

Science of Origins

Part 2—Empirical Evidence

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Part 1 of Science of Origins [1] discussed some principles of origins and presented five doctrines of creation: God is eternal, God is omnipotent, God is creator, God is sustainer, and God is omniscient. Part 2 compares the first four of these doctrines of creation-science with the doctrines of naturalism that deny any supernatural activity occurred in establishing and forming the universe. In this paper, the claims of the supernatural and natural doctrines of origins of the universe are tested by the empirical evidence. Empirical data and laws of physics favor the supernatural origin of the universe.

Empirical Laws of Physics. Over centuries of testing, experimentation, and observation, two general laws of physics have been recognized by scientists as summarizing universal truths and processes of natural phenomena: The *law of cause and effect* states the common experience that *every effect has a preceding cause*. The *law of conservation of energy* states that the total energy in an isolated system will remain constant. These laws are empirical laws in that they are summaries of empirical data. Thus, the fundamental empirical laws can be used to test theories and models of physics to determine if they are accurate descriptions of nature. Evaluation of the doctrines of origins will be done in this paper by testing the doctrines by the criteria of the established laws of physics.



Figure 2.
Duck-billed Platypus,
possibly the world's most
puzzling animal



Figure 1.
Archaeopteryx, a restoration
based on the world's most
famous fossil.

1. God is Eternal. According to creation-science God always existed, and He is the Prime Cause of bringing the universe into existence [1]. Of course, no human scientist was present to observe and record this event. However, there is overwhelming empirical evidence for the *law of cause and effect*, and this fundamental law of science applied to the origin of the universe proclaims that *there had to be a Prime Cause for the universe to come into existence*. Many scientists declare that today everything occurs by *natural* processes, and that the universe must have

started in the same way, *i.e.*, naturally and not supernaturally.

Atomism. Natural philosophers living in Greece challenged creation-science with new ideas developed in the Fifth to Third centuries BC:

The atomists...believed that everything in the universe was composed of atoms, which were physically indivisible. There were an infinite number of atoms, and they moved perpetually in an infinite void. They had existed from eternity, for they had not been created, and could not be destroyed...[2, p. 32].

Because of their philosophic opposition to religion, the ancient atomists rejected any knowledge of origins that purported to be a revelation from a Creator. So atomists argued that atoms were eternal on the *premise* that a supernatural Creator did not exist: "...by the face of nature and her laws, this is her first, from which we take our start: *nothing was ever by miracle made from nothing*" [3, p. 4].

Lucretius (circa 50 BC) ruled out *a priori* the possibility of supernatural creation. Then he tried to justify his denial of any supernatural events at sometime past by what he observed to take place in the present:

...nothing comes from nothing.... If things were made by nothing, then all kinds could spring from any source: they'd need no seed. Man could have burst from ocean, from dry land the bearers of scales, and from thin air the birds; cows, horses, sheep, and the rest would breed untrue, infesting farm and forest. Nor would one tree produce one kind of fruit; no they would change, and all could bear all kinds.... Thus everything cannot spring from anything, for things are unique: their traits are theirs alone.... Admit then: nothing can be made of nothing since things that are created must have seed.... But things are made of atoms; they are stable.... Come now: I've shown that things cannot be made from nothing nor, once made, be brought to nothing. Still, lest you happen to mistrust my words because the eye cannot perceive prime bodies, hear now of particles you must admit exist in the world and yet cannot be seen [3, pp. 4-7].

Lucretius idea that 'nothing comes from nothing' is a naked claim without evidence. That which he described as existing in the present (stability of every kind of animal) is much better explained by the creation principle that an Intelligent Creator designed each plant and animal to reproduce after its own kind (see reference [1]). Lucretius' premise that *atoms are eternal and any creator is not eternal* is not rendered plausible by pointing out the invisibility of atoms.

The Steady-State Universe. A modern variation on the 'atoms are eternal theme' is the steady-state model of the universe. As in ancient atomism, matter is postulated to exist from eternity past. In 2002 the original steady-state cosmology theory of Herman Bondi, Thomas Gold, and Fred Hoyle was modified and reintroduced:

A new theory published online by *Science* describes a sheetlike "brane" universe that eternally dies and rises from its ashes, hearkening back to the long-discarded

steady-state model of a cosmos without beginning or end. The new idea is an extension of the ekpyrotic or “Big Splat” theory, which physicists introduced last year as an alternative to the standard, inflationary picture of the formation and demise of the universe [4].

A few physicists like steady-state cosmology theories because they postulate of an eternal universe satisfies the *law of conservation of energy* without the addition of new energy during a creation event. The appeal of steady-state cosmology theories is not due to compelling scientific evidence but is only a means to explain the obvious energy residing in the universe without acknowledging an omnipotent Creator. Most physicists have abandoned steady-state cosmology theories and now promote the Big Bang Theory.

The Big Bang Theory. Accounts of the Big Bang and its aftermath are described in great detail and presented as scientific explanation of the chaotic evolution of a “quantum fluctuation” into a mature functional universe:

Modern big bang theory states that a massive explosion created all the mass and energy in the universe, as well as the fabric of space-time [5].

The Big Bang Theory postulates self-creation out of nothing. Big Bang Theory speculates that in one instant there was nothing, but in the shortest time imaginable, all the energy of the universe sprang into existence by the power of something. And what was this ‘something’ with such power? Not God, according to proponents of the theory.

It must be Nature. But not really, because the Big Bang explosion created everything, including atoms and the ‘fabric of space-time.’ So, nature didn’t exist yet and could not be the cause of the Big Bang. This would surely be a *miracle* in violation of the *law of conservation of energy*. (But remember, proponents of the Big Bang theory don’t believe in miracles. For them, everything is natural phenomena, and they reject everything supernatural as religious superstition.)

Notice how this approach departs from science. The universe is present, and it had a beginning, but proponents of the Big Bang theory say that it was not caused by anything. Proponents of the Big Bang theory say that no miracle occurred, for everything occurs by Nature. But the big bang itself violates nature’s laws of *cause and effect* and *conservation of energy*. So, the Big Bang Theory is invalidated by the laws of logic for lack of consistency and by science for failure to conform to the fundamental empirical laws.

Professing themselves to be wise and understanding the original events of our universe, proponents of the Big Bang theory move from physics to metaphysics and let their imaginations soar to new heights of fantasy. Many proponents of the Big Bang theory believe in multiple worlds that are invisible to us:

An increasing number of mainstream physicists have espoused an almost

unspeakably bizarre picture of the cosmos, one filled with mirror worlds and parallel universes, with doppelgängers and alternate histories....

The basic argument for parallel universes goes like this: Space is infinite. Within any finite volume of space, however, matter and energy can be arranged in only a finite number of ways. So if you carve space into enough same-sized regions, sooner or later they will start repeating themselves [6].

As is often admitted, this theory of multiple worlds is bizarre. The same article admits that we cannot even see much of the universe that we live in, and the Big Bang idea is based more on the *theory of inflation* than on empirical evidence:

Even without the new data, there would be a reason to believe in an infinite universe. The theory of inflation—which underpins modern cosmological thought—seems to imply that the universe is much, much bigger than what we can see in the sky. According to the theory, in a billionth of a billionth of a billionth of a second after the big bang, the cosmos ballooned from the size of an atom to the current size of the visible universe. This “inflation” phase explains not only the size and abundances of the ripples in the cosmic background radiation but also several other properties of the universe. The theory also implies that the fabric of the cosmos is constantly stretching in regions well beyond the edge of the visible universe. That makes the cosmos unfathomably huge [6].

Proponents of the Big Bang theory claim that four lines of empirical evidence support their theory:

The standard model of cosmology is the Inflationary Hot Big Bang scenario. A key aspect of this model is the ease with which it explains some critical observational facts about the universe. For example, the existence of the cosmic microwave background (CMB) radiation that fills all space is simply the radio remnant of a hot early phase of the universe, *i.e.* when it was only $\approx 100,000$ years old. The model also provides a natural explanation for Hubble’s famous expansion, large-scale coherent structures in the mass distribution (caused by quantum effects in the early universe), as well as producing a flat global geometry for the universe [7].

Let’s examine the four lines of empirical evidence that are listed in the preceding quote.

The first so-called “observational fact.” What existed prior to the big bang? According to Big Bang Theory, the entire universe, material and the fabric of space time came out of nothing through a “massive explosion.” And what is the empirical evidence for this amazing event? Low-level microwave radiation coming from the sky has been detected.

But there are other possible sources of the cosmic microwave background that can

explain its existence. Furthermore, the theory has a long list of inconsistencies that destroy all credibility of the Big Bang Theory [8, 9].

Through the years many modifications to [Big Bang] theory have been proposed and some of them have been incorporated. Most innovative of them is the idea of inflation; an enormously rapid “inflationary” expansion [*many times greater than the velocity limit of the speed of light*] of the minutely tiny universe before the start of the traditionally hot BB expansion that had gained acceptance over the past 20 years [8].

Several serious problems, such as a violation of mass/energy and problems concerning the age of the universe, continue to plague [Big Bang Theory] [8].

Creation scientists as well as secular scientists use the same data and come to opposite conclusions. For example, Charles W. Lucas Jr. has shown that the source of the cosmic microwave background may be radiation from oscillations inside matter distributed throughout the universe today [10-14] rather than a “remnant of a hot early phase of the universe.”

The second so-called “observational fact” that is supposed to support the Big Bang Theory is “Hubble’s famous expansion.” Dissidents have long disputed this “observational fact” [8, 9], but now mainstream cosmologists have admitted that the method for measuring the size and expansion of the universe has a “less than secure theoretical foundation.”

Supernovae are those exploding stars seen infrequently as unusually bright and brief bursts of starlight. They are called “standard candles” because they are all supposed to emit the same amount of light intensity. If this were true, then the nearest one would appear as the brightest, and more distant exploding stars would be much dimmer. Astronomers measure the light intensity and compute a distance to the source based on this theory. Such calculations are said to show that a very large and very old universe began with a big bang.

However, an article on astronomy in Science magazine titled “Surveys of Exploding Stars Show One Size Does Not Fit All” reports that

[E]xperts on the stellar explosions known as supernovae wonder whether textbook accounts tell the true story—especially for a popular probe of the universe’s history, the supernovae designated as type Ia....

In fact, new observational surveys suggest that cosmic evidence based on type Ia supernovae rests on a less-than-secure theoretical foundation. “We put the theory in the textbooks because it sounds right. But we don’t really know it’s right, and I think people are beginning to worry,” says Robert Kirshner, a supernova researcher at the Harvard-Smithsonian Center for Astrophysics (CfA) in Cambridge, Massachusetts. “We keep saying the same thing, but the evidence for it doesn’t get better, and that’s a bad sign.”...

Faraway type Ia supernovae are dimmer than expected, however, suggesting that the universe's expansion rate has been speeding up....

Several speakers during the Santa Barbara conference noted problems with the textbook view. For one, astronomers have long realized that not all type Ia's explode with the same brightness. Instead, the brightest are several times as luminous as the dimmest...[15].

An unbiased observer of stellar light intensities would acknowledge that “Hubble’s famous expansion” depends upon doubtful theory, that data has been selected to favor a preferred conclusion, and that the expansion is more speculation than established fact.

The third “observational fact” that is supposed to support the Big Bang model is existence of “large-scale coherent structures in the mass distribution (caused by quantum effects in the early universe).” Mitchell describes how cosmologists think large galactic structures were formed.

In a very large and very old universe, it is suggested that over tens of billions of years, galaxies gather into clusters, in additional tens of billions of years, clusters form into superclusters and, in many more tens of billions of years superclusters form into the structures that have been called walls, or sheets, and voids.... Although the gravitational attraction between the masses in those regions would be extremely small, over the billions of years of their development, it could be sufficient to cause galactic “clustering”.... Over even more billions of years the feeble gravitational attraction between such clusters would result in larger formations, and so on, until structures such as the Great Wall and giant voids are formed (which, of course, couldn't happen in a [Big Bang] universe that was expanding at relativistic speed) [8, pp. 292-293].

Readers may observe from the forgoing account that formation of superclusters cannot be explained by Big Bang Theory. Indeed, the existence of such large superclusters is empirical evidence *against* the Big Bang Theory. The minimum formation time of superclusters is much greater than the largest estimates of the age of the universe:

...Geller and other observational astronomers had said that, “the CDM [Cold Dark Matter] model was now dead. Neither it nor any other theoretical construct allowed gravity enough time to create the enormous structures such as the Great Wall out of density fluctuations in the early universe that were consistent with a perfectly even background radiation.” [He] quoted Geller as saying that, “We clearly do not know how to make big structures in the context of the big bang.” [8, p. 98].

The fourth so-called “observational fact” that is supposed to support the Big Bang model is the “flat global geometry for the universe.” But if the size and expansion of

the universe are in doubt, as now being admitted in the articles quoted above, then the universe may not have a “flat global geometry.” Some cosmologists who subscribe to the Big Bang Theory admit that serious discrepancies exist between observations and theory, and they must postulate the existence of huge amount of “dark matter” and “dark energy” knowing that neither have been observed (that is why they are called “dark”):

[I]n the past 50 years the rate of astronomical discoveries has increased rapidly, thanks to powerful new observatories on the ground and in space. The entire range of wavelengths emitted by celestial objects from radio waves to gamma waves, can now be observed. The data can be analyzed, stored, and distributed by powerful computers. So, what have we found? Perhaps the most striking results is that the universe appears to be filled predominately with forms of [dark] energy and [dark] matter different from the normal baryonic matter of everyday objects. What determines the dynamics and the evolution of the universe is subject to natural laws that researches do not yet fully comprehend. Once again astronomy is posing some of the most fundamental questions for physics [16].

Observational evidence and theory are *problems* for the Big Bang Theory. World-class astronomer Halton Arp makes a startling conclusion:

[I]n spite of determined opposition, I believe the observational evidence has become overwhelming, and the Big Bang has in reality been toppled.

There is now a fashionable set of beliefs regarding the workings of the universe, greatly publicized as the Big Bang, which I believe is wildly incorrect [9, *pp.* ii, 2].

The Bible declares that God set the stars in their places [17]. The deliberate placement of the stars and order in the heavens has been observed throughout the documented history of mankind, and many constellations retain their ancient names and appearance, showing evidence of order from the time of their origin rather than the disorder predicted by any massive explosion such as the Big Bang. A creation scientist has derived the Universal Force Law that includes the force of gravity and is able to discover and account for the present forms of cosmic structures such as the rings of Saturn, spiral arms of galaxies, the orbits of planets and their moons, and the cosmic microwave background radiation [10-14].

2. God is Omnipotent. According to our understanding of creation God energized the entire universe on Day One when He said “Let there be light”[1]. In a moment, from His personal resources, God added all the energies that He would soon form into physical structures distributed throughout the entire cosmos.

The word used to describe energy added to the universe is “light,”—not “objects in motion,” as assumed by Aristotle, Epicurus, Isaac Newton, Albert Einstein, and Richard Feynman.

“Light,” the most basic form of energy, is mentioned specifically, but its

existence necessarily implies the activation of all forms of electro-magnetic energies [18].

Before God created the universe, all was “void” and no building materials existed. Then on Day One God miraculously *created*, out of nothing, all the energy fields and substances he would use in *forming* the worlds that he “spread” throughout the universe [19]. What God created first was some visible light, some invisible light, and a substance that physicists and engineers call ‘electric charge.’ (All elementary particles, including electrons and protons, appear to be composed of ‘electric charge.’) [1].

According to our understanding of creation *the physical universe is fundamentally electromagnetic in character* [1]. Discoveries in electricity and magnetism laid the basis for the Industrial Revolution. Today, the role of electricity and magnetism may be observed and understood in atomic structure, batteries, motors, computers, radios, television, phones, starlight, and even the human brain. Universities teach engineers the laws of electricity and magnetism, and employers hire engineers to develop all sorts of electromagnetic devices. The force and energy laws of electricity and magnetism apply universally to the small atoms and the large cosmos. All matter in the universe is composed of electrons, protons, and neutrons that exhibit electrical properties and explain the origin of electric and magnetic forces.

Flawed Basis for Modern Science. In contrast, Quantum Mechanics and the Standard Model of Elementary Particles developed in the Twentieth Century assert that small particles named ‘bosons’ carry forces between elementary particles. This modern atomic theory assumes the existence of ‘elementary force-carriers’ that are supposed to replace the forces that electromagnetic fields exert on charged elementary particles. Using their new models and theories, modern atomists were able to predict such phenomena as blackbody radiation, line spectra, the photoelectric effect and the electron gyromagnetic ratio and then loudly proclaimed the failure of classical electromagnetics when *spherical* models of the electron could not account for these phenomena. The ‘spherical electron’ was renamed the ‘classical electron’ in order to secure rejection of classical physics—as if failure of a classical model of a electron meant failure of the whole body of classical physics.

Failures of the new atomic theory of quantum mechanics were ignored (including ‘radiation death’ of Bohr’s orbital model of the atom and violations of the laws of conservation of energy and causality). The modern physics that replaced classical physics was established upon postulates known to be false and ***principles replaced laws of science*** (more on this later). The so-called “law of chance” known as the *Heisenberg Uncertainty Principle* replaced the scientific *law of cause and effect* and the *law of conservation of energy* was no longer applied in the small world of atomic matter. Failures of the *Heisenberg Uncertainty Principle* will be addressed later.

But the atomic physics of the Twentieth Century cannot explain the heavenly phenomena, and the prevailing theory of the cosmos depends upon General Relativity Theory. After a decade of failed efforts to reconcile the Quantum Theory

used for small objects with the Relativity Theory used for large objects, the search for a unified theory is turning to String Theory or any other theory that is able to avoid the electromagnetics approach.

Practical Applications of Quantum Theory. In spite of claims that *quantum mechanics is the way nature is*, engineers use classical theory, not quantum theory, to design and construct useful devices. For example, advances in computer performance depend upon electromagnetics technology. Quantum-based computers do not exist in spite of much speculation and effort.

At the heart of quantum computing is the concept of a qubit (quantum bit), which requires a whole new set of physical devices to replace the “classical” devices implementing the conventional bit operations.... Building devices to store and process qubits is a challenging problem [20].

Some qubit devices have been proposed as components for a quantum computer, but such devices are better explained by spintronics as magnetically controlled than by quantum tunneling. The useful “quantum-based” devices cited by atomists (tunneling diode, laser, electron microscope) all have explanations based on classical electromagnetics theory [21]. Research at the Naval Research Laboratory (NRL) revealed that the so-called “quantum tunneling effect” is controlled by a magnetic field:

NRL’s Stuart Wolf, who spoke at the APS March Meeting in Los Angeles... described...effects... in which the electrical resistance that electrons experience in a multilayered material can be substantially *altered by the magnetic field* within the material, and *spin dependent tunneling*, in which an electron can move through a normally impenetrable barrier if it has the right spin value. The movement of an electron in a circuit can also be manipulated by properties other than its charge [22, emphasis mine].

The failures of physics in the Twentieth Century have led many to abandon the traditional goal of science, which is to discover knowledge of the universe that is *true*. As Mano Singham wrote in *Physics Today*:

...scientific theories evolve according to how well they answer, at any given time in history, the immediate questions of interest to scientists. As a result, the present impressive array of theories has developed to satisfactorily answer the questions that interest us now. But that does not mean that science is goal-directed and thus progressing toward the ‘truth.’ ...Science works—and works exceedingly well—because of its naturalistic approach, predictive nature, and methods of operation. **To be valid, science does not have to be true** [23, emphasis added].

Such pessimism has not prevented creationist Charles Lucas from developing a unified electromagnetics force law that accurately predicts all of the motions of elementary particles accelerated to relativistic speeds in collision experiments [10-

13]. *This is the only force law in full agreement with all empirical data*, and it applies successfully in subatomic, ordinary, and cosmic realms.

3. God is Creator. According to creation-science God formed and built the original material and biological structures, giving them degrees of durability and, in the case of living organisms, constructing them with an ability to reproduce themselves “after their own kind.”

In contrast, atomism and its offspring called ‘evolutionism’ postulate slow evolution of a “cosmic egg” into complex atomic structures. The early stages of *materials evolution* are briefly described as starting with a ‘big bang’:

Modern big bang theory states that a massive explosion created all the mass and energy in the universe, as well as the fabric of space-time. This fabric inflated rapidly after the cataclysm, but within a tiny fraction of a second, the rapid inflation slowed down and the universe cooled. Free-roaming quarks began to form protons and neutrons. Within minutes, the temperature dropped enough that some of the protons and neutrons coalesced into nuclei of simple elements. The universe was filled with a plasma of atomic nuclei and electrons—and with light.... As the fabric of space-time expanded, the original ultrahigh-energy gamma rays stretched into x-rays, visible light, and now, 15 billion years after recombination, microwaves. The scream of light has become a mere whisper, a faint glow with a temperature 2.7 degrees above zero. This is the CMB [cosmic microwave background]. [5, p. 2236].

Evolution of Life. Evolutionists believe that nature, having first established non-living materials, next established living organic materials. Charles Darwin hypothesized that the entire variety of species in the modern world evolved naturally by *one kind of organism changing into a different kind*:

If Darwin were correct in his hypothesis that species evolve, then what mechanism could account for their evolution? No one had ever seen one species change into another. Darwin thought no one would because he believed evolution was exceedingly slow. Even so, he did come up with a plausible mechanism....

[I]t dawned on him that the normal variation in local populations of species could include differences in the ability to acquire resources. If there were indeed a struggle for existence, then some variant individuals might have a competitive edge in surviving and reproducing. Nature would *select* certain traits and eliminate others—and slowly the population would change! Thus Darwin deduced that “natural selection” among variant individuals could be a mechanism of evolution [24].

The foregoing descriptions of origins of materials and living organisms are thus in opposition over the assertion that original forms were *few* or *many*. Evolution asserts that life on earth first appeared as *a single cell organism* with the ability to reproduce

itself. Eventual, this single line of cells supposedly produced a functionally superior line of new cells by “natural selection of the fittest,” or by the operation of the anthropics principle whereby Nature guided development of superior life forms out of chaotic, chance events toward the eventual evolution of man.

Two Sources of Empirical Data. Empirical data exist in the form of fossils of original forms of materials and organisms. Fossil remains of original forms of materials and living organism provide empirical evidence of the *relationships* of the forms or lack of relationships. Very recently, traces of DNA of cells of living and extinct organisms were compared to ascertain similarities and diversities of species supposed to be in the evolutionary sequence.

For example, the genetic code of living organisms may be compared with genetic codes of fossils to resolve the issue of whether there was *one original cell or many original cells*. Francis Collins, who heads the Human Genome project, was quoted recently as proclaiming that evolution from one common ancestor is a fact:

The evidence mounts every day to support the concept that we and all other organisms on this planet are descended from a common ancestor. When you look at the digital data that backs that up—which is what DNA provides—it is extremely difficult to come to any other conclusion. There are many things written in our instruction book that not only tell us how we function but also represent DNA fossils left over from previous events. And these fossils, in many instances are found in the same place, in the same way [25].

(Collins’ comment about “DNA fossils left over from previous events” is somewhat like the thoroughly discredited argument for evolution that humans have vestigial organs no longer needed by modern human—a claim that cost some people their lives at the hands of doctors who believed the organs were vestigial and removed them only to learn later that so-called “vestigial organs” performed vital functions in the human body.)

Evolutionism and creation-science are poles apart with respect to the origin and descent of organisms. Francis Collins and evolution dogma assert the existence of a single, common ancestor for all living organisms including mankind. On the other hand, creation dogma asserts the original creation of common ancestors for all the different “kinds” of living organisms.

An immense collection of empirical evidence has been assembled to evaluate the evolution and creation models. Important empirical data exist in the fossil records of organisms left in their bones and DNA. And modern studies of the anatomical variations provide clues for the limitations of reproduction within species.

The Fossil Record. If Darwin’s theory on the origin of species is true there should be empirical evidence in the fossils of species that paleontologists dig up.

[Darwin] believed that new species arose from older species by the slow,

inexorable accumulation of tiny changes that eventually added up to change big enough to justify identifying a brand new species. This pattern leads to the prediction that, between the old species and the new one, many, many, many in-between individuals existed which shared some characteristics of the old and some of the new, and some that were just intermediate. Our term for these in-between creatures is **transitional forms**. The hallmark of a transitional form is that, since it contains features from two different types, it is difficult to classify as one or the other. Thus, gradualism leads to the prediction that many of the fossils found should represent these transitional forms [26].

If evolution occurs, then there should be evidence of one kind of organism changing into a different kind. The fossil record seemed to contain no transitional forms, the so-called “missing links” between one major type of organism and another. Oddly enough, two years after Darwin’s book was published such a fossil did turn up. The fossil specimen, named *Archaeopteryx*, had traits reminiscent of small two-legged reptiles and modern birds (Figure 1). Like reptiles, it had teeth and a long, bony tail. Yet its entire body was covered with feathers! [24, p. 31-32].

The *Archaeopteryx* fossil continues to be hailed as a *link* (one of many links in a long chain) between reptiles and modern birds—even though today its classification is fully avian and *living* birds with teeth and claws have been found. But finding one link in a long chain does not prove the existence of the many other missing links. For evolution to be credible, many transitional forms must be found to connect at least a small percentage of the many systematic differences between species. After much field research, the number of fossils found and postulated to be “missing links” is very small, even if the fossils known to be forgeries are counted. The fossils collected and displayed in museums actually show the same systematic traits unique to interconnecting species and generally lack the traits of the many postulated transitional forms.

Why the Duck-Billed Platypus Puzzled Evolutionists. The platypus is among the strangest of all animals (see Figure 2). It has a flat bill like a duck, a tail like a beaver, and fur like an animal, but it lays eggs. It lives in the freshwater streams of eastern Australia.

When first seen in 1797 by early white settlers near the Hawkesbury River, outside Sydney, it triggered a search and controversy that lasted almost a century. Nicknamed the ‘watermole,’ it was said to be a combination reptile, bird, fish and furred animal. The perplexed local governor sent specimens back to mother England for study.

But the English found it equally unbelievable. One zoologist suggested it was [a] freak ‘imposture’ sold to gullible seamen by Chinese taxidermists. Another, suspecting fraud, tried to [pry] the ‘duck bill’ off the pelt; the marks of his scissors can still be seen today on the original, now preserved in the British museum of Natural History in London....

The mother usually lays her eggs in pairs.... In ten days or so her children hatch out. A week or so later the babies suckle milk from their mother—not from nipples but from tufts of hair. The platypus is not an ordinary mammal—it’s different. It’s labeled a monotreme....

The young platypuses of both sexes have ‘spurs’ on the inside of their hind legs. In the female these later disappear, but in the male they develop into defensive poison spurs which seem to be used only in mating season. This feature makes the platypus the world’s most venomous furred creature [27].

The platypus makes mockery of Darwin’s theory of “slow, inexorable accumulation of tiny changes that eventually added up to change big enough to justify identifying a brand new species.” The platypus has many fully functional features, some like a bird, some like a reptile, some like a fish, and some like a mammal. But how could avian, reptilian, aquatic and mammalian features gradually evolve into one animal whose several ancestors lived in different geological ages? Furthermore, there is no other animal or fossil remains with similar features that could possibly be the ancestor of the platypus. The existence and distinctions of the platypus are empirical evidence that *something about gradualism and evolution is greatly in error.*

Genome Diversity. Evolutionists also argue that *similarities* of DNA found in the different “kinds” of organisms confirm the self-directed evolution of the first living cell into modern man by natural processes alone, without the intervention of an Intelligent Being. Creationists respond by referring to the missing links and pointing out that a common genetic code is best explained by the creation doctrine of a common designer, who is the Creator. And logically, similar components of DNA code would be expected to be found among creatures with similar functional and structural components such as a foot, eyes, blood, or bones. Large distinctions in different kinds of organisms invalidate the evolution model based on *gradualism* and *natural selection* acting uniformly over long periods.

Distinctions in different kinds of organisms validate the creation model of origins and order. The “missing links” are still missing and neither bone nor DNA fossils reveal the transitional forms that the evolution model predicts. Pointing to similarities in organisms only obscures the empirical fact that important differences essential to reproduction ensure that each species reproduces “after its own kind.”

4. God is Sustainer. According to creation-science God established a mature, well-functioning universe. He pronounced it “good” and established laws of science that maintain order and preserve life. Then He “rested from all his work which God created and made” [28]. Since that day until now, God sustains the existence, order, and processes occurring throughout the universe. Not only did God personally make the universe by his power and intelligence, *he continues to sustain all natural processes* to ensure that functional integrity is maintained throughout the universe and that the material forms he created serve to maintain natural reproduction of all living organisms and sustain life on earth. According to creation-science God did

not create in chaos nor in vain:

For thus saith the Lord that created the heavens; God himself that formed the earth and made it, he created it not in vain, he formed it to be inhabited: I am the Lord; and there is none else [29].

...all things were created by him [Christ], and for him: And he is before all things, and by him all things consist [30].

For in him we live, and move, and have our being [31].

God *sustains* the natural order in the universe by the operation of two general and closely related laws of physics and a few fundamental laws of electricity and magnetism that control basic structures and processes in the material and biological forms throughout the created universe.

The general laws are well established and apply over all time and domains: the *law of cause and effect* states that every effect has a preceding cause. The *law of conservation of energy* states that the total energy remains constant in an isolated system.

The fundamental laws are also well established and apply over all time and domains: (1) Gauss's laws specify the intensity of electric and magnetic fields. (2) Ampere's law describes the electromagnetic force between current elements. (3) Faraday's law specifies the electromagnetic induction. (4) Lenz's law states the direction of electromagnetic force. (5) Lorentz's law gives the force for moving charges. (6) Lucas's universal force law combines all the preceding empirical laws into one general force law that covers all situations [10-13].

God *sustains* the biological order in the universe by the empirical *law of biogenesis* which observes that living organisms develop only from other living organisms and not from nonliving matter:

And God said, Let the earth bring forth grass, the herb yielding seed, and the fruit tree yielding fruit after his kind, whose seed is in itself, upon the earth: and it was so [32].

The "seed" which God designed guaranteed reproduction of each plant "after his kind." This phrase...precludes transmutation of one kind into another. The seed was programmed for stable reproduction of each kind through a remarkable system known today as the "genetic code," the complex information program in the DNA molecule. This system allows wide "horizontal" variation within the kind, but no "vertical" variation from one kind into a more complex kind. It is significant that, despite widespread belief in evolution, no scientist has yet documented a single instance of true vertical evolution happening today [18, p. 5].

Ancient atomism and the foundation of modern physics. Opposition to creation-science arose in early atomic theory in Greece beginning about 2,500 years ago. The ancient atomists, led by Epicurus (circa 300 BC) asserted that several principles accounted for the existence and appearance of nature. They believed that atoms had inherent power to move and combine with other atoms by chance, random events. They believed that atoms gave life to all living things and that even men's souls were composed of atoms. In short, the atomists adopted an explanation that explained everything by nature and denied the power and role of God in creation.

Thus, the inherent power of the atom to move by its own weight, plus its equally inherent power to swerve from its normal path, plus its power to cling together with other atoms both like and unlike itself, plus the law of chance, can and do account of and by themselves, without the intervention of any outside force or guiding intelligence, for every form of being that can be observed by one or another of our senses [3, p. xii].

Copley says this principle of random events was Epicurus' "great stroke of genius... that at times not predictable for no assignable reason, the atom must swerve" [3, p. xii]. Modern adherents base their quantum theory on the same randomness principle that Epicurus introduced.

About four centuries after Epicurus introduced atomism to Greek intellectuals, the philosophy was widely adopted as a natural worldview and alternative to the creation worldview. During a public debate in Athens, the Apostle Paul defended the creation worldview that God created everything and now controls all natural processes [31]. Specifically, Paul affirmed that "in him [Christ, the Creator] we live, and move, and have our being," thereby denying the atomists' claim that Nature (or unobserved atoms) have these powers. Paul further argued that the resurrection of Christ is evidence that life comes by the power of God rather than the power of atoms.

History records that atomism declined in popularity until the twentieth century. The modern era of atomism began in 1905 when Albert Einstein introduced his Special Theory of Relativity, a theory that reflected atomistic assumptions on the primacy of nature instead of the Creator. Einstein and his followers hypothesized that space is an entity with properties (now called Minkowski space) that constrains the velocity of a moving body, and for good measure he constrained the velocity of light to depend upon the observer (note the anthropics principle). A few years later he proposed his General Theory of Relativity where space has different properties (called Riemannian space) as a theory of the force of gravity. Eventually the atomists claimed that space not only has properties with the *power* to bend light and gravity, but space also creates virtual and real particles: one of these quantum fluctuations is even supposed to have produced the entire universe by The Big Bang (but this particular quantum fluctuation is supposed to have created space, and the Big Bang itself was caused by Nature, not space). These theories reflect a fundamental principle that all physical phenomena must be explained by natural causes without reference to a Creator.

Einstein obscured the concept of physical reality by focusing on the appearance of moving objects. For example, Einstein explains how one observer moving toward a rod and another observer moving away from a rod will see the same rod with two different lengths. For Einstein, the rod has changed length, albeit in a different amount for one observer than the other. Others believe the rod has a constant length no matter who looks at it or how fast the rod is moving: A meter is a meter is a meter.

The next breakthroughs for modern atomism were the definition of quantum mechanics and the so-called “law of chance,” or *Heisenberg Uncertainty Principle*. As already noted, the *law of chance* is a way of explaining natural processes. Of course, chance events are inconsistent with *causality* and the *law of conservation of energy*, but modern theory states “that’s the way nature is” and ignores both the Scientific Method and the error in logic.

Early in the Twentieth Century, modern atomists revived ancient atomism and placed the name of “science” on it. Bohr’s infamous “quantum leap” of an orbital electron is strikingly similar to the “Great Swerve” of the atom postulated by the ancient atomists. Both movements occur by the power of the atom. Both movements occur spontaneously and randomly. Both movements are asserted to happen by inherent powers of the atom. Both movements are supposed to happen by a so-called “law of chance.” Notice how these two principles—power of the atom and the principle of chance—are departures from classical scientific thinking based on causality and conservation of energy. Feynman described the change in philosophy of science that occurred:

Working out a system to replace Newton’s laws took a long time because phenomena at the atomic level were quite strange. One had to lose one’s common sense in order to perceive what was happening at the atomic level. Finally, in 1926, an “uncommon-sensy” theory was developed to explain the “new type of behavior” of electrons in matter. It looked cockeyed, but in reality it was not: it was called the theory of quantum mechanics. The word “quantum” refers to this peculiar aspect of nature that goes against common sense [33].

Both Einstein and Bohr made heavy use of the mathematics of point-like particles. This gave initial success in predicting properties of the particles, and even permitted the use of stochastic methods (mathematics of probability theory); and many came to believe that the mathematics of points was the summation of reality. But the inevitable contradictions and false predictions that resulted from the assumption of point-like particles has plunged modern physics into a confusion over reality and into a resigned belief that truth is unattainable. This is most evident for the point-particle electron which would have infinite energy density, zero magnetic moment, and zero angular momentum, when in reality these properties are observed to be finite.

Principles of Modern Atomism. Frank Wilczek, Nobel laureate in Physics, has listed the principles of modern atomism: *anthropics*, *randomness*, and *dynamical*

evolution:

I suppose...that, in the end, the vision of a unique, deterministic Universe fully accessible to rational analysis...will be restored. But to me it seems wise to accept what appears to be overwhelming evidence that projection, quantum uncertainty, and chaos are inherent in the nature of things, and to build on those insights....

By accepting the occurrence of projection, we license ***anthropics*** explanations [projection of anthropics explanations *assumes that human beings are the final aim and end of the universe*]....

By accepting ***quantum uncertainty***, we license, well...quantum mechanics....

By accepting the implications of chaos, broadly defined, we license ***evolutionary explanations***....

In constructing explanations based on *anthropics*, *randomness*, and *dynamical evolution*, we must use intermediate models incorporating many things that can't be calculated. Such necessary concessions to reality compromise the formal purity of the ideal of understanding the world by analysis and synthesis, but in compensation, they allow its spirit much wider scope [34, emphasis added].

Wilczek admits these principles lead to “concessions to reality,” but he claims they allow explanations of much “wider scope”—not the *truth*, mind you, just “wider scope.” Such admissions by a prominent atomist are extraordinary and certainly do not justify the label of ‘science’ or the claim of reality usually attached to *evolution of the species* and *big bang theory*. For atomists the goal of science is not a search for order and the laws behind this order; instead, atomists adopt (‘license’ is the term used by Wilczek) the so-called “law of chance” to assert their belief in a capricious deity by the name of Nature.

Failure of the Uncertainty Principle. A most unscientific idea, the Uncertainty Principle, or law of chance, is fundamental to the atomists’ belief and practice of what is now called “science.” Wilczek claims there is “overwhelming evidence” for the principles (not laws) of atomism. However, Wesley has shown the experimental failure of the principle of quantum uncertainty usually called the *Heisenberg Uncertainty Principle* and occasionally called the *law of chance*:

“The Heisenberg (1927, 1930) ‘Uncertainty Principle,’ $\Delta p \Delta q > \hbar$ for uncertainties Δp and Δq of two canonically conjugate variables p and q fails by many orders of magnitude for actual examples, where the uncertainties are known [where \hbar is a small number less than Planck’s Constant by 2π]. In particular, it will be shown below that actual uncertainties can satisfy the condition $\Delta p \Delta q \ll \hbar$... [35, p. 152-166].

Wesley demonstrated the empirical failure of the “Uncertainty Principle” with six examples. One example is the quantum mechanics model of the hydrogen atom. Wesley wrote:

It is of interest to see how exact is our knowledge of the simultaneous position and momentum of the electron in the hydrogen atom. Since it is known from much scientific evidence that the electron is bound in the hydrogen atom; the uncertainty in the position Δq of the electron must be certainly less than the size of the hydrogen atom itself, or twice the first Bohr radius; thus $\Delta q < 2a_0 = 10^{-8}$ cm.

The uncertainty in the momentum of the electron in the hydrogen atom may be estimated from the observed line width of light radiated by a hydrogen atom. In particular, the fractional line width is observed to be less than 10^{-6} ; so from the Planck frequency condition $\Delta E/E = \Delta v/v < 10^{-6}$. If this uncertainty in the energy ΔE is associated with an uncertainty in the kinetic energy of the electron in the ground state, then $\Delta p/p = \Delta E/2E < 5 \times 10^{-7}$. Since the angular momentum $a_0 p$ is quantized as \hbar in the ground state, [the preceding equations] yield $\Delta p/\hbar < 10^2 \text{ cm}^{-1}$. Combining [the preceding equations], the uncertainties in position Δq and momentum Δp of the electron in the hydrogen atom satisfy $\Delta p \Delta q/\hbar < 10^{-6} \ll 1$. Since only one electron is involved and it must have *simultaneously* both a momentum and a position; the uncertainties in the simultaneous momentum and position of the electron in the hydrogen atom are *known* to a precision that is six orders of magnitude more precise than permitted by the ‘Uncertainty Principle’.... The ‘Uncertainty Principle’ fails drastically for this actual case [35, p. 160].

Control Over Nature. Failure of the ‘Uncertainty Principle’ is evidence for the conservation of energy and the absence of chance events in all natural processes, including original events that brought about the universe and those events occurring ever since. The rational conclusion based on empirical evidence supports creation-science and rejects naturalism. Moreover, the miracles performed by the prophets and Jesus Christ demonstrate God’s control over nature. God has shown he is the master of nature by miracles such as raising the dead to life (these events being witnessed by many people in different centuries). Such empirical evidence demonstrates that God sustains or disrupts natural process at His pleasure. Since God is greater than nature by historical accounts, it should be no surprise that God was greater than nature in the beginning and construction of the universe.

Some Conclusions About Valid Science. Creation science is established upon empirical laws of science that deal with the functions and processes observed in nature today. But atomism rests upon questionable and false “principles.”

Modern Science is founded upon a materialistic worldview that replaces cause and effect with spontaneous random events, absolute reality with multiple realities, and unity throughout the universe with discontinuities in the subatomic and macrocosmic ranges.

Prevalent throughout science today is a widespread rejection of any concept that refers to an eternal, omniscient, omnipotent Creator. Modern science has replaced God with a concept that declares matter and energy to be the only components of the universe. This concept also declares that matter is not only “self-organizing” but has “created” our complex universe, including earth and its biosphere.

This type of thinking has resulted in evolutionary concepts impacting astronomy and cosmology (cosmic evolution), the origin of life (chemical evolution) and the diversity of life (biological evolution). These are well-recognized and highly controversial. They form the foundation for instruction of these disciplines in primary/secondary education as well as at college/university levels.

Less recognized is the impact of materialistic doctrine in the field of physics. The theories of Quantum Physics and Relativity (with their well-known weaknesses and inconsistencies) are based upon these same faulty worldview concepts that attempt to demonstrate that matter and energy alone accomplish everything, *i.e.*, no need for God. Therefore, physics has departed from its physical foundations, while becoming a serious opponent to Christianity. This is especially so because most Christians fail to recognize that its fundamental assumptions are atheistic [36].

Summary. Many of the modern theories of physics are based on selected data and are not consistent with all empirical evidence.

It appears that modern science is no longer an entirely objective, fact-based system but is maintained by a consensus of leading personalities in the fields of research, publishing, and academics.

Empirical evidence is consistent with and supportive of creation-based science.

Science should not be validated by consensus but by an objective and consistent application of logic and evidence.

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