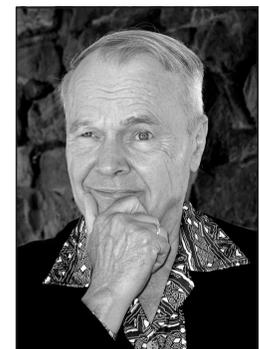


A Conceptual Key for Deeper Insights into Continuous Causation of the Reality Flow of the Universe

George L. Bate

The concordance of certain developments in modern physics – relativity, quantum physics and string theory – invites juxtaposition with the biblical view of God’s relation to the universe. Einstein’s defense of the ether concept in his major paper on that subject encourages re-thinking some fundamental issues in physics. The scriptural declaration, “Upholding the universe by His word of power,” is suggested as a key concept for interpreting these developments to couple that awesome word of power into the reality flow of the universe. New terminology facilitates the exploration of ideas for resolving some long-standing paradoxes in physics, as abstraction’s hidden light illumines the glories of God in creation. However incredible the process envisioned for Christ’s universe-upholding word of power, the higher reality flow of his life into human consciousness is far more glorious. God’s highest glory only pointed to here, this creative power channeled through his living body, the Church, inexhaustibly exceeds that displayed in all the universe of galaxies.



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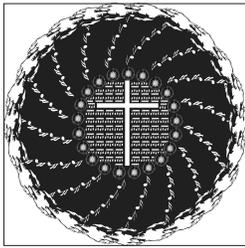
In his 1974 treatise, “The Universe as Home for Man,” John Wheeler raises profound questions. Noting the essence of the quantum principle that says no physics without an observer, he concludes: “In some strange sense the quantum principle tells us that we are dealing with a participatory universe.”¹

The language of “home for man” immediately suggests a designer and builder of that home, whose participation in the universe is no secret in the Judeo-Christian Scriptures. In the light of biblical reality, can “No physics without a *manager*” be excluded from the quantum principle? Following Wheeler and other physicists, Paul Davies identified quantum theory as providing “the most convincing scientific evidence yet that consciousness plays an essential role in the nature of physical reality.”² The scientific context limits this consciousness to that of a human observer. But on what logical grounds could the physical reality described by quantum theory be declared free of the consciousness (mind) of a personal God as the key participant?

The universe as home for humans has space as the ancient accommodation for matter. Attempts to understand space and matter knowledgeably began with the classical Greeks who pondered the mystery of matter in the presence of less tangible space. Lack of space prevents an outline here of that fascinating history. Interested readers may refer to books by Nick Huggett³ and by Henning Genz.⁴ These engaging treatments—one written from the vantage-point of philosophy (Huggett) and the other from the standpoint of theoretical physics—nicely complement each other. With minimal technicalities, both are accessible to novices in philosophy and science.

All thinking persons open to God’s participation in the physical universe can appreciate rational inquiry into that participation.

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Most of us are novices about quantum descriptions of the physical world. But all thinking persons open to God's participation in the physical universe can appreciate rational inquiry into that participation. Not an exercise in natural theology (gaining knowledge of God from nature without benefit of divine revelation), this inquiry seeks the benefits of revelation⁵ in informing and illuminating science at the level of conceptual understanding. While references to matter are unavoidable, the emphasis of ancient materialism—bolstered by modern science—on matter as primary is rejected for its inversion of reality. The focus here is on Spirit (Mind) as primary and personal, assigning to matter a secondary and dependent status.⁶

Based on revelation, this emphasis opens the way (not otherwise likely) to intuitive insights in science from the realm of plausible-but-not-experimentally-demonstrable metaphysics/theology. Such intuition may seem as gross speculation to epiphenomenalists.

Nevertheless, intuition-bred conceptual insights in science are rationally communicable and putatively fit for dialog in faith and science communities. With this goal in mind, some conceptual developments linking the reality flow of the universe to continuous divine causation are sketched in this brief study of a participatory universe.

Space/Matter from Einstein to the Quantum World View

Remarkable scientific advances in the late nineteenth century prefaced Albert Einstein's work beginning in the early twentieth century. James Maxwell's 1864 work unifying electricity and magnetism notably established light as an electromagnetic oscillation. But Maxwell's equations are mute about exactly what it is that oscillates. Maxwell speculated about an ether, which concept became supported more by imagination than by understanding.⁷

Space as modern ether bears little resemblance to Aristotle's ether, a fluid medium he invented as a fifth element—the least massive of all matter—"to assure that there could be no such thing as a true vacuum."⁸ Generally accepted by physicists following Maxwell's work, the new ether concept was

tested by the Michelson-Morley experiment in 1887. This experiment, later repeated, showed that the speed of light is independent of the direction of motion of the earth's surface, hence arguing against ether "drag." Physicists generally interpreted this experiment as the conceptual demise of an electromagnetic ether, leaving the modern understanding of space in a conceptual vacuum.

In a little known 1924 work, Albert Einstein reviewed the ether concept.⁹ Surprisingly, Einstein defends the concept, seeking to generalize Newton's absolute space¹⁰ as an ether of mechanics synonymous with physical qualities of space. At the outset, Einstein cautions that the ether should not be discussed from the standpoint of "the material ether of mechanical wave theory, which underlies the laws of Newtonian mechanics."¹¹ For abstract reasons violating the four-dimensional symmetry required by special relativity,¹² this concept of the ether as a mechanical fluid was inadmissible.

Einstein does not mention the Michelson-Morley experiment. He observes that "One could in place of 'ether' also just as well speak of physical qualities of space."¹³ He describes ether as "absolute (that is to say, independent of influences by any other object),"¹⁴ with the goal of developing the concept more rigorously—"schärfer herauszuarbeiten."¹⁵ Thus, "We will denote as 'ether of mechanics' the physically real that permeates the observable ponderable bodies in Newton's theory of motion."¹⁶ He concludes with the assertion that, apart from unlikely theoretical developments, we are not able to dispense with the concept of the ether, which he equates to a "continuum of endowed physical properties."¹⁷

Some forty years after Einstein's 1924 paper, P. A. M. Dirac echoed Einstein by calling for the introduction of "something corresponding to the luminiferous ether, which was so popular among physicists of the nineteenth century."¹⁸ Dirac briefly sketched a quantum approach that would "introduce a new picture of the ether that will conform to the present ideas of the quantum theory."¹⁹ In general, however, these views of Einstein and Dirac are not widely held among physicists today.

Max Planck introduced the quantum concept in his theoretical investigation of black-

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body radiation in 1901, followed in 1905 by Einstein's generalization to light quanta (photons) for a successful interpretation of the photoelectric effect. The world of classical physics was turned upside down as quantum mechanics became well developed by the 1920s.

In the quantum world, the ether has been replaced by the quantum vacuum, with an amazing new meaning. Genz provides a definition of the quantum vacuum:

Today, this is the way we define the [quantum] vacuum: It is the remnant left over in a volume out of which we have removed everything that can be possibly taken out. The existence of electromagnetic zero-point radiation implies that the vacuum still contains photons, the carrier particles of the electromagnetic field. The photons fluctuate into electron-positron pairs; that means that their fields also don't vanish in the vacuum. And so it goes for all the fields of all the other particles in our particle zoo—All of them swirl around in this emptiest of all spaces, in all imaginable configurations, and for the briefest of time only ... The excitations of the vacuum come and go; they oscillate, they fluctuate. It is not easy to conjure up imagery vivid enough to do justice to the fluctuating vacuum.²⁰

This turbulent frenzy—referred to as *quantum foam*—in the ultimate fabric of space is not thought to be detectable above distances larger than about 10^{-35} meters, the so-called Planck distance (length).

The promising validity of string theory... contributes to a modified view of the quantum vacuum consistent with the conceptual key to a different reading of the substrate of material reality.

The most recent theoretical developments bearing on the nature of matter are the partial successes of (super) string theory. According to string theory, sub-microscopic loops of strings have resonant frequencies that produce material particles and their forces, in analogy to the resonant vibrations of strings in a piano or violin. Brian Greene explains:

Each elementary particle is composed of a single string—that is, each particle is a single string—and all strings are absolutely identical. Differences be-

tween the particles arise because their respective strings undergo different resonant vibrational patterns. What appear to be different elementary particles are actually different “notes” on a fundamental string. The universe—being composed of an enormous number of these vibrating strings—is akin to a cosmic symphony.²¹

This cosmic symphony plays throughout the universe! How remarkable that in string theory we can belatedly hear the overture of Jonathan Edwards' amazing declaration over two centuries ago: “God hums the tune of the universe!”

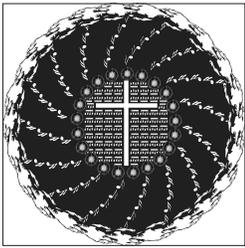
In any case, a significant advance of string theory is the replacement of point particles by vibrating string loops (and higher dimensions of vibration). In this way, the promising validity of string theory²² also contributes to a modified view of the quantum vacuum consistent with the conceptual key to a different reading of the substrate of material reality.

Probing Century-Old Mysteries

The fundamental postulates of Einstein's special theory of relativity declare that absolute, uniform motion cannot be detected; and that the speed of light is independent of the motion of the source. By inference from the first postulate, the speed of light is also independent of the motion of the observer.

Here are great mysteries. How can the speed of light be the same for all sources and observers, regardless of their motion? Since light definitely has a wave property, how can it propagate through pure nothing where there is nothing to wave? Or if in fact a medium exists through which light and all material objects move, why is it that absolute, uniform motion of material objects relative to that medium cannot be detected? Is there an alternative explanation that will resolve these mysteries, yet remain consistent with the results of the Michelson-Morley experiment and with the fundamental postulates of the special theory of relativity? Let me suggest a possibility.

Suppose that particles or objects in motion are *instantaneously at rest* in the invisible medium through which light propagates. That is, motion is achieved not by the transport of particles or objects of fixed material content (as in Newton's space-as-container model²³), but by the successive materializations one instant after another of the properties of the particles or objects in question at centers of activation along the path of motion (as in Descartes' relationism modified to view all space as “latent” matter, and where all matter materializes in space²⁴). Since, in this view, matter at any given instant is not moving relative to the medium giving rise to its momentary materialization, it follows as an immediate consequence that absolute, uniform motion could not be detected.



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Most importantly, since all matter is posited to be instantaneously at rest in the medium through which light propagates, all observers would measure the same speed for light, regardless of their motion or that of the light sources. Thus the constancy of the speed of light becomes the abstract key for abandoning the concept of physical objects moving by transport of material substances as commonly understood. To pursue further explanation of long-standing mysteries, additional conceptual modifications are proposed with the help of new terminology.

Re-Assessing Space and Motion: Of Chormate and Strixels

The Michelson-Morley experiment laid the ether to rest, perhaps on the basis of an inadequate understanding of space and motion. The quantum vacuum was unknown at the time, not to appear until the better part of a century later. To avoid possible linguistic confusion and circumnavigate the controversies of the past, the word *chormate* (as in kor'-mate)—Greek $\chi\omicron\rho\omicron\varsigma$ (space) and $\mu\eta\tau\eta\rho$ (mother) with a slight contraction for smoother pronunciation of a two-syllable word—is proposed. Chormate is the substrate of our universe characterized at least by the properties of the quantum vacuum. Conceivably, chormate consists of linked string loops forming an elastic network that supports the propagation of light. Each loop is available for momentary materialization into a particle.

The “mother” root of chormate has a double meaning: mother as precursor to space, and from whose womb material existence springs. Chormate more than meets Einstein’s ether criterion of “the physically real that permeates bodies in Newton’s theory of motion,” being as invisible as the string loops (in string theory) comprising it. More than Einstein’s “continuum of endowed physical properties,” chormate is the matrix of instantaneous materialization that endows matter with physical properties as described in the next section.

On metaphysical/theological grounds, I do not believe chormate should be pantheistically confused in any way with the being of God who created it. Presumably chormate

came into being as a created entity prior to the “big-bang” and is still expanding.

By postulate for maximum intelligibility, chormate is a three-dimensional grid of linked string loops with tensile properties appropriate for the propagation of light. Each of the strings may be “plucked” for momentary materialization. The site in chormate of a particular loop being materially activated is called a *strixel* by an analogy given in the next section. Since string loops have been estimated to be of the order of 10^{-35} meters, this distance may serve as an estimate for the size of strixels. In the absence of matter, chormate is in its passive state, without observable material properties. In the passive state, chormate may be agitated with the constant turbulence of quantum foam.

Since all matter is in motion, no sooner does a given region of strixels flash with loops “plucked” into materialization than the whole ordering collapses in that region and must be re-established in the next instant in a nearby region of strixels. In between instants of materialization, matter exists as its energy equivalent in transfer between strixels. Chormate may be associated with the zero point field, conceived in contemporary quantum physics as a boiling cauldron of quantum potential and unmanifest energy.²⁵ Between strixel activations, a particle exists in a state of unmanifest energy. The equivalence of matter and energy as related by $E = mc^2$ naturally follows as a qualitative concept from the unceasing activation and de-activation of strings in producing matter in motion.²⁶

The propagation of light in chormate is unique in that its wavelike property involves loop displacement (in a very stiff medium) but not activation. By further postulate, only at activated strixel sites does light become grainy or particulate in the form of photons interacting with material particles instantaneously at hand. While the speed of light is absolute, all other motion of ordinary objects remains relative to observers.

Passing to the macrocosmic domain of solar-system planets, for example, their sun-centered motion is an awesomely dynamic process. The earth in particular is moved in chormate by transport of its form via materialization at enormous numbers of strixels from one instant to the next. In this model,

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ether drag is effete language without meaning. The mechanism of successive materializations within chormate denies the possibility of a drag force. Thus the earth and all the planets move about the sun without any apparent drag effects, in keeping with the observed data.

A conceptual key known for nearly two thousand years suggests that the fantastic power of ordering and control—whether in the quantum sub-world or the galactic cosmos of the universe—is not resident within chormate, but originates “outside” chormate.

A Conceptual Key to the Source of Material Reality: The Actinom of God

In the New Testament, Heb. 1:3 contains an incredible revelation of the second person of the Godhead as “upholding the universe by His word of power” (RSV). This awesome word of power is designated here as the *actinom* (contraction of the root of our word “active” with νομος, Greek for “law”) of God. The dictionary explains that “active” refers “to both quickness and constancy of action,” which are operating characteristics of the scientifically interpreted actinom, as will be seen. The law aspect of νομος appropriately points to the actinom as the source of the laws of physics that describe material form, order, and coherence in the universe.

The Heb. 1:3 “word of power” —Christ’s word, but not to be confused in this context with Christ himself—is understood here as the will of God spoken into the being and structure of all material reality, filling the universe with living potentiality for the incarnation of such spiritual beings as humans. The actinom of God indispensably undergirds material reality, and because of its roots in Heb. 1:3, Col. 1:17 and other Scripture, it is a good candidate for absolute truth. As such, the actinom of God is a proper basis for rejoicing in the glories of God as seen in creation, a seminal theme throughout the Bible.

How the actinom of God is coupled to material reality is another matter²⁷—and an unfathomable mystery. Here we pass from revealed truth to metaphysics, theology, and the modern understanding of empirically based science. Rather than metaphysics in general, a particular subset applies in this context—here designated as *theophysics*. Just as metaphysics is pre-physics not subject to experimental proof, theophysics is pre-physics incapable of empirical demonstration but is consistent with biblical truth, which therefore admits a higher order of epistemological reliability. Theophysics, then, is that theologically informed metaphysics which can assist conceptually in linking the actinom of God, which we cannot see, to the tangible material reality it produces.

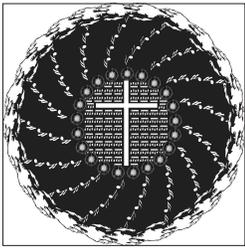
If modern science is understood from the standpoint of critical realism,²⁸ a theophysical implication follows: Considering the actinom along side scientific understanding of physical reality intuitively sheds light (however speculative) on the connection of the actinom to that reality. This juxtaposition is denoted here as the *paractinom* (par-act’-inom from *para*, Greek for “along side”)—the actinom understood (however dimly) in the light of modern science. While the paractinom is no more empirically verifiable than any metaphysical postulate, the concept may permit a more coherent and intellectually satisfying understanding of God’s great cosmos that is so expressive of his glory.

Moreover, no claim is made here for a paractinomic theory since no mathematical formalism is offered, and empirical verification is denied. A scientific theory is understood in the physics community to be essentially characterized as mathematical (however abstract) and empirically verifiable.²⁹ The present theophysical development cannot be confused with physics by claiming empirical verifiability. A caution arises from theophysics itself: If the paractinom were to be empirically verified, such verification might compel cognitive assent to the divine origin of material reality. Such intellectual coercion is incompatible with the role of faith in scriptural teaching.

The actinom of God is the will of God spoken into the being and structure of all material reality, filling the universe with living potentiality for the incarnation of such spiritual beings as humans.

As the continuing intelligent cause of all material reality, the paractinom is posited to activate string loops instant by instant, and consequently to provide the basis for all of the laws of physics. Material existence is impossible without the sustaining power of the paractinom of God. Such a view of the source of material reality is diametrically opposed to the deism that effectively dismissed God as a retired engineer after his creation of the universe.

In the paractinomic view of physical reality, motion is at the heart of instantaneous materialization. This view makes conceptually explicable the profound interlinking of space, mass-energy, and time displayed in Einstein’s relativity equations.



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A crude analogy can help visualize how the paractinom sustains matter in its endless motion. Consider television pictures formed on a monitor. As scenes of action unfold in successive pictures, nothing in the screen of the monitor actually moves. Apparent movement derives from the sweep of the electron beam as it activates, from one instant to the next, different pixels of phosphor in the screen, so that the patterns of pixel activation give the appearance of motion from one “instantaneous” picture to the next. In radical contrast to the virtual motion seen on a television monitor, the motion realized by activation of strings at strixels is real—however much the emphasis shifts to the transport of form (shades of Plato!) and pattern of coherence, as opposed to the conventional idea of material transport.

The larger the unmanifest energy of a particle, the shorter its time duration—estimated to be exceedingly small—between materializations. Suppose, for illustration, that for an electron moving at 10^6 meters/second, the time between successive materializations is 10^{-21} second. Thus the two strixels excited are separated by a distance of 10^{-15} meter, on the order of a nuclear diameter. This distance straddles about 10^{20} strixel sites. Thus successive materializations are separated by 10^{20} strixel sites. The coincidental nuclear span of 10^{-15} meter also indicates an abundance of strixel sites within nuclear dimensions for the more closely spaced materializations of nucleons and their constituent quarks.

In a single atom of moderate complexity like iron-56, for example, the degree of inner order and coherence required for the atom’s contribution to the sustained properties of a substance like hemoglobin is incredible. Inside the iron nucleus 56 protons and neutrons harmoniously buzz, accompanied by the choreographed dance of 26 electrons outside the nucleus. Since all matter is in motion, no sooner is a given set of strixels activated into materialization of an iron atom than the whole ordering must vanish and be re-established in the next instant in another set of strixels for the “transport” of the iron atom. The amount of information processing required in such short time frames for a 1-centimeter displacement of a single iron atom alone may well exceed the combined power of all the computers in the

world, granted sufficient speed and time resolution. Compound this situation with the enormous complexity of a living red-blood cell containing many iron atoms, and the genius of paractinomic management of reality flow staggers human imagination.

An immediate consequence of the paractinomic process—the momentary materialization of particles at strixels in chormate³⁰—is the inherent fuzziness of matter predicted by quantum mechanics at sufficiently small distances. If a moving particle materializes from strixel to remote strixel, what more natural consequence (in principle, not merely due to instrumental interference) than attempts to exactly locate the particle, while simultaneously attempting to determine its precise momentum, should be lost in a shroud of fuzziness? Pulsations in and out of the material state at very high frequencies during the flow of time must be inherently fuzzy.

Pure energy is structureless as far as we know. Yet when radiant energy is manifest in bundles called photons, these packets not only carry a discrete amount of energy, they also possess momentum and therefore have prescribed direction. This suggests that in the paractinomic view, since the momentary material form of a particle is at rest in chormate, the momentum of particles is actually carried by bundles of unmanifest energy carrying their kinetic energy as well as mass-equivalents.

Living beings have a range of autonomy in controlling the motion of objects in chormate, as well as their own. As free moral agents (biblically perceived), humans have remarkable powers of creative thought which, while at home in the material context of the brain—sustained in form from one instant to the next by the paractinom—cannot be reduced to a purely material phenomenon.

The Body-Mind Problem in a Paractinomic World

In the hierarchy of creaturely privileges, speculation on the essence of the human spirit cannot rank very high compared to the enjoyment of the proper objects of mental thought. The apotheosis of that enjoyment lies in communion with the Lord of life who fashioned our being and sustains our moment-by-moment existence. Nevertheless, if

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taken with ontological seriousness, paractinomic possibilities have significant implications for the traditional mind-body problem. The few observations shared here may at least provide alternatives to conclusions of world views closed to the actinom-of-God concept.

Thinking about our inner world can be redeemed by rising above the dispassionate abstractions of materialist thought to share the Psalmist's adoring wonder about human beings. Not only did he marvel about his physical origin in his mother's womb,³¹ he also could not exhaust the fathomless depths of his inmost being.³²

For several decades, quantum theory has attracted interest for its possible bearing on the mind and human consciousness.³³ Because the being of the human body is physically sustained by the paractinom, the implications for the human spirit are much more direct than those of quantum theory. Namely, if the paractinom recreates the human body (dynamic digestive processes, circulating blood, neuron-firing brain, and all) with new atoms and molecules every instant in its motion through chormate,³⁴ then association of the human soul with a body of static matter is an impossibility. Traditional mind-body monism is wrenched in two.

Theophysically, the paractinom concept has nothing to say about the origin, nature, and location of the human soul within the body because the soul is not known to be material in any way. Empirical science cannot define the human soul, let alone measure it. Since we perceive the paractinom through the juxtaposition of the actinom with

modern science, paractinomic understanding must remain agnostic about the soul in all its mystery, because science is silent. Revelation is a more likely source of understanding the human soul; but that revelation is not given to definitions satisfying intellectual curiosity.

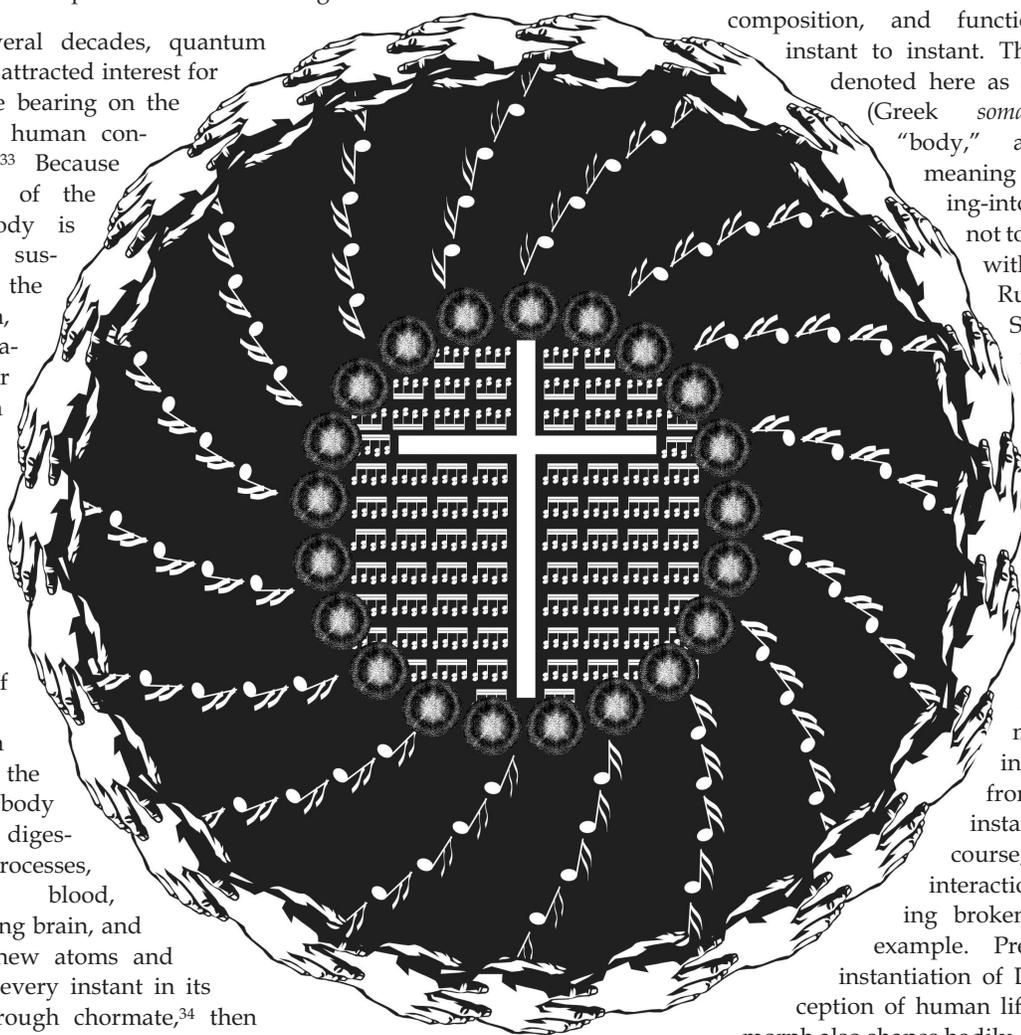
In any case, the biblical emphasis is on human beings as spiritual beings—the human spirit temporarily dwells in a tent.³⁵ Since there is no static material composition of the human body in the paractinomic view, the soul of each person may be associated with an immaterial template

that carries information about the body's form, composition, and functioning from instant to instant. This template, denoted here as a *somamorph* (Greek *soma* meaning "body," and *morphe* meaning "form coming-into-being"), is not to be confused with biologist Rupert

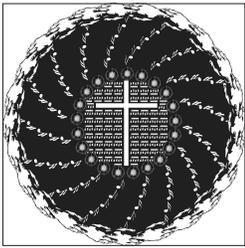
Sheldrake's morphogenic field.³⁶

The somamorph originates the continuing pattern that gives form to the body's substance as it materializes in chormate from instant to instant, subject, of course, to physical interactions producing broken bones, for example. Preceding the instantiation of DNA at conception of human life, the somamorph also shapes bodily development into adulthood and accounts for the body's aging. Not the soul, the somamorph is an immaterial template—transcending the discontinuities of instantaneous materializations in chormate—provided by the actinom for the association of soul and body while mortal life lasts.

Edgar Mitchell summarizes recent work about "Nature's Mind: The Quantum Hologram,"³⁷ which strikingly parallels the somamorph in its association of a quantum hologram with every physical object. The somamorph



Computer graphics art work by Janice Bate.



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*Bohm's
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corresponding
to the
holomovement,
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chormate into
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universe.*

may be conceived as a dynamically changing quantum hologram, however enshrouded in the paractinomic mystery of immaterial encoding. As used here, "somamorph" relates only to the human body, not to inanimate physical objects treated in Mitchell's work.

The power entailed in the paractinom's ordered control at the chormate level defies human comprehension. But a larger theophysical perspective reveals more comprehensible wonders behind material reality. In part, that larger view has been framed in a different perspective by physicist David Bohm.

The Paractinom and the Implicate Order

David Bohm, staunch anti-reductionist and defender of causality, has offered a new metaphysical system featuring the *implicate order*. He finds the source of material reality enfolded in the implicate order, which is "primary, independently existent, and universal."³⁸ This is in contrast to the traditional mechanistic order,³⁹ an explicate order "present to the senses."⁴⁰ Bohm explains:

It is the implicate order that is autonomously active while the explicate order flows out of a law of the implicate order, so that it is secondary, derivative, and appropriate only in certain limited contexts.⁴¹

Russell summarizes Bohm's view as follows:

We are to regard empirical phenomena as "explicate," the fragmentary traces of an ever-present yet hidden implicate order endowed with entirely new ontological structures.⁴²

Wholeness, movement, and flow are key concepts for Bohm. He proceeds in analogy:

order and measure [are] "enfolded" and "carried" not only in electromagnetic waves but also in other ways (by electron beams, sound, and in other countless forms of movement). To generalize so as to emphasize undivided wholeness, we shall say that what "carries" an implicate order is the *holomovement*, which is an unbroken and undivided totality.⁴³

Bohm and Peat further describe the holomovement as "the fundamental ground of

all matter ... each object or entity appears as a relatively stable and constant form out of the holomovement and into the explicate order."⁴⁴

Movement for Bohm "is in general *discontinuous* in the sense that action is constituted of *individual quanta*."⁴⁵ He devotes considerable attention to the movement of a single electron. He explains:

[It] can go from one state to another without passing through states in between. This is possible, of course, because the "particle" is only an abstraction of a much greater totality of structure. This abstraction is what is manifest to our senses (or instruments) but evidently there is no reason why it has to have continuous movement (or indeed continuous existence).⁴⁶

Frescura and Hiley, associates of Bohm's London Birkbeck School, support motion discontinuity by replacing continuity of substance with "continuity of form."⁴⁷

Similarities to theophysical concepts outlined in this paper can be drawn. Bohm's implicate order behind material reality corresponds to the will of God through the actinom for the structure and functioning of the universe. The paractinom, corresponding to the holomovement, carries the autonomously active will of God for the flow of material reality out of chormate into the explicate order of the universe. Like Bohm's holomovement, the paractinom is undefinable and immeasurable. The replacement of continuity of substance in the motion of all objects by continuity of form is a core concept in both approaches. However, while Bohm sees that "in the implicate order the totality of existence is enfolded within each region of space (and time),"⁴⁸ this abstraction drawn from analogy to the hologram has little meaning except through the actinom, to be noted shortly.

Other differences arise. The language of qualities (primary, independently existent, universal³⁹) Bohm attributes to the implicate order has religious overtones. Bohm's conception of God, which tends to be peripheral to his metaphysical understanding, has been the subject of careful study. Sharpe finds that Bohm's belief in a personal God can be deduced circuitously,⁴⁹ but Russell is more direct in his disagreement. He states:

Of course Bohm's view of nature does not necessarily imply the further premise that God is personal ... Bohm is probably closest to a panentheistic and impersonal conception of God.⁵⁰

The Bible pictures God consistently as intensely personal, whose magnificent being is love.⁵¹ Therefore the paractinom is the intelligible creativity of a personal God in the universe, in contrast to Bohm's impersonal God of the holomovement.

Russell and Sharpe pursue the ancillary question of purpose in Bohm's universe. Russell answers with a conditional affirmation⁵² while Sharpe concludes "no strong picture of a purpose for the universe shines out of Bohm's writings."⁵³

In contrast, the biblical view—the premise of the actinom—shines with purpose. It is seen both in the cosmic order⁵⁴ and implicit to the foreordination of the saints⁵⁵ as the focus of God's love (the universe as the required physical setting for the incarnation of human life).

Bohm's emphasis on human consciousness as part of his metaphysical system invites further comparison with actinom-based reality of a higher order.

Consciousness as Channel for God's Highest Creative Activity

Rare among physicists, Bohm develops insights into the supreme gift of consciousness. John Polkinghorne notes the "evolution" of consciousness as "the most significant thing that has happened in cosmic history."⁵⁶ Too complex to outline here, brief highlights of Bohm's insights serve as springboards to the biblical revelation of amazing new life flowing—through free choice of recipients' consciousness—into the universe for time and eternity.

For Bohm, "consciousness—thought, feeling, desire, will, etc.—is to be comprehended in terms of the implicate order, along with reality as a whole."⁵⁷ He develops this to mean, "consciousness is no longer to be fundamentally separated from matter,"⁵⁸ specifically that "consciousness and matter in general are basically of the same [implicate] order."⁵⁹ Thus consciousness, although a subtler aspect of matter, is a material process for Bohm.

Further, Sharpe notes: "He believes the consciousness folded into the implicate order is indivisible and that the consciousness of humanity is one. Each person displays an unfolding of this consciousness."⁶⁰ Russell⁶¹ and Sharpe trace Bohm's further developments to an infinity of levels of nature and consciousness, to a beyond, "the domain of the sacred, the spirit, the holy, God."⁶²

While Bohm's insights have validity in another context (to be addressed shortly), I believe that at face value they conflict with a biblical understanding. Theophisically, the

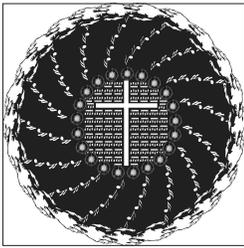
Bible does not support consciousness as a material process, however little we are given to understand what it is.⁶³ Such understanding is not required for realizing the purpose of consciousness.

The wonders of the paractinomic flow of material reality—if indeed ontologically true—pale into shadows compared to the glorious experience of the ongoing creation of new life in human consciousness. Pale because paractinomic activity, beyond humbling thoughts of its totally awesome power, is not intended for conscious awareness any more than meditation on our bodily movement through chormate at more than 67,000 miles/hour adds to the quality of life. Conscious fellowship with Christ in our inner being excels all other reality, effected through a much higher power.⁶⁴

Anchored in the somamorph, consciousness can be conceived as truly continuous, therefore "free floating" in paractinomic activity and rigorously associated with each person's body.

Some systematization may assist a clearer perception of the distinction earlier suggested about the soul: namely, *contra* Bohm, matter and consciousness are of a different order. While the paractinom upholds the material order that gives consciousness bodily support, consciousness itself is sustained by a means other than the paractinom. Granted that intimate union of consciousness (mind, soul) and body is indisputable. But it might be fairly conjectured that consciousness is more at home in the somamorph, if not least because death cannot touch the somamorph. If tied solely to the body, consciousness in the paractinomic view ultimately would consist of a stream of discrete bits of awareness. But, anchored in the somamorph, consciousness can be conceived as truly continuous, therefore "free floating" in paractinomic activity and rigorously associated with each person's body.

This distinction derives from George MacDonald's insight into John 1:3, 4: *All things were made through Him [Christ] ... That which has been made was life in Him* (RSV). According to MacDonald's fine trinitarian interpretation, all things (the physical universe) were made *through* Christ (via the paractinom in this context) in accomplishing his Father's will, but life was made *in* him, "something



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brought into being by Himself.”⁶⁵ This life, given at natural birth but made everlasting only through free choice by repentant sinners, needs a biblical name for the freely chosen life: *Immanuel life*, or *Immanelife* for short. God-with-us life begins with new birth from above⁶⁶ and, through the endless creativity of his Spirit, percolates into consciousness as Christ is formed throughout life in those choosing new life.⁶⁷

Immanelife welling up in consciousness opens practicable biblical truths, far surpassing any knowledge of physical reality, that move us from intuitive speculation to faith in assured reality of the highest order. The apotheosis of biblical truth for living began through the unspeakable agony of the God-man on a Roman cross. Incredibly, this event redeems all desiring humankind—*One died for all*⁶⁸—opening up the mainstream of human consciousness passing from the dominion of darkness⁶⁹ into a kingdom of glorious light⁷⁰ (if only dimly perceived in this life).

The incredible power in Immanelife for this darkness-to-light transition is dimly

sensed by the transformation from autonomous self-will to the joyful “Thy will be done” of servanthood, described as wondrous creativity by MacDonald.⁷¹

Immanelife necessarily is first experienced in individual consciousness. This miraculous outpouring of new consciousness is depicted by MacDonald, who rejoiced in

the splendor of a consciousness rushing from the wide open doors of the fountain of existence, the ecstasy of the spiritual senses into which the surge of life essential, immortal, increate, flows in silent fullness from the heart of hearts—what may it, what must it not be, in the great day of God and the individual soul.⁷²

Amazingly, the uniqueness of each personality flourishes in the same implantation of Christ’s consciousness in all Immanelifers. Personality, limitless in its development through consciousness in Immanelife, moves us beyond individuality in the miracle of love-merging to our true identity in fellowship with God and his children in the Church.

Immanelife welling up in consciousness opens practicable biblical truths, far surpassing any knowledge of physical reality, that move us from intuitive speculation to faith in assured reality of the highest order.

Glossary of Terms Introduced for Economy of Words and Efficiency of Explanation

- Actinom.** Name for the universe-upholding word of Christ’s power by which the will of God is spoken into the being and structure of the universe moment by moment. Hebrews 1:3, Colossians 1:17. Also see paractinom below.
- Chormate.** Space mother (from the Greek). The invisible substrate of the universe consisting of a three-dimensional grid of linked string loops (as in string theory) that supports the propagation of light. Proposed with properties of the quantum vacuum as the precursor to space, chormate sustains the instantaneous materialization of matter.
- Immanelife.** Contraction of Immanuel life (God-with-us life). That freely chosen new life in Christ imparting shared consciousness, with God first and then with others, through Spirit-nurtured growth to a true identity in fellowship with God and His children in the Church.
- Paractinom.** Contraction of *para* (Greek, alongside) and actinom. Proposed as a scientific interpretation of the coupling of the actinom to material reality by bringing science alongside the actinom in critical realism. The paractinom “speaks” matter into being by “plucking” string loops at strixels. Not a scientific theory subject to empirical verification, the paractinom is pre-physics in the presuppositional sense of establishing the laws of physics for the structure and order of the universe.
- Somamorph.** An immaterial body template used by the paractinom in directing the human body through chormate. Preceding the DNA that it forms, the somamorph guides the development of the body from birth to maturation and the aging process. Proposed as the home for the continuous flow of consciousness in the soul of each individual.
- Strixel.** Sites (beyond numbering) of instantaneous materialization of particles moving in chormate throughout the universe, by activation of string loops (as in string theory). In analogy to pixels in the coating of television screens, a strixel is to a string loop as a pixel is to a grain of phosphor.
- Theophysics.** A subset of metaphysics informed by, and consistent with, biblical truth. An axiomatic pre-physics not subject to empirical proof.

While Bohm sees individual consciousness deriving from societal consciousness, Immanelife leads to a higher order of shared consciousness in the living organism of Christ's body, the Church. Because this shared consciousness is effected through the Holy Spirit, Bohm's implication that the totality of consciousness is enfolded in individual consciousness is lovingly mirrored in each believer's relationships in the church: *That they may all be one even as We are one.*⁷³

This oneness entails the unspeakable privilege of shared consciousness: *in Christ we who are many form one body, and each member belongs to all the others.*⁷⁴ The Apostle's call, *I plead with you to be of one mind, united in thought and purpose,*⁷⁵ reveals the rigorous demands of shared consciousness in the tough climb from the actual toward the real ideal. Far from being lofty truth attainable by only select saints, the breath-taking implications for transformation of the simplest relationships open to all have been beautifully articulated by George MacDonald.⁷⁶

Immanelife produces neither perfect individuals nor perfect churches,⁷⁷ although those outcomes are its constant motivation. The fragmentation that Bohm laments is no stranger to the very world where unity of shared consciousness has its greatest power of enablement. Immanelife thrives in self-denial and obedience to him who calls us into the valleys of life, where it is "neither beautiful, poetic, nor thrilling," for the (humanly) impossible task of lifting up valleys and bringing mountains low.

If the limitless joy of God begins in Immanelife, it is boundless in scope as God enables Immanelifers in shared consciousness to grasp the multidimensional love of Christ. Remarkably, their calling to *know this love that surpasses knowledge*⁷⁸ in shared consciousness is effectuated through union with Christ, and has the incredible purpose that they *may be filled to the measure of all the fullness of God.*⁷⁹

Such fullness immeasurably transcends the fading glories of a physical universe and releases Immanelifers from mere enjoyment to the highest exaltation in conscious togetherness: *to Him be glory in the church and in Christ Jesus throughout all generations, for ever and ever!*⁸⁰ **

Notes

Abbreviations for Bible translations: *Msg*, *The Message*; *NIV*, *New International Version*; *NLT*, *New Living Translation*.

¹J. A. Wheeler, "The Universe as Home for Man," *American Scientist* 62 (1974): 683-91.

²P. Davies, *God and the New Physics* (New York: Simon and Schuster, 1983), 100

³N. Huggett, *Space from Zeno to Einstein* (Cambridge: MIT Press, 1999).

⁴H. Genz, *Nothingness: The Science of Empty Space* (Reading, MA: Helix/Perseus Books, 1999).

⁵Among many who repudiate natural theology, George MacDonald in *Creation in Christ* (Wheaton, IL: Harold Shaw Publishers, 1976) cautions that "human science cannot discover God; for human sci-

ence is but the backward undoing of the tapestry-web of God's science, works with its back to Him ..." (p. 145). Moreover, he finds that even the highest truth can be emasculated of real meaning:

The highest truth to the intellect, the abstract truth, is the relation in which man stands to the Source of his being—his will to the Will whence it became a will, his love to the Love that kindled his power to love, his intellect to the Intellect that lighted his. If a man deal with these things only as things to be dealt with, as objects of thought, as ideas to be analyzed and arranged in their due order and right relation, he treats them as facts and not as truths, and is no better, probably much the worse, for his converse with them ... (p. 145).

Personal experience testifies that hearty endorsement of these truths by no means exempts one from the struggles required to enjoy truth in its highest meaning, hard won by working into the tapestry-work of God's science with our faces toward him.

⁶Ultimately anchored in the Judeo-Christian Scriptures, the primacy of the spiritual over the material is not a new tenet. Over a half-century ago, C. S. Lewis in *Miracles* (New York: The MacMillan Company, 1948) offered key considerations in familiar terminology: "The Supernaturalist believes that the one original or self-existent thing [God] is on a different level from, and more important than all other things" (p. 18). Again, "The Supernaturalist believes that one Thing exists on its own and has produced the framework of space and time and the procession of systematically connected events which fill them" (p. 20).

⁷Genz, *Nothingness*, 217. According to Genz, "[Maxwell's] theory tells us the properties of the fields described and also those of their presumed carrier substance, the ether. Seen in this way, the ether in its ground state is nothing but empty space under another name."

⁸Huggett, *Space from Zeno to Einstein*, 56.

⁹A. Einstein, "Über den Äther," *Verhandlungen Schweizerischen Naturforschenden Gesellschaft* 105, Part 2 (1924): 85-93. I could not find an English translation of Einstein's Ether paper. My heartfelt thanks to Dr. H. Michael Sommermann, professor of physics at Westmont College, for valued assistance in translating Einstein's paper. All quotations referring to Einstein's paper are from my translation.

¹⁰For a summary of Newton's concept of absolute space, see Genz, *Nothingness*, 145-9.

¹¹Einstein, "Über den Äther," 85.

¹²P. A. M. Dirac, "The Evolution of the Physicist's Picture of Nature," *Scientific American* 208, no. 5 (May 1963): 51.

¹³Einstein, "Über den Äther," 85.

¹⁴*Ibid.*, 85.

¹⁵*Ibid.*, 86.

¹⁶*Ibid.*, 86.

¹⁷*Ibid.*, 93.

¹⁸Dirac, "The Evolution of the Physicist's Picture of Nature," 50.

¹⁹*Ibid.*, 51.

²⁰Genz, *Nothingness*, 220.

²¹B. Greene, *The Elegant Universe: Superstrings, Hidden Dimensions, and the Quest for the Ultimate Theory* (New York: W. W. Norton, 1999), 146.

²²Noting an inspiring set of breakthroughs in the latter half of the 1990s, Greene sounds a note of realistic and cautionary hope:

Whether string theory is an incidental rest stop along this path [of attempting to fathom the cosmos], a landmark turning point, or in fact the final destination we do not know. But the last two decades of research by hundreds of dedicated physicists and mathematicians from numerous countries has given us well-founded hope that we are on the right and possibly final track (*Ibid.*, 20).

²³Huggett, *Space from Zeno to Einstein*, 128. Huggett provides a brief description of Newton's "space-as-container" model.

²⁴*Ibid.*, 101. Huggett interprets Descartes' approach with a critical question: "When a rock moves, does it remain composed of the same matter, or does the matter stay behind so that the properties move and become attached to successive pieces of matter?" This is breathtakingly close to the proposal here, which answers the

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question thus: The properties of a rock move from one site of materialization to the next, not leaving matter behind or becoming attached to successive pieces of matter, but framing the rock at any given position by instantaneous materialization.

²⁵Genz, *Nothingness*, 283. The field most pertinent to the quantum vacuum is the Higgs field, a concept of abstract symmetry-breaking. According to Genz, the vacuum state is the ground state of the universe, for which the total energy is zero. Also see p. 289.

²⁶In the Einstein formula for mass-energy equivalence, E is energy, m is mass, and c is the speed of light, all in consistent units.

²⁷This phrase illustrates the advantage of using *actinom* in preference to the biblical *logos*. In John 1:1, *logos* refers to Christ. *Actinom* has a narrower meaning, having to do with the activity of the *logos* in relation to the reality flow of the universe. It might be mentioned here that the basic concepts presented in this paper were developed, in my ignorance, independently of much of the relevant literature. Parallel consequences described in the literature, none of which is explicitly stated as derivative from the *actinom*, were discovered after the fact—with grateful astonishment, I might add. Following initial reviews and circulation of the first draft of this paper, many helpful resources were suggested—particularly the writings of David Bohm, which I gratefully acknowledge. A special note of appreciation to Stacy Ake of the Metanexus Institute for alerting us, at the 2002 annual ASA meeting, to the treasures of George MacDonald's unspoken sermons—herein referenced as *Creation in Christ* (see note 5) but now out of print. After years of back-burner wrestling with mysteries in physics, the key concepts had been formulated by the time I read Genz, Greene, and Huggett (in their works earlier referenced above).

²⁸John Polkinghorne in *Beyond Science: the Wider Human Context* (Cambridge: Cambridge University Press, 1996) states:

"Realism" because it claims that science actually does tell us about the [objective] physical world, even if it does not do so finally and exhaustively. "Critical" because it recognizes the subtlety and ultimate unspicifiability of the scientific method (p. 18).

²⁹For a general discussion of theory and theory testing, see J. Polkinghorne, *Reason and Reality* (Valley Forge, PA: Trinity Press International, 1991): 23-5; and R. J. Russell, "The Physics of David Bohm and Its Relevance to Philosophy and Theology," *Zygon* 20, no. 2 (June 1985): 141-5.

³⁰Other implications of the paractinomic process are too numerous to list here. In passing, intelligent design becomes a foregone conclusion, however stimulating the discovery of evidences for design in life and the universe. Miracles remain miracles; but the control of matter to manifest the glory of God—whether it be through a floating ax-head or through the torching of Elijah's sacrifice in the contest with Baal worshipers—is certainly manageable through the paractinom.

³¹Psalms 139:13, 14: *You made all the delicate, inner parts of my body and knit me together in my mother's womb. Thank you for making me so wonderfully complex! Your workmanship is marvelous* (NLT).

³²Psalms 139:1-10 has been amplified to better appreciate the sense of wonder at the awesome mystery of the human heart: "There is something infinitely more mysterious to the Psalmist than the great universe outside, and that is the mystery of his own heart. There are mountain peaks in my soul, he implies, that I cannot climb; there are ocean depths I cannot fathom; there are possibilities in my heart that terrify me; therefore, O God, search me out" Oswald Chambers.

³³Twenty years ago Paul Davies in *God and the New Physics* wrote: There is, however, a growing awareness that the [quantum] theory contains some astonishing insights into the nature of the mind and the reality of the external world, and that full account must be taken of the quantum revolution in the search for an understanding of God and existence (p. 100).

³⁴All matter on earth is in motion, not just on the micro scale. The earth's speed around the sun is only a fraction of that in which the solar system participates (intra- and inter-galactic) but is not trivial by human measure. Since Copernicus, most people not in the Flat

Earth Society have believed that the earth revolves about the sun. The average speed of that revolution is easily calculated if for convenience the earth's orbit is approximated by a circle (actually slightly elliptical) of average radius $R = 93,000,000$ miles. The earth travels the circumference, $2\pi R$, of this circle in one year. Taking the year as 365 24-hour days gives the earth's speed = distance divided by time = $2 \times 3.14 \times 93,000,000 / (365 \times 24) = 67,000$ miles/hour. Thus each person on earth moves through chormate with a speed of 67,000 miles/hour, plus or minus a small surface speed (latitude dependent) due to the earth's 24-hour rotation on its axis.

³⁵For example, 2 Cor. 5:1: *when this tent we live in, our body here on earth, is torn down ...* (TEV); and 2 Peter 1:13: *... as long as I live in the tent of this body* (NIV).

³⁶K. J. Sharpe, *David Bohm's World: New Physics and New Religion* (Lewisburg, Bucknell University Press, 1993): 66. Sharpe describes Sheldrake's morphogenic field as produced by recurring behavior that "instantaneously spreads out through time and space and directs other members of the species in question toward the same form or behavior."

³⁷E. Mitchell, "Nature's Mind: The Quantum Hologram," *International Journal of Computing Anticipatory Science*, ed. D. M. Dubois, 7 (2000): 295-312. Mitchell concludes in part, "recognition that the quantum hologram is a macroscale, non-local, information structure described by the standard formalism of quantum mechanics extends quantum mechanics to all physical objects including DNA molecules, organic cells, organs, brains and bodies."

³⁸D. Bohm, *Wholeness and the Implicate Order* (Boston: Routledge & Kegan Paul, 1980), 185. "Our proposal to start with the implicate order as basic, then, means that what is primary, independently existent, and universal has to be expressed in terms of the implicate order."

³⁹Ibid., 185. In the traditional mechanistic order, "All that is primary, independently existent, and universal is thought to be expressible in an explicate order, in terms of elements that are externally related (and these are usually thought to be particles or fields, or some combination of the two.)"

⁴⁰Ibid., 186. "We can, for convenience, always picture the explicate order or imagine it, or represent it to ourselves, as the order present to the senses."

⁴¹Ibid., 185.

⁴²R. J. Russell, "The Physics of David Bohm and Its Relevance to Philosophy and Theology," 172.

⁴³Bohm, *Wholeness and the Implicate Order*, 151.

⁴⁴David Bohm and F. David Peat, *Science, Order, and Creativity*, 2d ed. (New York: Routledge, 2000), 180

⁴⁵Bohm, *Wholeness and the Implicate Order*, 175

⁴⁶Ibid., 184.

⁴⁷F. A. M. Frescura and B. J. Hiley, "The Implicate Order, Algebras, and the Spinor," *Foundations of Physics* 10, no. 1/2 (1980): 10.

... the relative ease with which particles can be created and annihilated by being transformed from "substance" into electromagnetic energy and vice versa has long implied a denial of the basic relevance of the identity of the substance. What is suggested instead is its replacement by what we shall call continuity of form.

⁴⁸Bohm, *Wholeness and the Implicate Order*, 172.

⁴⁹Sharpe, *David Bohm's World*, 97. After declaring the holomovement God to be personal, Sharpe concludes: "The holomovement God is the source of all our objective and subjective experiences. Thus God could relate to us personally." The implications "are subjects for theology to ponder."

⁵⁰Russell, "The Physics of David Bohm and Its Relevance to Philosophy and Theology," 153.

⁵¹John 4:16b, *God is love. Whoever lives in love lives in God, and God in him* (NIV).

⁵²Russell, "The Physics of David Bohm and Its Relevance to Philosophy and Theology," 154.

Bohm is tentative about [traditional] theological implications of his cosmology. Yet as his cosmology is explored further, its theme of cosmic order could provide renewed grounds for the

intelligibility of faith in the creative presence of God in nature and a new mode of divine purpose in the world.

⁵³Sharpe, *David Bohm's World*, 91.

⁵⁴See Ps. 19:1–6, Rom. 1:20, Col. 1:16b, and Rev. 4:11a among others.

In particular, Rev. 4:11a reads: *You are worthy, O Lord our God, to receive glory and honor and power. For you created everything* (NLT).

⁵⁵See, for example, Ps. 139:16: *All the days ordained for me were written in your book before one of them came to be* (NIV); also Eph. 1:4a: *Long before He laid down earth's foundation, He had us in mind, had settled on us as the focus of His love* (Msg).

⁵⁶Polkinghorne, *Beyond Science*, 88. Polkinghorne's conclusion is fair enough, but I find his suggested path of evolution inadequate because theophically, the Bible cannot easily be pressed into conformity with the idea of consciousness as a product of evolutionary development.

⁵⁷Bohm, *Wholeness and the Implicate Order*, 196.

⁵⁸*Ibid.*, 197.

⁵⁹*Ibid.*, 208.

⁶⁰Sharpe, *David Bohm's World*, 61.

⁶¹Russell, "The Physics of David Bohm and Its Relevance to Philosophy and Theology," 153–4.

⁶²Sharpe, *David Bohm's World*, 61. See also pp. 92–4.

⁶³A principal focus of Mitchell's paper, note 37 above, is on understanding consciousness largely through information processing and the quantum hologram.

⁶⁴Ephesians 3:16, 17: *I pray that out of His glorious riches He may strengthen you with power through His Spirit in your inner being, so that Christ may dwell in your hearts through faith* (NIV).

⁶⁵MacDonald describes that life as "the thing made in the Son—made by Him inside Himself, not outside Him—made not through [as was the material universe by the paractinom] Him but in Him—the life that was His own, as God's is His own" MacDonald, *Creation in Christ*, 16.

⁶⁶John 3:7b: *You must be born again* (NIV).

⁶⁷Galatians 4:19: *until Christ is formed in you* (NIV); and 2 Peter 1:4.

⁶⁸2 Corinthians 5:14: *we are convinced that One died for all* (NIV).

⁶⁹Colossians 1:13a: *For He has rescued us from the dominion of darkness and brought us into the kingdom of the Son He loves* (NIV).

⁷⁰Colossians 1:12b: *to share in the inheritance of the saints in the kingdom of light* (NIV).

⁷¹G. MacDonald, *Far Above Rubies*, a short story now out of print and, no other sources being known, available on the Internet: www.johannesen.com/FarAboveRubiesComplete.htm: 8. "For what good is there in creation but the possibility of being yet further created? And what else is growth but more of the will of God?"

⁷²MacDonald, *Creation in Christ*, 198.

⁷³John 17:22b (NIV).

⁷⁴Romans 12:5 (NIV).

⁷⁵1 Corinthians 1:10 (NLT).

⁷⁶MacDonald, *Creation in Christ*, 185.

The man with God's righteousness does not love a thing merely because it is right, but loves the very rightness in it. He not only loves a thought, but he loves the man in his thinking that thought; he loves the thought alive in the man. He does not take his joy from himself. He feels joy in himself, but it comes to him from others, not from himself—from God first, and from somebody, anybody, everybody next.

⁷⁷The first three chapters of the book of Revelation document the sad state of affairs in some churches still under the rich guidance of the apostolic era, not to mention the problems noted in the Galatian and Corinthian epistles.

⁷⁸Ephesians 3:19a (NIV).

⁷⁹Ephesians 3:19b (NIV).

⁸⁰Ephesians 3:21 (NIV).