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# God before Time: Could Physics Reveal that God Emerged by Chance?

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Following a visit to Vatican City, Stephen Jay Gould<sup>[1]</sup> wrote that science and religion can be regarded as “non-overlapping magisteria,” in that science deals with facts and theories, whereas religion deals with values and morality, neither supporting the other. In his 1994 book, *Crossing the Threshold of Hope*,<sup>[2]</sup> Pope John Paul II perceived “the God of the philosophers,” to be far from the loving God of Judeo-Christianity in the experience of most religious people. A theological treatise by the late Rev. Sun Myung Moon, *Exposition of Divine Principle* [EDP],<sup>[3]</sup> however, asserts that science and religion are searching for an ultimate understanding along different paths that must soon unite.

Religion overcomes internal ignorance by understanding the mysterious, spiritual realm of cause, while science overcomes external ignorance by investigating the resultant world of phenomena. Thus imperceptibly, science has entered a new phase in which it “cannot achieve its ultimate goals without a theoretical explanation of the causal, spiritual world,” (EDP, 4).

This paper is abridged from a soon-to-be-published scientific study<sup>[4]</sup> and is intended to counter the current trend towards atheism, based on the spiritual significance of new scientific discoveries in particle physics and cosmology that call for a new consideration of what happened *before* the “big bang,” when the physical universe began.<sup>[5]</sup> This topic had been taboo for the last twenty years, but recently has revived. Based on a more considered philosophy of cosmic time,<sup>[6]</sup> this paper offers new insights and speculative postulates on the possible origin of God and the creation of the spiritual realm that preceded the physical universe.

Believers of all faiths turn to their scriptures for inspiration, historical information, and insights into humankind’s interaction with the spiritual world or God. Unfortunately, growing numbers of eminent scientists, such as theoretical physicist Stephen Hawking, reject the idea of a spirit realm (or heaven) as a “fairy story for people afraid of the dark.”<sup>[7]</sup> He was not always atheistic, but recently he upset Christian leaders by claiming that the universe was not created by God; and he is not alone in that view. Astrophysicist Paul Davies asserts that, given the laws of physics as they are, the big bang was a spontaneous, chance event that did not require the involvement of God.<sup>[8]</sup> Davies accepts that the laws of physics may have been created by God, but he disdains the idea of miracles or any need for God to “prod fitfully” at his creation.<sup>[9]</sup> The accumulation of secular scientific knowledge and theories, such as the dogma of Darwinian evolution,<sup>[10]</sup> undermines the religious faith of students on campus<sup>[11]</sup> and turns young scientists into atheists. Just as rational explanations are given in *Divine Principle* that answer many atheistic criticisms of God,<sup>[12]</sup> this paper reveals common ground between science and religion and offers new postulates to encourage theistic scientific investigations.

## Ontology and Teleology

Although for Unificationists, God is the parental Holy Spirit with a loving heart, emotion, intellect and will (EDP, 37), it is not universally accepted either that God exists, or that he is compassionate or intimately aware of our day-to-day lives. Scientific discoveries in physics, astrophysics and biology, especially Darwin’s theory of evolution, are often invoked to undermine teleological evidence for intelligent design in nature that otherwise, for believers, affirms the existence of God (Romans 1:20).

In modern Poperian philosophy,<sup>[13]</sup> of course, there can be no absolute ‘proofs,’ only negations, but we can at least acknowledge acceptable ‘affirmations’ that God exists. Aristotle’s argument for God as the Original Cause arose from the conclusion that there cannot be an infinite causal chain, so there must be an original source of causality, or ‘Uncaused First Cause’ (EDP, 18). Abu Ali ibn Sina extended this affirmation in his

‘proof by contingency,’ noting that created entities are, of necessity, composite bodies consisting of many elements (now called atoms). All contingent entities, he argued, must be inferior to their intelligent creator. The Ultimate Reality, therefore, must be the original, necessary, non-composite entity, existing in the simplest form.

Teleological affirmations that God exists are based on evidence of intelligent design by the divine creator (God) from any one of three major categories: (a) atomic; (b) biological; or (c) cosmological, invoking perceptions of beauty, order and purpose in nature. All of these are examples of what St. Paul implied in Romans 1:20. In contemporary science, these three categories include: (a) the physics of fundamental atomic particles; (b) the biological diversity and beauty of nature, especially the extreme complexity of the simplest living cell; and (c) the amazing cosmological phenomena of the physical universe and implications of the big bang that are discussed later in this paper.

The Neo-Platonism of the Roman philosopher Plotinus (AD 205-270) perceived Ultimate Reality to be an indescribable being of primary simplicity called “One,” about whom it is more truthful to say nothing and remain silent. As in Indian philosophy, the One is the impersonal Brahman, and does not exist in the same sense as created things. In moments of divine ecstasy the One can transcend primal simplicity and become accessible to imperfect beings such as humans. Yet the One is not just another being; rather it is the essence of being itself, everything and yet nothing (no-thing).[14] The concept that God is one deity was at the core of Judaism since ancient times, as proclaimed in the invocation, “Hear O Israel, the Lord our God, the Lord is One!” (Deuteronomy 6:4).

*Exposition of the Divine Principle*, the Principle of Creation in particular, explains much that is not revealed in the Bible about God and why he created the universe. It teaches that God possesses dual characteristics in which both yang (masculine) and yin (feminine) characteristics are harmonized. Thus Heavenly Father (yang) and the Holy Spirit (yin) are together, ‘two-in-one,’ but still one deity. Furthermore, God expressed his dual characteristics in all things. Fundamental particles exist as both positive and negative (or a neutral harmony of yang and yin). Plants, animals and human beings are either male or female. So God’s dual characteristics are mirrored in everything he created, from smallest to largest (EDP, 16).

The Christian doctrine of the Trinity, which claims Jesus as a third divinity, in effect suggests that God is “three-in-one.” Arius of Alexandria (AD 256-336) however, argued that although Jesus possessed divine nature, he was not equal to God the Father and could not have existed eternally. Aspects of these many theologies, Oriental philosophy, and recent scientific discoveries, are invoked in this paper to support new postulates regarding the origin of God.

## Philosophy of Time

In order to deal with questions of what happened before the big bang, and the kind of physics that could allow the Ultimate Reality to emerge from primordial ‘nothingness’ by chance, we must consider alternate philosophies of time in Judeo-Christian theology. St. Augustine (354-430) taught that God created the universe from a void of nothing, known as *creatio ex nihilo*, [15] with time but not in time. This accords with modern quantum cosmology, which asserts that both time and space began at the big bang. The idea of creation *ex nihilo* can be inferred in two ways, depending on our philosophy of time.

Christian theologians such as Jonathan Safarti assume Augustine to mean that God created time but exists outside of time and is not a temporal being. Safarti contends that the question, “who created God?” therefore, is illogical. If the Uncaused First Cause originally existed outside of time, he had no ‘beginning’ in time. Thus God has always existed and does not need a cause. [16] Likewise Jews, Christians and Muslims say that God is eternally self-existent and did not need to be created. That is not necessarily a correct interpretation of Augustine, and is certainly not enough to satisfy the rational demands of scientific thinkers, who now claim to have a library of scientific evidence, mathematical models, and theories to justify their denial that there was ever any need for God in the natural scheme of things. [17] Safarti’s theology seems to avert scientific scrutiny, but it is not convincing to atheists, nor is it supported by some theists, who have a different philosophy.

The Christian philosopher William Lane Craig [18] asserts that God is a temporal being who is sensitive to cosmic time. He advocates the “Type A, tense theory” of time, in which there is a past, present and future, but only the present is real. The future is only potentially so, and is not absolutely pre-determined. With respect to God’s transcendence, we can believe that God does not always and everywhere experience time in the same way that we do, and is not confined to one specific realm of space-time, as we are. This ultimately implies,

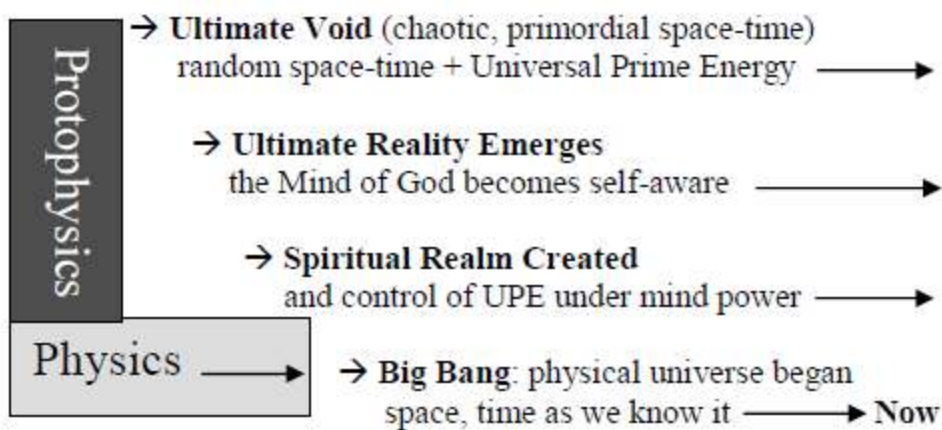
however, that God must have had a beginning in cosmic time. The Apostle Peter said: “With the Lord, one day is as a thousand years, and a thousand years as one day” (2 Peter 3:8). It is not at all obvious, however, that God actually created primordial space-time, although he must have gained control over it, just as we have learned to gain control over our physical environment. So, God can concentrate his attention in specific domains of cosmic space-time, but he cannot go back in time and change the past, or leap forward and predetermine the future.

While science can support the concept that God created the universe *ex nihilo* (out of nothing), it does not necessarily follow that he also created the primal “nothing” that was there originally. We think of “nothing” as the absence of matter, as in the vacuum of space, but empty, primordial space-time constituted four basic dimensions of primal “nothingness” that existed even before God. The vacuum of space is now known to contain the powerful Higgs Energy Field,[\[19\]](#) the origin of which is as mysterious as the origin of God himself. It is considered later in this paper.

The alternative philosophy of time is that God created the physical universe with time, not in time, but did not create primordial time itself. Energy in the physical realm cannot be created or destroyed, but it can be converted from one form to another. We have learned how to control and convert energy in our environment, so it is reasonable to deduce that God learned how to control primordial space-time and the prodigious energy that fills it.

Until quite recently cosmologists and astrophysicists believed that there was no time before the big bang, because time did not exist then—implying that the concept of time ‘before’ the big bang was meaningless. They contended that relativity theory destroyed the classical concept of time and the idea of temporal becoming. Even so, Isaac Newton (1642-1727) and Gottfried Leibnitz (1646-1716) both perceived that time is not absolute, and that its duration is defined by change and movement. If time were to stop, then all motion and all change would cease as well. Thus it is not possible to create anything if time stops. “Creation” implies something changing, which further requires that duration of time must occur.

**Figure 1. The Main Realms of Cosmic Physics**



Anecdotally, most religions believe that God’s original realm of existence preceded the spiritual realm, which in turn preceded the corporeal physical realm of ordinary matter (EDP, 4).[\[20\]](#) The primordial, causal realm must involve different laws of “physics” and forms of energy that we cannot yet properly conceive of. Given the rational feasibility of the Divine Principle, we should accept the possibility of a spiritual realm, such as what people have believed in for thousands of years. However, the term “metaphysics” (meaning “after physics,” from Aristotle), though poetic, does not appropriately describe the spiritual realm that preceded the physical realm, nor the original realm of the Ultimate Reality that came before (in extrapolated cosmic time), not after, physics as we know it. We need to define a new field of study in physics, more appropriately called Protophysics, to describe the chaotic Ultimate Void, the primordial space-time that existed before God, before the spiritual realm, and definitely before the big bang singularity[\[21\]](#) about 13.7 billion years ago when the physical universe was created. This is illustrated schematically in Figure 1.

Time is not absolute but is relative to observers,[\[22\]](#) and yet notions of time before the singularity occurred, and thus outside the limits of our universe, were, until recently, said to have no meaning.[\[23\]](#) Even so, cosmology theory allows that many “alternative universes” could be formed from other singularities like our big bang, but with different physical laws, and there is no known reason why they should not emerge at different ‘moments’ in cosmic time. For religious believers, however, the idea of “other universes,”

dimensions or domains is interpreted to include the spirit world or spiritual realm—part of which is regarded as “Heaven.”

## What Happened Before the Big Bang?

Scientists and theoretical physicists at Oxford and Cambridge, UK, and at several universities in the USA, have begun theoretical investigations based on mathematical models that address the status of primordial space-time, before the big bang and the possible physics of former universes.<sup>[24],[25]</sup> This acknowledges that the topic is philosophically open for discussion again and is no longer a ‘scientific taboo.’

Theists believe that “former universes” include the spiritual realm. These, therefore, could have a different timescale relative to us, perhaps millions of years older. If an alternate universe were 120 million years older, its likely age in our extrapolated (local) timescale would be ~13.82 billion years. However, its relative timescale compared to ours would not necessarily be linear; in fact it most probably would not be. Furthermore, the relative rate, or pace, of time in that universe could be quite different. Slight changes to the relative time and rate of change of time, not to mention entirely different laws of physics, in these alternate universes, therefore, could describe different levels of the spiritual realm, such as Purgatory, Paradise, or Heaven. These are realms that spiritually gifted people, whom we call mystics, already know exist by virtue of their direct experiences.

Our new scientific term, “Protophysics,” is concerned with what happened before the big bang and what caused the laws of physics to be what they are. It is naturally theoretical and speculative (EDP, 4), but it is also rational and involves those realms of the cosmos that we believe to exist yet do not yet fully understand. There can be only one Cosmic Physics that involves a complete understanding of space, time and energy at every level of the cosmos, but it may take humankind thousands of years to understand it all. Protophysics implies that the realm in which we exist is but one level of the total cosmos that originally allowed the emergence of God, as illustrated in Figure 1, above.

Current scientific thinking is that our universe came into existence by pure, random chance,<sup>[26]</sup> and that life, with its amazing powers to self-replicate (extremely improbable though it was), emerged as functioning cells, by random chance, over billions of years.<sup>[27]</sup> From basic cellular beginnings, life-forms supposedly progressed by Darwinian evolution, through random mutations and natural selection<sup>[28]</sup> to reach the higher life forms that now exist. This current level of scientific opinion, of course, largely supports atheism. In order to overcome the growing trend among scientists to disdain any idea of a spiritual realm and reject God, scientists and scholars who support theism need a rational, scientific explanation of how God came to exist. To this end, the following postulates suggest a new philosophical approach to solve this problem.

## New Postulates to Counter the Trend towards Atheism

We cannot prove the existence of God absolutely because we do not know the nature of God’s original realm. Yet atheists cannot prove that God does not exist either. The Ultimate Reality does not have to exist in a physical form composed of matter. This is clear enough from Einstein’s famous equation from his theory of Special Relativity,  $E = mc^2$ , which implies that particles of matter are like energy encapsulated, or “contained” energy, and that matter and energy are transmutable. In that equation, the symbol  $m$  is mass in kg, and  $c = 2.998 \times 10^8$  m/s is the velocity of light. If the non-corporeal spirit realm does not contain matter, it must consist of some kind of “mind energy.”

For those believing in God it is no good saying to avowed atheists that we have evidence to affirm God’s existence unless we can answer their favorite retort, “If God created the universe, then who created God?”<sup>[29]</sup> It is not enough to say, “God is eternally self-existent and did not need to be created.”<sup>[30]</sup> Atheists now think they have enough scientific evidence and a convincing theoretical model to justify denying that God created the beauty that is observed in nature.<sup>[31]</sup> It is necessary to counter atheism with daring new postulates that challenge the atheistic viewpoint with viable scientific ideas.

### *First Postulate*

Just as atheists claim that random, chance events are a vital factor in the incredible creativity observed in nature, so, likewise, we may consider the real possibility, in this First Postulate: *The temporal God came into existence in primordial space-time partially by accident, as the result of a very rare event that occurred by pure chance.*<sup>[32]</sup> This speculative postulate is impossible to prove, of course, but it opens many doors worth investigating from a theoretical viewpoint.



It may be easier to show that the Embryo of God could have been created by random, chance events than to prove that the extreme complexity, self-sustaining and self-replicating ability of the first living cell, preceding higher organisms, was created by pure chance. The latter was so extremely unlikely, says Paul Davies in his book, *The Fifth Miracle*,<sup>[33]</sup> that it probably occurred only once in our vicinity of the cosmos. Even so, it may have been a two-stage process. The Curiosity Probe to Mars is currently searching for evidence of life there.

In Judeo-Christian-Islamic theology there is essentially only one God who is ‘eternally self-existent.’ The Ultimate Reality does not need sustenance in the way that we do, but in the chaotic, primordial environment where God first emerged and became self-aware (EDP, 20), he was utterly alone, and could not replicate himself.

### *Second Postulate*

We do not have to explain how God’s DNA was formed, nor what proteins sustain him. *Exposition of the Divine Principle* (EDP, 21) describes the energy that sustains God as “Universal Prime Energy” (UPE). The obvious question we must then ask is, if this energy is eternally created by chance, where does it come from? The primordial environment of God must have been, and still is, very simple or basic, not composed of many distinct elements, or else we must ask, who, or what, created them? In the 3,000-year-old East Asian philosophy, based on the *Book of Changes* (or *I Ching*), the origin of the universe is the Great Ultimate or chaotic Ultimate Void (EDP, 20), also known in Korean as Taeguk or Ultimacy, from which came the dual characteristics of *yang* (positive, masculine aspects) and *yin* (negative, feminine aspects) of all things.<sup>[34]</sup> The essence of the Second Postulate, therefore, is this: *Science must assume that the “Ultimate Void” consists of ‘nothing’ but chaotic space-time and a form of primordial energy*, like the pure electromagnetic energy that permeates the quantum vacuum of space, as does the Higgs Field. The Universal Prime Energy that the Divine Principle speaks of is directly related to that energy field. UPE must be a very high frequency vibration of enormous power,<sup>[35]</sup> penetrating everything in the physical universe without necessarily interacting with it, just as radio waves pass through us without detection. This still calls for an explanation of the origin of UPE from nothing.

### *Third Postulate*

Allied to both former postulates, it is also necessary to offer a rational hypothesis on how Universal Prime Energy came to permeate all of space-time prior to the emergence of God, and still does. Protophysics (as in Figure 1) must first offer a rational, scientific description of the Ultimate Void before God emerged, before the spiritual realm, before the big bang, and before the familiar physical realm, although the whole notion of ‘before and after’ seems inexplicable before time as we know it had begun ~13.7 billion years ago. The concept of time as a non-absolute, fourth dimension is difficult to grasp, but ever since Einstein’s Special Theory of Relativity (1905) and General Theory of Relativity (1915) theoretical physicists have become familiar with it.<sup>[36]</sup> We now regard gravity as the result of a curvature of space-time in the presence of enormous masses or intense energy. Space curvature acts like a force, providing enough energy to move planets and stars in their orbits. Thus, by the principle of reciprocity, the Third Postulate states: *If small, random curvatures or twists occurred in primordial space-time, at the quantum level, even without any mass present, those distortions would propagate an enormous energy field—UPE.*

In physics there are many principles of reciprocity, some of them highly mathematical, but we may recall an example from electromagnetism. If an alternating current is passed through a coil in the presence of a magnetic field, then a force is generated that will rotate the armature of the coil, which is known as the motor principle. In reciprocity, if a conducting coil is rotated in a magnetic field it will generate an alternating voltage that can supply electric energy in the form of an AC current, which is known as the generator principle. Likewise, in the absence of matter, if there were random fluctuations or distortions in primordial space-time, at the quantum level, these mini-curvatures of space-time would propagate a prodigious field of energy, like the Higgs Field, but without purpose.

A proven, successful theory of physics, the Standard Model of Particle Physics, led to a postulate by Peter Higgs that a heavy mediator particle called the Higgs Boson, or “God Particle,” should provide matter to other particles from the underlying Higgs Field, a source of prodigious energy filling the whole of the vacuum of space. At the 36th International Conference on High Energy Physics (ICHEP) at Melbourne, July 4-11, 2012, it was announced that scientists at the Large Hadron Collider at CERN, in Switzerland, had discovered the Higgs Boson at 125GeV, which is equivalent to about 125 proton masses, although it is extremely short-lived.<sup>[37]</sup> This very recent result also confirmed the existence of the enigmatic Higgs Field. In Quantum

Electrodynamics the energy density of the Higgs Field that permeates all of space is estimated to be  $\sim 10^{54}$  times that of ordinary matter.[38] It is a reasonable conclusion that the UPE that sustains God in primordial space-time must have supplied the Higgs Field energy that came with the big bang, and also the energy to sustain other worlds, such as the spirit world, under the control of the mind of God.

Quantum Cosmologists also know that the physical universe, which fortuitously emerged from the big bang approximately 13.7 billion years ago, is uniquely ‘fine-tuned’ to support life and last almost eternally.[39] The physical constants and the laws of physics that we know of had to be precisely what they are in order that the universe would develop ‘pro-anthropically,’[40] such that higher life-forms, like humankind, could emerge.[41] For theists, this is further teleological proof that the Mind of God created it thus.[42] Agnostic astrophysicists such as Paul Davies,[43] however, assert that, given the known laws of cosmology and quantum physics as they are, the big bang could have occurred spontaneously, such that our familiar physical universe appeared by chance, *ex nihilo*, out of nothing.[44] Consequently, atheists try to claim that God did not create the universe, but theists would claim that he did, since physicists cannot disprove that God created the laws of physics.

It is known that at the big bang almost equal amounts of matter and antimatter particles were initially produced, but within a short time most of them had mutually annihilated each other to produce pure energy. Thereafter, only a small residual amount of common matter survived to form our physical universe.[45] Some cosmologists claim, however, that our universe is not unique. They assert that its specific laws, physical constants and properties are arbitrary, and could have occurred purely by chance. This far-fetched hypothesis, derived from Quantum Mechanics, is called the Many Worlds Interpretation (MWI).[46],[47] It holds that a very large number of possible universes may exist with different laws and physical constants. Atheists also support this hypothesis, since it avoids the need for an intelligent, cosmic creator who pre-determined the laws of physics.

The MWI theory, even so, offers a clue as to the propagation of primordial UPE that fills the infinity of space-time and sustains God, according to the second and third postulates. Since curvature of space-time creates the effective force (and hence energy) to move planets in their orbits, from reciprocity, we can express this idea as an addendum to the third postulate: *Within the primordial, chaotic, ultimate void a random interplay among the four or more dimensions of space-time at the quantum level, due to Heisenberg’s Uncertainty Principle (1927),[48] there arose mini twists, disturbances and convolutions that produced explosive ‘mini-puffs,’ each the quantum level equivalent of a big bang which, in turn, would propagate the prodigious UPE or Higgs Field energy.*

## How Could the Mind of God Emerge from Nothing?

Could miniature singularities, similar to the big bang but minutely smaller and possibly not much bigger than atoms in the physical realm, permeate all of space-time like infinite numbers of mini-universes, created by chance, out of nothing? Cosmologists postulate that, by reciprocity, there could be alternate universes composed of either matter or antimatter.[49] Just as our physical universe survived as matter rather than antimatter, in the chaos of primordial space-time, intense bubble-like entities could survive in either of two polarities (+ or –) propagating extreme power: a vibrational mode of very high frequency and energy, higher than normal Planck quantum photons, spread throughout primordial space-time. By the Third Postulate this relates to the origin of UPE, filling the quantum vacuum with a high frequency energy that does not readily interact with physical matter or antimatter.

### *Fourth Postulate*

Given our present scientific knowledge we can imagine that just as matter and antimatter were created at the big bang, miniature mini-universes or ‘bubble entities’ in space-time, could occur in two polarities, which we could call ‘plus and minus,’ ‘yang and yin,’ or 1 and 0, etc. We can imagine that they may be flipped or ‘flopped’ to the opposite polarity, or fired like neurons, by a UPE energy pulse. This is how the embryo mind of God may have emerged by random chance in the Ultimate Void—extremely unlikely though it was. The very simplest computer can be formed from processing binary elements of logic, sequenced in bytes of zeroes and ones, or binary sequences of 0 and 1. Closely related to the First Postulate, therefore, this Fourth Postulate states: *Although it was an extremely improbable event, eventually a near-infinite number of binary entities and inter-connections via UPE in the chaotic, Ultimate Void accidentally assembled a computer-like matrix, equivalent to brain cells and neurons of an organic human brain, and so, by pure chance, bipolar entities in the Ultimate Void formed the mind of God.* After all, there was the infinity of time and space for this to occur.

# Creation of the Spirit World and the Physical World

Once the embryo of God became self-aware, 'he' knew that he was utterly alone, and had to take responsibility for his own creation and growth—but always in the form of simple binary entities. As he reached maturity, God would have realized that he could not replicate himself within the Ultimate Void. The bitter loneliness and pain of that situation is very difficult for us to imagine, but it must have been the motivation for God to create, first the spiritual world and then the physical realm, after learning how to gain control over Universal Prime Energy. This speculative assumption claims rational credibility on the basis of understanding human motivation.

Even though the mind of God is vast and possesses almost infinite knowledge (i.e., it is omniscient), the Embryo of God was originally very simple in the primordial realm of the Ultimate Void; it was not even at the status of a Von Neumann machine<sup>[50]</sup> which can replicate itself. Thus any mathematical model employed to demonstrate the accidental emergence of the mind of God from primordial space-time, or the Ultimate Void, may be somewhat simplified. It further challenges gifted mathematicians, theoretical physicists, computer scientists, paranormal scientists, and even neuro-physiologists to investigate the Fourth Postulate as a real possibility.

Theoretical physicist Freeman Dyson of the Princeton Institute of Advanced Study, in Chapter 3 of his book, *Origins of Life* (1999),<sup>[51]</sup> mathematically demonstrated the chance appearance of structure, order and complexity out of chaos.<sup>[52]</sup> Dyson's mathematical model of non-replicating molecules simulates spontaneous transitions by chance from disorder to order, from chaos to collective complexity, something like metabolism in a living cell.<sup>[53]</sup> He showed that order can emerge out of disorder by chance, given the right conditions, suggesting that life began in two stages: primitive metabolic cells were not able to replicate, while the early replicating cells had no real metabolism, until the two combined. Unificationists would expect that when God created cellular life it was not by Darwinian processes, but by Origin-Division-Union action (EDP, 24), whereby primordial metabolic cells (masculine, yang-type) were united with primal replicator cells (feminine, yin-type) to form the first self-sustaining, self-replicating, living organisms. Dyson<sup>[54]</sup> also famously wrote: "The more I examine the universe and study the details of its architecture, the more evidence I find that the universe in some sense must have known we were coming."<sup>[55]</sup>

That these protophysical postulates "open many doors worth investigating" is further supported by Paul Davies' <sup>[56]</sup> description of special computer games that are used to model 'Complexity Theory' in studies of artificial life, described in *Frontiers of Complexity* by Peter Coveney and Roger Highfield (1995).<sup>[57]</sup> Their approach suggests that random processes can spontaneously create a series of transitions that tend to climb a complexity ladder, ultimately emerging as a life-like self-organising entity. Speculative theories and studies such as these are presently trying to show that cellular life might have emerged out of chaos by some kind of freak accident. Yet, the great complexity of a basic living cell is absolutely extraordinary: with ribosomes, enzymes, RNA, DNA, and proteins, etc., all working in amazing co-operation with each other, almost as if each molecule had a mind of its own, and capable of duplicating itself exactly. Paul Davies cannot yet imagine any known physical process by which it could have occurred by pure chance.<sup>[58]</sup> Some theoretical, mathematical or computer studies<sup>[59]</sup> might yet demonstrate, however, that a very much simpler intelligent organism could emerge from a freak accident. If computer game theorists can already simulate the emergence of order from disorder and complexity from chaos in computer programs, then they may eventually show that a computer-like mind—the embryo of God—could emerge, by a rare chance, from chaos. This would help to reverse the trend towards atheism in modern science.

The embryo mind of God in primordial space-time, albeit of incredible intelligence, had none of the contingent molecular complexity of a living cell. Life becomes self-aware as it begins to think, a concept that is studied in the field of Artificial Intelligence. Under the new banner of Protophysics we urgently need a "theoretical explanation of the causal spiritual world" (EDP, 4). Theorists should also study a simulation of the primitive, chaotic, Ultimate Void, in which binary entities connected by random energy exchange can, by some freak event, create a self-aware, computer-like brain. That is still a far cry from simulating the Mind of God, but it may help theistic scientists support the postulate of the accidental emergence of God from primordial space-time. The other postulates offer a partial explanation for the origin of the UPE that sustains God, but also call for more investigation.

As God became self-aware, he discovered that he was utterly alone, and could not relate to any other intelligent entity in the Ultimate Void. In fact he wanted his own, divine family. We can understand that God

first needed to gain some control over Universal Prime Energy, through the power of his mind, and he must have grown into maturity during this process. In other words, from the embryo onwards, God had to create himself. Yet, he must have also found that the creation of independent, sentient beings was painfully difficult, if not impossible, to achieve in the realm of the Ultimate Void. We can appreciate that God was motivated to create the spiritual realm, or spirit world, as a better environment for further creation—and so the cosmos began.

God was able to structure binary entities (yang and yin) and control UPE before creating the spiritual realm. To assist him in creative works, God then created other intelligent entities, whom we call angels, as his servants (EDP, 62). They, in turn, helped God create the laws of physics, the big bang, and the familiar physical realm, culminating in planet Earth.

In human terms, we can again understand that God's motivation for creating the angels was similar to that of the Japanese Honda Corporation in creating a robot called ASIMO, which is very lifelike and has a voice like a young girl. Satoshi Shigemi, Head of ASIMO development at Honda, in Tokyo, Nov., 2011, said that their "intention is to create an assistance robot that can live in harmony with people and provide personal assistance services." Angels, as ministering spirits, are far more advanced than robots of course, but unfortunately some of them betrayed God's trust (EDP, 64).

Theologians assert that in the spiritual realm the angels were created by God with minds of their own, quite able to think for themselves, although they cannot easily grow spiritually. They are mono-gender, sexless beings that cannot have children or replicate themselves. Jesus taught that the spirit world is not a place where marriage and procreation occur.<sup>[60]</sup> It is a place where the mind of God has created realms of great beauty, and where capable, sentient beings can influence the environment around them by the power of their mind. This property was quite well described in the book, *What Dreams May Come*, by Richard Matheson.<sup>[61]</sup> It is also an eternal, permanent realm where living souls are essentially immortal. Thus people with anecdotal spiritual knowledge describe its highest realms as 'Heaven,' where the souls of good people who have died on earth can live for eternity in the company and service of God, as his family (EDP, 47-50).

It is not so hard to understand that the loving heart of God desired his own children, just as we desire children of our own. The problem for God was that, in the spiritual realm, he could only create angels that were but a few steps above being robots. God needed a way for his children to mature as co-creators before joining him, for eternity, in Heaven. The spiritual realm by its very nature, however, does not facilitate spiritual growth, nor procreation (EDP, 50), which has to take place on Earth. God knew, therefore, that he also needed the physical realm, and in particular the world we call Earth, as a more suitable environment for his 'children' to be born and grow up. Starting with his idea for perfect children, he planned the entire physical universe as a suitable environment for their birth, growth, and maturity. Like God, we must be responsible to complete the creation of ourselves. The Earth is the ideal environment for us to grow physically and spiritually as co-creators with God, and aspire to become God's divine sons and daughters, before passing to the spiritual realm. Logically, in order to create a world like Earth, the laws of physics and the universe had to be fine-tuned to meet long-term goals. Some scientists already realize that.

Given the Divine Principle, we can paraphrase the Bible from John 1:1-3: "In the beginning the plan of God (his word or Logos) was to have divine sons and daughters, and that plan determined everything else that was created." It was a pity humankind ruined God's plan by not keeping to instructions, but that is a theological viewpoint (EDP, 53). Science can still help God achieve his original plan by contributing to the salvation of humankind. True philosophy and religion encourages men and women towards the perfection of their individual spirit, as Socrates and Jesus had taught. Like God, we are partly responsible for creating ourselves, since we influence our own spiritual growth. Clement of Alexandria (AD 150-215) denied that there was a gulf between humans and God, in that we can experience the Holy Spirit as a companion in our day-to-day lives, "sharing in the whole moral effort of our life,"<sup>[62]</sup> if we sincerely desire it. We should seek the coming of the Kingdom of God on Earth as in the Lord's Prayer (Matt. 6:9-13), beginning here and now. More than ten thousand public speeches and sermons by Rev. Sun Myung Moon, who came as the Lord of the Second Advent, have provided the knowledge to create God's Kingdom "on Earth, as it is in Heaven." Based on his teachings, husband-and-wife couples can aspire to reflect God's divinity.

## Notes

[1] Stephen Jay Gould, "Nonoverlapping Magisteria," *Natural History* 106 (March, 2004): 16-22.



- [2] Pope John Paul II, *Crossing the Threshold of Hope* (London: Jonathon Cape, Random House, 1994), pp. 28-31.
- [3] Sun Myung Moon, *Exposition of the Divine Principle* (Seoul: HSA-UWC, 2004). All EDP references point to particular page number(s).
- [4] John Coles, *Macroscopic Historical Correlation – Jacob is Revealed and God Affirmed*, to be published in 2013.
- [5] Stephen Hawking, *A Brief History of Time—from the Big Bang to Black Holes* (London: Bantam Books, 1989), pp. 9-10; 50-51.
- [6] William Lane Craig, “God and Real Time,” *Religious Studies*, Vol. 26 (1990): 335-347. See also his YouTube interview, “Did God Create Time?” with Robert Lawrence Kuhn of CBS.
- [7] Stephen Hawking, quoted in the *Cambridge News*, May 19, 2011, p. 9.
- [8] Paul C. W. Davies, *The Mind of God* (Melbourne: Penguin Books, 1992); also *The Cosmic Blueprint* (1988) and *Are We Alone?* (1995).
- [9] Paul C. W. Davies, “The Riddle of Time,” documentary on SBS TV (South Australia) with Phillip Adams as interviewer.
- [10] Richard Dawkins, *The Blind Watchmaker* (Harlow, UK: Longman, 1986).
- [11] Sun Myung Moon, “The Responsibility of the Academic Community in the Search for Absolute Values,” Founder’s Address: Ninth International Conference on the Unity of the Sciences (ICUS), Los Angeles, Nov. 22-25, 1979.
- [12] Richard Dawkins, *The God Delusion* (Boston: Manner Books, 2008), and *Climbing Mount Improbable* (London: Viking, Penguin, 1996).
- [13] Karl R. Popper, “Science and Falsification,” in *Conjectures and Refutations* (London: Routledge & Kegan Paul, 1963), pp. 33-39. Popper’s philosophy of science, now broadly accepted by the scientific community, discounts any absolute proof of theories, postulates or hypotheses, no matter how much evidence seems to support them, because a theory is negated or falsified with only one count of contra evidence. A ‘proof’ is at best an ‘affirmation.’
- [14] Karen Armstrong, *A History of God—From Abraham to the Present—the 4000 Year Quest for God* (London: Heinemann, 1993), pp. 39, 147, 239.
- [15] N. Joseph Torchia, *Creatio ex nihilo and the Theology of St Augustine* (New York: Peter Lang, 1999). See also Mary T. Clark, *Augustinian Studies* 32/2 (2001): 259-262.
- [16] Jonathan Safarti, “If God Created the Universe, then Who Created God?” *Journal of Creation* 12/1 (April 1998): 20-22.
- [17] Hawking, *A Brief History of Time*, p. 129; Davies, *The Cosmic Blueprint*; Dawkins, *The God Delusion*.
- [18] William Lane Craig, *Time and Eternity—Exploring God’s Relationship to Time* (Crossway Books, 2001). See Rob Kuhn’s YouTube interview, “Is God Temporal or Timeless?”
- [19] Peter Higgs, “Broken Symmetries and the Masses of Gauge Bosons,” *Physical Review Letters* 13/16 (Oct. 1964): 508-509. Higgs proposed a massive particle called a ‘Higgs Boson,’ now confirmed as a short-lived, mediator particle that delivers mass from an underlying, enigmatic, prodigious energy field (called the Higgs Field) to all other particles in the universe. Cf. Frank J. Tipler, *The Physics of Immortality—Modern Cosmology, God and the Resurrection of the Dead* (New York: Macmillan, 1995), p. 150, where he cites the awesome energy density of the enigmatic Higgs Field in his “Omega Point Theory.”
- [20] EDP’s positing of a “theoretical explanation of the causal, spiritual world” implies that the spiritual realm preceded the physical universe, or else the former could not be “causal.”
- [21] Hawking, *A Brief History of Time*, pp. 9-10, 50-51.
- [22] *Ibid.*, p. 36.
- [23] *Ibid.*, p. 50.

[24] Ross Andersen, interview with Prof. Tim Maudlin, of New York University, on “What Happened before the Big Bang? The New Philosophy of Cosmology,” *The Atlantic*, January, 2012.

[25] Russell Grigg, “What happened before the big bang?” *Creation Ministries International*, 20 (May 20, 2012), a useful, subjective, review of a BBC documentary broadcast on SBS-TV, Australia, April, 2012, involving inter-views with Michio Kaku, Andrei Linde, Lee Smolin, Neil Turok and Roger Penrose on a new trend in philosophy of cosmology and theoretical physics. Notable among them is Neil Turok, a professor of mathematical Physics, who postulates that the big bang resulted from a violent event in a pre-existing universe and advocates the new ‘M Theory,’ of cosmology, and Andrei Linde, a Stanford University physicist, who suggests that our universe is not alone, even that there may be 10,000,000,000<sup>10,000,000</sup> other bubble-like universes in a ‘multi-verse.’

[26] Davies, “The Riddle of Time.” But more recently he and other cosmologists, such as Roger Penrose, have admitted that there may be evidence for ‘design’ in the unlikely, unique properties of the expanding universe.

[27] Paul Davies, *God and the New Physics* (London: Penguin Science, 2012).

[28] Paul Davies, *The Fifth Miracle – the Search for the Origins of Life* (Ringwood, Australia: Penguin, 1998). Dawkins, *The God Delusion*.

[29] Dawkins, *The God Delusion*.

[30] Safarti, *op. cit.*, p. 22.

[31] Hawking, *A Brief History of Time* ; Davies, *The Cosmic Blueprint*; Dawkins, *Climbing Mount Improbable* and *The God Delusion*.

[32] This has no relation to discussions about the role of chance in the origin of humankind’s belief in God, such as Laurence Gardner, *The Origin of God* (Brockenhurst, UK: Dash House, 2010), and Paul Bloom, “Is God an Accident,” *The Atlantic*, Dec. 2005.

[33] Davies, in *The Fifth Miracle*, describes enigmatic “co-operation” among proteins, enzymes, RNA, & DNA molecules in the simplest living cell exhibiting the complexity of a city, such that ‘inanimate’ molecules seem to have a “mind of their own.”

[34] On the Ultimate Void, see Carsun Chang, *The Development of Neo-Confucian Thought* (New Haven: Yale University Press, 1963). The “Ultimate Void” or *Wuji* in Chinese Taoist philosophy means the “Ultimate of Nothingness.”

[35] Tipler, *The Physics of Immortality*, p. 150.

[36] Hawking, *A Brief History of Time*, pp. 32-36.

[37] Tipler, *op. cit.*, p. 150.

[38] Tipler, *op. cit.*, p. 198.

[39] John Barrow and Frank Tipler, *The Anthropic Cosmological Principle* (Oxford University Press, 1986). B. J. Carr and M. J. Rees, “The Anthropic Cosmological Principle and the Structure of the Physical World,” *Nature* 278 (1979): 605-612. Hawking, in *A Brief History of Time*, p. 130, paraphrases the Anthropic Principle in the words: “We see the universe the way it is because we exist.”

[40] John Polkinghorne, “Interview at Queens College, Cambridge,” in a documentary by Radharc Films, UK, 1994. It was shown on *Compass*, ABC TV Australia, 1996.

[41] John Polkinghorne, *Science and Creation* (London: SPCK, 1988).

[42] John Polkinghorne, *Science and Christian Belief*, Vol. 2, (1990), p. 90.

[43] Davies, “The Riddle of Time.”

[44] Davies, *op. cit.*, also *The Cosmic Blueprint*.

[45] Hawking, *A Brief History of Time*, pp. 73, 80-84.

[46] Tipler, *The Physics of Immortality*, p. 169: Quantum Mechanical theory implies that all possible alternate MWI histories and futures represent a real “world” or “universe,” but a near-infinite number of universes violates Ockham’s razor.

[47] Bryce DeWitt and R. Neill Graham, *The Many-Worlds Interpretation of Quantum Mechanics*, Princeton Series in Physics (Princeton University Press, 1973), pp. 3-140.

[48] The Uncertainty Principle states that the position and velocity of a particle cannot both be determined absolutely. There is always uncertainty in one or the other, and some measure of ‘chance’ in Quantum Mechanics.

[49] See the interviews with Neil Turok and Andrei Linde in Grigg, “What happened before the big bang?”

[50] Tipler, *The Physics of Immortality*, p. 45.

[51] Freeman Dyson, *Origins of Life* (Cambridge: Cambridge University Press, 1999), pp. 48-91.

[52] Davies, *The Fifth Miracle*, p. 102.

[53] Dyson, *Origins of Life*, Ch. 3.

[54] Freeman Dyson, *Disturbing the Universe* (New York: Harper & Row, 1978).

[55] Quoted in Davies, *The Fifth Miracle*, p. 250.

[56] Ibid.

[57] Peter Coveney and Roger Highfield, *Frontiers of Complexity* (New York: Ballantine, 1995), referred to in Davies, *The Fifth Miracle*, p. 214.

[58] Davies, *The Fifth Miracle*, pp. 203-214.

[59] Coveney and Highfield, *op. cit.*

[60] Matthew 22:30. Jesus’ words taught Christians that angels are sexless, mono-gender (or non-gender) immortals, who cannot procreate in the spirit realm, where spirit beings do not marry.

[61] Richard Matheson, *What Dreams May Come* (Macmillan, 2007), a novel describing the spirit world.

[62] Armstrong, *A History of God*, p. 117.