

Lesson 6

Scientific Christianity

In all modern history, interference with science in the supposed interest of religion, no matter how conscientious such interference may have been, has resulted in the direst of evils both to religion and to science.

- Andrew Dickson White¹

Humanity should accept that science has eliminated the justification for believing in cosmic purpose and that any survival of purpose is inspired only by sentiment.

- Peter Atkins

A number of months ago, my mother was flying out of Atlanta and struck up a conversation with an Iranian lady named Donna² who had spent the last 40+ years in America. Through their conversation they discussed family, work, religion, politics, and more. As they learned about each other, Donna found one aspect of my mother's story particularly interesting: her son was both a chemical engineer and a Christian, a scientist and a religious man, an intellectual and a man of faith. "How does he reconcile his Christian belief with what he knows and studies as a scientist?" asked Donna. She is not alone in asking how science can be combined with religious belief. One of my friends recently brought up religious belief in a conversation with a co-worker only to be rebuffed on the grounds of science. Her co-worker said, "I consider myself a scientist, and I'm just too scientific to believe any of that stuff."

Despite these common sentiments, Psalm 19:1 says, "*The heavens declare the glory of God, and the sky above proclaims his handiwork.*" It is difficult to see how Scripture could establish a higher view of science! If this is true, then the Christian should be fully engaged in studying the universe to see the glory of God. It also means that scientific investigation should be fully embraced by the Christian. Further, when the Bible speaks to matters of science, it is without error. The Chicago Statement on Biblical Inerrancy states, "We deny that Biblical infallibility and inerrancy are ... exclusive of assertions in the fields of history and science."³ That is, according to the doctrine of inerrancy, when the Bible makes assertions about history and science, it does not make mistakes. Thus, the Christian has good motivation to study science and history not only as a means of gaining knowledge, but also as a means of verifying what is reported in the Bible.

Due to a perceived conflict between science and religious belief, modern science makes Christian faith impossible for countless modern skeptics. How are Christians and religious seekers to navigate these difficult waters? The obedient Christian apologist must follow Paul's example stated in I Corinthians 9, "*I have become all things to all people, that by all means I*

¹ Andrew Dickson White, *A History of the Warfare of Science with Theology in Christendom*, (New York: D. Appleton and Co., 1896), viii.

² Her name has been changed for the purposes of this lesson.

³ <http://www.bible-researcher.com/chicago1.html>, last accessed December 7, 2014.

might save some. I do it all for the sake of the gospel, that I may share with them in its blessings.”⁴ The religious seeker should be encouraged to promote robust scientific inquiry. For the believer, the seeker, and the skeptic, the scientific investigation should allow the evidence to speak for itself rather than being forced into a pre-determined box of philosophical beliefs. The weight of Scripture demands that the obedient Christian apologist must be prepared start with General Revelation, that is, creation itself, before moving to Scripture. While many in modern evangelicalism may find this troublesome, it is the very model demonstrated by Paul in Romans 1-2, Acts 14, and Acts 17. Simply stated, the Christian apologist should be prepared to start a conversation about science and faith without appealing to Genesis 1-2. General Revelation tells us of our need, Special Revelation tells us of the solution.

Tonight’s content presents an enormous amount of material. This is a topic that demands more than one lesson and more than one book, it demands dozens of books to answer the limitless questions that may be raised. In order to maintain our purpose of equipping the saints for defending their faith and in consideration of our time constraints, we will focus tonight’s discussion on three key topics:

1. What is the historical relationship between Christian faith and modern science?
2. Does the Big Bang theory actually support Biblical teaching?
3. What is the most reasonable explanation for the design of the universe?

The Creation of a Conflict

Starting at the Reformation in Europe, a generally Christian worldview dominated most of Western thought for several hundred years. However, the Enlightenment of the 18th century made dramatic inroads in an attempt to drive a wedge between reason and religious belief. Halfway through the 19th century, Charles Darwin’s *On the Origin of Species* was published and the capstone appeared to be in place for the full secularization of society. That is, the world could be fully explained without reference to any Deity. Known as “Darwin’s Bulldog”, T. H. Huxley made great efforts to push Darwin’s theory beyond biology and into the public square for universal acceptance.⁵ Nancy Pearcey comments on the goal of Huxley and his contemporaries⁶:

“to overthrow the cultural dominance of Christianity ... Their goal was to secularize society, replacing the Christian worldview with scientific naturalism ... Though secularists, they understood very well that they were replacing one religion with another, for they described their goal as the establishment of the “church scientific.” Huxley even referred to his scientific lectures as “lay sermons.””⁷

⁴ I Corinthians 9:22-23, ESV.

⁵ <http://www.ucmp.berkeley.edu/history/thuxley.html>, last accessed December 7, 2014.

⁶ One of the leading publications to this end was *History of the Conflict Between Religion and Science* by John William Draper (1874). Published about 20 years later was a more influential work by Andrew Dickson White titled, *A History of the Warfare with Science and Theology in Christendom*.

⁷ Nancy Pearcey and Charles B. Thaxton, *The Soul of Science: Christian Faith and Natural Philosophy*, (Wheaton: Crossway, 1994), 19.

However, these attempts to create a hostile relationship between scientific investigation and Christian faith were just that – creations by secular intellectuals driven by ideological agendas rather than factual reports. In reality, Christianity laid the foundation for the modern scientific revolution through its core beliefs about the world, which produced many leading scientists.

The late Loren Eiseley, professor of History of Science at the University of Pennsylvania was well aware of this reality. Near his death, Eiseley received the Washburn Award from the Boston Museum of Science for “outstanding contribution toward public understanding and appreciation of science.”⁸ Following his investigation, Eiseley reluctantly admitted that, “in one of those strange permutations of which history yields occasional rare examples, it is the Christian world which finally gave birth in a clear articulate fashion to the experimental method of science itself.”⁹ Eiseley elsewhere argued that experimental science was not common in various cultures throughout history and that a very specific intellectual soil was required to grow and sustain it.¹⁰ That soil, was the belief system of Christianity.

But why exactly did Christian belief cause the modern scientific revolution? For one, Christians believed that at its core, the world was orderly, not chaotic. German physicist C. F. von Weizsacker comments, “matter which God has created from nothing may well strictly follow the rules which its Creator has laid down for it. In this sense I called modern science a legacy, I might even have said a child, of Christianity.”¹¹ Second, many eastern religions teach that the material world is just an illusion and could not be investigated. The Christian teaching of the universe as a real creation of the Infinite Creator made studying the universe as a means to knowing the Creator both possible and desirable. Third, Christianity teaches that the material world has inherent value, it is good and worthy of study. This is in distinction to the ancient Greeks who saw the physical world as evil and not a proper object of study. Fourth, the world is not a Deity according to Christian theology. If it were, dissection, inspection, and manipulation would not be appropriate means of interacting with Deity.

While each of the reasons mentioned deal with the framework afforded by Christianity, it also provided the motivation for scientific investigation. That is, the mandate to have dominion over Creation could be fulfilled through the sciences and mankind would benefit from technological advances. In fact a common phrase among early scientists was that science was “for the glory of God and the benefit of mankind.” Puritan clergyman John Cotton succinctly concluded, “to study the nature and course and use of all God’s works is a duty imposed by God.”¹²

British historian of science, John Hedley Brooke offered a helpful classification of the various ways in which Christianity laid the groundwork for the rise of modern science. He says that Christianity contributed in 4 key ways.¹³

⁸ <http://www.mos.org/washburn-award>

⁹ Loren Eiseley, *Darwin’s Century*, (New York: Anchor, 1961), 62.

¹⁰ See *The Horizon Book of Makers of Modern Thought*, by Bruce Mazlish.

¹¹ Quoted in Pearcey and Thaxton, 28.

¹² *Ibid*, 35.

¹³ John Hedley Brooke, *Science and Religion: Some Historical Perspectives* (Cambridge: Cambridge University Press, 1991), chapter 1.

1. Christianity provided a *presupposition* for the scientific enterprise.
2. Christianity provided a *sanction (or justification)* for the scientific enterprise.
3. Christianity provided a *motive* for the scientific enterprise.
4. Christianity provided *regulation of methodology* in the scientific enterprise.

Far from today's dominant conflict model which can be tracked back to Huxley, Christian faith actually played a central role in the development of the scientific revolution. Primarily known for his theological work, John Calvin embraced astronomy as worship to God, "there is need of art and more exacting toil in order to investigate the motion of the stars, to determine their assigned stations, to measure their intervals, to note their properties."¹⁴ Johannes Kepler, a key figure in the scientific revolution, records in one his notebooks, "I give you thanks, Creator and God, that you have given me this joy in thy creation, and I rejoice in the works of your hands. See I have now completed the work to which I was called. In it I have used all the talents you have lent to my spirit."¹⁵ Revolutionary chemist Robert Boyle (Boyle's Law), bemoaned the view of nature as somehow sacred "has been a discouraging impediment"¹⁶ to science. Copernicus sought new scientific explanations for the universe because he knew it was "wrought for us by a supremely good and orderly Creator."¹⁷ Jean Baptist van Helmont, an early chemist said his definition of nature was, "a Christian definition, taken out of the Holy Scripture."¹⁸ In summary, Nancy Pearcey concludes,

"If Christian belief were truly a barrier to science, it is difficult to explain why so many founders of modern science were believers. Paracelsus, Boyle, and Newton wrote extensively on theology as well as on science. Others – Kepler and van Helmont – filled their scientific notebooks with prayers, praise, and theological musings."¹⁹

It should be noted, however, that Christianity merely giving rise to modern science does not mean that Bible is supported by the findings of modern science. For that question, we will move on to our second primary area of consideration: the origin of the universe.

Modern Cosmology and Creation *Ex Nihilo*

The Biblical doctrine of creation *ex nihilo* (out of nothing) has been a central element of Christian theology throughout history. The very first words of the Bible plainly read, "In the beginning, God created the heavens and the earth."²⁰ Creation *ex nihilo* finds further Scriptural support in Psalm 90:2, "Before the mountains were brought forth, or ever you had formed the earth and the world, from everlasting to everlasting you are God." Colossians 1:16 communicates the same truth, "For in Him all things were created: things in heaven and on earth, visible and invisible, whether thrones or powers or rulers or authorities; all things have been

¹⁴ Quoted in Pearcey and Thaxton, 23.

¹⁵ Ibid, 23.

¹⁶ Ibid, 24.

¹⁷ Ibid, 25.

¹⁸ Ibid, 32.

¹⁹ Ibid, 40.

²⁰ Genesis 1:1

created by Him and for Him.” Hebrews 11:3 stands in agreement, “the universe was formed at God’s command, so that what is seen was not made out of what is visible.” The Apostles’ Creed begins, “I believe in God, the Father Almighty, creator of heaven and earth.”²¹ That is, prior to God’s creation of the universe, nothing besides God existed. So, whether you look at the Old Testament, the New Testament, or church history, you find one constant message: God created the entirety of the universe out of nothing! Only within the last 100 years has modern science come to full agreement that the universe had a definite starting point in the finite past. Before the Big Bang Model was embraced, the leading theory for the origin of the universe claimed the universe was eternal – it never began and would never end. However, as early as 1916, Albert Einstein’s research showed the impossibility of an eternal universe – exactly what the Bible had predicted.

This finding was very troublesome for many scientists because if the universe had a beginning, then a Creator was implied. British cosmologist (one who studies the origin the universe) Arthur Eddington commented, “Philosophically, the notion of a beginning of the present order is repugnant to me ... I should like to find a genuine loophole.”²² In other words, “one of the things that makes historic Christianity’s teaching about creation so dangerous is the fact that it resonates with the findings of modern cosmology.”²³ One of the leading NASA scientists of the 20th century, Robert Jastrow, found his religious agnosticism shaken by these findings,

“Astronomers now find they have painted themselves into a corner because they have proven, by their own methods, that the world began abruptly in an act of creation to which you can trace the seeds of every star, every planet, every living thing in this cosmos and on the earth. And they have found that all this happened as a product of forces they cannot hope to discover. You might say this would make them more inclined to accept religious views on the origin of the world. But their materialism is so deeply imbued in them ... That the general response has been simply to avoid considering the implications ... That there are what I or anyone would call supernatural forces at work is now, I think, a scientifically proven fact.”²⁴

Stated as a formal argument, we could say:

1. Whatever begins to exist has a cause.
2. The universe began to exist.
3. Therefore, the universe has a cause.²⁵

Because these 2 premises and the following conclusion are so firmly established in scientific and philosophical arguments, very few people will actually challenge the argument itself. Instead,

²¹ <http://www.crcna.org/welcome/beliefs/creeds/apostles-creed>, accessed October 19, 2014.

²² Quoted in Hugh Ross, *The Creator and the Cosmos: How the Greatest Scientific Discoveries of the Century Reveal God*, (Colorado Springs: NavPress, 1995), 57.

²³ Kenneth Richard Samples, *7 Truths That Changed The World: Discovering Christianity’s Most Dangerous Ideas*, (Grand Rapids: Baker Books, 2012), 78.

²⁴ “A Scientist Caught Between Two Faiths: Interview with Robert Jastrow,” *Christianity Today*, August 6, 1982.

²⁵ William Lane Craig, *Reasonable Faith: Christian Truth and Apologetics*, 3rd ed. (Wheaton: Crossway, 2008), 111. Craig spends nearly 50 pages in this chapter defending this argument. For an even more robust explanation and defense, see William Lane Craig, *The Kalam Cosmological Argument*.

they will tend to say something like, “Ok, that’s all good and well, but if everything has a cause, then who caused God?” At first glance it might appear that this objection has an unanswerable question. However, notice that the objection misstates the argument – not everything has a cause, only those things which begin to exist. If the universe began to exist, and we have overwhelming scientific and philosophical evidence that it did, it would require a cause. Further, time and space themselves require a cause as they seem to have had a beginning as well. However, if someone or something existed beyond time and beyond space, that person or thing would not require a cause. Daniel Dennett admits that a being “outside of time . . . is nothing with [an origin] in need of explanation.”²⁶ Therefore, since God is by definition beyond time and space and is eternal, He does not require a cause.

Where most modern scientists disagree with the Biblical account is in regard to what caused the universe. While the Bible clearly states that God brought the universe into existence out of nothing, modern physicists explain that while the universe did not exist, it caused itself to exist out of nothing. John Barrow and Frank Tipler explain, “At this [point of beginning], space and time came into existence; literally nothing existed before the singularity, so if the Universe originated at such a singularity, we would truly have a creation *ex nihilo*.”²⁷ We are left with a choice, believe that nothing, not even empty space, brought the universe into existence or believe that a supremely powerful being created the universe *ex nihilo*. Reflecting on this choice, the aforementioned Robert Jastrow comments,

“it seems as though science will never be able to raise the curtain on the mystery of creation. For the scientist who has lived by his faith in the power of reason, the story ends like a bad dream. He has scaled the mountains of ignorance; he is about to conquer the highest peak; as he pulls himself over the final rock, he is greeted by a band of theologians who have been sitting there for centuries.”²⁸

Given this overwhelming support for the Biblical doctrine of creation *ex nihilo*, it is unfortunate that evangelicalism at large has been terrified of the Big Bang Model. In reality, this model has been presented more like “The Big Bad, Big Bang Model.” In fact, the term “Big Bang” was first coined by Sir Fred Hoyle as a derisive term. Hoyle’s derision was grounded in his desire to maintain an eternal universe – he critiqued the Big Bang Model until his death, at least in part because of its theistic implications. The age of the earth endorsed by proponents of the Big Bang is a secondary issue to its affirmation of creation *ex nihilo*. Disagreement on the age of the earth should not negate the corroboration of the origin of the universe provided by modern cosmology. As was the case in the development of modern science, Christians who are fully engaged in modern scientific developments will be amazed to continually see “The heavens declare the glory of God, and the sky above proclaims his handiwork.”²⁹

²⁶ Daniel C. Dennett, *Breaking the Spell: Religion as a Natural Phenomenon*, (New York: Viking, 2006), 244.

²⁷ John Barrow and Frank Tipler, *The Anthropic Cosmological Principle*, (Oxford: Oxford University Press, 2009), 442.

²⁸ Robert Jastrow, *God and the Astronomers*, 2nd ed. (New York: W. W. Norton, 1992), 107.

²⁹ Psalm 19:1

A Carefully Designed Universe

Not only does modern science support the Biblical teaching of creation *ex nihilo*, it also reinforces a classic argument for God's existence: the fine-tuning argument. In fact, the proliferation of scientific discoveries in the last 100 years has strengthened this argument significantly. Before we go any further, a few general points need to be made about the nature of fine-tuning arguments.

The fine-tuning argument has been formally stated in countless different ways since William Paley made it famous with his watchmaker analogy in 1802. However, they generally establish (1) the fine-tuning within the universe and (2) possible causes for the fine-tuning in the universe. Then, by examining the possible causes, the argument makes an inference to the best explanation. That is, the fine-tuning is said to be a result of the most probable explanation. It is generally said that either chance or design are the best explanations of the fine-tuning, although others have been proposed.³⁰

It is important to note that by "fine-tuning" we only mean the very specific requirements for life to be permitted in the universe. It is not assumed that these requirements must have been designed, or else the argument would be highly circular. Rather, certain criteria are used to determine the source of the fine-tuning.

Fine-tuning means that something is highly improbable, yet highly improbable events occur every day on a completely random basis. For example, imagine my wife and I register for offering envelopes at our church. Every offering envelope number is 8 digits. Our randomly assigned number is 29-78-9265. As we searched for a reason we were given that number, if we could find none, we would be perfectly justified in believing it was random, despite the high improbability of being assigned that specific number. After all, the odds of drawing that particular 8-digit number are astonishingly low. All this to say, just because something is highly improbable does not mean that it can be attributed to design.

If, however, our assigned offering envelope number was 06-16-2012, we would then have reason to think that something besides random chance was at work in determining our number. Why? We were married on June 16, 2012. Thus, while the 8-digit number, 06-16-2012, is just as improbable as any other number, there seems to be some kind of an intelligence directing the selection of the numbers. If some of our friends had the same experience in their offering envelope number, it would lend even greater credibility to the rejection of random chance as the cause of these highly improbable numbers. This is because there is an independent pattern that accompanies the highly improbable sequence that leads us to believe that a designer established our number, not chance. Thus, when trying to decide the most reasonable explanation for the data, we would say that design offered the best explanation.³¹ In review, any fine-tuning

³⁰ Physical Necessity is explained and refuted by William Lane Craig in *Reasonable Faith: Christian Truth and Apologetics*, 3rd ed. (Wheaton: Crossway, 2008), 161.

³¹ For more on this idea, see Kenneth Richard Samples, *A World of Difference: Putting Christian Truth-Claims to the Worldview Test*, (Grand Rapids: Baker Books, 2007), chapter 3. For a more in depth study of the same concepts, see William A. Dembski, *The Design Inference: Eliminating Chance Through Small Probabilities*, Cambridge Studies in Probability, Induction, and Decision Theory (Cambridge: Cambridge University Press, 1998).

argument requires highly improbable events. If one is to conclude that a designer is responsible for the highly improbable events, some sort of independent pattern must be observable or else chance could be responsible for the improbable events.

The fine-tuning of the universe is not up for debate, it's the explanation of the fine-tuning that is contested. Militant atheist Richard Dawkins readily admits the staggering fine-tuning, "Biology is the study of complicated things that give the appearance of having been designed for a purpose."³² That is, the universe appears to have been prepared and built for life. Formally, this is known as the Anthropic Principle, although Tim Keller informally refers to it as the "Cosmic Welcome Mat."³³ Director of the Human Genome Project, Francis Collins summarizes the pervasiveness of the fine-tuning in the universe,

"When you look from the perspective of a scientist at the universe, it looks as if it knew we were coming. There are 15 constants – the gravitational constant, various constants about the strong and weak nuclear force, etc. – that have precise values. If any one of those constants was off by even one part in a million, or in some cases, by one part in a million million, the universe could not have actually come to the point where we see it. Matter would not have been able to coalesce, there would have been no galaxy, stars, planets or people."³⁴

To help understand the magnitude, philosopher John Leslie uses an analogy of a firing squad. Imagine you are sentenced to the death penalty by firing squad and fifty trained marksmen stand twenty-five yards away from you. When the command is given, all fifty marksmen fire, yet you feel nothing! To your amazement, none of their bullets struck you. You could conclude that it was a random chance that they all missed, but it would be far more reasonable to conclude that they had intentionally missed; that is, the marksmen had *designed* a plan to make sure they did not hit you.³⁵ With a brief foundation already laid, we will now examine one area where design seems like the most plausible explanation of the fine-tuning of the universe: the origin of life.

An Epic Problem for Anti-Theism

In both his personal and published writings, Darwin avoided the topic of how life initially originated. His theory of Natural Selection was merely an attempt to explain how the first life forms gave rise to each successive form of life, eventually leading to human life. While his theory has obviously gained fantastic popularity in the last 150 years, it overlooks a profound and significantly more foundational question: how did the first life form appear on Earth? Darwinism is said to have disproved any kind of Theism or Supernatural Being, yet if no God exists, then an explanation must be given for the first life forms using only natural processes. Development of life from non-life is known as spontaneous generation and was scientifically

³² Richard Dawkins, *The Blind Watchmaker: Why the Evidence of Evolution Reveals a Universe without Design* (New York: W. W. Norton, 1996), 1.

³³ Timothy Keller, *The Reason for God: Belief in an Age of Skepticism*, (New York: Penguin Group, 2008), 134.

³⁴ Quoted in Keller, 134.

³⁵ Recounted in William Lane Craig, *On Guard: Defending Your Faith with Reason and Precision*, (Colorado Springs: David C. Cook, 2010), 116-117.

disproven by Louis Pasteur in the mid-1800s. Physicist Paul Davies draws out this uncomfortable paradox for Darwinian theory,

“Darwin’s account left open the problem of how the *first* living thing came to exist ... in the absence of a miracle, life could originate *only* by some sort of spontaneous generation. Darwin’s theory of evolution and Pasteur’s theory that only life begets life cannot both have been completely right.”³⁶

In 1951, scientists in Chicago made revolutionary breakthroughs in the search for the origin of life without invoking God as the cause (these are known as the Miller-Urey experiments). In fact, when publishing their research, the researchers claimed they had produced life in the lab.³⁷ But, far from truly solving this epic mystery, their findings only shed new light and greater understanding on just how miraculous life’s origin must have been! The experiments produced amino acids, which are the building blocks for proteins, which are the building blocks for life. These experiments have been struck with numerous fatal blows.

First, the conditions assumed for their experiments were quickly shown to be unlike those of early earth. It was assumed that high amounts of hydrogen would have been on earth before life originated. Biochemist Fazale Rana points out this problem, “because molecular hydrogen evaporates into outer space so readily, it most likely escaped early Earth’s atmosphere rapidly and would not have been available to assist in the origin of life.”³⁸ So, while the experiments were helpful in producing amino acids, the findings were simply irrelevant to solving the problem of life’s origin. When the experiments were modified to resemble a more realistic atmosphere on the primordial Earth, not a single amino acid was produced!

Second, even if the production of amino acids was possible under the conditions of early Earth, there is a massive difference between the production of amino acids and their assembly into the highly complex structures required for even the simplest life forms. The aforementioned physicist, Paul Davies, comments,

“there is a world of difference between building blocks and an assembled structure. Just as the discovery of a pile of bricks is no guarantee that a house lies around the corner, so a collection of amino acids is a long, long way from the sort of large, specialized molecules such as proteins that life requires.”³⁹

The Miller-Urey experiments opened the door to origin of life research, yet virtually no meaningful progress has been made in the last 60 years of investigation. Pressed for an answer, today’s scientists have invented numerous implausible scenarios – we will look at three of the most popular. If it becomes clear that no natural explanation for life’s origin can be maintained,

³⁶ Paul Davies, *The 5th Miracle: The Search for the Origin and Meaning of Life*, (New York: Simon & Schuster Paperbacks, 1999), 83.

³⁷ Ricki Lewis, Douglas Gaffin, Marielle Hoefnagels, and Bruce Parker. *Life*, 5th ed. (New York: McGraw-Hill, 2004), 348.

³⁸ Fazale Rana, *Creating Life in the Lab: How New Discoveries in Synthetic Biology Make a Case for the Creator* (Grand Rapids: Baker Books, 2011), 124.

³⁹ Davies, 88.

then we would have another area where the Bible's predictions appear to be in complete harmony with modern science. Further, Darwin's theory would be stripped of its value in disproving Christianity and the Bible.

The 3 leading hypotheses for the origin of life that we will study are:

1. Origin of life at deep sea hydrothermal vents
2. Origin of life in outer space
3. Origin of life through an "RNA World"

The first attempted explanation of the origin of life is through deep sea hydrothermal vents. Deep in the ocean floor, there are cracks where hot water is combined with an incredibly rich supply of minerals. These minerals and gases include carbon monoxide, iron, nickel, and others.⁴⁰ Adding to the excitement of this possible solution was the recent discovery of tiny organisms that love heat, some of them even loving extreme heat. These organisms are called, "thermophilic" (heat-loving) and "hyperthermophilic" (extreme heat-loving) organisms. Perhaps the high temperatures and gaseous mixtures found in deep sea hydrothermal vents would provide exactly the environment needed to spawn life from non-life. A popular introductory collegiate textbook, published by McGraw-Hill reports,

"Here, in a zone where hot water meets cold water, a life-sustaining warmth prevailed where prebiotic chemical collections could have been continually exposed to a rich brew of minerals spewed from Earth's interior."⁴¹

Unfortunately for scientists hoping to solve the origin of life problem through deep sea hydrothermal vents, the data simply does not support their desired conclusion. First, while it is true that we have found organisms that could live in deep sea hydrothermal vents, the discussion is not about organisms as they now exist. Rather, the discussion is about the first life forms to exist. Second, the extreme heat present at deep sea hydrothermal vents would quickly destroy any attempts to form life in that environment. Stanley Miller, the researcher who fathered modern study on this topic, has resoundingly dismissed hydrothermal vents as an explanation of the origin of life for this reason. Given Miller's lifelong investment in this study and desire to see a solution reached give his words additional significance,

"it is difficult to accept that organic compounds were synthesized at 350° C in submarine vents. Rather, we have abundant data indicating that such conditions favor decomposition of many compounds in time spans ranging from seconds to hours. Thus, the suggestion that life originated in such a setting is highly improbable."⁴²

⁴⁰ Eldra Solomon, Linda Berg, and Diana Martin. *Biology*, 7th ed. (Belmont: Brooks/Cole-Thomson Learning, 2005), 387.

⁴¹ Ricki Lewis, Douglas Gaffin, Marielle Hoefnagels, and Bruce Parker. *Life*, 5th ed. (New York: McGraw-Hill, 2004), 348.

⁴² Stanley L. Miller and Antonio Lazcano, "Formation of the Building Blocks of Life", in *Life's Origin: The Beginnings of Biological Evolution*, ed. J. William Schopf (Los Angeles: University of California Press, 2002), 102.

Following consistent failure in offering answers to life's origin on Earth (apart from God), many scientists have turned to outer space as the location for the origin of life. This conclusion has been reached on the basis of a meteorite that landed in Australia. This meteorite, known as the Murchison meteorite, had numerous compounds on it that would be useful in the creation of life. The key in extraterrestrial investigation (outer space) is to determine what compounds were on the meteorite prior to entering Earth's atmosphere and which compounds were only acquired once the meteorite entered Earth's atmosphere. In short, scientists want to know that Earth's atmosphere has not contaminated the meteorite.

Unfortunately for those seeking an extraterrestrial origin of life, Murchison was found to be contaminated. These findings were contested by some scientists, so further study was done on the meteorite. After additional testing, it was concluded that the meteorite certainly had been contaminated and these results were presented at the 1999 conference for the International Society for the Study of the Origin of Life (ISSOL).⁴³ Thus, any compounds it possessed were simply irrelevant to the origin of life discussion. Unfortunately, some biology textbooks are still reporting Murchison as uncontaminated and a viable option for solving the origin of life problem.⁴⁴ This should be highly troubling for anyone committed to honest science that seeks to find the truth!

Whether scientists seek to answer the origin of life question on planet earth or in outer space, every path has produced a dead end; therefore, the leading hypothesis today is purely hypothetical: an RNA World. Life's evolution from non-life is incredibly improbable for a variety of reasons, but one main reason is known as the "chicken-and-egg paradox."⁴⁵ Basically, a paradox is reached because protein and DNA are both needed for life, yet both would require immense amounts of time to evolve, much less learn to work together. Any pre-life structures with only DNA would never make it to life. Similarly, any pre-life structures without protein would never make it to life. Because this problem seemed impossible to solve, scientists now speak of an "RNA World" where RNA served the role of both DNA and protein. Unfortunately, this hypothesis was formed without any evidence to support it! Committed atheist Iris Fry reluctantly admits this fact,

"The concept of the RNA world, suggested in the late 1960s prior to the existence of any direct evidence in its support, was itself a theoretical scaffold constructed to resolve the chicken-and-egg problem."⁴⁶

Despite the lack of evidence, this idea has gained significant momentum in the scientific community. Leading origin of life researcher, Leslie Orgel, comments,

⁴³ Fazale Rana and Hugh Ross, *Origins of Life: Biblical and Evolutionary Models Face Off* (Colorado Springs: NavPress, 2004), 131.

⁴⁴ John H. Postlethwait and Janet L. Hopson. *Modern Biology*, (Austin: Holt, Rinehart and Winston, 2006.) 285.

⁴⁵ Davies, 123.

⁴⁶ Iris Fry, *The Emergence of Life on Earth: A Historical and Scientific Overview* (New Brunswick: Rutgers University Press, 2000), 189.

“The idea that there was once a protein-independent biological world, the so-called RNA World, has by now come to be widely accepted (although it remains unproven.)”⁴⁷

During the 2002 ISSOL conference, Orgel presented his most recent research on the RNA World, revealing its true lack of evidential support. In his presentation he said, “It would be a miracle if a strand of RNA ever appeared on the primitive Earth.”⁴⁸ Paul Davies echoes a similar objection to this hypothesis,

“The conclusion has to be that, without a trained organic chemist on hand to supervise, nature would be struggling to make RNA from a dilute soup under any plausible prebiotic conditions.”⁴⁹

It is important to emphasize that these views are the primary views held by scientists today - and they are simply not supported by the evidence! Modern biology textbooks cite these hypotheses as factual. Those claiming that modern science has disproved Christianity and the Bible need to be confronted with this information.

Coming Full Circle

The aforementioned Paul Davies is far from a religious person, much less a Christian, yet his analysis of why the scientific community pretends to be close to solving the origin of life problem is insightful,

“Many investigators feel uneasy about stating in public that the origin of life is a mystery, even though behind closed doors they freely admit that they are baffled. There seem to be two reasons for their unease. First, they feel it opens the door to religious fundamentalists and their god-of-the-gaps pseudo-explanations. Second, they worry that a frank admission of ignorance will undermine funding, especially for the search for life in space. The view seems to be that governments are more likely to spend money seeking extraterrestrial life if scientists are already convinced that it is out there.”⁵⁰

Wow! Talk about an honest and piercing commentary! These types of statements are expected in apologetics materials, but not in published work from theoretical physicists. The “science has disproved Christianity” line is a popular one, but the Bible offers explanations for some of the biggest questions of our universe that are supported by strong amounts of modern scientific evidence. We have examined the intimate historical relationship between Christianity and science, how modern cosmology affirms the doctrine of Creation *ex nihilo*, how fine-tuning points to a Designer, and how the origin-of-life problem creates massive problems for Darwinian evolution. While this evidence supports the Biblical view, it also undercuts a naturalistic framework, forcing the atheist to take a blind leap of faith in his worldview selection. While the

⁴⁷ Leslie E. Orgel, “The Origin of Biological Information”, in *Life’s Origin: The Beginnings of Biological Evolution*, ed. J. William Schopf (Los Angeles: University of California Press, 2002), 142.

⁴⁸ Orgel in Rana, *Origins of Life*, 115.

⁴⁹ Davies, 131.

⁵⁰ *Ibid*, 17-18.

Bible is not a science textbook, a brief survey of modern scientific findings shows that a Biblical view of the world is not at odds with scientific inquiry.

Verse for Scripture Memory

Psalm 19:1

“The heavens declare the glory of God, and the sky above proclaims His handiwork.”

Discussion Questions

1. Modern, western thinking says that religion and science are incompatible. How would you show a skeptic that this view is not historically accurate?
2. What aspects of Christian teaching were key for the rise of modern science?
3. Why did irreligious scientists initially oppose the Big Bang theory?
4. How does the origin-of-life problem undercut Darwinian evolution’s attempt to disprove the Bible?
5. According to Paul Davies, why do most origin-of-life researchers pretend they have almost solved the problem?

Recommended Reading

The Soul of Science

By Nancy R. Pearcey and Charles B. Thaxton

The first 2 chapters of this book are a fabulous resource for investigating the historical relationship between science and Christianity. It is a readable format, but one that will push your intellect as well. To give you an idea of the reading level, this was one of my undergraduate textbooks at a small Bible college. The citations alone make this book well worth it’s time. The remainder of the book tackles more difficult scientific questions. Your enjoyment of the latter portion will probably depend on your level of education in the sciences. However, this should not deter you from digesting the first few chapters – they are fantastic!

On Guard

By William Lane Craig

Bill Craig is one of the most respected and distinguished Christian apologists in our generation. He regularly defends Christian truth in hostile university settings and shows the reasonable basis for Christian faith. Most of his work is quite academic, yet he wrote this book to give lay Christians access to some of the arguments that support Christianity. The reading is still difficult, but with a little work, you will find it very fruitful. I have used this book in my high school classes and the kids have found it challenging, but very enjoyable. Craig goes far beyond

scientific evidence for Christianity, but he does spend a couple of chapters on this topic. After taking “Apologetics 101”, this is an excellent book to continue your apologetics training and to push yourself intellectually.