

# QUANTUM PHYSICS AND THE *ETHER* OF OLD

A Leap of Faith in Atheist Ranks

© Bruce Schweigerdt, MA

July 1994

## Ether

An invisible, immeasurable, intangible substance representing the fundamental and essential nature of the universe.

## Quantum *Physics*

An invisible, subatomic universe where time is reversible and matter may be annihilated and created in billionths of a second (Pelletier, 1978, pp443).

The extraordinarily tiny (Hawking, 1988, p51).

In an attempt to account for the unaccountable, see the unseeable, test the untestable, predict the unpredictable, and know the unknowable — mankind's ultimate hope — science, during the past three centuries, has found itself dabbling in what would best be described as the metaphysics of old (cf. Trattner, p149).

Initially in the quest, a magic medium was devised whereby the notion of light waves could be speculated and investigated. This medium, called *ether*, was devised by the Dutchman Christiaan Huygens, and was represented as something supersensible, something which could not be seen, weighed, or isolated. Yet ether, with its strange and paradoxical characteristics, was held to pervade all space throughout the universe and to permeate all material things. Sir Isaac Newton, Huygen's contemporary, regarded the ether-concept as something superfluous and not to be reconciled with his celestial mechanics (Trattner, p150).

Today many novice dabblers in science are easily influenced by metaphysics; and finding religious solace through esoteric notions, euphemistically refer to this ubiquitous phenomenon as “The Force.” Similarly, some in the scientific community, in rendering the things of God to be unscientific (unseen, untestable, beyond substance, etc.) have adopted quantum theory as a sort of modern-day ether notion. Only here they deal statistically with “probability concepts” which somehow become scientific “facts” made up of principles of uncertainty, imaginary numbers, ephemeral phenomena, fictional time, and time travel, among other fantasies (cf. Hawking, 1988).

Quantum theorists strive for predictability, and that alone, to gain scientific merit; and they seek to re-define “matter” as something beyond substance, descending into sub-atomic regions where all is energy and power, knowing full well that the inner structure of the atom is basically that of vast and primal energy, lacking particular essence.

The quest of natural scientists in our day is to find the ultimate *Out* and the absolute *In*. Their telescopic and microscopic probes towards transcendent enlightenment are designed to find measurable boundaries so that a more traditional science can govern. They hope to find an edge to the universe as well as a substance somewhat smaller than the quark. To these thinkers there can be no infinite, eternal, omniscient, omnipresent, *personal* force; the power they seek must be a nebulous, ethereal, impersonal, *Process*. The dilemma for the physicist is that in true science this process cannot be transparent — it must have body and substance!

Many of these theorists are atheists who seek ultimate transcendent and metaphysical answers within a scientific milieu. They are forced to step beyond the science of physics, the tangible and even the theoretical (classical cause and effect), and move into the realm of probability (Trattner, p160). No longer are the traditional criteria of science sufficient — observation, experimentation, the empirical validation of hypotheses — but now it is felt that new parameters and rules of the game must be established for the enlightenment of mankind.

The macro-sphere of Einstein's general theory of relativity says that any large object acts in an entirely predictable manner. The micro-world of quantum mechanics, on the other hand, merely makes statistical predictions for the behavior of subatomic matter. “This means that there are different rules for these two realms” (Boslough, 1989, p576).

Needless to say, there are countless subjective and epistemological perils that lie along that path. This process could easily lead to an elitist, esoteric, even Gnostic solipsism, where only the self holds all answers, and finds blissful solace in believing so.

“To deny the universal validity of causality,” as Trattner (1938) saw it, “is to strike at the very roots of science as humanity has known it since the days of Galileo and Newton” (p160).

True science seeks a measurable substance; at this level a power whose velocities can be calculated. The speed of light seems to block any advancement in this regard and the Theory of Relativity cannot go beyond it. Could it be, as Wood (1936) suggests, that velocity beyond the speed of light is simply that speed "at which the outspread power of God, — the reality of space, and the true norm and basis of the universe, — passes everywhere into energy and action, "giving added meaning to the phrase: "God is Light?" Did not Einstein accord "absolute" status to the velocity of light, without a medium (Bethell, 1993, p16)?

That outspread power of God [for atheists this would be ether or quantumness] is discontinuity and continuity at once. It is source and medium at once. It is spirit and matter at once. Is not this the true continuum? Is it not that primal reality toward which the idea of "ether" points? *It does all that ether ought to do. It does what ether cannot do. It is free from all the objections to ether...* we know that energy is the essential element in "ether." Substance creates all the difficulties of ether. This universal creative power, passing into energy, and free from the impossibilities of substance, seems to be what ether really means. (Wood, 1936, pp127-128, *Italics added*)

But what of the objections to modern-day quantum notions? Although Hawking (1988) fears universal determinism in the quest for a complete unified theory, he does have a valid point.

Today scientists describe the universe in terms of two basic partial theories — the general theory of relativity and quantum mechanics. They are the great intellectual achievements of the first half of this century. The general theory of relativity describes the force of gravity and the large-scale structure of the universe, that is, the structure on scales from only a few miles to as large as a million million million million (1 with twenty-four zeros after it) miles, the size of the observable universe. Quantum mechanics, on the other hand, deals with phenomena on extremely small scales, such as a millionth of a millionth of an inch. Unfortunately, however, these two theories are known to be inconsistent with each other — they cannot both be correct. (pp11-12)

Not only does quantumness run headlong into Einstein who could not abide the randomness of quantum mechanics, ("God does not play dice with the world," he declared); but of Newton, the gravitational theorist who most certainly would, as he did with ether, refer to quantum notions as superfluous.

. . . . .

The goal of present-day quantumists is to find and propose a unified theory which could incorporate both the Theory of Relativity and quantum mechanics, a theory which would meet the rigors of both a Newton and an Einstein; a theory which could rightfully be called, "a quantum theory of gravity" (Hawking, 1988, p12). Could this be the ultimate search for the sustaining and providential power of God in holding all in order?

The real question here is how do we, as finite beings, enter from a world of substance into the spiritual realm? More specifically, how do we go from the material realm of scientific investigation into the spiritual domain of the atheist? For that matter, what is the spiritual domain of the atheist?

In the 1970's, K.R. Pelletier, the author of *Mind as Healer, Mind as Slayer*, wrote another book, *Toward A Science of Consciousness* (1978) in which he attempts to weave a quantum thread which would bind together the material and the spiritual. In his chapter entitled "Quantum Physics and Consciousness" he begins with a discussion of Western science. It is important to note the term *Western* because, although "... this approach [using Western logic] has been particularly well suited to the discovery and application of the laws governing the material universe..." it fails completely in dealing with things spiritual — to Pelletier, the mind.

Within this approach, the investigator is invited to view the objective as part of himself, an illogical and apocryphal notion foreign to the West, but an integral part of Eastern philosophy, metaphysics, and demonic-based religions. "With [the advent of quantum physics and Heisenberg's Uncertainty] principle, *man was reinstated as an inseparable participant in the universe he sought to measure and define.*" (Pelletier, 1978, p33, *Italics added*).

Pelletier, writing about mental constructs within this strained view of science, bridges the material with the spiritual through this observation: "(T)here is a clear parallel between the orientation of quantum physics and the concept of projection in psychology." He describes *projection*, and legitimately so, as "an interpretation of events arising from the individual's own experiences and feelings, . . . . When a person engages in projection, he is

generalizing his own idiosyncratic way of perceiving, yet, *he assumes that he is making an objective assessment of the external world . . .* [As in the Rorschach inkblot tests] there are no right or wrong answers; the very intent of the test is that the individual *project* or externalize his own fantasies, wishes, and unconscious processes. The essential feature of all projective methods is ambiguity (p43, *Italics added*.)”

In order for Pelletier to blend the material with the spiritual, the tangible with the mental — within his pantheistic world-view — he has no choice but to make such an observation, and thereby, confession. But western science cannot abide by this indictment since to do so would endanger the tradition and allow the public at large to disparage the good reputation science holds with accusations of metaphysics and pseudo-science.

The discipline of psychology has long been the bastard child of science and, as such, has been trying desperately to gain legitimacy among the elite circles for the past two centuries. During this time three (3) primary modes of psychology have emerged generally in this order: Behavioral, Analytical, and Humanistic; and over the later half of this century we have been introduced to a fourth mode, referred to appropriately as “Fourth Force Psychology.”

This fourth force in psychology, known collectively as “The Human Potential Movement,” has been the primary vehicle used to introduce eastern mysticism into western science and culture. One could comfortably fit Pelletier into this “New Age” movement; and with his bridge as just described, quantum mechanics as well.

The sciences have advanced so rapidly and with such force that to experience insurmountable limits is frustrating given a context of unlimited expectations and encouraged feelings of omnipotent potential. Physics and Astronomy have observed what can be seen, and they’ve felt what can be touched. Now some would see their role as that of arbitrator between the abstract and the concrete. But how must it feel to build your house on the shifting sands of time?

[Consider] the plight of the quantum physicist who is faced with a bewildering array of subatomic phenomena: “virtual particles,” “tracks in bubble chambers,” “collapse of state vectors,” “black holes,” “vacuum fluctuations,” “infinitely boot-strapped, geodelized hadrons,” and the elusive “charmed quarks.” Since the phenomena themselves do not inherently dictate any particular interpretations, he is free — indeed obligated to extrapolate as ingeniously as he is able . . . [I]t seems very likely that the physicist’s theories reflect his own subjective perceptual system rather than any absolute qualities of material reality. (Pelletier, p44, italics added)

It is clear that this conundrum follows Pelletier’s line of reasoning when we see him prodding the field of physics for not thinking anew its structure and its mandate. Pelletier would be ready, in a moment, to introduce subjectivity into the science discipline as a positive factor; not as a variable to control for, but as a “right” unto itself. He fully recognizes and appreciates the fact that, “quantum physics does project properties of mind upon matter . . .” (p44)

Although a number of properties have been subsumed under the rubric of “particles,” in fact, no actual particles correspond to the labels. The quantum physicist’s objects of study, the most fundamental interactions of matter and energy, are utterly invisible in their natural state. From such shadowy clues as his experiments provide, he postulates the existence of such entities as virtual particles, particles going backward in time, negative particles, or antimatter. He resorts to descriptors such as “strangeness” and “charm” and proposes that the elementary particles may be composed of even more fundamental entities termed “quarks.” It might be argued that the labels do not matter and that *the real issue is the mathematical formalism to which the labels refer . . .* If the scientist looks carefully at these formalisms, they appear to be descriptive of the structure of his own mind. At this level, ontology is equivalent to epistemology . . . (Pelletier, 1978, pp44-45, *Italics added*.)

So much for science as we’ve been taught to know it. So much for the process, the rigors, the methodology, the discipline, and all that science has challenged us with over the years. Newton and Einstein, scientists that they were, would turn in their graves were they to know some of the nonsense (non-science) that passes for science today.

Pop-physicist Stephen Hawking, who sits in Newton’s Lucasian chair at Cambridge, is certainly impressed and appears fixated at this level of thinking. In his popular work, *A Brief History of Time: From the Big Bang to Black Holes* (1988), Hawking starts with a bang and ends with a fizzle. I’ve a hunch that this is the experience of all quantumists who peer through their scopes hoping to find the ultimate essence.

Hawking (1988) bravely asserts that "we have some theoretical reasons for believing that we have, or are very near to, a knowledge of the ultimate building block of nature (p66)." After discussing the failure of early and recent attempts to weld a successful unified theory of the universe, Hawking warns against overconfidence, while retaining "grounds for cautious optimism that we may now be near the end of the search for the ultimate laws of nature." (p156) Realizing that this quest for the ultimate knowledge within a "scientific context" will, of necessity, lead to extreme specialization, Hawking asserts that *only a few people could gain this exciting understanding of life and the universe* (p168).

After all his effort, Hawking concludes that we live in a bewildering world! He has no answers, only questions. He acknowledges that his finely-tuned and mathematically formalized theory (the so-called super-string theory) lacks any observational evidence, and, in that sense, is analogous to the infinite tortoise tower notions of days gone by; and yet, in all of his contemplating, and in searching for God, Hawking asks, "And who created him . . . . [What is] the nature of God?" In the final analysis, Hawking, the pop-physicist and atheist from Cambridge, has no other goal in life than, as he acknowledges, to "know the mind of God." (pp174-175)

Oh, the comfort one finds in a personal knowledge of the Creator of the universe and all it contains. No less eminent a personage and great thinker of the ages than Sigmund Freud, at the conclusion of *his* bewildered and troubled life, could recognize the reality of it all, and so eloquently state it:

How we who have little belief envy those who are convinced of the existence of a Supreme Power, for whom the world holds no problems because he himself has created all its institutions! How comprehensive, exhaustive, and final are the doctrines of the believers compared with the labored, poor, and patchy attempts at explanation which are the best we can produce! (1939)

We should not soon forget that what distinguishes science from alchemy (whence science emerged) — alchemy, which arose out of the ruins of the antique world of thought, heavily encrusted with mysticism, obscurantism, and obstructionism — was its reliance on objective methodology, a methodology which, for the greater part, refused to be swayed by false and dogmatic methods of reasoning.

To continue in the direction in which we are going is bound to have a profound effect upon our society, and no doubt already has. Failure to teach our youth how to base their viewpoints and understandings upon sufficiently examined premises has allowed them to be indoctrinated and this could well lead to our downfall as a culture!

. . . . .

What happens to a society that bases its world-view on existentialism? How does a society operate which places self at the center, not just pragmatically but philosophically — spiritually? When the individual becomes entirely self-centered, what happens to reality?

Danish physicist Niels Bohr, heavily influenced by existentialism and operating upon Hindu presuppositions, claimed that the very act of observing creates the reality. Bohr believed that the observer, through his or her observations, actually brought about quantum events. To present this view philosophically, Bohr noted that "the act of observation dissolves the boundary between the observer and the observed (Ross, 1993, p94). Theologically speaking, All is One, even as One is All!

Obviously, this mode of logic does not bode well for Western thought and traditional science. To believe that the observer actually gives reality to the quantum particle is to grant that observer (be it animal, plant, mineral, Man!) the fiat card of Creator. To say that such thinking goes beyond science is a given. To say that such ruminating is arrogance beyond measure is to put it mildly.

This stream of logic, taken to its ultimate conclusion (and who can stop mid-stream in this torrential flow?) is to imply, and then assume, that the human species, not God, created the universe. Is this where the speculations of Hutton, Lyell, Darwin, Huxley, Freud, et al. have taken us?

Ross (1993) challenges the assumption head-on:

The observer does not give reality to the quantum entity. The observer can only choose what aspect of the reality he wants to discern. Though in quantum entities, indefinite properties become definite to the observer through measurements, the observer cannot determine how and when the indefinite property becomes definite.

Rather than telling us that we human beings are more powerful than we otherwise thought, quantum mechanics tells us that we are weaker. In classical physics, no apparent limit exists on our ability to make accurate measurements. In quantum mechanics, a fundamental and easily determinable limit exists. In classical physics, we can see all aspects of causality. But in quantum mechanics, some aspect of causality always remains hidden from human investigation.

[Moreover], experiments in particle physics and relativity consistently reveal that nature is described correctly by the condition that the human observer is irreverent . . . . There is nothing particularly special about human observers. Inanimate objects, like photoelectric detectors, are just as capable of detecting quantum mechanical events. (pp95-96)

A bit humbling, isn't it. But, then again, shouldn't the whole process of science lead to a humbling experience? After all, through finite human intelligence we seek the mind of God, not in matters theological or philosophical or spiritual, but in seeking a clearer understanding of the workings of His marvelous creation. Anything but a humble attitude within such splendid context can only lead to folly!

[The flows of quantum mechanics, just enumerated] punctuate what should be obvious to all — the human race is neither powerful nor wise enough to create a universe. To say that we created our own universe would imply that we can control time and restructure the past [as well as command — master, govern — the future]. . . . Today there are scientists and philosophers and mystics who are willing to claim that we humans are the creator. (Ross, 1993, p96)

When reality becomes observer-dependent, as in the case of Einstein's special theory of relativity, and in the underlying assumptions of quantum theory, then absurdity and gross illogical constructs are sure to result. When this absurdity becomes a burden upon specific disciplines in the academic world, and has an adverse effect upon life in general; and when the absurdity becomes entrenched within the intelligentsia of a culture, then weeding through the maze of irrational premises can be a weighty challenge.

Einstein, in reacting to the ether and quantum notions, formed an irrational defense, asserting that *no* medium was necessary in order for light waves to operate. But, "[in order to] preserve the absolute nature of the speed of light, — move toward the light source, and you will detect it approaching you at the same speed as someone who is standing still] — space and time had to be distorted (Bethell, 1993, p16). This distortion leads to inevitable conflicts as Hawking and others have discovered.

The alpha and omega of the material world — the irreducible character of time and space — were sacrificed in order to preserve an absolute velocity. But velocity itself is nothing but space (distance) *divided* by time! (Bethell, 1993, p17)

Einstein's general theory of relativity also harbors a tremendous burden when it comes to the matter of time, as well as space; and his notions relative to space-time are spurious. Not only was Einstein reacting to the notions of ether and quantum mechanics, he appears to have been pigeon-holing certain observations and "discoveries" in a fashion that made them appear pragmatic; but in reality his "solutions" caused problems in other areas of scientific inquiry and theory.

In 1916 Einstein modified Newton's *Principia* with general relativity. While Newton's universe was clocklike and stately, Einstein's was strange and unsettling. Gravity was not a simple pull, but the very architecture of the universe itself. His universe was a single vast bed of gravity, not a hodgepodge of billions of attractive forces.

According to Einstein, in a perfectly uniform universe — one containing no matter — there would exist only time and a vast sheet of space, representing the possibility of gravity. Gravity would not yet exist. But if you put matter, say a star, into this universe, you would distort the sheet of space-time, like setting a cannonball on a taut sheet of canvas. This dimpling effect is gravity.

. . . In terms of general relativity, then, gravity is simply a curvature caused by material objects in space-time. The universe itself, a machine fueled by gravity, is a consortium of the curvatures caused by all celestial objects pushing against the canvas of space and time.

Its a difficult mental image . . . “The metaphor of the cannonball on canvas leaves out the dimension of time so crucial to Einstein.” (Boslough, 1989, p575)

The problem could in fact be that scientific explorers of the universe, both within and without, in rejecting the God of creation, His attributes and His creation, have found themselves groping for answers to the time-honored ultimate questions. Questions such as, What is time?... What is space?... What is gravity?... What is matter?... are ultimate concerns that would not appear to lend themselves to finite, carnal answers.

Consider gravity for example. Though all material things within the universe appear to be effected, to one degree or another, by gravity's force, still "nobody knows exactly what drives gravity — what makes it happen (Boslough, 1989, p576)."

Einstein spent his last thirty years trying to find a single theoretical statement that would explain the behavior of both sub-atomic particles within, and the curved geometry of gravity without. Today physicists assert that Einstein's elusive "theory of everything" may well lie at the beginning of the universe.” (see Boslough, 1989, p576)

“In the beginning God . . . .” now holds a profound significance in the realms of science, the result of the quest for the ultimate source for the ultimate question — How did *all* begin? What *is* the secret of the universe?

Can the secret to the universe be found in dissecting the whole into separate parts and compartmentalizing the areas of specialization, with the hope of reconstructing the perfect sum total leading to the Source? Is such a process possible from a finite perspective? Can we divide (ultimately even ourselves) and at the same time conquer?

Of course we cannot with human minds reach out to the ever-receding infinities of universe beyond universe of stars. Neither can we reach inward to the equal infinities of world within world in the atom. This does not need words. We know that we can never do it. We cannot grasp what it really means that a certain island universe is millions of light-years away. We cannot grasp what it means that the electron moves in its orbit around the proton in the atom a quadrillion times a second. It is no shame to us that we cannot grasp such things as these. Our minds are not geared to the infinite. If they were, could we harness them any more to the ledger, the plough, the tool-chest, or the cookstove? What would it profit to grasp the nebula and the electron, and starve or freeze? But our minds do seem fitted to understand. They can apparently understand the quality and meaning of things whose immensity they cannot grasp. They are evidently fitted to understand everything which can be understood. That seems somehow to be what they are for. (Wood, 1936, p13)

Does not the word *universe* mean unity, a complete unity constituting one system or whole; *unity* from the Latin *unus* meaning "one" plus *versus*, "turned toward"? And what of the individual within the universe of the whole? How is such a seeming paradox possible? Can our finite mind conceive of the possibility of a universe of individuals? Is that impossible, or just a child-like venture?

Perhaps in this regard science has complicated things; has made it too difficult; has left the realm of faith and trust and become entangled in the all-consuming web of theory and reason. In order to understand the secret of the universe do we need to take a leap of faith, or can we be instructed, by example and demonstration, regarding the formula of the universe and all therein?

It is certainly true that we must have a clear understanding of *Space* — the basic thing in the physical universe; a true appreciation of *Time* — both an outer reality as well as our way of conceiving things; and *Matter* — that which fills and embodies space. In other words, in order to understand the universe we must first return to basics; not the basics of philosophy, science, or theology, but the basics of reality. We must leave the hallowed halls of academia and return to the basic building blocks and operating structure of the universe.

What is space; and of what does it consist?

Space as we know it and live in it and use it consists of three things. We call these three things dimensions, or three directions. We name them generally length, breadth and height. . . .

When we build a house we build it in three dimensions. No man in the world has ever raised a cabin or a cathedral of either more or less than three dimensions. No thinker would know how to plan a structure of more than three dimensions. Whatever the refinements, the subtleties, of space may be, it is clear that the basic space, the space of common knowledge and experience, is of three dimensions, . . . length, breadth, and height (Wood, 1936, pp16-17).

But the universe is not just space, empty, void, lacking particular substance. That which fills space and embodies space we call matter.

We call it matter. But we know now that it is primarily energy. We can agree to call it matter, if by matter we mean that form which energy takes so that we can see it, or hear it, or feel it. We mean all of that which fills and gives outward reality to space . . . .

What is the nature then of this which occupies space, and makes a visible, audible, tangible universe? Of what does it consist? . . .

Modern physics and chemistry find, first and basic in matter: — *energy* — vast, unknown, unseen, a primal thing, out of which all things in the physical universe come . . . . We measure energy by its manifestations, of mass and velocity . . . . “Mass times the square of the velocity” then is not what energy *is*. It is the way we measure energy.

Second, modern physics and chemistry find, growing out of energy, embodying energy, — *motion*, — that great, unceasing, unresting motion, which fills and which is the physical universe.

Third, they find all those infinite complexities and variations of motion, those varying velocities, into which motion differentiates itself, and which, when they present themselves to us as waves of light, of air; of sound, we recognize as physical phenomena, light, color, sound, heat, cold, hardness, softness, scent, moisture, dryness. They are not dependent upon our recognition or experience of them. They register themselves upon mechanical instruments as readily as upon human senses, showing that they exist apart from human beings and human perceptions. They are probably not different “kinds” of motion. They are probably, as we know that light waves and sound waves are, simply different rates of motion, or different velocities into which motion differentiates itself. We call them phenomena. We think of them in connection with our senses, because that is the way in which we become acquainted with them. But they definitely exist apart from our senses. If we remember that they are in themselves differentiations of motion, which exist apart from us, we may call them, as we know them, *phenomena* [or that which touches the senses]. (Wood, 1936, pp18-19)

The universe of our experience is not just comprised of space and matter. The third and final absolute basis of the physical world is that of time.

When we ask what time is, and how we may resolve it into its component parts, the answer is simple. We need not speculate how far time is an outer reality, and how far it is our way of conceiving things. For whichever it is, or if, as is doubtless the case, time is both an outer reality, and our way of conceiving things, the facts about time are so universal, so clear-cut and so familiar as to leave no practical question at all in any mind. Time, as a matter not of speculation but of simple experience, consists of three great constituents, — past, present and future. We all know them. We all live in them. They include everything, and make this a time universe. (Wood, 1936, p20)

In dealing with the basic elements of this three-fold universe, Wood, in *his* quest for the secret of the universe, finds a vast coincidence:

As a space universe, as a substance universe, and as a time universe, it is in each case three things in one. This is at once the most obvious and the most striking thing about this structure of space, of

matter and of time. Different as these three elements are, they have this in common. Each is three things in one (p21).

Hawking and quantum theorists in general seek "the mind of God." Wood finds a striking coincidence and wonders,

Are the threefoldness in space, in matter and in time, which are the structure of the physical universe and the threefoldness presented by the Bible and Christian consciousness as the being of God, the same kind of threefoldness? Are these two, — what we may call the scientific threefoldness of the physical universe and the Biblical threefoldness of God, — so much alike that they are obviously the same thing, in different forms? . . .

We ask the question again, then, in view of that presentation of God. Does the vast coincidence found in the threefold structure of space, the threefold fabric of matter, and the threefold existence of time, extend to God, who is the ground of the universe of space, and matter, and time? (pp24-25)

Can we find and know the mind of God? Do ethereal notions and quantum theory take us there? It would appear that to follow that course will surely lead to even deeper levels of esoteric elitism, as well as occultic idolatry.

If, instead, we sought simply to know and understand the essence of God it would soon be discovered that a return to fundamental basics could lead to a profound insight: While the God of the universe declines to reveal His "mind" to us, He is willing and eager to share His essence with Man, the most intimate of His creation.

. . . . .

The Trinity (Threeness in One) has long been a tenet of orthodox Christian theology. To say this in no way negates the tremendous difficulty the doctrine has held for many of history's great thinkers. There is within man an innate unwillingness to look beyond oneself and to recognize that finite mental limitations require faith in a revealed and God-inspired source. Certainly, the Trinitarian belief of the Christian church represents such a difficult example.

The word "trinity" was coined to refer to the plurality of God, and yet maintain the thought of unity. Unfortunately, it was a well-intended but ill-advised choice. . . .

To properly understand the true biblical concept of the nature of God, the term *tri-unity* should be used in place of trinity. *Tri-unity* conveys the idea that God is one, but at the same time consists of three persons. . . .

The unity of God is taught throughout the Old Testament. Scores of passages in the law and the prophets converge to provide irrefutable evidence of plurality within the unity of God. (Rosenthal, 1978, pp1-2)

The Age of Enlightenment was a time rife with skepticism directed towards biblical truths; a time when rationalist, liberal, humanist, and scientific trends were sufficient to initially launch Man on a bizarre journey of self-aggrandizement. But the seventeenth century, the several decades preceding the Enlightenment era, was an equally, if not more troubling time for Christian theology as Man's belief was fostered in natural law and universal order; first as agents of God, then as His allies, and finally as His supplanters.

The 1600's offered significant intellectual, social, and spiritual challenges to great minds; and one no less than Sir Isaac Newton was caught-up in the often ribald and irreverent dialog. This is not to suggest that Newton was himself overly involved in the ensuing skepticism; he was, however, influenced by its fall-out.

We can see from his correspondence that Newton was a sincere Christian having been raised by a devout mother and grandmother. But the old debates were stirring men's souls; and one of the most frequent topics of discussion was the doctrine of the Trinity.

Those who fomented the Trinitarian/Arian debates challenged the notion, specifically found in the claims of Jesus, that He and God were One. To Arius (whence Arianism), the 4th-century priest, Jesus was a supernatural being, not quite human, not quite divine, who was created by God.



To finite human reasoning, such a notion seems reasonable. But the fact remains that *that* idea simply flies in the face of revealed Scripture, and our understanding of the structure of the universe as well.

Newton, Bacon, Locke, Jefferson, Franklin, and deists in general, all fell into this trap because the intellectual assent of the age all but convinced these great minds that they could apply reason to all things, most notably matters of faith. Newton, during a most impressionable time in his life, felt the urge to assume the role of higher critic.

At least this much is certain, that in bulk, Newton's theological writings are as big as his scientific writings, that his interest was keen, and that he felt no shadow of doubt about the importance of the subjects he undertook to elucidate.

The subjects included two particular passages of the New Testament, the Prophecies of Daniel and the Apocalypse of John, and the general principles of religion and church government. In dealing with two texts (1 John 2:7 and 1 Timothy 3:16) Newton appears in the capacity of higher critic. It is difficult to say whether Newton was inspired by a love of accuracy or a particular doctrinal interest. Personally, I suspect that *mathematical accuracy* was the ruling motive, but it was unfortunate that in both cases Newton supported corrections and interpretations that were anti-trinitarian. (Brett, 1928, p260, italics added)

Newton and fellow Englishman, philosopher John Locke, shared many interests and each recognized in the other an intellectual peer.

Religion provided what was easily the dominant theme of the correspondence and apparently of their conversation when they met. Locke later told his cousin . . . that he knew few who were Newton's equal in knowledge of the Bible . . . . Newton sent Locke a treatise in the form of two letters addressed to him, with the title *An historical account of two notable corruptions of Scripture, in a Letter to a Friend*. The two corruptions were the prime trinitarian passages in the Bible, 1 John 5:7 and 1 Timothy 3:16. Newton also composed a third letter about some twenty-six additional passages, all lending support to trinitarianism, that were corruptions too. . . . Although Newton presented the discourse as the mere disclosure of a pious fraud and not as a theological discourse, it is hard to believe that anyone in the late seventeenth century could have read it as anything but an attack on the trinity (Westfall, 1993, pp199-200).

It is of interest to note that Newton's struggle over the Trinity apparently stemmed from his amazing mathematical mind leading to a need for mathematical accuracy, as Brett has noted. Could it be as simple as  $1 \times 1 \times 1 = 1$ , a formula which an accurate understanding of the Trinity would require?

It is difficult for the analytical, logical, mathematically-inclined mind to reason the paradoxical. And yet the Scriptures of Christianity are replete with paradoxical principles meant as guides for Christian living. If the Trinity is to be rejected on the grounds of irrational formulas then surely *these* notions would cause the inquirer trouble:

- See unseen things (2 Corinthians 4:18)
- Conquer by yielding (Romans 6:16-18)
- Find rest under a yoke (Matthew 11:28-30)
- Reign by serving (Mark 10:42-44)
- Made great by becoming small (Luke 9:48)
- Exalted by becoming humble (Matthew 23:12)
- Become wise by being fools for Christ's sake (1 Cor. 1:20,21)
- Made free by becoming bond-servants to Him (Romans 6:17-20; 8:2)
- Possess all things by having nothing (2 Corinthians 6:10)
- Wax strong by being weak (2 Corinthians 12:10)
- Triumph by defeat (2 Corinthians 12:7-9)
- Find victory by glorying in our infirmities (2 Corinthians 12:5)
- Receive by giving (Luke 6:38)
- Live by dying (John 12:24, 25; 2 Corinthians 4:10, 11)

Thomas Jefferson, American president and notable scientist in his own right, opened his simple faith in God and His Word to doubt, allowing the Enlightenment influences of the 18th century to fill the void; and in doing so subverted his own intellectual abilities. Here we find the great author of Independence, the epitome of scholarship, the esteemed philosopher, governor, architect, and mathematician failing to recognize arguably the most basic paradox in applied mathematics which, when fully understood, allows for an understanding of the doctrine of the Tri-unity.

Consider, for example, the simple problem involving three (3) abstract entities when one enters into the realm of the paradoxical? Is it possible for three distinct and separate numbers to be as one number? NOTE: Scientifically (and experientially), this is not possible. However, mathematically it is not only possible for three (3) numbers to be as one (1), it is demanded when a certain formula is applied.

When one abstract number – the number one (1) – is added (+) to a second number one (1), and then added (+) to a third number one (1), the common formula used demands a sum of the ones, the number three (3):  $1+1+1=3$ .

However, when the mathematical process of multiplication is applied, a single abstract number one (1), times (x) another single number one (1), times (x) a third single number one (1) equals a numeric whole of one (1):  $1 \times 1 \times 1 = 1$ .

We find the notion of *three* distinct numbers *as* being *one* to be highly paradoxical, yet think nothing of it, applying the rules of multiplication in countless applications throughout the day. Mathematics can deal in – and help us in living with – the paradoxical in the finite world. Science, on the other hand, has no ground in this realm (except in its use of mathematics as just enumerated).

A *paradox* is an apparent contradiction which, in reality, conceals a profound truth! Does this aid us in finding the secret of the universe — a discovery so elusive to science?

Inductively, not dogmatically, we should find and phrase [the Tri-unity]. We should go to the sources.

It is Jesus of Nazareth who presents the threefoldness of God in the Bible. What did he say? How did he bring the presentation?

The religion of the Old Testament had taught that God is one. That was a new message, a startling emergence, amid the sea of surrounding polytheism. Then, after many centuries, Jesus came, and began the presentation of God as three in one. . . . In all his teaching and preaching, and in private conversation, Jesus constantly spoke of his Father and himself as two distinct persons, and yet declared equally "I and my Father are one," even naming himself first!

At another time he said, "He who has seen me has seen the Father." On one occasion he is quoted as declaring "All things have been delivered unto me by my father; and no one knows the Son, except the Father; neither does anyone know the Father, except the Son, and he to whom the Son wills to reveal him."

In his last and longest recorded talk with his disciples, in the upper room, the evening before his crucifixion, he said, "The Holy Spirit, whom the Father will send in my name, he shall teach you all things, and bring to your remembrance all that I said unto you." Not many minutes later, in the same conversation, as he and the disciples walked out from the city to Gethsemane, before his betrayal, it tells us that he said, "When the Comforter is come, whom I will send unto you from the Father, even the Spirit of truth, who proceeds from the Father, he shall bear witness of me." In his last command he directed his disciples, wherever they should win men, to "baptize them into the name of the Father, and of the Son, and of the Holy Spirit," a name, but a threefold name. In these sayings he of course claimed to be God. That was why they crucified him. The fact that throughout his recorded ministry he made that claim, and that this assumption appears in everything that he said, is the basis of all the rest of the Biblical presentation of the threefoldness of God.

A third also is everywhere in the Bible represented as being God, and in the New Testament churches was treated, listened to and obeyed as a Divine Person. He is named there "the Holy Spirit," or simply in many cases "the Spirit." He is also called "the Spirit of Jesus." The Spirit was "sent,"

Jesus said, "by the Father," and was sent "in the name of the Son," and "by the Son, from the Father." Indeed everywhere in the New Testament each one of these three is represented as being God.

The thinking of many centuries has formulated the data found in the words of Jesus and the New Testament. It presents in logical form a thing so extraordinary and so mysterious that one may naturally question whether the threefoldness in the physical world can really have anything in common with it. (Wood, 1936, pp25-26)

To the finite mind, this formula, three in one, represents the absolute and ultimate paradox — an antinomy due primarily to our limited knowledge, understanding, and faith. But fortunately, we do not suffer from limited resources. In many ways revealed Scripture — and much of what we see even in the natural world — may seem contrary to common sense; and yet, for philosophy's sake, perhaps they are true. The wisdom of the Bible and the discoveries of true science in no way contradict each other; and both need be used if Man hopes to probe the depths of philosophical inquiry.

The essence of the Tri-unity means that each One is the Whole. If God is Three in One, each One of the Three is God, and each One is the Whole of God. It should be obvious where that logic leads us. There is no ambiguity here, no obscurity, no elitism. This basic understanding to the secret of the universe and the functional scope of God is available to all who seek it.

It is very clear that, as personal beings, Father, Son and Holy Spirit are represented as three things which God *is*. In other words, they are pictured as three modes of *being*. They do not mean primarily three ways in which He acts, three modes of action or manifestation, although of course if they are three things or persons which He is they present three ways in which He acts. But primarily, if God is Father, Son and Holy Spirit, it means three things which He *is*, or *three modes of being*. (Wood, 1936, p27)

There are basic matters to consider beyond modes of being when considering the personage of God. Consider, what is the source and process of the Godhead, and how is the Godhead manifested individually and universally:

In the Scripture the *Father* is represented as the *Source*. The eternal *Son* is "*begotten, of the Father*." "The eternal *Spirit* "*proceeds, from the Father, through the Son*." Jesus said, "the Spirit whom I will send unto you, from the Father," and "the Spirit whom the Father will send in my name." This relation is mysterious, but emphatic.

In that extraordinary Triunity of Scripture *the Father is unseen*. He reveals Himself in the Son. "No man has seen God. The only-begotten Son, who is in the bosom of the Father, he has revealed him." *The Son is the visible embodiment of the Father, and of the Godhead*. "He, being the express image of the Father," — "In him," the Son, "dwelleth all the fullness of the Godhead bodily." *The Son acts*, He does the things which are done. He creates. It is he who becomes Man. It is he who dies, and who rises. It is he who raises the dead, and who judges. The Son, the Scripture says, works now among men through the Spirit. *The Spirit, like the Father, is unseen*. He reveals the Son. That is His chief work. And He reveals the Father, in the Son. He works unseen, in other beings, as for instance in man. This is the presentation by the Bible. (Wood, 1936, p28)

Now, as a testimony to the correct understanding of God and His manifestation to Man, we have Christ, God incarnate; and then we have Man. Obviously, in this understanding of the Godhead, Christ is the link, the bridge between God and Man. It is He who is, and was, the fullness of the Godhead bodily.

Christ gives personal testimony of the Tri-unity of the Godhead. But how does Man give evidence of the Tri-unity of God and the universe? Can human experience give us a clue here?

There is a more wonderful universe than that which we know as the outer world. It is the inner universe. It is the world within our own souls. You may call it human life, or personal being, or humanity. It is the universe of human experience.

Of what is human existence constituted? The answer to this question cannot be found by plunging into subtleties of metaphysics or psychology. Those are not broad and simple. Nor are speculation, no matter how brilliant, to be classed among self-evident things. The answer is to be gotten rather by standing off and looking at human life in its most obvious, everyday aspects. There we shall see the broader, simpler structure of human life. Of what does human life as we know it around us, in our friends, in people everywhere, — of what does it consist?

Well, first of all, . . . here is an individual whom you know. In knowing him, you know, as distinguished from all other kinds of things, a person. He is a human being. He is a person.

That, you say, is very simple. So it is. But that is what we want. It is simple, and broad too, and obvious, and fundamental. Here then is an individual whom you know. *He is a person.*

But that is not all, except in the very shallowest thinking, or the most thoughtless acquaintance with human beings. Suppose that you come to know this person well. You talk with him. You become intimate with him. He tells you his thoughts and feelings. You learn to know why he acts and speaks as he does. You understand his sources of action. Now you say that you know him so well that you know his very nature. We all understand this. You know all of that in him which is back of the person whom most people casually meet and know. *You know his nature.* That is another great thing, then, about personal existence. You know his nature. You know his inmost primary self.

Now another question, a very simple analysis, not at all abstract, but a matter of daily life. How do you know this person, and this nature back of the person? The answer is evident. You know him as he touches you, as his life comes in contact with your life, and influences you, and impresses you. You know him, you say, *by his personality.* We understand clearly what we mean by that. We lay great emphasis upon it in modern life. His personality is he, the person, as he touches the lives of other people. It is the only way in which you can know him. It is the person as he reaches out and influences and impresses you and others. That is a third great thing about personal existence.

Let us gather up what we know. This is what every human being is. *A person. Back of the person, a nature. In the lives of others, a personality.* (Wood, 1936, pp55-56)

As we know the human being then, by experience, we find a tri-unity in function, scope, and purpose. Man consists of person, nature, and personality. We know of God and understand Him to be, by revelation and experience, the Tri-unity — Father, Son, Holy Spirit.

How does the structure of the universe compare with this understanding of things? Can the threefoldness of God, and the tri-unity of Man, be seen elsewhere in the physical universe? How do space, matter, and time compare? And here we must be deliberate and careful because much that poses as science today is at stake.

*First, then, Space.*

Space is height, length, and breadth, — three things in one space. . . .

Are the three dimensions so necessary, is space so absolute a threeness, that without any one of the three the other two could not exist? That is readily tried out. . . . Take away height. Then length and breadth become a plane surface. A plane surface is purely imaginary. It has no actual existence. Length and breadth as a plane surface, without height, do not really exist in the world of actual things. Mathematics may imagine them. But actual space does not exist unless it has all three directions or dimensions. With any one of the dimensions missing, space becomes imaginary and non-existent, and therefore its other two dimensions become imaginary and non-existent. To give existence to any one of them all three are necessary. (Wood, 1936, p30)

Space is a tri-unity, for there is nothing in space, no point in all its breadth and height, which is not included in its length.

In a very definite sense its length comprises the whole of it. The length, it is true, does not exist without the breadth and height of space. For space does not exist unless it has all three elements. But its length clearly includes all its breadth and all its height. In a very remarkable and real sense the length is the whole. But the same may be said of the dimension or direction of breadth or side-to-side. There is nothing in space, no point in all its length and height, which is not included in its breadth, in its side-to-side direction. In a very real and remarkable sense its breadth comprises the whole of space. But the same is true of the dimension or direction of height-and-depth, or up-and-down. All of the points which make up the length and breadth of space are included in the infinite number of parallel lines running up and down in space. There is nothing of space and its length and breadth which is not included in its dimension of height-and-depth, its direction of up-and-down. In a remarkable sense the dimension of height-and-depth is the whole of space. It is true that no one of the three, — length, breadth and height, — can exist apart from the other two elements. For space itself does not exist unless it has all three. But in a genuine and remarkable sense each of the three is the whole of space. (Wood, 1936, pp31-32)

How does matter compare with the formula for tri-unity represented here, first by the Godhead, next by Man and now by space? Is it possible that matter, that second great element in the physical universe, could represent the same threefold structure?

We know the threefoldness of matter well. There is energy, the primal thing. All sciences recognize it. Then there is motion, coming out of energy, — motion of waves, of electrons, — all the universe of motion everywhere. Then there are phenomena, through which motion in its varying velocities touches the senses, — light, sound, heat, hardness, — all the multitudinous impacts of motion upon sight, hearing, touch. They are in themselves varying speeds of motion, existing wholly apart from human senses. But they touch us as light, sound, heat, hardness, texture. Does, then, that threefoldness of energy, motion and phenomena show any likeness to the mysterious, abstruse and purely spiritual Triunity presented in the New Testament? (Wood, 1936, p33)

Finally, and perhaps of greatest relevance to our discussion here, how does time compare with the formula for tri-unity, represented first by the Godhead, next by Man, then by the physical universe made up of space and matter? And herein is where the real challenge in logical constructs lies. The reader will need follow closely.

The difficulty would appear when time is considered a dimension of space. And further, we who inhabit this planet know experientially of time; but we also know through revelation of eternity. Time is an ever constant reality but how is it dealt with intellectually, philosophically?

To begin with, we know that time consists of three things, and they are, most simply put, past, present and future. There are no more than three and there can be no less.

[But] is time so essential a threeness that no two of the three can exist without the third? Clearly so. No one of the three can exist without the other two. No two of the three can exist without the third. For time cannot exist at all without all three. If there is no past, time has never existed until this instant, and a little later this instant also will never have existed. If there is no present, there is never any instant in which time exists. If there is no future, time ceases now, and indeed ceased long ago. Without any one of the three, time cannot exist. It is an absolute threeness. . . .

It seems incredible that there could be yet another triunity in the physical world which should fulfill that almost impossible and spiritual condition. But does not each element in Time, — future, present and past, — include all of Time? *All of Time is or has been future.* The future includes it all. *All of Time is or has been or will be present.* The present includes it all. *All of Time is or will be past.* The past will include it all. At the beginning all Time is future. Between, all Time is present. At the end, all Time is past. Each one is the whole. They are as wholly one as that one is wholly three. It is an absolute triunity. Triunity could go no further. (Wood, 1936, p41)

. . . . .

In many ways, Einstein's genius seems more inspired by his own burning, personal obsession to find the essence of "God," than by a desire to advance science. His brilliance was focused upon answering questions dealing with the essence behind all, rather than the substance therein.

The two most elementary ethereal aspects of the universe, space and time, gave Einstein the most difficulty: How do you account for "nothingness" which pervades the universe and has an obvious presence; and how does one reconcile time notions with those of eternity. In other words, omnipresence and eternal life would, of necessity, mandate an omniscient mind in order to comprehend such notions for the finite being.

Brilliant though he was, and genius at that, none-the-less Einstein was not omniscient. I think it is fair to point out here that, no matter how hard we might try, no individual, nor any pool of knowledge on the human intellectual level can provide us limitless awareness, infinite understanding, and boundless insight.

That is not to say that we should stop inquiring, stop learning, stop praising the majesty of God as seen in and through His Creation. We should use our mental capacities and our natural inquisitiveness to explore and expand our horizons; but in the name of intellectual honesty, we, at the same time, must humble ourselves in order that we might accept and appreciate our own limitations.

Failure to approach inquiries of the profound with a clear understanding of our limitations can only lead to extreme frustration — the type seen in the bizarre discourse offered by Stephen Hawking in his book, *A Brief History of Time*. We must recognize that our mental horizon is limited at the threshold of space and time because these are entities which transcend our limited awareness, our finite understanding and our insightful boundaries.

Einstein experienced this frustration, and in apparent desperation adopted a notion which, in today's parlance would be called a "cop-out." Seeking to understand and account for space and its absolute voidness; and in trying to transcend the notion of time, he simply embraced Minkowski's four-dimensional model — space-time.

Did this intellectual fiat advance human knowledge and understanding? Hardly. Instead, it confused the picture of reality. It may also have opened the door to an element of the unseen world, which could lead to dire consequences for mankind — on the tangible level, the splitting of the atom for instance. Powerful, yes — potentially beyond measure. Beneficial, perhaps — but the potential for cataclysmic destruction on a global level is now in Man's hands!

Minkowski's concept of space-time is an attempt to lay the foundations of a unified field theory using an intellectual construct to confront and confound reality. What does space-time do for space; and what does space-time do for time?

If we take the liberty of intellectually modifying the operant structure of the universe and tamper with the threefold dimensions of space, who is to say a fourth dimension is sufficient — or even, that only two dimensions are necessary? The reality is that there are only three dimensions to space, not four and not two — no more and no less; and no person, place, or thing has ever experienced otherwise.

But what happens to time when it is emasculated? By simply intellectually attaching time to space has it changed anything and does that in any way diminish the functionality of time as we know it? By tampering with the notion of time does it not make science fictional, and give a euphoric feeling of power over present, future, and even the past.

The concept of space-time, if accepted, could well open the door to notions of "imaginary time" leading to some rather bizarre conclusions. And then, does it lead us any closer to eternity, and all that *that* would imply?

It should be noted that there is no consensus that Einstein's general theory of relativity is indeed the correct theory of gravity; after all it is only a scientific *theory*. Neither should it be assumed that his special theory is the correct theory of space, time, or space-time.

Furthermore, theoretical constructs formulated and applied to matters of space and time deal with essential elements so minute in comparison to the whole, that the inherent fragmentation of reality can only lead to confusion and frustration. After all, we are dealing with the infinitely large and infinitesimally small, as well as the eternal dimension of the present moment. Eternity is infinite time (in a limited *finite* sense — our best definition!); and there is no edge in space!

Stephen Hawking supports the model of the universe known as inflationary theory. His life goal is to link quantum mechanics and relativity, in the process formulating a unified theory of the universe. His speculations include the existence of black holes no larger than elementary particles, and multiple universes linked by tiny quantum fluctuations in space that he calls "wormholes."

Hawking (1988) also finds it necessary to suggest that in order to follow his line of reasoning one must subscribe to something called, "imaginary time."

When one actually tries to perform [the mathematical sums when combining quantum mechanics and gravity] one runs into severe technical problems. The only way around these is the following peculiar prescription: One must add up the waves for particle histories that are not in the "real" time that you and I experience but take place in what is called imaginary time. Imaginary time may sound like science fiction but it is in fact a well-defined mathematical concept. (pp133-134)

But the mathematical concept Hawking enumerates is, in fact, based on imaginary numbers!

That is to say, for the purposes of calculation one must measure time using imaginary numbers, rather than real ones. This has an interesting effect on space-time: The distinction between time and space disappears completely . . . . As far as everyday quantum mechanics is concerned, we may regard our use of imaginary time . . . as merely a mathematical device (or trick) to calculate answers about space-time. (pp134-135, the parenthetical is Hawking's)

It is difficult to comprehend the fact that some of the most brilliant mathematicians of all time have deceived themselves in such evident and fantastic manners that they would find solace in imaginary mathematics used to measure imaginary time. And when one investigates the etiology of this self-deception one finds it has all to do with the seeming difficulties inherent in understanding and accepting the Tri-unity of God.

It has all to do with origins and beginnings. Hawking (1988) readily admits that this is so.

In order to predict how the universe should have started off, one needs laws that hold at the beginning of time. If the classical theory of general relativity was correct, the singularity theorems that Roger Penrose and I proved show that the beginning of time would have been a point of infinite density and infinite curvature of space-time. All the known laws of science would break down at such a point. (p133)

And assuming that these theories *are* correct, where does that leave us? Could this be what Hawking, et al. are seeking — "In the beginning God . . .?"

## CONCLUSION

In the final sense —

How does one really name something as esoteric and intangible as this mathematical toy of the cosmo-physicist? What exactly is meant by "quantum fluctuations of empty space?" . . . [The seekers propose] that the universe is created by quantum tunneling from literally nothing into the something we call the universe. Although highly speculative, these models indicate the physicists find themselves turning again to the void and fluctuations therein for their answers." (Morris, 1994, p.b)

In discounting the traditional Judeo-Christian creation accounts skeptics have, none-the-less, been haunted with the age-old questions of origins as well as what holds *all* together and keeps order in the universe. The human mind has, since time immemorial, constructed intellectual pyramids — well-meaning and well-intended — pyramids of awe, and frequently worship. They are intellectual pyramids which are designed to deal with these basic and important age-old questions.

But these carnal pyramids are, of course, constructed upon a foundation of assumptions which are frequently spurious at best, and at worst are composed of the proverbial shifting sands. Yet, because it all sounds so rational, so pragmatic, so intellectual, so brilliant, the temptation is constant to accept the highest notion, the tip of the pyramid, as theory — theory frequently presented as fact.

Quantumness and ethereal notions currently represent the height of intellectual achievement in what some consider the field of science. If one is to abide by that viewpoint and agree with these premises than science, as a discipline, needs to be redefined.

Reality will need to be redefined. Objectivity needs to be redefined. Observation needs re-definition. A new comprehension of time must be rendered. Space must be understood anew. Mathematics must be imaginary. The Truth turns into fiction.

Mathematics supersedes reality. Predictability becomes all-powering. Mental projection is accepted as the norm and not as a variable to be accounted for and controlled in the endeavors of legitimate research.

It is not at all clear that we wish to redefine science in this way. We certainly should not do so without sufficiently examining the consequences that would surely emerge from such "progress."

History and sociology provide insights which are most relevant to our study. Compare/contrast the cultures of the West and those of the East. Consider the matter of life itself within the different cultures, and the different values that are placed on life in each "hemisphere." Consider the differences in social structure, governance, human growth, development, and opportunity. Does science play a role in such things?

Consider the role that science has played in our lives under the guidance of Judeo-Christian values. Think of the life and death issues that our Western cultures have struggled with over the past two centuries. Find out what happens when science leaves the moorings of Biblical ethics and enters into the realm of the ethics of the situation; or even worse, diabolical and demagogic manipulations. What has happened in the past; what could happen in the future? What role has science in all of this?

What is the difference between the notions of ether and that of quantum mechanics? In essence, there is no difference. In purpose they are the same. The quest is the same: "What is the mind of God?"

But on a deeper, and perhaps most basic of levels, who is to say that notions of ether and quantum mechanics are wrong? Who is to say that they are right? If our quest in science is to "know the mind of God" (Hawking), we must also realize, in complete humility, that perhaps *He* does not choose to reveal the totality of His creative and sustaining power to us.

Perhaps He desires for us to know and understand Him as the God of lovingkindness, judgment, and righteousness (Jeremiah 9:24); to know and understand Him as the Creator and Sustainer of the Universe — the One and Only, the Alpha and the Omega, the Beginning and the End. For us to come to know Him in his divine fullness, and not just as creative genius.

Surely we must realize that we *can* know Him, for our finite intellectual capacities have had full exposure to His Word. Within our hearts the truth of God is written, instinctively, for our faith to realize (Romans 1:19). It is given to us the choice to rest on that faith and then, having done so, even as the child grows to an adult, to increase in knowledge and understanding of Him towards the wisdom His Word affords.

Imagine for a moment our circumstances should the great minds, the profound thinkers of the world, in their self-proclaimed wisdom and elitist mentalities, with all their brilliance, gain the mind of God. Not His love and grace, nor *His* insight and wisdom — only His mind. What would be the result?

Even on basic human terms, what happens when power and personal pride co-mingle? What happens when the creative, intelligent mind forms ideas and notions without the moral constraints of lovingkindness, justice, righteousness, and mercy?

Where do the attributes of lovingkindness, justice, righteousness, grace, and mercy come from? If one knows not the Source and has not himself experienced the attributes, then how is this power which is gained to be used?

Power and pride on the human level, gained and used outside the context of God, the One who created and sustains all that exists, have repeatedly been demonstrated as being the most vicious forces imaginable. Can you foresee what would happen in the realms of the ultimate?

It would certainly do well for us to consider the mind of Sir Isaac Newton, arguably the greatest thinker of all time, the trusted guide for much of science today, and the intellectual mentor and fellow of Stephen Hawking. Newton's significance to our purpose is "discovered in that natural philosophy which comprised both his theory of the universe and his idea of its divine government (Brett, 1928, p259)." Let us not forget that when Hawking seeks to "know the mind of God," he has no acknowledged longing for a personal knowledge of the ultimate Personage behind all there is.

Indeed, as Carl Sagan notes in the introduction to Hawking's *A Brief History of Time*, the purpose of the author is to write a book about God; or perhaps about the absence of God. "Hawking is attempting, as he explicitly states, to understand the mind of God. And this makes all the more unexpected the conclusion of the effort, at least so far: a universe with no edge in space, no beginning or end in time, and nothing for a Creator to do."



Although he struggled fiercely with the Trinitarian doctrine, such a Godless attitude was certainly not in the make-up of Newton. Brett (1928) notes that,

The second edition of *Principia* contains a declaration of faith which may be regarded as the most complete and most exact statement which Newton gave of his beliefs. . . . "Sir Isaac Newton infers from the structure of the visible world that it is governed by the Almighty and All-wise Being, who rules the world not as its Soul but as its Lord, exercising an absolute sovereignty over the universe, not as over his own body but as over his work [MacLaurin]."

[Contrast Newton to the New Platonists who were] authors of "the most mystical and unintelligible notions concerning the Deity"; indicating that Newton's good sense had delivered science from all such evils (p265).

But there are those who seek the scientific intellect of a Newton without the simple, humble attitude which governed his world-view. They should learn to see in Newton's language the confession that knowledge has its limits and beyond those limits there can only be faith that asserts Divine action (Brett, 1928, p271).

[Newton, the scientist] affected religious thought by destroying the ancient tradition of the two worlds, celestial and terrestrial, and establishing the idea of law in the Universe as one and the same throughout. This led to a form of thought which at first seemed detrimental to religion but was in fact a process of purification through which men learned that the idea of God and the idea of law are not antagonistic. Since that period the work which Newton began has continued to grow and at the present time [1927] it influences the world; for every day men are learning that worship of the Creator is more than a sabbatic ritual: it is essentially a spirit of discovery and an effort to direct desire by knowledge. Newton so far surpassed the average man in his power to comprehend Nature and give her laws expression that his final convictions are of more than ordinary interest. A restatement of his views will serve to remind this generation that he found in Nature what seemed to him indisputable signs, if not actual proofs, of the skill and wisdom of a Creator (Brett, 1928, pp272-273).

There truly is something beyond the realm of normal human experience which clearly exists but cannot be measured. It isn't ether, and it can't be fathomed by quantum theory.

The Judeo-Christian Scriptures are filled with supernatural lessons; two will suffice for illustration purposes. The Old Testament book of 2 Kings records an account of the prophet Elisha being pursued by the king of Syria.

One night the king of Syria sent a great army with many chariots and horses to surround the city. When the prophet's servant got up early the next morning and went outside, there were troops, horses, and chariots everywhere.

"Alas, my master, what shall we do now?" he cried out to Elisha.

"Don't be afraid!" Elisha told him. "For our army is bigger than theirs!"

Then Elisha prayed, "Lord, open his eyes and let him see!" And the Lord opened the young man's eyes so that he could see horses of fire and chariots of fire everywhere upon the mountain! (2 Kings 6 14-17, *Living Bible*)

The New Testament of course is filled with the miracles of Jesus and the supernatural events surrounding His apostles. The Apostle Paul instructed believers concerning a world beyond the normal human senses:

For we are not fighting against people made of flesh and blood, but against persons without bodies — the evil rulers of the *unseen world*, those mighty satanic beings and great evil princes of darkness who rule this world; and against huge numbers of wicked spirits in the spirit world. (Ephesians 6:12, *Living Bible*)

Could it be that what *ether* represents and what quantum mechanics is actually exploring is this realm of existence? That Man's self-aggrandizing quest for light, and the essence that contains it could, in fact, be the ultimate darkness that Hawking finds, and proceeds to describe so eloquently. Are Hawking and quantum theory on the verge of discovering the *absence of time* and the *absence of light* — more commonly known as eternal darkness?

Consider for a moment our earthly existence, residing on a planet fixed in *space*, blessed and nourished by *light*, bound by *gravity*, and limited by *time*. In essence, this represents the natural human medium — SPACE, LIGHT, GRAVITY, TIME.

Contrast this existence with that of a black hole — "a region of space-time from which nothing, not even light, can escape, because gravity is so strong (Hawking, 1988, p183)" — SPACE, TIME, GRAVITY, absence of LIGHT!

Throughout the 1970's, Hawking focused his studies on black holes, but ". . . [I]n 1981 my interest in questions about the origin and fate of the universe was reawakened when I attended a conference on cosmology organized by the Jesuits in the Vatican." (1988, pp115-116)

With his expertise relating to black holes, coupled with his interest in the origin and fate of the universe, Hawking has discovered something; and that something is truly terrifying. It could be that Hawking has unwarily exposed Hell, and that quantum theory is unwittingly exploring it! Here is how he describes it:

The event horizon, the boundary of the region of space-time from which it is not possible to escape, acts rather like a one-way membrane around the black hole: objects, such as unwary astronauts, can fall through the event horizon into the black hole, but nothing can ever get out of the black hole through the event horizon. One could well say of the event horizon what the poet Dante said of the entrance to Hell: "All hope abandon, ye who enter here." Anything or anyone who falls through the event horizon will soon reach the region of infinite density and the end of time. (Hawking, 1988, p89)

#### REFERENCES

- Bethell, T., (1993), "Doubting Dada Physics," *The American Spectator*, August, 1993.
- Boslough, J., "Searching For the Secrets of Gravity", *National Geographic*, May 1989.
- Brett, G.S., (1928), "Newton's Place In the History of Religious Thought", *Sir Isaac Newton, 1727-1927, A Bicentenary Evaluation of His Work*, A Series of Papers Prepared Under the Auspices of The History of Science Society, The Williams and Wilkins Company.
- Hawking, S.W., (1988), *A Brief History of Time: From the Big Bang to Black Holes*, Bantam Books.
- Morris, H.M., (1994), "The Big Bust", *Back to Genesis*, Institute For Creation Research, May, 1994.
- Pelletier, K.R., (1978), *Toward A Science of Consciousness*, Dell Publishing.
- Rosenthal, S., (1978), "The Triunity of God In the Old Testament," selections from *One God. . . Or Three?*, The Friends of Israel Gospel Ministry.
- Ross, H., (1993), *The Creator and the Cosmos: How the Greatest Scientific Discoveries of the Century Reveal God*, Navpress.
- Trattner, E.R., (1938), *The Story of the World's Great Thinkers*, Carrick and Evans, The New Home Library.
- Westfall, R.S., (1993), *The Life of Isaac Newton*, Cambridge University Press.
- Wood, N.R., (1936), *The Secret of the Universe: God, Man and Matter*, Eerdmans Publishing.