

Quantum God: The Logical Implications of Quantum Physics and the Existence of God

Reynaldo Torres

St. Joseph's College

Abstract

One of the most appealing physical sciences bringing forth light to unknown phenomena is Quantum Mechanics. This research will attempt to examine how scientific discoveries in Quantum Mechanics and Cosmology have in fact been bringing unto light evidence that describes and defines the necessity for God or the supernatural as described in Christianity. This presentation will examine and compare this evidential necessity in light of the impossibility to explain with a degree of *logic* the origin of the Universe by natural means. It will explore discoveries as the Uncertainty Principle, Quantum Infinities, and the Big Bang to demonstrate the argument and how these contemporary inescapable scientific realities point at *scientific logic and reason*, demanding the implication of God as the source of origin of the Cosmos.

Quantum God

“There is no matter as such. All matter originates and exists only by virtue of a force which brings the particle of an atom to vibration and holds this most minute solar system of the atom together. We must assume behind this force the existence of a conscious and intelligent mind. This mind is the matrix of all matter” (Planck, 1944).

Max Karl Ernst Ludwig Planck was a theoretical physicist who originated quantum theory, and won him the Nobel Prize in Physics in 1918 (Nobelprize.org, 2013). Even though several decades have passed since he delivered his famous quote on the nature of matter, each new significant scientific discovery in Quantum Mechanics, continues to point to Planck’s initial scientific observation. As this scientific discipline advances, it becomes more evident that something beyond nature and of obvious greater power must be responsible for sustaining all matter in the Universe. Of course, this does not mean that all contemporary scientists are necessarily willing to quickly accept a Creator in the formula that can define the unknown. Nonetheless, while the debate regarding the existence of the Christian God continues through the ages, it is necessary to examine how scientific discoveries in Quantum Mechanics and Cosmology have in fact been bringing unto light evidence that describes and defines the necessity for God or the supernatural. This is an evidential necessity, in light of the impossibility to explain with a degree of *logic* the origin of the Universe by natural means. A contemporary inescapable scientific reality found in Quantum Mechanics points at scientific *logic and reason*, demanding the implication of a God as its source of origin.

But is it logical?

When one examines scientific evidence, logic is a philosophical discipline that must follow. The scope of logic often concentrates in the core topics such as the study of fallacies and

paradoxes as well as it specializes in analyses of reasoning such as probability, correct reasoning and arguments involving causality (Webster, 2011). Unfortunately, logic is abused and reformatted in the expediency of convenience. As a matter of fact, one of the most popular and predominant attacks against the inclination towards the belief in the existence of a Creator of the Universe is often made by blankly stating that the very idea is an inclination founded on an illogical position. This attack is based on a presupposition that, as there is no physical evidence demonstrating the existence of a spiritual being called God, one must conclude logically that lack of physical evidence produces *blind faith* and therefore one is forced to conclude logically that this lack of physical evidence demonstrates nonexistence of the claim. While this is a popular and common attack at the theistic view, this attack is an appeal to logical positivism or local positivism, the false notion that presumes that if you can't measure it, even in principle, then it doesn't exist; a flawed scientific approach that has been falsified.

In contrast, what has been scientifically demonstrated is that in many circumstances in our physical world, the absence of physical evidence does not automatically constitute evidence of absence. Therefore, the opposing view to this truth becomes a common fallacy that gives birth to illogical thinking based on the very definition of logic. This logical flaw becomes clear when the individual dismisses possible existence or realities, based on what they *thought* was a logical conclusion. Often, it is the basis of an individual who knowingly removes a variable from a mathematical equation and still expects to come to an adequate answer. However, a true logical scientist must always leave his options open, particularly regarding concepts that one is unable to explain, the unknown, or where there is simply lack of understanding.

Our entire Universe and methodology of comprehension of subjects appears to be comprised by physical and non-physical realities that cannot be dismissed. For example, in

Junior High School, students learn in Geometry about a spatial point. Spatial points are described to students as zero-dimensional. Even though we may draw them as a representation, as defined they really do not possess any length, area, volume, or any other higher-dimensional analogue. What this means is that spatial points are truly a subjective idea lacking physical properties, a subjective concept created as means of the foundational basis to the understanding of the mathematical world of Geometry. No physical evidence is present, yet the subjective definition creates the base for our ability to create a physical representation and understanding of a subjective idea that provides the ability to measure the objective – the physical world around us. In the same fashion we must understand, for example, the concept of God being Spirit, as needing to be understood from a non-physical concept of reality that can allow us to understand what we are able to discern physically. The non-physical reality of God, cannot be used as evidence that denies reality, just as the non-existence of physical properties of spatial points do not deny the reality that brings forth our comprehension of a more complex mathematical concept. Otherwise, we could fall victims of logical positivism.

The reality of the immeasurable or undefined measurement in our Universe does not stop at the foundation of Geometry. One of the most appealing physical sciences bringing forth light to unknown phenomena is the previously mentioned science, Quantum Mechanics or Quantum Physics. “Quantum mechanics is a fundamental branch of theoretical physics that replaces classical mechanics and classical electromagnetism at the atomic and subatomic levels” (American Heritage, 2002). Within the field of Quantum Physics, a notable scientist Werner Heisenberg, established a physical scientific law or principle better known as the Heisenberg Uncertainty Principle. The Uncertainty Principle is often called the cornerstone of Quantum Mechanics as introduced by Heisenberg in 1927. The principle quantifies or measures the

inability to precisely locate a particle at a subatomic level. What it in essence establishes about subatomic particles is that “the more precisely the position is determined, the less precisely the momentum is known in this instant, and vice versa” (Heisenberg, 1927). This means that even though subatomic particles do exist, to measure simultaneously the speed and the position of the particle is practically impossible. The most powerful implication of this scientific physical law supporting the theistic view of a Creator’s plan and as suggested by Heisenberg is that in the sharp formulation of the law of causality—“if we know the present exactly, we can calculate the future - it is not the conclusion that is wrong but the premise” (Heisenberg, 1927). This means that the ability to determine the future is not illogical, but humanly impossible as we are unable to know all things as a premise. However, this scientific reality and its implication can easily be understood as the Christian God’s attribute of Omniscience; as unlike humans, God would know the present exactly and therefore, he can calculate the future.

But, there is an even greater implication of the Uncertainty Principle as it relates to the reality of God’s existence. In order for God to fit the proper definition of the Christian God, his attributes must meet at a minimum, Omnipotence, Omniscience and Omnipresence – which in themselves are the defined theological immutable attributes of God. In other words, his attributes exceed by definition the natural, and exceed the comprehension of physical space-time continuum ability and/or restriction. However, does this mean that one cannot logically understand Omnipresence as it relates to Quantum Mechanics? Based on Heisenberg’s formulation of the law of casualty, we can. Is the concept of an immeasurable God illogical based on the reasoning that we cannot measure him or in the absence of evidence and therefore automatically become logical to presume that he is non-existent? As presented, scientific reality teaches us that it is not illogical. It demonstrates by the Uncertainty Principle that at a subatomic

level we can precisely measure the position of a particle, while the speed or momentum becomes simultaneously *immeasurable*. It becomes immeasurable not because we do not possess the necessary instruments to do so, but simply because the scientific principle states that the measurement goes into an undetermined or *infinite* measure. The same applies when we establish the measurement of the speed of the particle, the position, becomes immeasurable or undetermined. Therefore, if this is an undeniable scientific fact, does this mean that the inability to determine position and speed simultaneously by the non-theist thinker establishes the non-existence of the subatomic particles or non-existence of the physical reality of the same as we take into consideration the fact that they have an absence of measurement? It would be hypocritical to dismiss God's existence based on this train of thought and call it a 'logical' argument when it simply is not. Should we accuse the non-theistic and natural mind as 'blind believers' of logical physical realities even though they are unable to simultaneously have momentum and position measured? The obvious answer is, no. What the non-theistic mind does is place 'faith' in the knowledge of the non-existent or immeasurable, independent of the ability to see, feel, or measure. He simply knows, without seeing or being able to measure (absence of evidence), that momentum and position of sub-atomic particles co-exist as established by the Uncertainty Principle. To think otherwise would certainly be illogical and unscientific. Therefore, this premise establishes an unfounded argument of lack of simultaneous physical evidence against the existence of God.

Infinity is not necessarily a problem

Quantum Physics became the new scientific discipline that puzzled the minds of the scientific community that was used to classical physics even to this day. Within the scientists who contributed, there is Albert Einstein, whose greatest contribution to modern cosmology was

the Theory of Relativity. However, a modern theoretical physicist, Professor Michio Kaku of City College of New York of City University of New York, states that with the Theory of Relativity, 'infinity' breaks down - "To a mathematician, infinity is simply a number without limits; but to a Physicist it is a monstrosity. Gravity is infinite, time stops, and what does this mean? That space makes no sense; it means the collapse of everything we know of the physical Universe. In the real world of physics there is no such thing as 'infinity' -- Therefore, there is a fundamental flaw in the formulation of Einstein's theory" (Kaku, 2009). In Kaku's mind, the infinity dilemma in physics challenges his quest toward Einstein's dream to "know the mind of God." Nonetheless, when presented in the theological perspective, the concept of infinity takes a defined and well known understanding. The word infinity is encompassed under the mentioned immutable attributes of God as an Omnipotent, Omniscient, and Omnipresent being – the embodiment of the attributes of infinity. It begs the challenge of our understanding as Max Planck alluded. Does the subatomic particle exist in virtue of the force which holds it together when its measurement goes to infinity? String Theory and M-Theory suggest that in addition to our dimension of existence there may be other multiple dimensions. If so, can this infinite subatomic measure mean that is it tapping into another dimension as suggested by these theories; that is, the dimension of God, the dimension of the intelligent matrix Planck suggested? Again, Kaku's dilemma is not a problem, but a matter of him accepting reality as mathematically realized in his own formulations of relativity. Matter, as it exists, points to it being supported by an intelligent matrix we call God. There is absolutely no problem in Theology with the so-called infinity scientific dilemma. All the contrary, it points to the very core of the reality of the existence of God as defined.

Michio Kaku had stated that “what is so crazy about quantum theory is that it reduces everything to baffling probabilities. If quantum theory violates our common sense, it is only because nature does not seem to care much about our common sense” (Kaku, 1994, pp.115-116). Discovery has established that in Einstein’s Theory of Relativity we find the theoretical and mathematical reality of infinite gravity, or immeasurable energy, and in Heisenberg’s Uncertainty Principle, we find the inability to measure subatomic particles, as the more precise one measure, the more imprecise is the other, as the measurement is undefined or infinite in measure. This reality or *mathematical equation variable* is a stumbling dilemma to physicists who seek measurable boundaries, but a basic comprehension to the theist who marries this scientific discovery with the very definition of the attributes of God. The Bible, speaking of God, declares that, “all things were created by him: both in the heavens and on the earth, the things that are visible and the things that are invisible. Whether they are thrones or powers, or rulers or authorities, all things were created through him and for him. He existed before all things, and all things are held together in him” (Colossians 1:16-17, CEB). This is a bold declaration that the entire Universe is held together by God’s power and as seen by the scientific relativity of the Universe infinite gravity; an infinite or immeasurable world of subatomic particles and the limited ability to only observe half of its characteristics, as at present, we can only observe the measurable Universe. While the Bible itself may not be regarded as scientific evidence, it points to the understanding of concepts that scientifically could be understood and/or reconciled.

Is a natural cause logical?

To account for the Universe by an act of nature is in fact the popular thought that sounds pleasing and satisfying to those who deny God’s existence, but it only gives credence to an argumentum ad populum fallacy. As a matter of fact, as disbelief on any supernatural entity is a

foundational stand in the mind of the unbeliever, nature and only natural possibilities are considered as a possible answer worth consideration. However, does the unknown variable proposition of inclination to *natural origins* add up in the universal origin equation, taking into account scientific advancement and discovery? To reach a logical conclusion, we must look further, into factual cosmological understanding. Some of this understanding comes to us by means of the Hubble Telescope that was placed into orbit back in 1990. As this telescope is above earth's atmosphere, there is no pollution, clouds, or atmospheric interference to affect its ability to clearly look into the cosmos. Through Hubble's observation, and with the help of the COBE (Cosmic Background Explorer) satellite, scientists and cosmologists have been able to measure the expansion of the Universe and provide the most spectacular scientific confirmation of the Big Bang (Kaku, 1994, p.119). As they calculate in a regressive fashion this observable expansion of the cosmos, they are able to render validity to one of the most accepted cosmological theories, the Big Bang, also referred to as the *moment of the singularity*. Through this discovery, scientists have established that it was at this very moment that everything observable, all energy, matter, space, and even the very arrow of time, came into existence. As Dr. Javid Jamil cited, the contemporary theoretical physicist and cosmologist Stephen Hawking, who is also a well-known agnostic, has proved in the Penrose-Hawking Theorem "that singularity at time zero is inevitable, and that time-space fabric would break down at singularity" (Javid, 2006, p. 26). This implies that nothing existed *prior* to the singularity – the word "prior" is used here as a matter of expression, as even time did not exist. This has scientists baffled as by definition, nothing existed prior to the beginning and that this fact creates more questions than answers. However, it becomes more and more evident to a Creationist that the matter is not up to scientific debate as according to empirical science, "*whatever begins to exist, must have a cause*

of existence. This is commonly taken for granted in all reasoning's, without any proof given or demanded" (Hume, 1739). Therefore, as energy, matter, time, space, or any quantum fluctuations did not exist prior to the singularity, this would logically dictate that 'nature' did not exist either, and to attribute the creation of the Universe to nature would be nothing but illogical.

Furthermore, as nature cannot be attributed as causation, this demands something beyond nature, or something supernatural, something of much greater power and reality than anything observed in nature itself. This creates a clear picture in that the law of cause and effect and scientific discovery demands for a causation of greater power than anything in existence in the Universe. To think otherwise, would simply be contradictory, or illogical.

Big Bang bad news

Of course, if one disagrees with the implications that Big Bang cosmology demands as it relates to the subject, and the evidential fact that it points to supernatural origin, one would desperately attempt to justify, theorize, and/or propose alternative theoretical constructs that could avoid the necessity of God as a cause. Point in case is the recent proposal by the very person who demonstrated that time-space fabric breaks down at the singularity, Professor Stephen Hawking himself, as well as a few others. The three predominant theories that suggest such ideas are the Chaotic Inflationary Model, the Oscillating Model, and the Quantum Gravity Model which were ironically demolished at the 70th birthday celebration of Professor Stephen Hawking by one of the guest speakers, theoretical physicist and cosmologist Alexander Vilenkin of Tufts University in Boston. The news of Vilenkin's presentation to the scientific community spread fast and the heading at the New Scientist Magazine read, "Why physicists can't avoid a creation event" (Grossman, 2012). Other scientists have been in agreement with Vilenkin and contributed in the demonstration that our Universe has a beginning, such as the formulation of

Arvind Borde and Alan Guth with Vilenkin back in 2003. However, it is Vilenkin speaking about his scientific collaboration on the matter who gives the final big blow to the false ideas in his book “Many Worlds in One,” when he defines it concretely by stating: “It is said that an argument is what convinces reasonable men and a proof is what it takes to convince even an unreasonable man. With the proof now in place, cosmologists can no longer hide behind the possibility of a past-eternal Universe. There is no escape; they have to face the problem of a cosmic beginning” (Vilenkin, 2006). The non-negotiable reality needing attention by cosmologists is now evident. A concept of a beginning that was established at the very first verse of the Bible in Genesis 1:1: “In the beginning God created the heavens and the earth.”

Implications

The French genius and scientist Blaise Pascal (1623-1662) eloquently expressed that "human things must be known to be loved: but Divine things must be loved to be known." Believing in God does require faith and in order to understand a spiritual concept one must love the very thing one seeks. Even Scripture teaches the same thought when it says, “But without faith it is impossible to please and be satisfactory to Him. For whoever would come near to God must [necessarily] believe that God exists and that He is” (Hebrews 11:6, AMP). One can build a house on the rock or on the sand; a good foundation will determine the solidity of the edification. Natural explanations of the origin of the Universe continue to fail to provide a solid foundation by providing us a story built on the sand of imagination and hopeful thinking. The implications of Quantum Mechanics are outstanding on directing us to believe not blindly but in light of discovery. These implications point us to the following discussed points:

- That through logic and reason, believing in a creation by supernatural means is far more logical as we understand that nothing physical or natural existed prior to the singularity.

The Big Bang marked the beginning of everything that came into existence after the moment of the singularity. This concept of a beginning is clearly delineated in the Bible and these findings lead us to better comprehend that the belief in God as the creator of the Cosmos is not illogical, but necessary.

- That the absence of physical evidence does not constitute automatic evidence of absence, and that the possibility of the existence of other dimensions as proposed by String Theory and such-a-likes justifies the thought of a spiritual realm out of our universal dimension where God may exist.
- That the Uncertainty Principle gives credence to the logical explanation for the Omniscience of God within our Universe. While providing us the reality of the subatomic composition of matter and its link to infinite measures of reality. This infinite measure can be justified by linking to possible other dimensions of existence, connected to the very definition of infinity, God himself.

These points demonstrate that the belief in God need not be blind, but faith into the light of the reality of discovery. Every new advance in the discipline of Quantum Mechanics points and directly supports the inevitable reality of a Creator of the Cosmos, while many who hope to dismiss the obvious reality seen through Quantum Physics continue to present alternatives and hopeful ideas that crumble in light of discovery. Above all things, we can establish that believing in God is by far more logical than its denial. That even if one may not believe in God, his existence is more probable than his inexistence, as demanded by quantum discovery.

References

- Grossman, L. (2012, January 11). Why physicists can't avoid a creation event. *New scientist magazine*, (2847), 6-7. Retrieved from <http://www.newscientist.com/article/mg21328474.400-why-physicists-cant-avoid-a-creation-event.html>
- Hume, D. (1739). *A treatise of human nature*. Oxford: Clarendon Press. Retrieved from <http://oll.libertyfund.org/simple.php?id=342>
- Jamil, Javid. *Rediscovering the Universe: the Beginning of the Final Revolution*. Nature and Science. 22 (2006): 25-30. Print.
- Kaku, M. (1994). *Hyperspace: A scientific odyssey through parallel Universes, time warps, and the tenth dimension*. (pp. 115-116, 199). Oxford: Oxford University Press
- Kaku, M. (2009). *Physics - black holes infinity, singularity and the Universe* [Web]. Retrieved from <http://www.youtube.com/watch?v=hydDhUNvva8>
- Logic. (2011). In *Merriam-Webster.com*. Retrieved May 8, 2011, from <http://www.merriam-webster.com/dictionary/hacker>
- Nobelprize.org. (2013). *The Nobel Prize in Physics 1918* [Web]. Retrieved from http://www.nobelprize.org/nobel_prizes/physics/laureates/1918/
- Pascal, B. (n.d.). *BrainyQuote.com*. Retrieved March 31, 2013, from BrainyQuote.com Web site: <http://www.brainyquote.com/quotes/quotes/b/blaisepasc100862.html>
- Planck, M. (1944). *Das wesen der materie [the nature of matter]*. From Archiv zur Geschichte der Max-Planck-Gesellschaft, Abt. Va, Rep. 11 Planck, Nr. 1797 Das wesen der materie: the nature of matter, Florence, Italy.

Quantum mechanics. (n.d.). *The American Heritage Science Dictionary*. Retrieved March 25, 2013, from Dictionary.com website: [http://dictionary.reference.com/browse/quantum mechanics](http://dictionary.reference.com/browse/quantum_mechanics)

Vilenkin, A. (2006). *Many worlds in one*. (p. 176). New York, NY: Hill and Wang.