with our ears, and we can’t feel the subtle textures of it with our fingers. Even with all our instruments, long tubes on mountains, and a Hubble telescope in space, we are blind to the myriad complex energies that are whirling and vibrating and clattering all around us day and night, year after year, millennium after millennium.”

It is really not so amazing that we know so little. It is in fact quite astounding that we know anything at all. At our best, we try to move forward in humility, to learn the lessons the journey has to teach us, and to keep asking the questions that will lead us to the answers we need.

Mellen-Thomas Benedict

Mr. Benedict lives in California where he has his own research laboratory. At present, he is working on light-based healing technologies. In the book *Lessons from the Light: What We Can Learn from the Near-Death Experience*, author and psychologist Kenneth Ring, PhD, tells the story of Benedict’s near-death experience and its remarkable consequences.

In most accounts of near-death experience, people find themselves out of the body, aware that they have died or are dying. Frequently, they see medical personnel frantically trying to revive them or family members at their bedside in the hospital or at home. The next thing that is invariably reported is a tunnel with an exquisite, pure light. Those recounting their near-death experiences describe various events that take place in association with the light. Some see deceased family members or other loved ones; some encounter Jesus or Buddha; still others experience bliss and a longing to enter the realm of light. Despite their differences, the near-death stories share remarkable similarities that cross all cultural, religious and age barriers.

Ring reports that in 1982, Benedict “died” for a period of at least 90 minutes. He saw his own body in bed in a dark room. As he observed himself, the setting of the room was transformed into that of a forest at dawn. There was a path leading into the woods. Benedict became aware that if he took that path he truly would be dead. He felt a sense of peace he had never experienced on earth and began to take the path. As he walked along, a

light grew in intensity. He began to see events from his life pass before him. Many of the memories made him sad and at one point he called out "Stop!" Amazingly, everything stopped.

Benedict realized, unlike almost all other people who have had a near-death experience, that he could interact with the light. It was not a passive experience; it was participatory. He asked the Light to reveal to him what it truly was and it took him on a cosmic journey to the realm of a second light, to the moment of the Big Bang and beyond to the Void. He was then returned home, back to his body.

Benedict had reached the Source of all things. He learned that everything is connected; that each of us is God; that the universe is composed of vibrating fields within fields; and much, much more. Although Benedict's vision of reality and the universe has its unique aspects, it shares much in common with the reports of others who have had extraordinary experiences

But perhaps what makes Benedict's story special is that he can return to the realm of the Light when he desires, without having to undergo the ordeal of a near-death experience. This would be an unprovable, subjective claim if it were not for the fact that serious, bottom-line corporations ask Benedict to travel to this other realm and bring back the answers they need to solve pressing problems. For example, a medical device manufacturer has hired him to get information on particular illnesses that will allow them to create effective medical devices for their treatment. Benedict also works with an international health organization. The proof that he "returns" with useful information is that he is paid for these services.

How does he do this? How can a man travel to a realm many believe does not even exist, one that others visit only under life-threatening conditions, and return with practical knowledge useful in our physical realm? Again, we do not know how he knows what he does. Yet, he does know.

Mercury and Apollo Astronaut, Gordon Cooper

Among the most revered public figures of our age are the American astronauts. The citizens of the United States and the world admire and trust them greatly. Gordon Cooper, who flew in both the Mercury and Apollo missions of the U.S. space program, is the author of *Leap of Faith*. In this memoir, Cooper describes an extraordinary experience he had here on earth, not in space, that may test the limits of belief for many readers.

In December 1978, a woman named Valerie Ransone informed Gordon Cooper that something may be seriously wrong with the U.S. space shuttle. Cooper had been working with this brilliant young woman for a year or so when she called him at his Washington, DC office from her California office with this unsettling message. However, her warning that "something" might be wrong with the heating or cooling system was too vague to allow any action to be taken.

Ms. Ransone had already demonstrated to the astronaut that she had access to unusual “ways of knowing.” One of their colleagues had been to his doctor for medical tests because he was not feeling well. She told Cooper that the man had an undiagnosed brain tumor and needed an immediate CAT scan. She even said that the tumor was behind his right ear. Eventually, a malignant tumor was discovered and surgically removed from the right side of his brain. Unfortunately, their colleague died shortly afterwards. In addition, her telepathic and precognitive powers had also been undeniably proven to Cooper over and over during the period they worked together. As a result, he trusted her.

Four months after her first warning about the space shuttle, Ms. Ransone provided information that was quite specific. Cooper writes, “In terms worthy of any graduate engineering class, ‘serious technical faults’ were outlined in detail, specifying what could happen during reentry to the system that provided cooling to the cabin and sensitive electronics. The source of the problem seemed to be the electromagnetic effects during space flight on the iron rods used in the cooling system.” She also provided Cooper with an intricate, detailed drawing that neither of them understood. It seemed that if the ventilation system was not at the proper temperature during reentry, there would be a release of toxic gas that would make the crew pass out, causing a catastrophic accident.

The problem with accepting Ms. Ransone’s information lay in its source—telepathic messages from extraterrestrial intelligences. Cooper was faced with a dilemma, one he could not ignore. If he did not relay her information to the proper people at NASA, and then the astronauts died, he would not be able to live with himself. If he decided to contact NASA, what would he say when he was asked about the source of his suspicions?

Valerie Ransone was not a scientist or an engineer. Yet, somehow, she had come by this information about the space shuttle. Cooper faced his moment of truth and flew to NASA to meet with an engineer he trusted. He told his colleague the whole story. The engineer listened and said that the source of the information did not matter. He would have it checked out.

A NASA team went right to work, found the design flaw Valerie Ransone had warned Cooper about, and fixed it within a few days. Ms. Ransone knew specific, detailed information she could not possibly know, according to our present view of reality. But how then did she pinpoint the problem that NASA engineers later discovered?

Cooper wrote, “Valerie Ransone was not an engineer, had never worked for NASA, and wasn’t involved in aviation. If this vital and very detailed information did not come to her from a source of higher intelligence that for some reason was monitoring the U.S. space program, then where did it come from?”

Once again, we do not know.

The Most Intimate Ways of Knowing

These stories indicate that there is far too much that is not understood about how we know for anyone to make definitive statements on the subject, although many people do so anyway. And there are hundreds, if not thousands, of anecdotes similar to those above that could have been used to illustrate the value of ways of knowing, other than the scientific, that provide useful, practical information. Science itself has validated the information gained from some of these non-ordinary ways of knowing. But we need not look outside to others for evidence that there are profound ways of knowing about which we have barely a clue. We need only look at our own organisms. The ways of knowing exhibited by our bodies each second of our lives surpass present-day understanding, whether it be scientific, mystical or metaphysical. There are so many fundamental questions to be answered about nearly every aspect of our own organismic functioning.

Why does an egg cell accept only one sperm cell among hundreds of thousands? How do two cells combine the DNA in each and form a complex living organism? How does the newborn know to seek out the mother's nipple for nourishment? How can each organ of the body function independently, for itself, and yet also function as an integral part of an interdependent whole? How does a message from the eye cause us to flinch before we are even aware that an object is in danger of striking us? How does the immune system create just the right amount of the right cells to ward off a specific threat to the body?

The list of questions is endless. Each reader could doubtless supply many of his or her own. It is obvious that the body has its own ways of knowing, ways that are not mechanistic, metaphysical or mystical. Our organisms exhibit a way of knowing that is in tune with the environment and with the universe it inhabits.

There is "something" that provides the underlying unity that is found in the microscopic, macroscopic and cosmic realms of existence. Once, to demonstrate this unity in nature, I removed the captions from two black-and-white photographs and showed them to a few people. There was no information in the pictures that would allow the viewer to determine the scale of the objects. I then asked them, "Which picture shows a comet and a planet and which a sperm cell and an egg?" It was not easy to distinguish one photo from the other. There appears to be an underlying unity in nature that accounts for the similarity of the images.

Could it be this yet-to-be-discovered "something" that is at the basis of all ways of knowing? Does this "something" function in both the organism and in the universe? Does knowing occur when this unknown phenomenon in the body comes into contact with itself in the world beyond? Are the answers to these questions to be found in an existing but overlooked body of knowledge, such as the orgone energy research of the physician-scientist Wilhelm Reich? His energy research involves a primordial cosmic energy that manifests itself in the microscopic, macroscopic and cosmic realms. A future article in The Journal of the Mindshift Institute will explore this possibility.

We have seen that great scientists like Kepler can arrive at the truth, even if they err along the way and do not fully understand their own reasoning. Great thinkers such as Giordano

Bruno can know facts about the universe centuries before science verifies them. We have also learned that men and women can know specific information, not gained through study or training of any kind, the origin of which cannot be explained. And we have heard the stories of people who are able to access knowledge from entities and realms of existence whose very reality is doubted by the dominant mindset. Yet, the validity of their information is proven in this material level of existence.

All that we have explored indicates that an open mind about the validity of diverse ways of knowing is far more than an intellectual attitude one can adopt or not, as one pleases. It may turn out to be the surest way to true understanding.

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