The Star of Bethlehem from a Christian View

Dr. Ray Bohlin looks at the familiar story of the star of Bethlehem and provides several possible ways that God created this sign announcing the birth of the Christ. From a Christian worldview perspective, we know a bright light in the sky was able to lead the magi to the Christ child. Dr. Bohlin considers several ways God may have chosen to announce the coming of the Christ.

The Magi and the Star of Bethlehem

O, Star of wonder, star of night
Star of royal beauty bright
Westward leading, still proceeding,
Guide us to thy perfect light.

This familiar and haunting chorus from the Christmas carol, "We Three Kings of Orient Are," introduces us to what seems to be the only ubiquitous biblical symbol during the Christmas season, the star of Bethlehem.

This Christmas, as you look over the Christmas cards in the stores or in your own burgeoning collection from family and friends, you will see one very constant element. Whether the scene depicts the nativity, a backyard nature scene, a Christmas tree, or just Santa making deliveries, if the nighttime sky is included, somewhere in the picture, eliciting warm and happy emotions, is a star. The star dominates the nighttime sky with its size and brightness and its long tail pointing to the earth. The star has almost become the signature which says, "This scene reflects a Christmas theme."

At first, this may seem quite unusual for something which

doesn’t even get mentioned in Luke 2, the more familiar account of our Lord’s birth. The star is featured only in Matthew’s brief description of the visit by the magi shortly after Jesus’ birth. I think the prevalence of the star stems from its mysteriousness. For example, what kind of star convinces a group of Gentile wise men to search for the new King of the Jews and actually leads them to Him? Before we explore this puzzle, let’s look at Matthew’s account beginning in Chapter 2 verse 1:

> Now after Jesus was born in Bethlehem of Judea in the days of Herod the king, behold, magi from the east arrived in Jerusalem, saying, “Where is He who has been born King of the Jews? For we saw His star in the east, and have come to worship Him” (Matt. 2:1-2, NASB).

A couple of things to note: first, these events take place after Jesus’ birth; second, this was in the days of Herod the king; third, the magi arrived from an area east of Jerusalem (probably in the vicinity of Babylon or Persia); fourth, they already knew they were looking for the newborn King of the Jews, but the exact location eluded them; and fifth, it was viewing His star from their home in the east that led them on this journey.

After consulting with King Herod and finding out from chief priests and teachers that the Messiah was to be born in Bethlehem, the magi set out for the 5 mile trip south to Bethlehem. We pick up Matthew’s narrative in verse 9:

> And having heard the king, they went their way; and lo, the star, which they had seen in the east, went on before them, until it came and stood over where the Child was. And when they saw the star, they rejoiced exceedingly with great joy. And they came into the house and saw the Child with Mary His mother; and they fell down and worshiped Him; and opening their treasures they presented to Him gifts of gold and frankincense and myrrh (Matt. 2:9-11, NASB).

Here we see that Matthew appears to describe the star as moving, as leading the magi to Jesus. There is clearly more than one magi, but only tradition holds that there were three—presumably because of the three gifts. These Gentile wise men worship the King whom the star has led them to. In the rest of this essay, we will explore the nature of this strange star and what it could have been.

What Was the Star of Bethlehem?

The Gospel of Matthew states that the star informed the magi of the birth of the King of the Jews and actually led them to Bethlehem once they had arrived in Jerusalem. The star of Bethlehem has been the subject of scholarly discussion ever since the first centuries after Jesus' birth. Some believed it was a supernova explosion, others a comet or a conjunction of planets associated with specific constellations that would herald the birth of a king in Israel. Some have suggested that none of these astronomical events can adequately account for all that Matthew tells us within the context of his worldview. In this discussion, I will be investigating the more common explanations to see if we can come to some understanding as to just what the magi saw 2,000 years ago.

When Matthew quotes the magi as telling Herod that they observed the new King's star rising in the east, this can be interpreted as a new star, something never observed before. This has led some scholars to believe that the star of Bethlehem was a nova or supernova. A nova is a white dwarf star that literally explodes. The explosion may increase the brightness of the star a thousand to a million times its previous brightness, making a previously invisible star, visible. A nova, however, does not last very long. The initial blast of the explosion may only be observed for a few months before the star shrinks to a remnant of its previous brightness and disappears altogether.

There are numerous problems with this view. First, although there was a “new star” recorded by the Chinese in the constellation Capricorn in March-April of 5 B.C. that lasted only 70 days, there is nothing to connect this event with the birth of a King in Israel. Second, and perhaps most troublesome, nova do not move.

This leads to a discussion of a different astronomical event that may be associated with the “new star” (a comet) recorded by the Chinese in 5 B.C. The Chinese would not have distinguished a comet from a nova since all they recorded was something new in the sky that was temporary. A comet has the advantage of a tail that can appear to be pointing in a direction which may have guided the magi. In addition, a comet moves! A comet can even disappear as it moves behind the sun and reappear as it comes out from behind the sun. A major objection is that the Chinese make no mention of the “new star” moving. Another problem is that comets are cyclical with a predictable periodicity. For instance, Halley’s comet appears every 76 years. If the star of Bethlehem were a comet, we would most likely have observed it again and been able to extrapolate back to the time of Christ to see if there is a match. Unfortunately, the only one to come close is Halley’s comet which appeared in 12 B.C., a date that is impossibly early.

One could always claim that the comet was one with a very long periodicity or one that has since disappeared from our solar system. This is certainly possible, but it does not really help the discussion. One might as well appeal to a purely supernatural occurrence that cannot be verified scientifically. There is no difference. And though comets were usually interpreted as heralding sweeping changes, the changes were usually for the worse and there is no way, once again, to connect these events to the birth of a king in Israel. Next, I will look at planetary conjunction, the most popular suggestion at planetarium shows during the Christmas season.

Did the Star of Bethlehem Result from a Triple Conjunction of Saturn and Jupiter?

The bright star usually seen hovering over Nativity scenes depicted on numerous Christmas cards actually dominates nearly every nighttime Christmas panorama. As I stated earlier, the Star of Bethlehem is just about the only ubiquitous biblical symbol associated with Christmas. The reason probably has to do with the mystery surrounding what this star was. Earlier, I showed the unreasonableness of the star being a comet or supernova explosion. If you were to attend a planetarium show concerning the star of Bethlehem, they would most likely present the idea that the star was a triple conjunction of the planets Jupiter and Saturn in the year 7 B.C. followed by a massing of Jupiter, Saturn, and Mars in 6 B.C. Realizing that planetarium shows view Scripture as something less than historically accurate, it is still necessary to ask if this indeed could have been the Star of Bethlehem.

In the early 17th century the great astronomer and Christian, Johannes Kepler, calculated that a triple conjunction of Jupiter and Saturn had occurred in 7 B.C. While Kepler did not believe this to be the actual Star of Bethlehem, it may have alerted the magi to the coming star. 7-4 B.C. have become the usual dates for fixing the birth of Christ since Herod the Great's death, the Herod mentioned by both Matthew and Luke in their birth narratives, is well established in 4 B.C. Therefore, Jesus had to have been born in the few years prior to 4 B.C. since He started his three-year public ministry around the age of 30 (Luke 3:23) and His death is usually fixed between 27-30 A.D.

So just what is a triple conjunction, and why would it be significant to the birth of a King in Israel? A planetary conjunction is what happens when two planets come in close proximity to one another. A triple conjunction refers to when three separate conjunctions of the same two planets occur

within a one year period. Triple conjunctions can be predicted, but they do not occur with regularity. There have been only 11 such triple conjunctions since 7 B.C. and the interval between them varies between 40 and 338 years.

The triple conjunction of Jupiter and Saturn in 7 B.C. was seen in the constellation Pisces in the months of May, September, and December. This provides sufficient time for the magi to see the first conjunction, begin their trip west to Judea, visit Herod by the second conjunction or at least soon afterwards, and perhaps not reach Bethlehem until the third conjunction when it is said to have appeared in the southern sky, and Bethlehem is just south of Jerusalem. Remember how the magi rejoiced to see the star again as they departed Jerusalem for Bethlehem. Ancient astrologers associated Jupiter with royalty or even a ruler of the universe. Saturn was associated with Palestine or even with the deity who protected Israel. And Pisces was associated with the nation of Israel. Later a massing of Jupiter, Mars, and Saturn occurred again in Pisces in 6 B.C. It seems feasible then that this triple conjunction followed by the massing of the three planets in Pisces could indicate to the magi that a King of Israel and a Ruler of the Universe was about to be born in Israel.

While this seems to wrap things up rather nicely, there are significant problems. First, Jupiter and Saturn never were close enough to be confused as a single object. Matthew definitely describes a singular star. Perhaps more importantly, the use of astrology is necessary to interpret these astronomical signs properly. The Old Testament, particularly, mocks astrologers in Isaiah 47:13-15 and several times in Daniel (1:20, 2:27, 4:7, and 5:7). Jeremiah 10:1-2 seems to forbid astrology outright. The use of astrology is clearly outside the worldview of Matthew as he penned his gospel. It seems woefully inconsistent for the Lord to use astrology to herald the incarnation and birth of His Son into

the world.

Was the Star of Bethlehem the Planet Jupiter?

In this discussion, I have considered a nova, a comet, and a triple conjunction of the planets Jupiter and Saturn as the Star of Bethlehem between 7 and 4 B.C., and none have seemed to be satisfactory. In 1991, Ernest Martin published a book titled, *The Star That Astonished the World*. His major thesis is that Herod died in 1 B.C. and not 4 B.C. If 4 B.C. is the wrong date for Herod's death, then everything must be reevaluated.

While there are many lines of evidence that Martin uses to make his point, a critical issue is a lunar eclipse that occurred just prior to Herod's death. According to the Jewish historian, Flavius Josephus, on the night of a lunar eclipse, Herod executed two rabbis. Herod himself died soon afterwards, just before Passover. Martin points out that the lunar eclipse of March 13, 4 B.C., was only a 40% partial eclipse and barely visible. Also he reconstructs the events between the eclipse and Herod's death, about 4 weeks, and determines there was not enough time for all these things to take place. However, Martin has located a total lunar eclipse on January 10, 1 B.C., twelve and a half weeks prior to Passover.

If we assume that Martin's date for the death of Herod is correct, then the years 3 and 2 B.C. can be added to the search parameters for the Star of Bethlehem. Martin points out that the planet Jupiter passes through a series of conjunctions over the course of these two years indicating that Jupiter is the star of Bethlehem.

Remember that Jupiter is considered the royal star. Well, in 3 B.C., Jupiter came into conjunction with Regulus, the star of kingship, the brightest star in the constellation of Leo, the

first of several such conjunctions over the next year. Leo was the constellation of kings, and it was also closely associated by some with the Lion of Judah. This is beginning to look interesting. “The royal planet approached the royal star in the royal constellation representing Israel.”(1) In addition, on September 11, 3 B.C., Jupiter was not only very close to Regulus, but the sun was in the constellation Virgo. Hmmm, the royal planet in conjunction with the royal star while the sun is in a virgin. September 11, 3 B.C., is also the beginning of the Jewish New Year. There seems to be an awful lot coming together here.

But what about the star appearing to stop over Bethlehem? Planets will actually appear to do just that as they reach the opposite point in the sky from the sun as they travel east across the sky. They will stop, reverse directions for a few weeks, stop again, and head east once again. It’s called a retrograde loop. Jupiter performed a retrograde loop in 2 B.C. and was stationary on December 25, during Hanukkah, the season of giving presents.

Just in case you are ready to proclaim the mystery of the Star of Bethlehem solved, remember that this whole scenario rests on Herod dying in 1 B.C. rather than in 4 B.C. The majority of historians and biblical historians can’t accept this critical revision. If Herod indeed died in 4 B.C., all of these coincidences I just reviewed are just that, coincidences. Also, as I mentioned earlier, the use of astrological meanings is contrary to the worldview of Matthew. There is another option that has become very popular, and I’ll discuss it next.

The Shekinah Glory as the Star of Bethlehem

So far in this essay, I have discussed several naturalistic explanations for the Star of Bethlehem: a nova or exploding star, a comet, a triple conjunction of the planets Jupiter and

Saturn in 7 B.C., and the planet Jupiter as it traveled in the constellation Leo in 3-2 B.C. Each of these astronomical events represents a natural occurrence that God used to announce the birth of His Son. One of the major problems has been that in order to interpret any of these signs, one would have to use astrological meanings for these events and their locations in the night sky to reach the conclusion that a new King of the Jews has been born—something that is foreign to the biblical worldview. Perhaps there was a physical "star" that gave off real light but indeed was new but not reflected by any astronomical event.

Remember that Jesus' birth was the ultimate coming of the presence of God in the midst of His people. How was God's presence manifested elsewhere in the Bible? Moses saw a burning bush that was not consumed and God spoke to him from the bush. Again in Exodus, Moses was allowed to see God's backside and afterwards his face shone with light so bright that the other Israelites could not look on his face. The Israelites were led through the desert by a cloud by day and a pillar of fire by night. When Jesus was transfigured He shone with a light as bright as the sun. When Jesus appeared to Saul on the road to Damascus, Saul was blinded by the light which the others with him saw as well. When God was imminently present, a bright light was associated with His presence.

The Shekinah Glory denotes the visible presence of God. This presence was real, and the physical manifestation was real. Remember that Saul was blinded by the light. The Lord often announces His presence by a very physical manifestation of bright light. What better way to announce the coming of Jesus, God's Son, the second Person of the Trinity than by a special light that is not some mere improbable astronomical event, rather an expression of the Shekinah glory, God's divine presence among men?

Astronomer Sherm Kanagy and theologian Ken Boa advance this thesis in their as yet unpublished manuscript, *Star of the*

Magi. One of their strong emphases is the necessity to try to interpret the text of Matthew from first century Jewish perspective. They reject the idea that any astrological meaning could have been on Matthew's mind concerning this star. It is certainly fair to wonder, therefore, what this star was and how the magi interpreted it as a star signifying the birth of the King of the Jews. Kanagy and Boa reveal that Kepler concluded that the star was not some astronomical event and was a light that appeared in the lower atmosphere and therefore was not visible to everyone. But how did the magi interpret the star? This admittedly is the weakest part of the interpretation. The text gives no real hints. Magi were simply wise men of the east, not necessarily astrologers. They were Gentiles whose presence in the context of Matthew's Messianic gospel hints at the eventual spread of the gospel beyond the Jews. But how did they know what the star meant? We can only assume there was selective revelation. Only Paul understood the voice from the light, though all who were with him saw the light. Only Moses was allowed up on Mt. Sinai to receive the Law. Only Peter, James, and John were present at the transfiguration, and they were told to keep it to themselves until Jesus rose from the dead. Manifestations of God's presence with men often were accompanied by selective revelation. Perhaps the meaning of the "star" was only revealed to the magi though others could actually see the "star."

Well, what was it, an astronomical event or the Shekinah Glory, manifesting God's presence among men? In my mind the mystery remains. Perhaps that is how God intends it to be.

Are We Significant in This Vast Universe? – The Evidence Supports Belief in God

Steve Cable considers the question of why we could possibly be important in such a vast universe. Current research shows that there are reasons why God needed such a vast universe to house life on this planet. Understanding this idea can make it an apologetic for our faith rather than a fact which detracts from our faith. Science is the study of God's creation and the more we delve into it the clearer the hand of God becomes.

Why Is the Universe So Vast? Are We Truly Insignificant?

What do you feel when you look at the night sky? Awe? Insignificance? Adoration? Recently, my wife and I took three Ph.D. students from China for an overnight outing at a lake in West Texas. One of the things that impressed them most was the opportunity to view the night sky on a moonless night. Due to "light pollution," people in most cities can only make out a few hundred stars with the naked eye. These young women had never seen the night sky as King David did when he declared, "The heavens declare the glory of God!" (Psalm 19:1, NASU). They were so taken by the stars and the Milky Way that they spent several hours lying on the dock, looking up at the night sky.

These students were not Christians, and I was glad to have an opportunity to use what we know about the stars to talk to them about the overwhelming evidence for a Creator who is intensely interested in humans. However, another host may have used the same night sky to argue that if there is a God, we must not be

very significant to God. Which view is correct? In this article, we will look into the Bible *and* into current scientific theories to better equip us to answer this important question.

According to the Bible, the transcendent Creator of this universe made humans in His own image as the focal point of His creation. Skeptics of a biblical worldview often point to the vastness of the universe as evidence that humans cannot be the focal point of a theistic creation. The famous astronomer, author, and television personality Carl Sagan put it this way:

> Our posturings, our imagined self-importance, the delusion that we have some privileged position in the Universe, are challenged by this point of pale light. Our planet is a lonely speck in the great enveloping cosmic dark. In our obscurity, in all this vastness, there is no hint that help will come from elsewhere to save us from ourselves.{1}

Famous physicist Stephen Hawking wrote, "Our Solar System is certainly a prerequisite for our existence . . . . but there does not seem to be a need for all these other galaxies."{2}

In other words, why would God create this huge universe, if He was primarily interested in His relationship with one species occupying a tiny planet?

I think this is a reasonable question. After all, based on observations from the Hubble Telescope, the current best estimate for the number of stars in the observable universe is

5 times 10 to the 22nd power; that is a 5 with 22 zeros after it. How many stars is that? Well, if you were to count one star every second, it would take you only fifteen hundred trillion years to count them. These stars are spread over billions of light years. Amazingly, all of these stars account for only about 1% of the total mass of the universe. Why did God create such a vast universe, placing us on a single small planet with no reasonable hope of ever traveling beyond our

solar system? Does the size of our universe run counter to a biblical worldview?

A Biblical Perspective of Humankind and the Vast Heavens

If God is the Creator of the universe, and the Bible is revelation directly from God, then accurate observation of the universe will ultimately prove to be consistent with His revelation. By combining the general revelation of science with the special revelation of the Bible, we should be rewarded with a greater understanding of the nature of our Creator and His intentions for mankind. Let's see if this is true in addressing the vastness of the universe.

First let's consider what God's special revelation for us, the Bible, has to say about the vastness of the universe. The Bible often refers to God's creative work in "stretching out the heavens" and filling it with stars (e.g. Job 9:8, Zechariah 12:1). A review of Bible passages on the stars and the heavens reveals a number of reasons why a vast universe is consistent with humans being the most significant part of creation.

We need to realize that creating a vast universe is not harder for God than creating a smaller universe. God brought the universe into existence out of nothing. He had no limits on the amount of matter and energy created. Consequently, it is meaningless to say that it would be a tremendous waste for God to create so many lifeless galaxies. The concept of waste only applies when there is a limited supply. When there is an unlimited supply, you can use all you desire; there is plenty more where that came from.

Within this vast universe, God placed earth in potentially the only place in the universe capable of supporting advanced life. There are many aspects of the universe that are hidden

from the casual observer, but the vastness of the heavens is not one of them. God created the earth and positioned it in an ideal place so that humans could observe the vastness of the heavens and the enormous number of stars. The Bible points out at least five purposes for humans observing this vast universe:

1. *To reveal His majesty and power.* Job refers to this understanding as he reflected on his sufferings stating,

> Who commands the sun not to shine,
> And sets a seal upon the stars;
> Who alone stretches out the heavens
> And tramples down the waves of the sea;
> Who makes the Bear, Orion and the Pleiades,
> And the chambers of the south;
> Who does great things, unfathomable,
> And wondrous works without number.
> Were He to pass by me, I would not see Him;
> Were He to move past me, I would not perceive Him.
> Were He to snatch away, who could restrain Him?
> Who could say to Him, "What are You doing?" (Job 9:7-12).

Later, God confronts Job with His lack of understanding the full power and majesty of His Creator:

> Where were you when I laid the foundation of the earth?
> Tell Me, if you have understanding, ...
> Can you bind the chains of the Pleiades,
> Or loose the cords of Orion?
> Can you lead forth a constellation in its season,
> And guide the Bear with her satellites?
> Do you know the ordinances of the heavens,
> Or fix their rule over the earth? (Job 38:4, 31-33).

As we see in this passage, God intentionally did creative, wondrous works without number so that we could glimpse His greatness.

2. *To emphasize our insignificance without God.* The vastness of the heavens highlights how insignificant humans are apart from God's concern for us. The primary lesson that Job learned through his experience was that we are in no position to critique God's actions over His creation. God's creation is so vast that any significance we have comes solely from God's choice to be concerned with us. Job stated it this way: "Behold, I am insignificant; what can I reply to You?" (Job 40:4)

King David was the most significant person in Israel during his reign, but when he considered the vastness of God's creation he acknowledged our insignificance:

> When I consider Your heavens, the work of Your fingers,
> The moon and the stars, which You have ordained;
> What is man that You take thought of him,
> And the son of man that You care for him (Psalm 8:3-4)?

3. *As a measure of His loving kindness toward us.* God uses the vastness of the heavens to help us understand the magnitude of His love for us, stating, "For as high as the heavens are above the earth, So great is His loving kindness toward those who fear Him" (Psalm 103:11).

God's love for us is greater than the billions of light years which separate us from the most distant galaxies.

4. *As a picture of His faithfulness and forgiveness.* In a similar way, God uses our inability to completely grasp the breadth and depth of the universe to emphasize spiritual truths. Through Jeremiah, God promised a new covenant where He will remember our sins no more. God used the vastness of the heavens to convey His promise to never cast those in the new covenant away from Him with these words,

> Thus says the LORD, "If the heavens above can be measured
> And the foundations of the earth searched out below,
> Then I will also cast off all the offspring of Israel

> For all that they have done," declares the LORD (Jeremiah 31:37).

Even today astronomers recognize that the universe we can observe is much smaller than the state of the universe as it exists today. Due to the finite speed of light, it is impossible to directly observe the current size of the universe or count the exact number of stars. Just as the heavens can never be measured, God will never cast us off from His presence.

5. *As a reminder that our understanding is limited.* Our Creator understands the universe from one end to the other and from the beginning of time to its end. As humans, we are just beginning to probe its mysteries. So, God reminds us, "For as the heavens are higher than the earth, So are My ways higher than your ways And My thoughts than your thoughts" (Isaiah 55:9).

It is clear that God intended us to observe and study the stars and the heavens. As a part of God's general revelation, the magnitude of the universe speaks to His greatness. Through God's special revelation, we see God using the vastness of His creation to teach us lessons about who we are and how we relate to Him. For a Creator who was willing to sacrifice His only Son on the cross for our redemption, it would be child's play to create a vast universe solely for our instruction. With this understanding, the vastness of the universe becomes a testament to our importance to God rather than evidence of our insignificance.

A Scientific Perspective of Humankind and the Vast Universe

If God is the Creator of the universe and the author of the Bible, accurate observation of the universe will ultimately prove to be consistent with His revelation. By combining the

general revelation of science with the special revelation of the Bible, we should be rewarded with a greater understanding of the nature of our Creator and His intentions for mankind.

In his book *Why the Universe is the Way It Is*{3}, Hugh Ross points out a number of areas where combining the latest observations of astronomy and physics with biblical theology provides us with fuller answers for some of the tough questions of life. One area he focuses on is the question we have been examining: "Does the vastness of this universe mean that we are insignificant and/or accidental?"

If we assume, as most skeptics and seekers would, that the physical laws of this universe have remained constant from the beginning of the universe until now, then the current state of scientific knowledge points to three reasons why the universe must occupy the mass and volume that it does in order for advanced carbon based life to exist on this planet.

1. *The exact mass of the universe was necessary for life supporting elements to exist*. Life requires heavier elements such as oxygen, carbon, and nitrogen. These elements are produced in the nuclear furnaces of stars. If there were less mass in the universe, only lighter elements such as helium would be produced. If there were more mass, only heavier elements, such as iron, would be produced. In fact, the amount of mass and dark energy in the universe must be fine tuned to less than one part in 10 to the 60^{th} power, or one part in one trillion trillion trillion trillion trillion, to have a universe that can create a life supporting solar system and planet.

2. *The exact mass of the universe was required to regulate the expansion of the universe to allow the formation of the sun and the solar system.* Amazingly, it turns out that the same total mass that results in the right mix of life supporting elements also results in the right amount of gravity to dampen the expansion of matter across the surface of the space-time

continuum to allow the formation of stars like the sun which are capable of supporting a planet like earth. If the universe were expanding faster, stars and solar systems would not form. If the universe were expanding slower, giant stars and black holes would dominate the universe. Once again the total matter in the universe is fine tuned to support life. And what an amazing coincidence: the number that creates the right mix of elements also creates the right expansion rate. This dual fine tuning is much less likely than achieving the financial returns guaranteed by Bernie Madoff!

3. *The vast volume of the universe is required to give the earth just the right amount of light and other electromagnetic radiation to support life and not destroy it.* Life not only requires a planet with the right mix of elements orbiting the right kind of sun in just the right solar system; it also requires a "just right" galactic environment. Astronomers has discovered what they call "the galactic habitable zone" for our Milky Way galaxy at a distance of about 26,000 light years from the center of the galaxy. Any planet closer to the center will experience deadly radiation levels. Any planet further away from the center would lack the mix of heavy elements necessary for advanced life. But the vast majority of this habitable zone is inside one of the uninhabitable spiral arms of the galaxy. Since stars revolve around the galactic center at a rate different than the spiral arm structure based on their distance from the center of the galaxy, most solar systems pass through deadly spiral arms over the course of time. Our solar system occupies a very special place as Hugh Ross points out: "The solar system holds a special position in the Milky Way . . . the one distance from the core where stars orbit the galaxy at the same rate as its spiral arm structure does."{4}

Once again we are faced with a divine "coincidence": the same fine-tuned distance required to safely place a habitable planet is also the exact distance required to keep that planet

out of the deadly spiral arms.

Not only must the earth be located far from the center of the Milky Way, the Milky Way must be located far enough away from other galaxies to maintain the stability of its spiral structure. Many aspects of the Milky Way appear to be very rare or unique in the universe.

As you can see, a logical application of current scientific orthodoxy based on the Big Bang and constant natural laws overwhelmingly supports the view that the vastness of the universe does not imply that human life is unremarkable and insignificant. On the contrary, the most reasonable conclusion from the evidence is that life on this planet is the primary purpose behind the vastness of our universe. Both the Bible and the results of scientific observation agree: our vast universe is the work of a Creator who considers life on earth as very significant.

Consequently, we don't have to convince a seeker that the world is much younger than it appears in order to answer the question, "Are we significant to our Creator?" We can say, "Whether you look to the teaching of the Bible or you look at the current prevailing models from the scientific community, the answer is definitely yes!" The important question is, "Is it possible to know more about my Creator and have a relationship with Him?" Beginning with the death and resurrection of Jesus, we can explain how to have an eternal relationship with God and why we believe the Bible is the reliable source of information about our Creator and our universe.

• Check out our article "The Answer is the Resurrection" at Probe.org for more information on using the resurrection to respond to key questions from seekers.
• For more information on topics related to the origins of our universe and other science topics, check out our Faith and Science section.

• For further discussion on the age of the universe see "Christian Views of Science and Earth History" in our Faith and Science section.
• For further discussion of how the age of the universe debate relates to this discussion see Appendix A: Theology vs. Science or Theology plus Science? and Appendix B: Apologetics and the Age of the Universe.

Notes

1. Carl Sagan, *Pale Blue Dot: A Vision of the Human Future in Space* (New York: Random House, 1994).
2. Stephen Hawking, *A Brief History of Time: From the Big Bang to Black Holes* (New York: Bantam, 1988).
3. Hugh Ross, *Why The Universe Is The Way It Is* (Grand Rapids, MI: Baker Books, 2008).
4. Ross, *Why The Universe Is The Way It Is*, 66.

The Eclipse Declares the Glory of God, v. 2024

Sue Bohlin is very excited to be the path of the upcoming total solar eclipse, where God shows off once again.

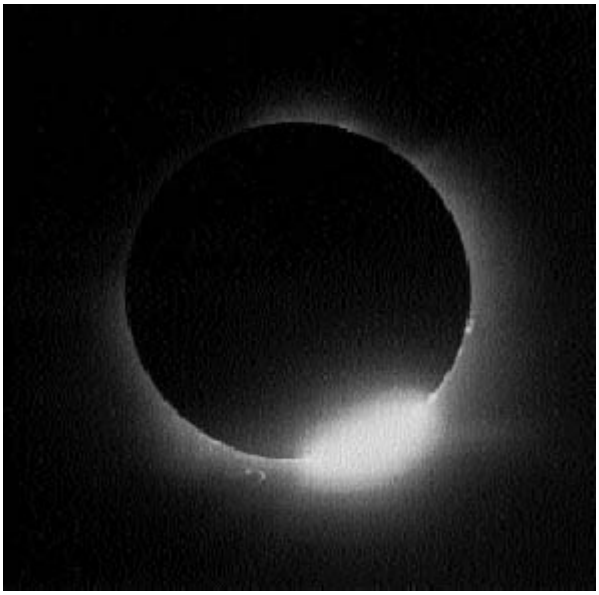
"The heavens declare the glory of God," Psalm 19 tells us. On April 8, 2024, millions of Americans will have an incredible opportunity to see His heavenly glory in a way most of us never have: through a total solar eclipse. On a path running from Texas to South Maine, observers on the ground will see the moon slip in front of the sun, blocking out all its light and dropping the temperature drastically (about 10 to 15

degrees Fahrenheit) and suddenly.

I am thrilled beyond words that by the grace of God, our home in Dallas, Texas is in the path of totality. All I have to do is go out in our back yard to experience this once-in-a-lifetime event! :::doing the happy dance:::

The glory of God isn't just seen, it's *felt* as well. Eclipse-chasers, and even those who have only experienced one total eclipse, report that at the moment of totality (when the moon completely covers the sun, plunging the land into an eerie darkness), people break out with yells and shouts and applause. Many report the hair on the back of their necks standing up. And both locals and visiting astronomers are equally in awe—and often in tears. Like one's first in-person look at the Grand Canyon, it is deeply emotional to be thrilled by something much, much bigger than oneself.

Illustra Media's wonderful DVD *The Privileged Planet*, based on the book by the same name by Guillermo Gonzalez and Jay Richards {1}, exposed me to the magnificence of a total solar eclipse. I will never forget the goosebumps at learning that the sun is 400 times farther away than our moon, but it's also 400 times larger. This means that both of these heavenly bodies appear to be the same size to us on Earth. This phenomenal "coincidence" also makes a total eclipse possible.



During an eclipse, ***the heavens declare the glory of God*** by allowing us to see things about the sun we wouldn't be able to observe any other way, beautiful and gloriously resplendent. Just before totality we can see "Baily's Beads." Only seen during an eclipse, bright "beads" appear at the edge of the moon where the sun is shining through lunar

valleys, a feature of the moon's
rugged landscape. This is followed by the "diamond ring" effect, where the brightness of the sun radiates as a thin band around the circumference of the moon, and the last moments of the sun's visibility explode like a diamond made of pure light. After the minutes of totality, the diamond ring effect appears again on the opposite side of the moon as the first rays of the sun flare brilliantly. These sky-jewelry phenomena are so outside of mankind's control that witnessing them stirs our spirits (even on YouTube!) with the truth of Romans 1:20–"God's invisible qualities–his eternal power and divine nature–have been clearly seen, being understood from what has been made, so that people are without excuse."

A total solar eclipse offers so much more, though, than Baily's Beads and the Diamond Ring. At the moment of totality, the pinkish arc of the sun's chromosphere (the part of the sun's atmosphere just above the surface) suddenly "turns on" as if an unseen hand flips a switch. I knew God is very fond of pink because of how He paints glorious sunrises and sunsets in Earth's skies, but those fortunate enough to see a total eclipse can see how He radiates pinkness from the sun itself! ***The heavens declare the glory of God!***

But wait! That's not all! Along with the flare of the sun's pink chromosphere, a rainbow-like band called the "flash spectrum" appears when the sun is viewed through a prism! (You can google this to see pictures. The best ones are copyrighted so I can't show them to you here.) ***The heavens declare the colorful glory of God!***

For the few minutes of totality, the naked eye can see the sun's lovely corona (Latin for crown) streaming out from the sun. We can't see the corona except during an eclipse because looking straight at the sun for even a few seconds causes eye damage, and because the sun's ball of fire overwhelms the (visually) fragile corona. This is another way that an eclipse allows us to see how **the heavens declare the glory of God.**

Astronomer Guillermo Gonzalez noticed details about eclipses that got him excited:

- During a total solar eclipse, the moon is just large enough to block the large photosphere (the big ball of fiery gas), but not so large that it obscures the colorful chromosphere.
- The moon and the sun are two of the roundest measured bodies in the solar system. (Some moons are potato-shaped!) So when the round disk of the moon passes in front of the equally round disk of the sun, the shapes match perfectly.
- He studied all 65 of the moons in our solar system and discovered that ours are the best planet and best moon for studying the sun during an eclipse. Because the moon fits so perfectly over the sun, its blinding light is shielded, providing astronomers with a view of the sun's atmosphere. We can discern finer details in its chromosphere and corona than from any other planet.
- Being able to study the flash spectrum during a total eclipse enables astro-scientists to determine the

> chemical makeup of other, distant stars without leaving Earth.

These facts of ***the heavens declare the glory of God!***

Michael Bakich wrote of the 2017 eclipse in *Astronomy* Magazine blog,

> This eclipse will be the most-viewed ever. I base this proclamation on four factors: 1) the attention it will get from the media; 2) the superb coverage of the highway system in our country; 3) the typical weather on that date; and 4) the vast number of people who will have access to it from nearby large cities.{2}

I think this is true of the 2024 eclipse as well. Whether you are fortunate enough to be in the path of the total eclipse like me, or will only get to see 75% of the sun's surface covered by the moon (with eclipse glasses, of course!), this extremely important sky event will be proclaiming to everyone that ***the heavens declare the glory of God***. May it make a lasting impression on us all that teaches us more about God's glory!

1. Guillermo Gonzalez and Jay W. Richards, *The Privileged Planet* (Washington, D.C.: Regnery Publishing, 2004)
2. http://cs.astronomy.com/asy/b/astronomy/archive/2014/08/05/25-facts-you-should-know-about-the-august-21-2017-total-solar-eclipse.aspx

This post originally appeared at blogs.bible.org/the-eclipse-declares-the-glory-of-god-v-2024/ on Feb. 20, 2024.

The Case for a Creator

It has been the popular belief for decades that science and Christianity are light years apart. However, as our knowledge of cosmology, astronomy, physics, biochemistry, and DNA has continued to grow, this supposed gap has all but disappeared. Lee Strobel, award-winning journalist and former atheist, explores these and many other compelling evidences in his latest book, *The Case for a Creator*. In this article we will discuss just a handful of these evidences, as presented in his book, and find out how science itself is steadily nailing the lid on atheisms coffin.{1} Lets begin with the argument from cosmology.

Cosmology

Cosmology is the study of the origin of the universe. In investigating this field of study, Lee Strobel interviews philosopher and theologian, Dr. William Lane Craig. Craig describes in great detail what he calls “one of the most plausible arguments for God’s existence, the Kalam cosmological argument.{2} This argument has three simple steps: Whatever begins to exist has a cause. The universe began to exist. Therefore, the universe has a cause.

Craig then explains that when he first began to defend the Kalam argument he anticipated that the first step of the argument, whatever begins to exist has a cause, would be almost universally accepted. It was the second point, the universe began to exist, which he believed would be more controversial. However, so much evidence has accumulated, Craig explained, that atheists are finding it difficult to deny that the universe had a beginning. So theyve begun to attack the first premise instead.{3}

One such attack was presented in the April 2002 issue of *Discover* magazine. In an article entitled Guths Grand Guess, the author describes how quantum theory allows for thingsa dog, a house, a planetto be materialized out of a quantum vacuum. One professor is quoted as saying, Our universe is simply one of those things which happens from time to time.{4} Could such an audacious claim be valid?

Craig debunks this claim by making two very important points. First, These subatomic particles the article talks about are called virtual particles. They are theoretical entities and its not even clear that they actually exist as opposed to being merely theoretical constructs.{5} Secondly, however, these particles, if they are real, do not come out of nothing. The quantum vacuum is not what most people envision when they think of a vacuum that is, absolutely nothing. On the contrary, its a sea of fluctuating energy. This begs the question, So where does this energy come from? It must have a cause. So even quantum theory fails to explain the origin of the universe without a Creator. Rather, as Craig explains, the first cause of the universe is the transcendent personal Creator{6} of the Bible which states that In the beginning God created the heavens and the earth.

Anthropic Principle

What is called the *anthropic principle* essentially states that all seemingly arbitrary and unrelated constants in physics have one strange thing in common these are precisely the values you need if you want to have a universe capable of producing life.{7} To explore the particulars of this, Strobel interviews Robin Collins, who has doctorates in both physics and philosophy.

Collins, who has written several books on this subject, is asked to describe one of his favorite examples. He proceeds to illustrate the fine-tuned properties of gravity. He does so by

comparing the range of possible gravitational force strengths with an old-fashioned linear radio dial that spans the entire width of the known universe. He says,

> *Imagine that you want to move the dial from where its currently set. Even if you were to move it by only one inch, the impact on life in the universe would be catastrophic. . . .*
>
> *That small adjustment of the dial would increase gravity by a billion-fold. . . .*
>
> *Animals anywhere near the size of human beings would be crushed. . . . As astrophysicist Martin Rees said, In an imaginary strong gravity world, even insects would need thick legs to support them, and no animals could get much larger. In fact, a planet with a gravitational pull of a thousand times that of the Earth would have a diameter of only forty feet, which wouldnt be enough to sustain an ecosystem. . . .*
>
> *As you can see, compared to the total range of force strengths in nature, gravity has an incomprehensibly narrow range of life to exist.{8}*

Collins goes on to discuss several other constants which show a remarkable degree of fine-tuning such as the mass difference between neutrons and protons, electromagnetic forces, strong nuclear forces, and the cosmological constant. In fact, one expert has said that there are more than thirty separate physical or cosmological parameters that require precise calibration in order to produce a life-sustaining universe.{9}

It is this amazing degree of fine-tuning within physics which Collins believes is by far the most persuasive current argument of the existence of God.{10} The deeper we dig, Collins concludes, we see that God is more subtle and more ingenious and more creative than we ever thought possible. And I think that’s the way God created the universe for usto be

full of surprises."{11}

Astronomy

It had been said for years that there's nothing unusual about Earth. It's an average, unassuming rock that's spinning mindlessly around an unremarkable star in a run-of-the-mill galaxya lonely speck in the great enveloping cosmic dark, as the late Carl Sagan put it.{12} However, this is no longer thought to be the case. Even secular scientists are talking about the astounding convergence of numerous unexpected "coincidences" that make intelligent life possible on Earth, and in all likelihood, nowhere else in the universe.

In exploring these recent discoveries, Lee Strobel meets with Dr. Guillermo Gonzalez and Dr. Jay Wesley Richards, coauthors of the book *The Privileged Planet*. After hashing out a long list of unique characteristics of our own galaxy, our sun, and our planet, they then began to discuss another amazing coincidence: a whole new dimension of evidence that suggests this astounding world was created, in part, so we could have the adventure of exploring it.{13}

One of the more interesting examples given is that of a solar eclipse. Perfect solar eclipses have allowed scientists to do things such as determine specific properties of stars and confirm predictions associated with Einsteins theory of relativity. Such things would be extremely difficult to explore if it werent for total eclipses. However, such eclipses are unique to Earth within our solar system. Of the nine planets and over sixty moons, only Earth provides the optimal scenario for viewing an eclipse. This is possible because our moon, which is 400 times smaller than our Sun, happens to also be exactly 400 times closer. This allows for just the right conditions for a perfect solar eclipse.

What intrigues Gonzalez is that the very time and place where

perfect solar eclipses appear in our universe also corresponds to the one time and place where there are observers to see them.{14} Richards adds, What is mysterious is that the same conditions that give us a habitable planet also make our location so wonderful for scientific measurement and discovery. So we say there's a correlation between habitability and measurability.{15}

Indeed, this is exactly what we would expect if an all-loving, all-powerful God created the universe not only to sustain man but also, and most importantly, that man could find Him through it.

Information

In 1871, Darwin suggested in a personal letter that life may have originated spontaneously in some warm little pond, with all sorts [of chemicals] present.{16} However, in his day the immense complexity of living cells was virtually unknown. Today thats not the case. Modern science has revealed that cells are extremely complex and that this complexity is governed by the information packed structures of DNA. This raises the question, Where did this information come from?

To answer this question Strobel enlists the help of Dr. Stephen Meyer, who has degrees in physics, geology, history, and philosophy. During the course of their discussion, Meyer elaborates on various explanations as to the origin of information in the first living cell. After describing the virtual impossibility of simple random chance over time producing such information, and acknowledging the fact that virtually all origin-of-life experts have utterly rejected such an approach,{17} Strobel focuses Meyer in on a more recent attempt at an explanation, that which at times has been called *biochemical predestination*.

Meyer says the idea is that the development of life was

inevitable because the amino acids in proteins and the bases, or letters, in the DNA alphabet had self-ordering capacities that accounted for the origin of the information in these molecules.{18} He then goes on to explain why this notion just isnt true.

First, he notes that the kind of self-ordering we see in nature, such as that in salt crystals, is repetitive; a particular sequence is simply repeated over and over again. It would be like handing a person an instruction book for how to build an automobile, Meyer explains, but all the book said was the-the-the-the-the. You couldnt hope to convey all the necessary information with that one-word vocabulary.{19}

Secondly, and more importantly, he points out that science has demonstrated the complete absence of any attraction between the four letters of the DNA code themselves. So theres nothing chemically that forces them into any particular sequence, Meyer states. The sequencing has to come from outside the system.{20}

For Strobel, as well as many scientists, the conclusion is compelling: An intelligent entity has quite literally spelled out evidence of His existence through the four chemical letters in the genetic code. Its almost as if the Creator autographed every cell.{21}

Consciousness

Webster defines consciousness as the quality or state of being aware especially of something within oneself.{22} According to Darwinists, the physical world is all there is. Consciousness, therefore, is nothing more than a byproduct of the properties of chemicals. As far back as 1871, evolutionists believed that the mind is a function of matter, when that matter has attained a certain degree of organization.{23} Is this really true? Is the mind simply, as MITs Marvin Minsky put it, a

computer made of meat?{24} Or is the Bible correct in its assertion that men and women are comprised of both material and immaterial components?

To address this question, Strobel interviews Dr. J. P. Moreland, who has degrees in chemistry and theology, and a Ph.D. in philosophy. One of the most compelling arguments presented by Moreland during this interview was the positive experimental evidence that consciousness and the self are more than simply a physical byproduct of the brain. For example, Moreland said, neurosurgeon Wilder Penfield electrically stimulated the brains of epilepsy patients and found he could cause them to move their arms or legs, turn their heads or eyes, talk, or swallow. Invariably the patient would respond by saying, I didn't do that. You did. According to Penfield, the patient thinks of himself as having an existence separate from his body. No matter how much Penfield probed the cerebral cortex, he said, There is no place . . . where electrical stimulation will cause a patient to [think]. Thats because [thought] originates in the conscious self, not the brain.{25}

As Strobel notes in agreement, it is evidence like this which has led one pair of scientists to conclude that physics, neuroscience, and humanistic psychology all converge on the same principle: mind is not reducible to matter. . . . The vain expectation that matter might someday account for mind . . . is like the alchemist's dream of producing gold from lead.{26}

Conclusion

It is evidences like these, as well as the many others presented by Lee Strobel, which has continued to persuade scientists in every field of study that there must be a Designer. Naturalistic explanations are not sufficient to explain the beauty, complexity, and design that we observe both around us and within us. Strobel, indeed, presents an amazingly strong case for a Creator.

Notes

1. Lee Strobel, *The Case for a Creator* (Grand Rapids, Mich.: Zondervan, 2004) jacket.
2. Ibid., 97.
3. Ibid., 98.
4. Brad Lemley, “Guth’s Grand Guess,” *Discover* (April 2002) p. 35.
5. Strobel, 101.
6. Ibid., 110.
7. Ibid., 126.
8. Ibid., 132.
9. Ibid., 132.
10. Ibid., 130.
11. Ibid., 150.
12., Ibid., 153.
13. Ibid., 185.
14. Ibid., 186.
15. Ibid., 186.
16. Francis Darwin, *The Life and Letters of Charles Darwin* (New York: D. Appleton, 1887), 202.
17. Strobel, 229.
18. Ibid., 232.
19. Ibid., 234.
20. Ibid., 235.
21. Ibid., 244.
22. Merriam-Webster’s Collegiate Dictionary, 10th ed., s.v., “Consciousness.”
23. Thomas Huxley, “Mr. Darwin’s Critics,” *Contemporary Review* (November 1871)
24. Strobel, 250.
25. Ibid., 258.
26. Ibid., 272.