

Bridging the Artificial Dichotomy Between the Putative “Physical” and “Metaphysical” Realities

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Abstract

A pervasive tendency now exists for scientists and writers to radically dichotomize the so-called “metaphysical” and “physical” realities. This position is a form of dualism and is not only artificial but is forced upon the real world and probably distorts our perception of reality. No compelling reason or logic requires the universe to exist as sharply divided “physical” and “metaphysical” realities. The source of this division can be traced to ancient Greek speculation and has become an assumption that is now a firm part of our intellectual tradition. Orthodox science’s rigid accept-

ance of the monist position, which argues that only matter exists, is actually a derivative of dualism: the dichotomy is accepted but the reality of one side of it is rejected. This dualism has resulted in the design view of reality being labeled metaphysical, then rejected as outside of science. In contrast, naturalism is called physical, and therefore within the realm of science. The view of the over 10,000 American scientists who accept the creation world view, including the belief that God created Adam and Eve less than 10,000 years ago, should be considered.

Introduction

In the creation-evolution debate, evolutionary naturalism is often termed empirical and the creation world view termed *metaphysical*.¹ The meaning of the term *metaphysical* has changed historically and its use is by no means consistent today. In most contemporary philosophy of science works, the term refers to that which is above or apart from physics. The term metaphysical is from the Greek *meta ta physika*, literally, “after the things of nature,” or that which exists apart from the physical world and is neither amenable to, nor readily understandable by, that research which is achieved through traditional laboratory methods. Weedon defines the term as follows:

The term, “science,” is ... “knowledge by causes,” where “knowledge” is contrasted with “opinion” and the term cause has the full signification of the Greek *aitia*. The “causes” which are the objects of metaphysical cognition are said to be “first” in the natural order (first principles), as being founded in

no higher or more complete generalizations available to the human intellect by means of its own natural powers. Secondary and derivative meanings: (a) Anything concerned with the supra-physical. Thus “metaphysical healing,” “metaphysical poetry,” Any scheme of explanation which transcends the inadequacies or inaccuracies of ordinary thought (1972, p.196).

Science not only studies the material world, but also investigates the events which manifest themselves through matter such as energy. In actuality, physical laws are human interpretations of apparent regularities in the natural world. Metaphysics, on the other hand, usually includes that reality which is more commonly understood as spiritual—specifically the study of God, angels, demons, and the “spirit” world (Hancock, 1972). The term metaphysics as used here is similar to that typically used by creationism critics; namely, all that is part of the non-physical “spirit” world including God and not the

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¹The terms *creation* and *evolution* are defined in this paper generally as per Johnson (1991, p. 4) viz., *evolution* means naturalistic evolution not directed by purposeful intelligence, and *creation* means that a supernatural creator both initiated and controls the universe and that which it contains.

broader use now in vogue among some philosophers. In discussions of the contemporary views on the metaphysical-physical dichotomy, scientists are often inclined to conclude that the only reality which in fact exists is the physical, and consequently they dismiss all of that which they define as metaphysical as non-existent or unknowable. This paper argues that more consideration needs to be given not only to the reality of various aspects of that knowledge labeled metaphysical, but also to the interaction of the so-called physical and metaphysical worlds (Burt, 1954). At the least they share certain elements such as ontology while at the same time they are different in ways that need to be explored further.

Some dichotomies which are implied from a physical-metaphysical dichotomy include the following:

- physical vs. metaphysical
- body vs. mind
- secular vs. spiritual
- temporal vs. eternal

The fallacious nature of the physical-metaphysical dichotomy becomes apparent when one considers the possibility that secular scientists may well be distorting reality by deliberately ignoring that part of it which at our current knowledge level cannot be regularly predicted in response to the direct manipulation of physical events. This view is called *reductionistic monism*, and it is argued here excludes certain sources of knowledge and viable hypotheses. To fully understand all reality, though, all epistemologies must at least be considered. What is learned by the empirical method is not necessarily more real or valid than what is discerned by other methods. Many scientists concede that a God may exist, but the rules of science preclude our explaining anything by appealing to Him (Margenau and Varghese, 1992).

These self-imposed blinders may well prevent orthodox science from understanding all of reality. Is it not better to accept truth wherever one finds it, and let it take one wherever it leads? In actuality, both science and metaphysics focus on both “the apparent and the real” and are “commonly presented as the most fundamental and also the most comprehensive” methods of learning (Walsh, 1972 p. 301). An estimated over 10,000 American scientists (5% of the 200,000 scientists) accept the creation world view, including the belief that God created Adam and Eve less than 10,000 years ago (Madigan, 1997; Stewart, 1987).

The design argument is typically labeled metaphysical by many of the non-creation scientists, as are often all theological views as well, and consequently judged unacceptable as an area of research for science or even favorable discussion in a science class. Ironically, the arguments used to refute the design argument are very similar to those used to support it. Its supporters point out examples of efficiency, complexity, and economy as

proof of intelligent design, and its detractors point to what they consider examples of poor design, such as the placement of the rods and cones on the retina, to argue that a designer does not exist (Miller, 1994). Consequently, either both of those arguments are metaphysical or neither is metaphysical. Further, the implication is that a metaphysical reality does not exist, but is illusory.

The next step is for naturalistic evolutionists to label evolution “science,” and thereby presenting it as a world view that can—and should—be discussed in public school science classes without opposition. Opponents of the design world view often assert that it is inappropriate in science to appeal to a creator or any transcendent reality and therefore scientists *must* assume a strict atheistic orientation when doing science. They also claim that this world view is the only one which can be used to properly abstract laws from physical reality. They tend to ignore the contributions of those they label non-scientists even though many modern “metaphysicians have constantly aspired to ... determine the real nature of things; they have been preoccupied ... with the concept of existence and reality” (Walsh, 1972, p.301). Conversely, scientists use scientism to produce their own metaphysics, such as the conclusion that all life is the product of a mindless, algorithmic process of evolution:

...if mindless evolution could account for the breathtakingly clever artifacts of the biosphere, how could the products of our own “real” minds be exempt from an evolutionary explanation? Darwin’s idea thus also threatened to spread all the way up, dissolving the illusion of our own authorship, our own divine spark of creativity and understanding (Dennett, 1995, p. 63).

To this reasoning Johnson has replied that science has actually not disregarded metaphysics but reversed it and as a result:

it soon became as unthinkable within science to credit any biological feature to a designer as it had previously been unthinkable to do without the designer. Whenever seemingly insuperable problems were encountered—the genetic mechanism, the human mind, the ultimate origin of life—biologists were confident that a solution of the Darwinian kind would be found.... Although many aspects of evolutionary theory remain controversial, Dennett asserts confidently that the overall success of Darwinism-in-principle has been so smashing that the basic program—all the way up and all the way down—is established beyond question. And yet the resistance continues. Some of it comes from religious people, who want to preserve some role for a creator. Dennett just brushes aside the outright creationists, but takes more pains to refute those who would say that God is the author of the laws of

nature, including that marvelous evolutionary process that does all the designing. The Darwinian alternative to a Lawgiver at the beginning of the universe is to postpone the beginning indefinitely by hypothesizing something like an eternal system of evolution at the level of universes (1995, p.10).

Dennett argues nothing is real except that accepted by naturalistic evolutionists, yet the scientific establishment accepts many ideas that are nonempirical or metaphysical. The materialists teach a very clear metaphysical position as summarized by Shapley's conclusion "in the beginning, was hydrogen . . ." or Sagan's (1980, p. 4) "the cosmos is all that is or ever was or ever will be," both ideas which have been challenged by many findings of modern science. A major historical concern of philosophy is to integrate metaphysical and physical realities, including those that many dichotomize as science and religion. The field has helped to demonstrate that, while the science-metaphysical (or religious) dichotomy can be useful and although some differences exist, a dichotomy is artificial.

Further, we will argue that it can limit both "religious" understanding and scientific progress. The physical-metaphysical conflict has vividly surfaced in both the current creation-evolution controversy and the study of biological origins and cosmology in general. Elimination of this dichotomy implies examining the *source of all knowledge*, which demonstrates science relies not only on sensory input knowledge but also relies on the powers of reasoning, logic, analysis, and intuition, all of which are also important "sources of knowing" in the spiritual/religious sphere. The resurgence of popular interest in the so-called occult and such related areas as extrasensory perception (ESP) and transcendental meditation (TM)—fields in which both the scientific method and more traditional ways of knowing are used—may not say much about the validity of these theories but does illustrate the widespread concern that our knowledge sources should be expanded beyond the purely physical (Taylor, 1980).

A common assumption of the secular science establishment is the so-called non-material events and phenomena are somehow less "real" than the subject matter which physical scientists have traditionally studied (Johnson, 1995). No compelling reason exists as to why the logic of traditional science *cannot* be applied to the so-called "metaphysical" area. Phenomena that cannot be perceived directly by human senses are not necessarily less real or less testable by the scientific method than physical events. Although the scientific method is limited to testable phenomena, more complex procedures and a greater understanding of the physical and non-physical aspects of the universe may be required in order to understand that reality now labeled metaphysical. Metaphysical reality may be less obvious and more diffi-

cult to research, but this does not make it less real. Of course our present inability to measure something should not stop us from exploring it as Murphy makes clear:

When the logical positivists and their predecessors excluded "metaphysical" entities from science, they meant anything which couldn't be measured. This led Comte to claim that the composition of the stars was unknowable because it couldn't be measured—a few years before the beginning of astrophysical spectroscopy! Similarly, Ostwald and Mach denied the reality of atoms before Brownian motion was understood.

What led to those conclusions was basically a lack of imagination. Comte et. al. couldn't think of how things could be measured so they concluded that they couldn't be. But a more basic criticism of positivist arguments can be made. It just isn't true that every concept used at every stage of scientific argument has to be measurable. The wave function in quantum mechanics isn't directly measurable, but it isn't thereby excluded from consideration. Calculations made with the wave function do eventually lead to measurable predictions—energy levels, cross sections, etc., (1994, p.1).

Origin of the Physical-Metaphysical Dualism

The source of the dualism is from "centuries of sophisticated philosophizing" that have produced a "persistent mind/body..." dichotomy which lacks "a factual basis, and psychology would be much better without" this and other dichotomies. (DeWaal, 1996, p. 228). It is almost instinctive in Western society to view the world in terms of dichotomies, a distinction foreign to many other cultures. Many cultures, including the ancient Hebrews, did not divide reality into metaphysical and physical realms (Walsh, 1972). Some eastern philosophies, for example, still view all reality as one, or at least as harmonious and in unity instead of clearly separated in contrast to the Western concept of dualism. Other philosophers deny the physical and accept only the metaphysical. Western philosophy and beliefs are still strongly influenced, even today, by the pre-dualism theory of Plato and Aristotle which has colored—and probably distorted—our view of reality. Although we here argue that a physical-metaphysical dichotomy does not exist, at the minimum researchers should not assume *a priori* that it does and should endeavor to look at reality from *both* perspectives. Much of the difference is clearly artificial and may well prove to be a distortion of reality. It is now well recognized by those who study the issue that "the line between metaphysical and nonmetaphysical is exceedingly hard to

draw" (Walsh, 1972, p. 300).

Christian theology has often uncritically accepted this rigid dichotomy and has actually extended it to many areas (for a discussion of this see Reed, 1996; Sire, 1988; Kofahl, 1988; McGhee, 1988, 1987; Ancil, 1985; Armstrong, 1974). St. Thomas Aquinas developed his "nature-grace" dualism which divided human experience and all reality into two spheres: the *supernatural* (reality revealed to humans by God), and the *natural* (reality which is known to humans only by reason). Aquinas put the political state in the realm of the natural sphere, arguing that its structure, function, and nature could be explained only in purely natural terms. He then put the church in the supernatural realm, arguing that its structure can be explained only in supernatural terms (Halverson, 1981).

Murphy (1982) claims that dualism was actually given a new emphasis by many well-known Christian philosophers as part of their attempts to combat the rise of materialism. He notes that the church has historically adopted a position of "metaphysical *dualism*—a distinction between physical body and spiritual mind (soul) as fundamentally different kinds of substance" (1982, p. 32). According to Murphy, this explanation backfired and actually caused religion's retreat in the face of many new scientific views because the distinction influenced theists to uncritically accept naturalistic/materialistic explanations for phenomena which were formerly explained by theological propositions. A good example is the replacement of theistic creation with naturalistic evolution. In Murphy's words (1982, p. 33) "Darwin eliminated religious teleological explanations... by arguing that species arose, not because God planned or created them that way, but by purely causal [natural] processes." The rationale used by Murphy was as follows:

The world of physical bodies is to be totally explained by deterministic science; this poses no threat to true religion, however, since true religion concerns the realm of mind, soul, or spirit. As long as this realm is conceived as fundamentally different from the physical, what is essentially important...about human beings would be insulated from any threat posed by the march of science (1982, p. 32).

Murphy adds that the creation of this sharp dichotomy was only a "temporary holding measure" because "as long as religion and morality get to keep the mind and spirit (that which is essentially and importantly human), and as long as what goes on in that world is to be explained in terms of purposes (God's and our own), then what threat could be posed by a non-theological account of [the biological, living world]...?" But as science marched on, one side of this dualism, the spiritual side, was increasingly viewed as nonexistent. Thus, the reli-

gious response Murphy notes was to talk about "faith and mystery instead of evidence and reason." This ultimate extension of the Thomasian-Kantian dichotomy led not only to creationism's demise in science but also to theism's retreat and loss of credibility in the scientific world.

Christianity, as exemplified by apologetics, was historically dependent upon both reason and empirical evidence. Events such as the physical resurrection of Christ were used as empirical demonstrations and verification of the resurrection belief as contained in the Gospels. Thus, the radical fragmented position in vogue today among scientists tends to cause, not the acceptance of the purely physical, but only that so *labeled*, and likewise the rejection of that which is *labeled* metaphysical. The labeling is critical in both cases.

Acceptance of the conclusion that other phenomena could exist which are "real" aside from what has been the modern subject matter of science will lead to a broadening of both the interest and respectability of at least some of the research in certain so-called "metaphysical" domains. What is real cannot be determined by sensory impressions alone as often implied by the view called Scientism. The nuances of our processing system (the mind) and especially our *interpretation* of these impressions are both important. Both experience and reason are crucial in the mind's final interpretation of all sensory data. Kapp concludes from his study of the metaphysical-physical dichotomy that:

Progress in basic physics cannot be expected without careful attention to metaphysics. The scorn that is sometimes cast on this discipline is...usually misplaced. If the hypotheses that I have put forward very tentatively about curvature and anti-curvature prove valid, I shall regard them as having served the purpose if they direct attention to the crying need for bold and, I must add with emphasis, metaphysical thinking (1960, p. 282).

Part of the reason for his conclusion was the research in physics which around 1963 resulted in the theory that all matter is made up of fundamental particles called quarks and leptons which in turn, so far as known, consist of empty space. The forces by which matter seems to abide are metaphysical and cannot be, or at least have not yet been, fully explained in physical terms.

Challenges to the Metaphysical Monist's Position

The materialist's position has been challenged by numerous scientific discoveries. For example, increasing examination of what is termed "matter" finds that it is largely empty space. Magnification of gross matter reveals that it is made up of much empty space and molecules. Further

magnification reveals that the molecules themselves are made up of atoms which, again, contain much space between them. The atoms themselves consist of protons and neutrons packed in a nucleus surrounded by electrons and so much empty space that if an atom were the size of a football field, its nucleus would be smaller than a peanut. Magnification of each individual proton or neutron and other subatomic particles reveals even smaller subatomic particles called quarks which again consists mostly of empty space: "Neither quarks nor leptons show any sign of having an internal structure, though their anatomy has been probed on scales down to some 10^{-18} meter" (Ferris, 1988, p. 295).

This is why, if one fired an electron through the human body, it might never hit a material particle, but it could pass straight through the body and into the air on the other side. A charge-free neutrino can pass through miles of lead, or even an entire planet, without hitting a single piece of matter (Schechter, 1981). This finding of science has caused some to hypothesize that material matter *does not exist*. Each time that researchers have examined what first appears to be a "solid particle," such as a molecule, they find that the supposedly solid object contains large amounts of empty space and even smaller particles each which in turn is made up of much empty space and still more minute particles (Cartwright, 1983). No known reason exists for this progression to end, even with the particles now felt to be the most basic particles possible, quarks and leptons.

Superstring theory hypothesizes that all matter is made of infinitesimally small loops some 100-billion-billion times smaller than a proton (Green, Schwarz and Witten, 1987). Actually, the concept of a piece of matter that is not made of still smaller particles is difficult to comprehend. Many scientists hypothesize that they will probably never find a solid "smallest particle"—all particles must be made up of other smaller particles and empty space—and these particles in turn cannot be solid but must be made up of still other smaller particles and empty space. If this is true of matter as it is of numbers, then as one can forever divide a number into an even smaller number, likewise no end to this physical breakdown would logically exist. The end result of the search for the smallest particle may turn out to be only pure energy without mass, a metaphysical concept.

The big bang cosmology theorizes that the *entire universe* of billions of galaxies, each with billions of stars, evolved from a primordial "egg" smaller than the size of a pinhead (Weinberg, 1977). The fact that scientists are now able to convert matter into energy (and energy into matter as well) has crucial implications for the assumption that "matter exists." Before its conversion to energy, it has weight, mass and all of the other properties of matter, but *after* its conversion it has *neither weight, nor mass,*

nor any of the properties of matter. The matter literally "disappears" and in its place exists a certain amount of energy—a quantity summarized by Einstein's famous formula, $E = mc^2$, meaning mass and energy are, with some nuances, equivalent (Allen, 1973). From this, some hypothesize that a "physical" world does not exist. Reality, in other words, includes *only* the metaphysical or so-called "non-physical" world. Others conclude that matter does "exist" but not much exists, and yet others argue that matter that does exist is slowly disappearing. Schechter notes:

Marshak...[and] scores of other physicists are waiting in more than a dozen underground laboratories around the world to see whether protons—the particles basic to all the elements—fall apart. If the proton can fall apart, or decay, then so, eventually, will every last living thing, planet, and star, because they are made up primarily of protons. Even if the universe were to continue forever in the outward expansion that started with the Big Bang, not a single atom would endure to fill its vast reaches... Present theories about the newborn universe lead inexorably to the conclusion that if the proton is stable, equal quantities of matter and its mirror image, antimatter, would have formed. But matter and antimatter annihilate each other when they meet, leaving behind only the little bundles of light called photons, and assorted lightweight particles like electrons. Thus if the proton is immortal, the universe today should be a thin, lumpless soup, without planets, stars, life and, for that matter, without matter. But if the proton decays, scientists can account for the matter that fills the universe today (1981, pp. 80–81).

Many philosophers such as Hegel, whose work Schaeffer called the "doorway out of cause and effect thinking" were led to the monistic position that there is only one kind of substance and only one true substantial entity (Schaeffer, 1968, p. 20) His "one kind of substance," though, was an evolutionary pantheism, whereas I propose exploring the reality of that which is popularly termed metaphysical in order to understand what appears to be in many ways an artificial dichotomy of the physical and metaphysical.

Matter forces such as the "pull" acting on matter are now divided into four forces, namely gravity, electromagnetism, strong and weak nuclear forces, all which are "action at a distance" forces that have so far failed to reveal themselves in mechanical explanations. They are real in that they can be experienced, but they act only on other physical matter in ways that are not fully explainable by known mechanics (Sherwood and Sutton, 1991). Forces such as magnetism have even been "explained" by postulating tiny strings which, in the case of unlike poles, pull

other particles toward themselves or, in the case of like poles, push two particles away. This obviously involves metaphysics or at least not classical physics (Davies and Brown, 1988). Of the numerous explanations, none is fully satisfying or widely accepted, and most are tenuous guesses. Research such as this should cause us to reexamine the matter/metaphysics dichotomy. As stated by Walsh, “whether matter is the ultimate reality as materialists suppose, or whether it is itself a manifestation of spirit, as Hegel tried to argue” is still very much debated today (Walsh, 1972, p. 301).

Certain limitations, such as the necessity of interpreting sensory input, do not necessarily preclude an accurate understanding of reality nor an advancement of knowledge in this area. Observational uncertainties can be mitigated by utilizing multisensory input and other means of investigation to broaden the base of information upon which we base our conclusions. An example of a method used to overcome this limitation is the utilization of instruments that sense energy and translate it into data which can be analyzed. Thus, in spite of the human sensory problem, numerous largely metaphysical theories, which were held as valid for eons, have been falsified in the scientific sense. Examples include the ether, alchemy, abiogenesis, caloric and phlogiston combustion theories.

The goal here is to eventually better understand reality by moving beyond basic mathematical relationships by expanding the input used to draw conclusions. Thus, breaking the shackles of obverse reductionism could help us reach a fuller understanding of reality. Rejection of materialistic-naturalistic reductionism must not stop with evolutionary naturalism, but include all applications of this false worldview. This will thus encourage the acceptance of the whole of reality by integrating knowledge from all sources, whether classified as metaphysical (including the techniques of Biblical theology) or empirical (Burt, 1954).

When we react to the world around us, we generally depend on our individual perceptions, most of which we accept at face value. Some consistent reality exists, but our mind’s *perception* of reality is not always the same. One’s mind does *not* accurately perceive the “real world” but sees at least partly what it expects to see because the brain must interpret *all* sensory input (Restak, 1984). Input limitations include rapid scanning, misreading sensory cues, and problems involved in translating “reality” into “mind pictures.”

Beliefs are also critical in bridging the gap existing between reality and our minds’ view of reality. The process of forming conclusions about the world around us is a major aspect of the physical-metaphysical and mind-body problem. We do not react directly to the outside world but to *our perceptions* of it, and most of our conclu-

sions are a result of theorizing based on *reasoning*, which is an internal mental process and not necessarily empirical. This point is of major concern to those interested in science-religion issues.

The Problem of Labeling

A major problem in understanding the physical-metaphysical dichotomy stems from ambiguous terms. Words are not reality but only an attempt to abstract, simplify or communicate perceptions of portions of reality, and very few words—even scientific terms—are as precise as is necessary to comprehend reality. The broad terms *science*, *physical*, *religion*, *creation*, *evolution*, and similar are all general categories, and use of them often creates major communication problems by oversimplifying or even misleading. The recent discoveries in nuclear physics as discussed above, for example, have helped us to realize that it is far more difficult to understand what is and is not “physical” than once assumed.

Examples of words which create severe problems include such largely meaningless terms as *common sense* and even *instinct*. These concepts can convey helpful information, but more often they impede effective communication by their ambiguity and lead to confusion. Problems with *common sense* which argue against its use include the tendency to use the word to validate a conclusion in lieu of direct support. A person who makes a statement that is challenged may appeal to “it is common sense” instead of supporting the statement with a scientific study, valid reasoning, or the appropriate authorities. The claim “it is common sense” is alone asserted as valid justification for a conclusion (Bergman, 1981). Relying on the phrase “common sense” as support permits many incorrect statements to pass unchallenged.

The phrase “common sense” itself is a good example in that it often has a variety of meanings. It originally meant a special faculty of the mind which inevitably will come to the correct conclusion regardless of what sensory data are used. Today it means many different things, including a conclusion that is inescapably obvious (Bergman, 1977). Common sense is often nothing more than acknowledging that a belief, idea, prejudice, bias, misconception, etc., fits into one’s value or belief system. And many ideas are still held by the population as “common sense” even though considerable evidence against them now exists. An example is the belief that a gifted child will likely be maladjusted, sickly and, as a whole, physically “inferior.” In this case, the opposite of the “common sense” opinion is usually true (Feldman, 1986).

Although perception and individual reasoning are both extremely influential in arriving at most conclusions

(and probably are more important in science-religious issues than in most other areas), beliefs and general perceptions about the world around us are based both on early training and background. They are also dependent on the information presented when a child is receptive to philosophical/value-laden beliefs, usually from ages eight or nine to fifteen or sixteen. To understand *beliefs* in either the religious or scientific area, it is necessary to understand the process of perceiving ideas, facts and events, as well as the process of forming conclusions.

A major problem in both the metaphysical and physical domains is that, rather than thoroughly examining the data and then arriving at a position, many persons take a position and then attempt to support or justify it. They are looking for proof only, not knowledge or an accurate view of reality. For example, Cornman (1975) openly admits his goal in seeking knowledge is “to justify a particular metaphysical theory” and then proceeds to try to do just that. Many researchers in both the metaphysical and physical camps over rely upon “arm chair reasoning” that is not firmly grounded in empirical research. Clear empirical examples from the real world are needed to demonstrate an empirical conclusion, yet one must also recognize this approach has its limitations.

Where direct observation is difficult or impossible, a new or modified scientific apparatus must be designed and implemented. All scientific measurement produces additional uncertainty at every level. Firstly, the apparatus must be appropriate, capable of measuring the phenomenon in question to an estimable degree of accuracy. Secondly, it must be capable of calibration such that the estimated error corresponds with the actual error. The possibility of interference by other phenomena must also be evaluated and if necessary compensated. Thirdly, it must provide a readout of some sort to provide data so that cumulative error can be adequately estimated. The raw data are the numbers produced by the device as recorded by the observer, not the actual values in nature. Uncertainty and the required assumptions are often most serious in studies of the past, the very small (particle physics) and the very large (astronomy).

The tendency of some to wrestle concepts from the physical sciences into some philosophical framework without establishing clear, demonstrable logical relationships between data and ideas or theories is one reason why metaphysics has come into disfavor in science. In dealing with the so-called metaphysical world, it is often necessary to rely on (and especially begin with) concepts which are understood as “purely physical” because they are often more understandable, at least at present. An example is the Bible’s frequent use of terms like face, hand and foot to describe traits of God which help us understand metaphysical concepts.

In the mind-body debate, the need for an inclusion of

biochemical or other relevant data as part of one’s conceptual framework is imperative. A basic understanding of the biochemistry of learning, memory and perception is often helpful because of human reliance on processed sensory data. The empirical data may not support certain philosophical theories, but in going from the known to the unknown, these data should be brought into the discussion to help relate the two. Any comprehensive model must correspond to reality or be deemed false. Therefore these data, if accurate, must be accommodated within the model. The only true dichotomy is between reality and non-reality, or between true and false concepts of reality.

Empirical data illustrate and can help us to more fully understand metaphysical reality. Although abstract reasoning may at times predominate in some areas of science, such as theoretical physics, this is due more to our present lack of knowledge than a superiority of the explanative value of this mode of exploring reality. Our reasoning needs to utilize *basic observations and a reliance on “physical” data and research* to back up philosophical or so-called metaphysical conclusions. The physical science axiom that “if something exists it can be measured” would also seem to apply to the reality that is now included by some in the so-called metaphysical sphere.

A field of knowledge is scientific to the degree that it successfully quantifies the relationships it postulates. We should therefore in metaphysics strive to understand reality with the ideal goal of using mathematical concepts. The postulates of philosophers such as Russell, Kant, Locke, and Berkeley often try to do just this. In the physical sciences, mathematical relationships result in *laws* to which we believe there are no exceptions, only qualifications or influencing conditions. Some feel it is reasonable to use mathematical relationships to help understand all reality, including the reality that is presently labeled “metaphysical.”

Apart from a creator, there is no “reason” for the reality found in the universe to exist—or even for the existence of consistent natural laws (Sire, 1988). Likewise, no “reason” exists for the order that decades of research have found everywhere in nature, which is so consistent that we have been able to express it in words called “natural laws” and which science now has as its main goal of finding. Obviously though, without these laws there would be no life, no “matter,” and no universe—only absolute chaos ruled by one law only, the law of unpredictability (Yam, 1994). Yet natural laws *do* exist, although they are probably at our current level of understanding often an attempt to summarize the reality that emanates primarily from the conscious mind of humans. The complex law system that exists in the universe must likewise logically emanate from conscious direction. Fully comprehending

natural law requires hypothesizing a reason for both this law and order and their complex interaction which enables life to exist.

Some Implications of This Effort

The effort to establish a design world view as a valid science and a viable alternative to materialistic evolutionary science is supported by the discoveries that help to bridge the hypothesized gaps between the present artificial physical-metaphysical dichotomy. The question focused on here “is all reality a valid subject of science?” Thoughts that are translated into neural activity, an area which was once non-researchable, are now being empirically researched by positron emission tomography (PET) and magnetic resonance imaging (MRI) technology (Bergman, 1992; Kulynych, 1995, 1996). This supports the conclusion that what is commonly assumed under both the physical and metaphysical domains may have at the very least one element in common, their reality. Beyond this, although a basis exists for making distinctions between physics and metaphysics, the fact that they influence each other (as shown by physics research) demonstrates that they are interrelated and have a connection beyond their essential reality. To more accurately understand all of reality, research and scientific thought must look beyond its myopic examination of only the pure empirical physical realities that have been its preoccupation for the last century. Research needs to use existing data, methods, and experience to build a solid foundation in order to progress into the so-called metaphysical areas.

Some researchers prefer to call the science/metaphysics dichotomy problem “theological reflection vs. scientific interpretation.” Stockwell (1980, p. 579) notes, “Our frame of reference needs to incorporate both [of these] views, for God’s world is one. The division that seemingly separates science from theology is a purely human creation.” Much solid research that supports the unity of the physical and metaphysical sciences and reduces the influence of the platonic dichotomy has now been completed (Torrance, 1981). For example, Deloria (1979) bridges the two by showing that both science and theism are necessary to form an integrated complete view of the world and that “the sacred and sensual inhabit the same terrain.” He adds that both are necessary in order to produce a coherent view of reality.

Summary

A reexamination of the materialistic base of both our sciences and the philosophy of life in Western Society is

necessary. This requires a thorough examination of many of the assumptions of the currently rigidly materialistic science. The position that only that which can be perceived by the senses and is consistent and repeatable can be proven valid must be questioned. This does not imply that groundless speculation is to be given undue weight but rather that a firmly supported *reality picture* must be built, relying upon logic and vitalizing principles, laws and concepts resulting from empirical investigations. The Creator may in some ways be ontologically different from the creation, just as humans and plants are different; but the Creator also must have some commonality with the creation to interact with it. The creation resulted from and reflects the qualities of the Creator; thus, these spheres must be able to interact, and consequently must have elements in common.

Dividing reality into somewhat arbitrary physical and metaphysical divisions discourages scientists from looking at all of reality. Dividing also is used to label the naturalistic evolution position of origins as empirical and physical. This approach then labels another position on the same topic (that the universe is a product of design) as metaphysical (Toumey, 1994). The next step is for materialist monists to conclude that reality is that which is labeled physical, and that reality is not that which is labeled metaphysical. For this reason, they conclude that which is labeled metaphysical is not a proper subject for scientific study. The motivation for this ploy is not scientific or part of an effort to maximize an epistemology to better determine an accurate understanding of reality, but is often due to agendas which have little to do with science or efforts to determine truth (Johnson, 1995; Koster, 1989). It often has much to do with an attempt to try to discredit a theistic epistemology.

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