Supernatural Cosmic Origins

Challenging the Reigning Paradigm

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Abstract

Contemporary scientific study primarily uses a paradigm based upon naturalism, materialism, and empiricism on which to base research. The widely accepted cosmological model the big bang theory adheres to this paradigm. Despite many weaknesses in this model and in the paradigm itself, researchers continue to favor the modification of the accepted model over the adoption of other more comprehensive models. The paradigm from which the models proposed by Russell Humphries, John Hartnett, and Jason Lisle come justifies the six-day creation young-earth biblical account and better fits observational evidence with fewer arbitrary assumptions than the paradigm from which the big bang theory comes.

Supernatural Origins in Cosmology

Challenging the Reigning Paradigm

Introduction

Some people may not understand the importance of knowing how everything came to be. They may believe that things are the way they are, and that knowing how they came to be so is unnecessary. However, in a solid and consistent worldview, the concept of the value of human life is based upon very similar thought processes as those which apply to a cosmological origins model, and the perceived value of human life is applied in many ethical areas, so it is important for it to be founded upon solid reasoning.

A worldview, or a way of thinking about the world, can vary from person to person based on beliefs. Similarly, in science, a paradigm is the way in which the scientist approaches a scientific discipline. Gitt's definition of paradigm states that it "dictates the scope for specific research and restricts scientific explanations to those that agree with and support the paradigm" (2011, p. 99).

The modern big bang theory is primarily atheistic and relies on materialistic and naturalistic processes to account for everything. In this view, life is just a chance chemical occurrence. Within this same paradigm of naturalism and materialism, the biological equivalent of the cosmological big bang, the theory of biological macroevolution, states that all forms of life evolved from the same first organism, which essentially gives intelligent human life the same inherent value as algae, because it all originated in the same way, humanity has just evolved more.

On the other hand, the biblical view states that God created the heavens and the earth (Genesis 1:1) and set humans apart from animals because He created them by a

different method. All the animals and the rest of creation were spoken into existence (Genesis 1:3, 6-7, 9, 11, 14-15, 20-21, 24), whereas God personally formed humans from the existing dust of the ground (Genesis 1:26, 2:7). God personally formed the first man Adam and breathed into him life from His own infinite life source, and from a part of Adam's side God created his wife Eve, and fostered a relationship with them in the Garden of Eden. Because humans were set apart from the animals and given dominion over them, humans possess a greater value to God than animals.

The way in which one thinks about the worth of human life is one of the foundational pillars of morality and societal standards of ethics. Such ethics can determine for a person whether or not abortion, doctor-assisted suicide, and euthanasia are acceptable. These decisions have an impact on society as a whole in many areas.

Theories and explanations developed for and by science should be far reaching and impact a person's worldview. A worldview needs to be logically consistent, non-contradictory, useful, and have a solid foundation. The foundation for human value can affect what people, and ultimately society, decide is proper. When using the Holy Bible as a foundation, which Christians believe is divine revelation from God, it is not man's opinion from which morality is driven, but instead God's opinion—the only opinion that is eternal, perfect, and unchanging.

Today science is primarily driven by a secular paradigm composed of an admixture of modern philosophies including naturalism, materialism, and empiricism. It is also influenced by the ideas of relative truth and morality that have become prominent in recent culture. The generally accepted and respected view for the origin of the universe

in science today is the modern form of the big bang theory, which primarily adheres to this paradigm.

Several Christian scientists use the Holy Bible as a starting point for their paradigm. Christians believe the Holy Bible is the infallible Word of God. There are various arguments for this belief, ten of which are given by Towns (2008):

> (1) The unique revelation of Jesus Christ, (2) extraordinary claims that the Bible is from God, (3) empirical fulfillment of prophecy, (4) convicting, convincing, and converting power of the message, (5) inexhaustible infinity of its message, (6) unity of the message from diverse human sources, (7) trans-cultural appeal of the message, (8) unmistakable honesty of the Bible, (9) immeasurable superiority to other literature, and (10) pragmatic test of experience. (p. 43)

The easiest explanation, however, amounts to that only "direct experience will ever ultimately convince anybody that the Bible's words are the authentic and authoritative words of God" (Boice, 1978, p. 47-48). One can allude to the above list and historical evidence, but those who have already convinced themselves that it is not authoritative will never regard it as such unless their heart is changed by God Himself.

The current paradigm accepted by scientists in general is not sufficient for the study of the universe nor any scientific discipline when taking into account all material and immaterial aspects that exist in the universe. There are evidences of design and complexity which cannot be accounted for by chance which point to the existence of an omnipotent creator being, namely the Christian God. Such evidence for design includes characteristics of the earth that are delicate and necessary to support life including its rate of spin, length and shape of orbit, tilt of its rotational axis, the distance from the sun, size

and shape, composition, atmosphere, magnetic field, and a stabilizing moon (Burgess, 2001, pp. 62-69). Even the water molecule has characteristics that indicate design such as its angle of polarity that allows it to be a solvent, its phase proportions at normal human body temperature, and that its density as a solid can be lower than its density as a liquid (Williams & Hartnett, 2011, pp. 123-124). There is evidence of design almost everywhere.

The current widely accepted paradigm is insufficient to explain the entirety of the phenomena observed in the universe. The big bang theory, while a long-standing and generally respected cosmology by the majority of the scientific community, cannot account for all the phenomena present nor the observed structure and composition of the universe. More recent cosmology theories proposed by Drs. Humphreys and Hartnett are based on biblical premises, however, each provides a more internally compatible scientific paradigm based on the Christian worldview while providing a comprehensive theoretical model for the development of the universe.

Scientific Foundations

Science has limitations in its methodology and in the extent to which it can certify research claims, which are sometimes assumed be more certain than they actually are. Today, science is highly regarded by society for its monumental discoveries about the universe and its breakthrough applications in technology, but many who think they know what science is actually think about it in incorrect terms: they believe that science is able to prove things beyond any doubt and can be used to disprove things that are actually not testable. Science is the means by which humans attempt to better understand themselves and their surroundings.

Science is not pure speculation, nor thought experiments, nor biased data selection to fit a pre-determined conclusion (Gitt, 2011, p. 100). Speculation does have its place in science, but it must be supported with experimentation and observation before it gains any more scientific authority.

Purpose of Science

The way one thinks about the facts has a bearing into the subject as well because data needs to be interpreted. We study science "to discover the rules governing [the world around us] and to explain complex events" (Gitt, 2011, p. 97). Christians generally believe that God gave humans an inherent curiosity to understand His creation so we could better understand His character. Secular textbooks describe the curiosity and drive to discover and analyze the universe as simply one of the most basic traits of human nature without ever giving a logical reason why we might be curious and driven to understand our surroundings (McMillan & Chaisson, 2011, p. 3). The belief in a purpose higher than individual curiosity provides a greater fulfillment when new discoveries are made.

Methods and Limitations

The purpose of the scientific method is designed to be objective and make experiments repeatable for subsequent verification by others (McMillan & Chaisson, 2011, p. 8). It provides a framework by which experiments are designed and carried out. Science is only able to support or refute predictions or claims that are testable and yet cannot prove anything with complete certainty.

The scientific method was designed to help scientists experiment as a means to try to disprove a working hypothesis. The method often begins with a question to be

explained by a hypothesis that is either supported or refuted by the experimentation. Whether the hypothesis is supported or refuted is determined based upon the interpretation of the collected data. A worldview or paradigm can influence the scientist's expectations and cause him or her to be biased in his or her interpretation of the data.

Science cannot provide final answers on historical origin because there are great limitations to testing a theory about the past while confined to the present. The past cannot be reproduced and tested for verification as is the case in experimental science, but the presence of evidence for a hypothesized event can support a theory about the past. A singularity containing the entire universe cannot be produced in order that scientists may observe its development into the state that is the universe today.

There are different levels of certainty within science that can indicate the degree to which it has been tested and established as an accurate representation of the observed behavior of phenomena in the universe.

Scientific law. The highest level of scientific certainty, the law is a general description of a well-tested phenomenon that behaves consistently despite the environment. They are not proven, only highly supported and not yet disproven. For example, Kepler's laws of planetary motion describe and predict the motion of orbitals in space. They are continuously tested when astronomers predict the orbits of comets, planets, and are used in space travel (McMillan & Chaisson, 2011, p. 43-45).

Scientific theory. A popular college-level astronomy textbook defines a theory as "the framework of ideas and assumptions used to explain some set of observations and make predictions about the real world" (McMillan & Chaisson, 2011, p. 6). They are testable, have not been disproven, and must be continually tested (McMillan & Chaisson,

2011, p. 6-7). In addition to these requirements, it is preferred that a theory be simple and elegant, which limits the theory to foregoing any unnecessary complexity as well as tying several phenomena together in a single explanation (McMillan & Chaisson, 2011, p. 7). This idea is the foundation for the search of what has been referred to as the "theory of everything" and the "quantum theory of gravity" which would describe everything from quantum mechanics (behavior at the subatomic level) to the general theory of relativity (behavior over astronomically large distances) in a single explanation (Hawking, 1996, p. 17-21).

Theories about the past may be tested in certain circumstances but cannot be sufficiently reproduced in a laboratory setting. One-time events such as the singularity before the big bang expansion or the beginning of the first living creature's life cannot be tested or reproduced in a lab. All we have as evidence are the effects of the events that occurred in the past. The consequences of past events have shaped the present reality. So theories about the past would have to allow for what is presently observed. Any deviations of the past, no matter how small, would affect the present. A theory can be disproven and abandoned or revised based on reputable contradictory evidence that it does not function in a given circumstance.

It is important to have as few arbitrary assumptions as possible and good reasons for them when starting a cosmology (Hawking, 1996, p. 15). Theories must accommodate all known scientific laws when describing or explaining a complex phenomenon.

Theoretical model. A model can be used to make predictions, which are then tested for verification in support of a theory (McMillan & Chaisson, 2011, p. 6). A model can be as simple as a mathematical formula that describes a natural phenomenon such as

gravity, or be as complex as a computer model of the formation of the universe. If experimentation contradicts the predictions of the model, it must be either reformulated or rejected (McMillan & Chaisson, 2011, p. 7).

Scientific hypothesis. Hypotheses are explanations of observed data based on laws and are often used to direct research and experimentation (McMillan & Chaisson, 2011, p. 8). A hypothesis, in order to be useful, must have observable and testable consequences (Seab, 1995, p. 2). A working hypothesis is necessary in a theory to provide a framework for research and guide further inquiry based on the analysis of the observed data.

Observations

Observations are vitally important to the fields of astronomy and cosmology because the distance scales of space are so large that it often makes experimentation impossible (Seab, 1995, p. 2).

Observations are considered logically and are analyzed to derive relationships to be described in the most general principles possible (Gitt, 2011, p. 97). Conclusions are never completely accurate because the scientific method is inherently limited. Measurements can never be perfectly precise, but the possible errors should be within acceptable limits and clearly documented in the data results. All measurements have inherent error built into the sensitivity of the instrument used to collect the data. There are also circumstances in which measurement exactness is less important. Astronomical distances do not need to be accurate to the micron level, for instance, but the angle measurements in astronomy often need to be precise down to at least the arc second. When the range of error of a result is high due to the measurement tools or processes, the

accuracy of the data and subsequent conclusions can be deemed unusable or inconclusive. This was the case with the Cosmic Microwave Background Explorer (COBE), which was not sensitive enough to detect fluctuations in the cosmic microwave background radiation (CMBR) although a statistical analysis did find variations in the "noise" of the radiation data that was proclaimed as evidence for the big bang theory (Williams & Hartnett, 2005, p. 127).

Analysis

Deduction is important in drawing conclusions from experimental data, but if logical deduction is used without evidence to support the hypotheses, it is not considered science. Inductive reasoning, on the other hand, is a staple of science because data must be taken from observations and placed within some kind of framework in which to apply it. When observations are taken carefully and as accurately and precisely as possible, the empirical data should be accurate enough to determine whether predictions were accurate or if the hypothesis or theory needs to be modified for further testing.

Cosmology

A comprehensive cosmology must account for several necessary aspects of the universe: the presence of matter-energy and space-time, the appearance of the present-day physical universe, and intelligent human life. A few of these are already mainstream staples of modern secular cosmology. The presence of matter-energy and space-time are the most studied and accepted areas of physics and is the primary focus of all cosmologies discussed in this paper. Space-time is also addressed in each cosmology, however it is often treated differently based on the structure of the theoretical model. The appearance of the present-day physical universe is addressed to different degrees in the

various cosmologies, which account for the structure and composition in different ways. According to creation scientist John Hartnett, there are only two aspects that are considered in cosmology, “the matter of its substance and the mind that contemplates it” (Williams & Hartnett, 2005, p. 14). Intelligent human life, as a component of the present-day universe must be explained within the same paradigm as the origin of the cosmos. In creation cosmologies, the presence of intelligent human life is due to supernatural creation by an omnipotent being. Naturalistic cosmologies must be able to account for intelligent life from within the same paradigm as the cosmological model for consistency. Logical consistency is important in the study of the universe and those substances and phenomena found within it because scientific laws are made to be as universal as possible, so the same assumptions and physical laws need to be consistent in all situations for a consistent view of the universe from the smallest to largest scales rather than selecting the principles that allow certain phenomena to occur in certain areas of science while denying them in another area.

Presence of matter-energy. As far as we know, matter and energy cannot be created nor destroyed, only transferred and transformed. The universe we see is made almost entirely from regular matter (Williams & Hartnett, 2005, p. 126). The transference of energy into matter creates equal and opposite particles and anti-particles which annihilate each other in massive energy releases when they come into contact with each other (Seab, 1995, p. 167). So the cosmological explanation by which matter and energy are in this world need to incorporate the findings of this research.

According to the big bang theory, matter is supposed to have formed in the early universe from energy by quantum-pair production, but this process only occurred for a

short time before the universe expanded and cooled (Seab, 1995, p. 167). However, this assertion is inconsistent with the observations. Observations suggest that the entire universe is composed of only regular matter and is essentially absent of antimatter. Quantum-pair production produces pairs of particles, equal but opposite. The rareness of antimatter in the universe suggests that this was not the mechanism by which the matter in our universe was formed.

Present-day physical universe. The cosmology will necessarily have to result in a universe just like we observe. Although the cosmology is a theoretical model of the universe creation, it must not be overlooked that the cosmology has to end in what is observed today.

There are many phenomena that need to be addressed and accounted for by a cosmology and the paradigm in which it is based. Life must necessarily be explained in a cosmology because living organisms are present in the universe. Intelligence and consciousness in humans especially need to also have a foundational source. Any paradigm that cannot account for these is inadequate, and any cosmology based off an inadequate paradigm is likely to also be inadequate.

Non-material aspects. Human life depends on several factors, and some of the main things that make life possible are not physical, although there is empirical evidence of them. The pure form of information and the essence of the mind are both well documented and therefore need to be taken into account in the paradigm for cosmology.

Information is defined by Werner Gitt as “a symbolically encoded, abstractly represented message conveying an expected action(s) and the intended purpose(s)” (Gitt, 2011, p. 70). There are two vitally important theorems that guide the understanding of

Universal Information: first, that there is no known law, process, nor sequence of events in nature that is able to originate information; and second, that the source of every transmission of information can be traced back to its source, the mind of the sender (Lisle, 2009, p. 18-9; Gitt, 2011, p. 50). Information cannot spontaneously arise from chance occurrences and still have an intended purpose (Gitt, 2011, p. 56-60). The DNA code studied in biochemistry qualifies as universal information because it has a code, syntax, meaning, action, and purpose, which indicates that the originator of this DNA information, the sender, created life (Gitt, 2011, p. 155-169, 203, 208).

Life alone is not enough; it must be intelligent. The big bang theory as described by Stephen Hawking, relies on the naturalistic theories of abiogenesis and the Darwinian view of biological macroevolution to account for the intelligence of human life (2008, p. 21). Taking into account that DNA is a form of universal information and therefore must have an intelligent source, there is a great deal of support in this statement for an intelligent and omnipotent creator. This argument is thoroughly detailed in *Without Excuse* (2011) by Werner Gitt, in which he logically refutes materialism, chemical and biological evolution, and concludes that an omnipotent, creative, and intelligent being exists, created the information foundational for life.

The mind and consciousness have been mysteries for ages. No one knows where the mind physically resides within the body, or how it brings about personality and thought. Philosophers have pondered the ability of the mind to acquire knowledge and the reliability of that knowledge. Neither of these are material components, yet are present in all living humans and become absent at the time of death.

Analyses of Cosmological Origins Models

The cosmological principle (also known as the Copernican principle) is well known and often applied in astronomy and cosmology. It asserts that the earth is neither central nor special in the universe; that earth is utterly ordinary, and that everything about our planet and solar system are overtly average (McMillan & Chaisson, 2011, p. 4). This is a strong bias in the naturalistic and materialistic viewpoint. Edwin Hubble who first discovered the universe was expanding originally concluded that our galaxy was in the center of a spherical universe because observational data indicated that in every direction, galaxies were receding proportionally to their distance from earth, but due to his philosophical beliefs that the earth was not in a special place in the cosmos, instead proposed that space was curved with no center or edge (Hartnett, 2007, pp. 74-77). Similarly, the anthropic principle describes how the universe appears to be so well designed for human life, that very minor variations in cosmic expansion rate, on the order of $1{:}10^{17}$, would have prevented human life from developing (in old-universe views) and from being sustainable (whether it had been created or evolved) (Williams & Hartnett, 2005, pp. 73-74; Hawking, 2002, p. 104). Scientists who hold to the naturalistic materialistic paradigm must account for this appearance of design and have done so by appealing to hypothetical multiple universes as in the multiverse theory (Williams & Hartnett, 2005, pp. 74-75). Creationists can easily account for this appearance of design because they actually believe that God designed the entirety of the universe especially for the existence of humanity. In this point alone, creationists' theories better explain the observations of the universe based on the principle of Occam's razor, which states that the simplest explanation (the one with the fewest unsupported assumptions) has a better probability of being correct (Seab, 1995, p. 2). In addition to deductive reasoning

arguments as this, an amount of inductive reasoning must also be supported by the observational evidence and the overall feasibility of the model to both describe the currently observed universe with all its components and, within the same paradigm, account for the presence of intelligent human life.

The two viewpoints of naturalistic materialism and theistic creationism will be discussed in terms of the cosmologies within each respective paradigm to accommodate the observed substances and phenomena as well as in relation to the opposing paradigm's models.

Big Bang Cosmology

The paradigm that serves as the basis for the majority of modern scientific research is that only naturalistic processes and matter alone are responsible for the universe in its present state (Williams & Hartnett, 2005, p. 19). The theory rests on the assumption of the cosmological principle that the universe is homogeneous and isotropic—that the universe looks the same in every direction no matter the location of the observer (Seab, 1995, p. 163).

The modern big bang theory is the result of the empirical naturalistic view of the universe. It seeks to explain the origin of the universe originating in a singularity—an infinitely small point of infinite temperature and density—which expanded and subsequently formed into what it is today. The basis of the big bang model is the Friedmann-Lemaitre-Robertson-Walker (FLRW) mathematical framework that describes the expansion of the universe (Hawking, 1996, pp. 54-61). This model provide a framework for an unbounded inflationary universe of strictly naturalistic origins.

A singularity is mathematically defined as a point at which a function takes an infinite value. In the case of the big bang model, it is considered to be an infinitely small point of infinite temperature and density (Seab, 1995, p. 134). No such singularity has ever been directly observed; they are purely theoretical, but it is supposed that a singularity resides at the center of a black hole (Seab, 1995, pp. 134-135). Black holes emit no visible electromagnetic radiation, however, therefore are difficult to study aside from their effects on other bodies. Black holes are hypothesized to be at the center of the Milky Way galaxy and the M81 elliptical galaxy, among others. This is supported by observational evidence of the gravitational effects on the material orbiting these areas (Seab, 1995, p. 135).

The primordial singularity is a singularity that is believed by proponents of the big bang theory to contain the entirety of the universe outside of space-time in a vacuum (Williams & Hartnett, 2005, p. 116-7; Seab, 1995, p. 167). The mechanism by which the expansion is triggered is not accounted for and the equations used to describe the expansion do not begin to work until a short time after the expansion has already begun (Seab, 1995, p. 167). There is a point in the expansion phase at which the gravitational attraction would cause the expanding energy to collapse back into a singularity. In order to overcome this problem, scientists propose a second wave of expansion referred to as "inflation". This time, space-time expands, taking the matter particles and energy along with it, which amounts to making their relative speeds to one another much more than the speed of light, which violates the understanding of velocity and cannot be accounted for by pure naturalistic means (Williams & Hartnett, 2005, pp. 121-122; Hartnett, 2007, p. 74; Seab, 1995, p. 169). The beginning of the theory has no known cause and does not fit

the current known and accepted laws of physics until after the process has already started and is in motion. Before the point at which the known laws of physics are able to describe the behavior of the universe is a mystery.

This inflationary period is entirely speculation, only added to keep the model from re-collapsing because the first part does not work on its own; it is an ad hoc explanation without observational support, arising to solve a problem in the previously established mathematical model (Williams & Hartnett, 2005, p. 121).

The expansion is supposedly caused by a special state of "false vacuum" which caused the universe to spontaneously appear and expand like the gas bubbles in carbonated water (Seab, 1995, p. 169). The proposition for the secondary expansion period of inflation is hypothetically to "homogenize" the substance of the universe to explain the uniformity of the Cosmic Microwave Background Radiation (CMBR) in addition to counteracting the gravitational forces. The CMBR is theorized to be homogenized in this stage because it is supposedly a relic of later stages of the big bang universe (Seab, 1995, p. 165).

There was recently a report of the discovery by the ground-based BICEP2 experiment of the type of polarization of some of the CMBR referred to as "B-modes," which theorists say is an indication of gravitational waves formed during the inflationary period (Wall, 2014, n.p.). This data, however, turned out to be simply interstellar dust that polarizes light to similar frequencies as the proposed B-waves, as concluded by the combined data from several other observatories able to detect a greater range of wavelengths than the BICEP2 experiment (Cofield, 2015, n.p.). The inflationary period still has no direct observational support.

Once the secondary bout of inflation causes the universe to cool enough, ordinary atomic matter begins to form—light elements not much heavier than lithium (Seab, 1995, p. 168). This provides the basis for the regular atomic structures to develop.

The universe consists of as much as 80-90% (by mass) of dark matter which is invisible in some form other than stars, dust, and gas observable from afar with telescopes (Seab, 1995, p. 4).

The "radiation fog" is then able to clear as the universe has cooled enough to the point where the electromagnetic component of the original energy is no longer bound up with matter, but the outward momentum of the massive gas cloud continues the expansion of the universe. This is the stage from which the CMBR is said to emanate (Seab, 1995, p. 165).

Massive homogenized clouds of expanding gas started to collapse in localized areas, and due to the conservation of angular momentum, a rotating disk of matter is hypothesized to have formed (Williams & Hartnett, 2005, p. 118; Hawking, 1996, pp. 151-153). Within the disk, further collapses of hydrogen and helium into condensed rotating masses eventually became stars when gravity caused enough pressure and heat to begin nuclear fusion (Hawking, 1997, p. 153). After several generations of star birth, death, rebirth, and more deaths, heavier elements are purported to have begun to form providing the matter to form the orbiting planets by coalescence into gaseous as well as rocky planets such as those in our solar system (Williams & Hartnett, 2005, p. 118; Hawking, 1996, p. 153). This accretion disk model applies as well to the formation of planetary moons, and contains a problem in the aspect of how collisions of particles and debris would stick together. The laws of physics generally indicate that they would be

more destructive than constructive encounters, and the particles that did happen to cling together would not be held together by anything stronger than their own gravitational pull toward each other, a relatively weak force which would not be very stable (Williams & Hartnett, 2011, p. 154).

There is no known cause as to why areas collapsed in a previously "homogenized" cloud of gas and dust particles. Some scientists have proposed hypothetical "density fluctuations" as the cause of this; however, the cause of these density fluctuations is unknown (Hawking, 1996, pp. 156-157).

More than 450 planets have been discovered that orbit a star other than our own (McMillan & Chaisson, 2011, p. 362). These exoplanets (extrasolar planets) are often discovered indirectly through the analysis of the effects of the presence of a planet rather than detecting the presence of the planet itself by imaging techniques (McMillan & Chaisson, 2011, pp. 369-370).

Planets orbiting other stars do not appear to be like those orbiting our own sun. Many of the exoplanets that have been detected orbiting stars similar to the sun appear to be "hot Jupiters" (large gaseous planets orbiting near the star), "cold Jupiters" (large gaseous planets orbiting far from the star), and "super-Earths" (massive rocky planets) (McMillan & Chaisson, 2011, pp. 370, 372-373). That being said, smaller rocky planets would be more difficult to detect at a distance, causing the observations to not detect bodies similar in size, temperature, and composition to Earth, and none have yet been detected (McMillan & Chaisson, 2011, pp. 372-373).

The big bang has its own set of unexplained problems. One major problem that has yet to be adequately explained is the "horizon problem," which describes the inability

to explain the equalized temperature of points in the universe billions of light-years distant (Hartnett, 2007, p. 24; Hawking, 1996, pp. 155-156). In order for thermal equilibrium to be reached, the radiation must be able to travel between these points, and, even in the time scale of the big bang, the distances are too immense for this to occur, even at the speed of light (Hartnett, 2007, p. 24).

Dark matter and dark energy are additional ad hoc explanations to the universe, which are invoked to fill in the blanks of the FLRW mathematical equations, which serve as the model for the theory. When observations do not match the predicted results of these equations, usually indicating that there is much more matter that can be observed, in the range of 80-90%, dark matter is invoked (Hartnett, 2007, pp. 63-64; Seab, 1995, p. 4). It is admitted that this is a major problem in astrophysics by the majority of all scientists in the field, despite their paradigm (Seab, 1997, p. 4).

Creationist Cosmologies

Some scientists that are also Christians have respected scriptural authority and developed testable cosmological models that incorporate scriptural truths as starting assumptions rather than deciding what to assume based on the secular paradigm's arbitrary principles.

Theologically, creation in six literal days is important enough to God that he wrote it in stone in the Fourth Commandment as the basis for the seven-day workweek where the last of the seven days is reserved for rest (Exodus 20:8). Jesus Christ further supported the notion of a literal six-day creation by supporting the writings of Moses, who told of his receipt of the commandments directly from God, as being accurate and

reliable (Ham, 2001, n.p.; John 5:45-47). There is biblical support for a literal six-day creation and if that is the case, observations should account for this scenario.

Many Christians tend to compartmentalize their beliefs between church and science, believing secular claims in the latter, while agreeing with the pastor about biblical history while in Church. This kind of worldview is inconsistent and therefore, logically invalid. Two beliefs about the same thing cannot coexist and make logical sense (it violates the law of noncontradiction) nor make a solid foundation for the interpretation of higher-order topics such as the basis of morality and right versus wrong.

Humphreys' white hole. Humphreys' model, also referred to as the white hole cosmology, interprets the creation account in Genesis literally, fitting the creation events that took place on the earth in the context of the universe-wide white hole cosmology. Because it bases the time frame for the earth's creation on the biblical record while also accounting for the entirety of the universe, the model is comprehensive in the Christian worldview. He stresses in his book that the timeline may not be exactly how it occurred, but based upon his beliefs and interpretation of scripture along with the physical evidence and known scientific principles, it is a way that God may have created although God possesses the power to create the universe at any stage within the cosmology (i.e. creating a black hole which turned into a white hole, or just starting with a white hole) (Humphreys, 1994, p.31). God's character is rational, unchanging, and perfect which implies being consistent, and therefore using, for the most part, the natural physical laws He created. Starting with a black hole is a reasonable assumption and incorporates the biblical creation account events, described by Hartnett as using an "economy of miracles" (Hartnett, 2007, pp. 22, 108).

Unlike the big bang theory, which adheres to the Copernican Principle, the belief that Earth is not in a significant location in the cosmos, Humphreys' model uses the uniformity of space in all directions to indicate, instead, that the Earth is at or near the center of the universe (Humphreys, 1994, p. 21). This cosmology takes into account gravitational time dilation based on Einstein's theories of relativity, which, assuming the earth is near the center of the universe, makes it possible for millions of years to have passed in the outer reaches of the universe while only a few days pass near the center (Williams & Hartnett, 2005, p. 178-80; Humphreys, 1994, pp. 27-28).

In the Humphreys white hole model, the time standard for the creation week days is from the perspective of Earth as defined by the context of the passage which uses "there was evening and there was morning" (Genesis 1:5, 8, 13, 19, 23, 31, English Standard Version) to describe the passing of the days in terms of light and dark cycles due to the earth's rotation (Humphreys, 1994, p. 29).

From the assumption that the Earth is near the center of the universe, general relativity and gravitational time dilation come in to explain distant starlight in a biblical time frame. The outer reaches of the universe would be much farther from the gravity well's point of greatest depth at the center of the universe and, therefore, time would pass much more quickly there than in the areas deeper inside the gravity well where time progresses relatively much slower (Humphreys, 1994, pp. 19-21). This time difference would allow for the distance the light would need to travel to reach the earth by the fourth day as described in Genesis 1, fitting within the Biblical time frame.

In accordance with the biblical account, Humphreys describes the first day (Genesis 1:1-5) as when the matter-energy and space-time was created in the form of a 2-

lightyear-diameter sphere of water containing all of the matter-energy within it, surrounded by an event horizon with a radius of more than five hundred billion light-years (Humphreys, 1994, pp. 32-33). The light came as God commanded it in the form of thermonuclear fusion reactions within the mass of water (Humphreys, 1994, p. 33). The separation of darkness is explained as the point when gravity becomes so strong in the mass as it contracts under the fusion reactions that the light cannot escape past the surface, at which point God himself becomes the light source for one side of the water mass, leaving the other dark which, along with the earth's rotation marks the passage of each day of creation before the sun is created (Humphreys, 1994, pp. 33-34).

At day two in the creation account, the "expanse" divides the waters above from the waters below (Genesis 1:6-7, English Standard Version). The waters above the expanse refer to water at the boundary edge of the universe, and the waters below refer to a mass of liquid water at the center of the universe (Humphreys, 1994, p. 65). The earth at this point has a core and mantle covered in liquid water and an atmosphere which is near its present temperatures, and the "heavens" referred to in Genesis 1:8 as the "expanse" is interstellar space (Humphreys, 1994, pp. 35-36).

Day three marks the time when the water is divided into seas on the earth to surface dry land that sprouts vegetation (Genesis 1:9, 11). According to Humphreys' model this is caused by radioactive decay in turn caused by the stretching of space itself (Humphreys, 1994, p. 36). On day four, the celestial bodies mentioned in the creation account (Genesis 1:14) are first visible when the event horizon of the black hole-turned white hole passes the earth, allowing the sun and moon to be viewable to an observer upon the earth, and God creates the stars by condensing the matter and igniting nuclear

fusion (Humphreys, 1994, pp. 37-38). Due to the effects of gravitational time dilation, the stars are able to age and send their light to reach the earth within a matter of days when man is created. The rest of the biblical creation account, days 5 and 6 describe the supernatural creation of living creatures. By the time Man is formed on day 6, the environment is thoroughly prepared and stars billions of light-years away can be seen in the night sky (Humphreys, 1994, pp. 37-38).

The white hole cosmology adequately answers the questions of Genesis and fits within the young-earth timeline while accounting for the phenomena encountered in the universe. However there are some problems and unanswered questions with the theory. The earth is young while there are objects in the galaxy that appear to be much older than the few thousand years (Hartnett, 2007, p. 20). If it were the gravity well in the center of the universe that causes the variation in the relative speed of time, then the galaxy would appear to be young as well, and nearby galaxies should be more blueshifted than they are (Hartnett, 2007, p. 21). This is due to the immense size of the universe in relation to the local area of the earth, the galaxy. The earth should age approximately the same as the galaxy because it is essentially the same distance from the gravity well at the center of the universe, yet there are objects within the Milky Way that appear to be much older than they should be if this scenario were the case, except for case of direct divine intervention. Also according to the particular solution to Einstein's general relativity field equations, if the universe were shaped in the form of a gravity well with the Milky Way at the center, the light from distant galaxies should be blueshifted, not redshifted as they are observed to be (Hartnett, 2007, pp. 18, 22).

Humphreys' cosmology is not the answer, however it is a step in the right direction for creation science. It attempts to solve for the light-travel-time problem that previously plagued the proponents for a young earth, and provides a framework as to how creation week might have taken place in the grand scheme of the creation and development of the universe. It adheres to a paradigm in which special creation is accepted and embraced, allowing for the explanation for the creation of life and the immaterial components found among intelligent living beings in fields outside cosmology.

Hartnett model. Hartnett's model is, for the most part, based on much of Humphreys' finite white hole cosmology and Moshe Carmeli's theories of cosmological general and special relativity, which are extended versions of Einstein's relativity theories that apply to cosmic distances, whereas Einstein's theories only apply to scales analogous to that of the solar system (Hartnett, 2007, pp. 42-44, 57). Hartnett's theory also extends the original ideas of Humphreys' use of time dilation, evidence that the Milky Way galaxy may be near the center of the universe (which is finite and spherically symmetric), a starting point of a large sphere of water, and redshift observations that indicate the universe has expanded (Hartnett, 2007, pp. 59, 118). The model is of a galactocentric, finite, bounded, and isotropic universe that is not homogeneous. It is primarily based on Carmeli's new physics of cosmological relativity and loosely on principles from Humphreys' model such as its primordial physical structure.

Hartnett's model differs from that of Humphreys' in several ways, despite their shared conceptual basis of relative time speed based on distance from the universe's center. Rather than a concave gravity well, space-time is curved outward in a gravity hill,

based on the Carmeli relativity principles (Hartnett, 2007, pp. 19, 88). The universe is still modeled as the result of a low-matter-density spherical white hole expanding with the Milky Way at its center, evidenced by the discrete distances of galaxies in all directions forming what appear to be concentric spherical shells, which also describe an isotropic universe that is not homogeneous (Hartnett, 2007, pp. 70, 84-85, 88).

The model is able to rely on Carmeli's proposed space-velocity dimension (different from Einstein's space-time dimension), which eliminates the need for the "fudge factors" of dark matter and dark energy to accommodate the phenomena observed (Hartnett, 2007, pp. 30, 43, 48, 51-52, 57, 62). Dark matter is often invoked in cosmology when two different methods used to determine the amount of matter (orbital mass and luminosity) disagree and when observed dynamics seem to violate known laws of physics (Hartnett, 2007, pp. 37-41, 46, 51-52). Dark energy, which was instituted to fill a hole in the prior models that have not used the correct mathematical description of reality (Carmeli's cosmological relativity theories, discussed later), actually describes a property of the vacuum of space rather than indicating unknown substances (Hartnett, 2007, p. 43). Carmeli's cosmological relativity describes local space as flat and therefore replaces the space-time dimension with a space-velocity (a four-dimensional model), only adding in space-time-velocity (a fifth dimension) when dealing in smaller scales than the universe as a whole (Hartnett, 2007, pp. 61-62, 65, 82, 111). Also unlike Humphreys' model, rather than the universe continuing to expand from creation through the present, Hartnett proposes that the universe is not currently expanding, but has, instead, only gone through a rapid expansion phase during creation week on day four when the heavenly bodies were created, causing time dilation where the passage of time on earth slowed

relative to that of the rest of the universe (Hartnett, 2007, pp. 30, 113, 116). During this expansionary period, quasars ejected from existing galaxies formed more galaxies, yet newly created galaxies, which accounts for the clustering of galaxies observed (Hartnett, 2007, p. 113-114). Due to the finite speed of light, the theorized controlled rapid expansion that ceased during creation week (the universe may not still be expanding, or it could still be expanding, just not as rapidly as during creation week), and the observed redshift of light from distant galaxies, the more distant the galaxies observed, the further back in time one sees (Hartnett, 2007, p. 117). The hypothesis is that the quasars in the far reaches of the universe are a look back into the events of creation week as they occurred then (Hartnett, 2007, p. 115).

Lisle. Jason Lisle proposes another cosmology based on an "anisotropic synchrony convention" (Lisle, 2010). A synchrony convention is "a procedure for synchronizing clocks separated by a distance" and is a human invention used to measure simultaneity (Lisle, 2010, pp. 193, 201). Lisle interprets Genesis 1 to indicate a synchrony convention in which the light of the stars is immediately visible from Earth (Lisle, 2010, pp. 199-200, 202). Such a synchrony convention would make the one-way speed of light (which is impossible to experimentally determine) instantaneous toward the observer (Lisle, 2010, pp. 199). Einstein's theory of special relativity states that as a clock approaches the speed of light, it slows, and at the speed of light, it stops altogether, so from the point of view of the light, the transit at light-speed was instantaneous (Lisle, 2010, p. 202). This is not to say that the speed of light is always infinite: it is only infinite when directed toward the observer and is half the experimental two-way speed of light in the opposite direction, away from the observer. This is supported by Einstein's relativity

theories; it just shifts the convention from being position-independent to velocity-independent (Lisle, 2010, p. 199). This matters because the velocity of the earth changes constantly over the course of the year as it orbits the sun. The constant change in velocity would make the creation events in Einstein's position-independent synchrony convention seem to have been altered by millions of years in the span of six months when the earth's velocity is antiparallel to its original position halfway around its orbit, only to return to the original in another six months (Lisle, 2010, p. 199). The use of this synchrony convention allows the observer to disregard the distance to the object as well as the speed of light, as would have been the assumption in ancient cultures (Lisle, 2010, pp. 202, 204).

The cosmological model that is based upon this synchrony convention also assumes relatively small effects of gravitational time dilation except near exceptionally dense massive objects like neutron stars and black holes (Lisle, 2010, p. 204). This predicts that the rest of the universe would have a young appearance of approximately 6,000 years opposed to billions of years assumed by big bang proponents (Lisle, 2010, p. 204). There are confirmations of this in hot blue stars which cannot survive longer than about a million years, distant spiral galaxies that are not tightly wound, and the strong magnetic fields and internal heat of local planets (Lisle, 2010, p. 205).

This anisotropic synchrony convention model allows for a paradigm that agrees with the biblical record of creation. A young universe that appears as it actually is at that instant is supported by what is currently seen in distant and nearby parts of the universe. Such a created universe also allows for the supernatural phenomena that are witnessed in the universe like the presence of universal information and human consciousness.

Theology and Biblical Topics

Christians regard the Holy Bible as the infallible Word of God, so for the Christian worldview it is necessary for the observations to reconcile with Scripture in order to maintain a consistent worldview in all aspects of faith and life. The entirety of Christian theology revolves around the atonement of all sin by Jesus Christ on the cross. For the atonement to even be necessary, it must logically atone for something—the sin of humanity. Only Genesis creation as it is interpreted literally as a supernatural creation ex nihilo (Latin: "out of nothing") in a perfect, deathless, and sinless state provides the standard to which God judges. The subsequent fall of Man then requires for some way by which humanity can regain acceptance by God, and that answer lies in the life, death, and resurrection of the Son of God, Jesus Christ who lived a perfect life, took on the sins of all humanity to the grave at his death, and rose again, overcoming the ultimate penalty of sin: an eternity in hell.

Genesis 1:14 describes the fourth day of creation: "And God said, "Let there be lights in the expanse of the sky to separate the day from the night, and let them serve as signs to mark seasons and days and years" (New International Version). The moon provides an approximation of the current month length, and the position of the stars mark the passing of seasons as well as the climate changes. The sun's position provides a measurement of the longest and shortest days of the year that still officially mark the seasons—the solstices and equinoxes. Despite this generally straightforward reading of Genesis 1, there have been compromise theories proposed to reconcile the Genesis creation account with the recent findings of secular science. Hugh Ross is the developer of one such popular theory, the progressive creation theory.

Hugh Ross' progressive creation theory. Hugh Ross is a proponent for a compromise cosmological theory in which the Biblical creator and the long ages of secular science are incorporated together to reconcile the biblical account with the "scientific facts" in a coherent cosmological origins model (Ross, 1994, p. 148). He essentially explains that the big bang theory provides the framework for the cosmological environment and was set into motion by God but that life and humanity were special creations inside the big bang framework model (Ross, 1993, pp. 82-85; Ross, 1994, p. 153).

Hugh Ross seems to be more interested in achieving peace between secular scientists and Christians. He cites an encounter with a biology student who had recently converted to Christianity and was unable to reconcile the secular science with his newfound spirituality, and concludes that his theory allows Christians to get on the same page as secular scientists and make Christianity easier to reach this particular lost segment of humanity (Ross, 1994, pp. 159-165). While this may be true, there are several flaws with this line of thought.

The time scale is no longer a problem in need of explaining in a six-day literal biblical creation account of the universe with the discovery of relativity and how gravity affects space-time (Williams & Hartnett, 2011, pp. 16-17). It is also important to point out that the "scientific facts" (Ross, 1994, p. 148) to which Ross refers are those conclusions extrapolated from the theoretical models of the big bang theory discussed earlier as well as the long-age interpretation of the geologic column (Ross, 1994, pp. 148, 151-153).

Compromise also interferes with biblical theology, because if there is room for compromise in a very straightforward passage of Scripture such as Genesis 1-3, then the rest of Scripture may be open to questioning. Compromise positions do not earn respect among scientists nor Christians because it distorts two worldviews into one that causes multiple logical problems (Williams & Hartnett, 2005, p. 16-7).

Conclusion

The reigning paradigm in science only deals with the observable natural aspects of the universe, not the supernatural aspects, and therefore cannot accurately describe the universe. It cannot account for the presence of life, intelligence, universal information, nor consciousness. Although the big bang is popularly accepted by society as a practically definitive answer to the origin question, several scientists concede that the big bang theory is inadequate or inconclusive. The scientific community has been continuing to research this rapidly evolving theory which has been known for over a decade to be unable to adequately account for the universe we presently observe, and quietly amending the theory to fit the observations into the framework despite its major problems (Williams & Hartnett, 2005, p. 327-330; Hartnett, 2007, p. 79).

Although theories can only be supported scientifically, never proven, and science cannot test for the existence of God, Christian theology still provides the best framework for an explanation of everything currently observed in the universe in the Hartnett model based on Carmeli's cosmological relativity theories. It is able to account for the substances and phenomena of the universe from galaxy clusters to the presence of information and the existence of consciousness and the human mind.

How the universe came to be is just as an important existential question for humans because it is the basis of where everything around them came from. Understanding the source of the universe—and ultimately the life that resides within it—can help answer a question about the purpose of the existence of the universe and the life within it. As the home of humanity, the earth and its ability to provide and sustain humanity is important to the human race as a whole.

Despite what many scientists would like to believe, scientific research is not purely objective, but is highly subjective based upon the paradigm and worldviews of those performing experiments and taking observations. Even the viewpoint that there is no bias in science is a form of bias in itself. Scientific research must be interpreted and is subject to errors in data collection, logical reasoning, and human mistakes. Acknowledging these weaknesses is the best way in which to start exploring the realm of scientific discovery.

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