

THE CREATED COSMOS

THE CREATED COSMOS:
WHAT THE BIBLE REVEALS
ABOUT ASTRONOMY

Danny R. Faulkner

with

Lee Anderson Jr.



A Division of New Leaf Publishing Group
www.masterbooks.com

First printing: 2016

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ISBN: 978-0-89051-973-8

Library of Congress Number: 2016910841

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*To the late George Mulfinger,
a professor of mine forty years ago.
We shared a passion for creation,
especially as it applied to astronomy.
He was a gentle man and a wonderful role model.*

CONTENTS

FOREWORD	9
ACKNOWLEDGMENTS	13
INTRODUCTION	15
PART 1: Astronomical Concepts in the Bible: What Scripture Plainly Teaches about Astronomy	21
1. Biblical Theology and the Study of Astronomy	23
2. Biblical Teachings about the Heavens and the Earth	39
3. Biblical Teachings about the Sun, the Moon, and the Stars	59
4. Biblical Teachings about the Purpose of the Heavenly Bodies	83
5. Biblical Teachings about and Warnings against Astrology	101
PART 2: Astronomical Anomalies in the Bible: What Scripture Says about Unusual Astronomical Events	113
6. The Unusual Days of Joshua and Hezekiah	115
7. The “Christmas Star” of Matthew 2	129
8. Astronomical Aspects of Good Friday and Resurrection Sunday	143
9. Astronomical Aspects of Prophetic Literature and the End Times	157
PART 3: Astronomical Questions and the Bible: How Scripture Confronts Recent Questions about Astronomy	181

10. Does the Bible Teach the Year Was Once 360 Days Long?	183
11. Does the Bible Refute the Light-Travel-Time Problem?	199
12. Does the Bible Address the Idea of Extraterrestrial Life?	221
PART 4: Astronomy and Distortions of the Bible: Misconceptions of What Scripture Teaches about Astronomy	233
13. The Errors of Flat-Earth Cosmology and Geocentrism	235
14. The Gospel in the Stars: Introduction and Alleged Basis	257
15. The Gospel in the Stars: Assumptions and Some Difficulties	275
16. The Gospel in the Stars: Additional Problems and Conclusions	301
CONCLUSION	319
APPENDIX	323
SUBJECT INDEX	333
SCRIPTURE INDEX	343

FOREWORD

One of the plagues in modern times with respect to the Bible-science stand-off is preachers who think they are scientists and Christian scientists who think they are Bible scholars. Not to be included are secular, humanistic scientists who pay no attention to the whole matter in any case, viewing it, as they do, from their Mount Olympus, as another spat of mere mortals who know nothing and have nothing worthwhile to say. Few indeed are the conservative, evangelical voices that can speak in the midst of the melee with authority founded on both credentialed scientific expertise and a degree of linguistic and exegetical skill sufficient to allow the sacred Scriptures also to speak and to do so with persuasive power. Such a work is this.

This writer, with like-minded others of late, has become greatly concerned about the inroads into contemporary evangelical scholarship of the assumption that the writers of the Hebrew texts followed lock-step the *Weltanschauung* and cultural norms of their respective historical environments, an adaptation by them to social and literary world-views that may be dubbed “patternism.” This method presupposes a universal commonality of fundamental ideologies, unitary ways of reflecting on, interpreting, and recording the past, resulting, in Israel’s case, in a certain degree of cultural adaptation and association, alleged literary borrowings and dependencies from secular sources by its scribes and scholars, and the like. Moreover, the pilfering of conceptual notions and the texts that relate them is always thought to be by the biblical writers, never the other way around. Thus, *Atra-ḥasīs* informs the Genesis creation story, *Enūma eliš* the biblical Flood narrative, and the Code of Hammurabi the Mosaic Torah.

Defenders of a “Bible uniqueness view” have found themselves foundering about in a morass of data, debate, and, sadly, defection from the time-honored views of the Fathers who preceded us and laid down for us an infrastructure of faith in the inerrant word that come what may was sufficient for every storm and

conflict. One thinks of the Robert Dick Wilson, William Henry Green, Edward J. Young, O. T. Allis, R. Laird Harris, Gleason L. Archer, and others like them in yesteryear, men who stood firm against the tsunamis of liberal historical-criticism despite the risk of losing position, reputation, and academic renown in the eyes of those of lesser acumen and scholarship, counting it a small price to pay for truth and integrity.

In their wake have come evangelicals who, often well-trained and bright, could easily have taken up the mantle of the fallen warriors but have elected instead to belong to the academy where everyone knows and admires one another and where there is the ease and comfort of going with the flow. Why fight when you can join? The weapons of today are the new hermeneutics, certain brands of discourse analysis, aversion to literal readings of texts that speak of the unique, the unrepeatable, the miraculous, the supernatural, the non-documentable by modern tools of research; the fear of being caricatured as “Luddite,” “medieval,” “literalistic,” “unscientific,” “non-enlightened,” or, worst of all, “fundamentalist.” No wonder the ship of classical biblical scholarship is being abandoned. Who wants to be aboard a vessel so much off course that it is bound eventually to be grounded on the shoals of irrelevance and absurdity?

Danny Faulkner has chosen to remain on the ship as it were and to argue, on the basis of both astronomical and exegetical evidence, for a young earth and six-day creation, with an eye to all the varying rebuttals and responses he knows his case will surely engender. But this is a case constructed not by a novice or dilettante but by a credentialed scientist with a doctoral degree in astronomy. The amassing of astronomical data relevant to various theories as to the age of the earth, a geocentric galaxy or universe, the uniqueness of humankind in such a universe, causation, time and space, astronomical phenomena such as eclipses, “falling stars,” the “long day” of Joshua, the “backward movement” of Hezekiah’s sundial—all are treated fairly from all sides and accounted for astronomically, exegetically, and theologically. Rarely is the discipline of astronomy brought up in the so-called “Bible-science debate,” most likely because of a lack of expertise in its complexities by both sides in the controversy. Close attention to the points raised here will help the serious reader understand the debate, to some degree at least, even if he or she cannot follow the technicalities naturally inherent in such an arcane field of study.

The Bible asserts that “God created the heavens and the earth” (Genesis 1:1) and he said moreover, “Let there be lights in the expanse of the heavens”

and “let them be for signs and for seasons, and for days and for years” (Genesis 1:14). David understood the importance of this creative work, which he took literally to be the work of God alone: “The heavens declare the glory of God, and the sky above proclaims his handiwork” (Psalm 19:1). But this is not enough. The poet goes on to note that this kind of proclamation is insufficient because in astronomy “There is no speech, nor are there words; it has no voice” (verse 3, my translation). Thus there follows David’s testimony about Scripture:

The law of the Lord is perfect,
reviving the soul;
the testimony of the Lord is sure,
making wise the simple.

Astronomy speaks a powerful word about God as Creator, if only one has eyes to see; the Bible speaks a powerful word about God as Re-creator and Redeemer, if only one has faith to believe.

EUGENE H. MERRILL
JUNE 9, 2016

ACKNOWLEDGMENTS

A tremendous amount of credit goes to Lee Anderson for getting this book finished. I have thought of writing this book for at least four years. However, it wasn't until I recently mentioned the book to Lee and he got excited about the prospect that this project took off. After discussion of the topics that the book ought to cover, Lee organized the material and presented it to Dr. Andrew Snelling, the Director of Research at Answers in Genesis. Andrew enthusiastically approved the book as a Research Department project, and we soon began work. As I began to write, Lee and I frequently met to further organize the book's contents. When I would finish drafts of each chapter, I would send them to Lee for his helpful editorial suggestions. For Chapter 1, our roles were reversed—Lee wrote the first draft and I offered suggestions. However, I must confess that I had very few suggestions, far fewer than he had for my writing. In conjunction with the first chapter, Lee also wrote the Appendix. Even more importantly, I found Lee's assistance extremely helpful in correctly understanding elements of biblical Hebrew and in getting recommendations on theological issues. Not only did Lee's organizational skills greatly speed up the writing process, the overall quality of the book is far better than I could have managed on my own.

There are other people that I ought to mention. As previously stated, Andrew Snelling, approved this as an Answers in Genesis Research Department project. This also greatly sped up the writing process, so I thank both Andrew and Answers in Genesis for their support. My colleague and good friend, Dr. Robert Hill, was helpful as a sounding board and in reviewing the entire book. Not only is Bob a fellow astronomer, he brings a broad breadth of knowledge in such a project. Steve Golden did the general proofreading of the entire book. Having worked with Steve for several years, I have learned that he is a master of writing, so I am grateful for his help in this.

Though he may not have been the original source of this sentiment, Sir Isaac Newton once wrote, “If I have seen further, it is by standing on the shoulders of giants.” I truly understand this. I have had the pleasure of knowing personally the co-founders of the modern creation movement, Dr. John C. Whitcomb and the late Dr. Henry M. Morris. These two giants have influenced either directly or indirectly virtually all recent creationists in the world today. But there have been other giants that have helped me see further, such as the late George Mulfinger, a professor, example, and mentor of mine 40 years ago. I am sure that he would have been happy with this book.

One other giant in the realm of theological study is Dr. Eugene Merrill, who graciously agreed to write the foreword for this work. I am extremely grateful for his kindness and support.

Finally, I wish to thank publicly my loving wife, Lynette. Over the years, she has encouraged me in so many ways. She has always been supportive of my calling (or shall I say, *our* calling) as an astronomer for God’s glory.

DANNY R. FAULKNER

APRIL 22, 2016

INTRODUCTION

Astronomy and the Study of the Bible

In creation science, we discuss various sciences within the context of the biblical doctrine of creation. The biblical doctrine of creation in turn is gleaned from scriptural passages that deal with the creation event. Unfortunately, it sometimes seems that we start with the study of science, working to build our models within the framework of the doctrine of creation, and only thereafter asking what the Bible has to say about it. This presents the danger that our creation model as a whole may be a little more inclined toward science and a little less inclined toward Scripture than it ought to be.

In endeavoring to correct this tendency, we do well to consider the disciplines of biblical and systematic theology, respectively. Biblical theology is the study of the doctrinal content of the Bible, treating the Bible as the only source, examining the content of each individual book of the Bible (or group of books by a single author) within its own historical context. Systematic theology is the attempt to organize biblical truth categorically, crossing over the boundaries of authorship and historical context, and then, to use the resultant understanding of biblical truth as the standard for either affirming or rejecting truth claims arising out of other disciplines, including science.

Given this definition, it is appropriate to view the work of creation scientists today as taking place within the broad sphere of systematic theology, in that they attempt to understand their respective fields within the parameters defined by Scripture. This approach is a good one, as long as we keep our science rooted in what the Bible *actually* says. If there is a disconnect between the careful interpretation of the biblical data (in the study of biblical theology) and the interaction with the truth claims coming out of the study

of the sciences (in the realm of systematic theology), we lose our basis for confidence in the accuracy of our scientific models, as Scripture no longer controls the parameters within which we are seeking to construct those models. Therefore, it behooves us from time to time to have a discussion of a science, such as astronomy, that *explicitly* starts with the Bible to see what the text says about it. While there are a number of treatments of astronomy as it relates to creation, there are few, if any, current resources that simply and specifically begin by asking what the Bible reveals about astronomy. There is no shortage of material, for the Bible contains an amazing number of mentions of astronomical concepts.

While there appears to be a lack of material today that specifically addresses a biblical outlook on astronomy, this has not always been the case, for a century ago there were several such books. One example is *Astronomy in the Old Testament* published in 1905 by the famous Italian astronomer Giovanni Schiaparelli. This was a translation of the Italian edition that appeared in 1904. Schiaparelli is best remembered for his observations of the planet Mars. Like other astronomers of his day, Schiaparelli thought that there was water on Mars, so he interpreted Martian features in this manner. In mapping the Martian surface, Schiaparelli included seas (darker areas) and continents (lighter areas).¹ During the great opposition of Mars in 1877, Schiaparelli saw linear features on the Martian surface that he called channels, suggesting possible natural connections between bodies of water. The Italian word for channels is *canali*, which unfortunately was mistranslated into English as “canals.” This inspired a popular fascination with Mars especially in the United States, and soon caught up the American astronomer Percival Lowell, who spent the rest of his life promoting his belief that canals on Mars proved that life existed there. It turned out that the channels on Mars were optical illusions. However, Schiaparelli did far more significant work than his discovery of what he thought were channels on Mars. For instance, he studied binary stars, and he was the first to show that meteor showers are caused by debris of comets, a view that eventually won wide acceptance. Schiaparelli also was an expert on the history of ancient astronomy. His work in this area dovetailed very nicely with his interest in biblical astronomy.

¹ Today we know that bodies of water do not exist on Mars, but that there may be a large amount of ice, frozen water, in the soil and rocks of Mars.

Another example of a work that specifically addresses a biblical outlook on astronomy is *Astronomy of the Bible: An Elementary Commentary on the Astronomical References in the Holy Scripture*, published in 1908 by E. Walter Maunder, an English astronomer best known for his study of sunspots. Maunder, along with his wife, Annie, was the first to show that the latitudes of sunspots varied throughout the sunspot cycle. He also showed from historical records that there was a 75-year period of very low sunspot activity in the late seventeenth and early eighteenth centuries, a period of time that we now call the Maunder Minimum. The Maunder Minimum and other periods of low sunspot activity correlate well with times of lower temperatures on earth, so it has become an important topic in the debate over global warming. In 1890, Maunder founded the British Astronomical Association, an organization primarily for amateur astronomers. It remains one of the premier amateur astronomy organizations in the world today. Maunder was an early critic of Lowell's theory about life on Mars, being one of the first to argue the Martian canals were optical illusions. In 1913, Maunder tackled the question of extraterrestrial life in his book *Are the Planets Inhabited?* He could have taken a biblical approach (see chapter 12 of this book), but Maunder instead took a purely scientific approach.

The two books by Schiaparelli and Maunder stand out for the breadth of their coverage of what the Bible says about astronomy. While these two authors appear to have had a commitment to the cardinal doctrines of Christianity and they handled some issues very well, on other issues their books are a disappointment. For instance, they both believed that there was no physical miracle at the Battle of Gibeon. Rather, they argued that the account of Joshua's long day in Joshua 10 was poetic license.

In 1919, Lucas A. Reed published *Astronomy and the Bible*, though the discussion contained in this book is not nearly as deep as the treatments of Schiaparelli and Maunder. Reed was a Seventh-day Adventist, and some Adventist ideas come through in his book. For instance, Reed discussed the "open space in Orion" that Ellen G. White wrote about, which forms the basis for Orion being the dwelling place of God, a common belief among Seventh-day Adventists. Furthermore, Reed concluded from Jeremiah 33:20–21 and Psalm 89:34–37 that the sun and moon will continue on into eternity.²

² It is interesting that Henry M. Morris also taught that the stars would continue on into eternity, though he primarily used Daniel 12:2 as his support.

An earlier example of a work addressing astronomy in the Bible was the 1871 posthumous publication of *The Astronomy of the Bible* by Ormsby Macknight Mitchel. Mitchel led a very interesting life. A graduate of West Point (in the same class as Robert E. Lee), Mitchel reentered civilian life upon completion of his military duty. He moved to Cincinnati, where he soon passed the bar, became a professor at Cincinnati College (now the University of Cincinnati), and was named the chief of engineering at the Little Miami Railroad. As if none of these three professions were enough, Mitchel soon founded the Cincinnati Observatory, the oldest professional observatory in the United States. Mitchel devoted an enormous amount of his personal time to this project. To raise the considerable funds for construction, Mitchel sold memberships, an unheard-of approach at the time. In fact, he traveled to Germany to purchase a suitable telescope, and the manufacturers were stunned by this method, because they were accustomed to working with royal patronage. To spark interest in the project, Mitchel gave a series of popular lectures. He must have been quite an orator, for only 16 people attended his first lecture, but soon the crowd swelled to 2,000. The text of these lectures eventually was collected in a book, *The Orbs of Heaven*, published in 1851. In these lectures, Mitchel made biblical references. His posthumous book, *The Astronomy of the Bible*, also a collection of popular lectures, went even further. In 1859, Mitchel departed Cincinnati for Albany, New York, to assume the position of astronomer at Dudley Observatory. With the beginning of the War Between the States, Mitchel resigned that position to take a commission as a brigadier general in the Union Army. In 1862, troops under his command made a raid that became known as the Great Locomotive Chase, which eventually became the subject of two movies. Later that year, now Major General Mitchel contracted yellow fever and died while leading Union troops in South Carolina.

Mitchel's two books are different from Schiaparelli's and Maunder's. While their books are expositions of biblical passages related to astronomy, Mitchel discussed the wonders of astronomy with a biblical emphasis. However, his commitment to biblical authority is clear enough. For instance, he began his first book (his first lecture) by asking what the first man (Adam) saw as night fell upon him only 6,000 years ago. Elsewhere in the book, he again stated his belief that mankind was created just 6,000 years ago. In his second book, Mitchel clearly criticized Laplace's nebular hypothesis of the formation

of the solar system. The basis of the critique was that the nebular hypothesis was a naturalistic explanation. Still, it appears that Mitchel believed in the day-age theory. Hence, while he thought that humanity was scarcely 6,000 years old, Mitchell thought that the world was much older.

Besides these works, there have been some books published in recent years that address various astronomical issues from a biblical perspective. One of the best in this sense has been *The Stars Speak: Astronomy in the Bible* by Stewart Custer, published in 1977. Much of the text of this book came from planetarium shows that Custer wrote for the Bob Jones University planetarium. Don DeYoung published *Astronomy and the Bible: Questions and Answers* in 1989 (revised in 2010). As the title suggests, this book is arranged in the form of questions (100 questions in total), followed by short answers (usually a page or less). In 1996, Werner Gitt published *Stars and Their Purpose: Signposts in Space*. Many of the chapters in this book have titles in the form of questions. In this respect, Gitt's book is similar to DeYoung's, albeit there are fewer questions and they are answered in more detail. Much of the information in Gitt's book is presented as a discussion of the wonders of creation, in that he used many facts demonstrating vast sizes and other large numbers found in astronomy. This is similar to the approach that Mitchel took. Stuart Burgess published *He Made the Stars Also: What the Bible Says about the Stars* in 2001. Much of Burgess' book is in response to issues, such as the big bang and extraterrestrial life, which seem to contradict a biblical worldview. Finally, Jason Lisle published *Taking Back Astronomy* in 2006. However, these books are arranged more around topics that are then addressed from Scripture, rather than first asking what the Bible has to say about astronomy, which was the approach of Schiaparelli and Maunder.

Also worthy of mention is Paul Steidl's 1979 publication *The Earth, the Stars, and the Bible*. Though a bit dated, this book remains the most comprehensive discussion of modern astronomy within a recent creation viewpoint. As excellent as Steidl's book is, it suffers from the mild criticism introduced at the beginning of this introduction—it approaches astronomy from the perspective of biblical creation rather than the approach of asking what the Bible has to say about astronomy. Apparently, while the latter approach once was popular, it no longer is. A book taking this approach has not been attempted in about a century, so the time may be right for a new book on the subject.

Of course, a book of this type probably ought not to be exclusively about biblical astronomy, because there are some relevant questions that may be omitted if one were to discuss *only* biblical astronomy. Hence, this book is divided into four parts. The first part is entitled “Astronomical Concepts in the Bible: What Scripture Plainly Teaches about Astronomy.” It is the intent of the chapters in Part 1 to tackle a biblical outlook on astronomy as defined above. Part 2 is entitled “Astronomical Anomalies in the Bible: What Scripture Says about Unusual Astronomical Events.” The purpose of the chapters in Part 2 is to investigate in more detail certain questions about astronomical issues that Scripture discusses. These include things such as the question of what the Christmas star might have been, or what happened with the miracles of Joshua’s long day or Hezekiah’s sundial. Part 3 is entitled “Astronomical Questions and the Bible: How Scripture Confronts Recent Questions about Astronomy.” The three chapters of Part 3 discuss some issues concerning the Bible and astronomy, such as the light-travel-time problem, which have been raised relatively recently. While the Bible does not directly address these questions, these are questions about the Bible that people naturally have, so it would be remiss to omit discussion of these topics in a book of this sort. Finally, Part 4 is entitled “Astronomy and Distortions of the Bible: Misconceptions of What Scripture Teaches about Astronomy.” The chapters in Part 4 respond to claims that various people make about what the Bible supposedly teaches, but actually doesn’t teach. Some of these ideas come from skeptics, such as the idea that the Bible allegedly teaches that the earth is flat. Others ideas come from very devout Christians, such as the proposed “gospel in the stars.” I hope that the reader can see the logic of this ordering, going from what the Bible clearly teaches, to things that we can glean from Scripture, to answering questions with biblical principles even though Scripture does not directly address those questions, to refuting claims about what the Bible teaches when it actually does not.

Finally, it is my sincere desire that those reading this book will be encouraged and edified by it. In the words of Johann Sebastian Bach, *Soli Deo gloria*.

PART 1

Astronomical Concepts in the Bible: What Scripture Plainly Teaches about Astronomy

The Bible contains a number of mentions of, or allusions to, astronomical bodies and concepts. The very first words of Scripture speak of the creation of the heavens and the earth. Right away, this sweeping statement introduces the field of astronomy, though the astronomical bodies were not made until Day Four of the Creation Week, several verses into the creation account of Genesis 1. In between, on Day Two, God made the firmament, or expanse. This immediately raises all sorts of questions, such as, *What is this firmament? What was the source of light for the first three days? And how can we see distant starlight?* However, this is getting ahead of ourselves.

This part of the book begins with a broad discussion of biblical theology and its relationship to astronomy in Chapter 1. Psalm 19:1 makes it abundantly clear that what we see in the heavens above demonstrates God's glory. As such, the study of astronomy is a God-honoring endeavor. I have always thought that I am truly blessed in my work as an astronomer, for it is a holy calling. Most people are awed by images of astronomical bodies. I think that there is a good reason for this: Astronomy, as Psalm 19:1 indicates, gives each of us a connection to our Creator. I don't understand people who don't find astronomy fascinating.

Chapters 2, 3, and 4 continue this study first with the Bible's teachings on heaven and earth, followed by the Bible's teachings about the sun, moon, and stars, and then a discussion of the purposes of the heavenly bodies. Chapter 5 concludes Part 1 with another clear message from Scripture related to astronomy—biblical warnings against astrology. Astrology is an ancient pagan religion, but unlike other ancient pagan religions, it survives well today.

Astrology is not a simple diversion, but instead represents a system that works to detract our attention from the true God.

In many respects, this first part is the most important portion of this book, because it lets the Bible speak for itself on astronomical matters. The remaining three parts will progressively move away from these clear teachings to the consideration of less clear issues.

CHAPTER 1

Biblical Theology and the Study of Astronomy

Lee Anderson Jr.

Astronomy, one of the oldest of the sciences, is the study of objects and matter outside of earth's atmosphere, and of their physical and chemical properties.

The Scriptures are limited in what they communicate about astronomy; however, what the Bible does tell us about astronomy is of unparalleled importance. From the Scriptures we know that the heavens and all they contain were created by God (e.g., Gen. 1:14–19) and that they serve ultimately to magnify His glory (Ps. 19:1). The tremendous vastness of the heavens, clearly implied by the Lord's rhetorical request that Abram “number the stars” (Gen. 15:5), ought to leave the observer overawed by the power and majesty of the Sovereign Lord who spoke the astronomical realm into existence. Fittingly, David surmised in Psalm 8:3–4,

When I look at your heavens, the work of your fingers,
the moon and the stars, which you have set in place,
what is man that you are mindful of him,
and the son of man that you care for him?

Given the splendor of God's heavenly creation, it is not surprising in the least that David was compelled to conclude this psalm with the exclamatory refrain in verse 9,

O LORD, our Lord,
how majestic is your name in all the earth!

In view of the stated purpose that the heavens have in magnifying the glory of the living God, we are correct to conclude that the study of astronomy

is a worthy and God-honoring endeavor. This conclusion is supported by prominent biblical examples. For instance, the wisest man to ever live, King Solomon, is mentioned favorably in 1 Kings 4:33–34 for devoting himself to scientific pursuits; and, as we saw above, David gave thoughtful consideration to the workings of the heavenly bodies. Thus, we see that the discipline of astronomy is a worthwhile field of study, and that the pursuit of knowledge in this area of science is a noble goal.

In approaching the study of astronomy within a Christian worldview, our thinking on the subject must be governed first and foremost by what the Scriptures teach. Because the Scriptures are “God-breathed” (2 Tim. 3:16) and wholly true in all they teach (Ps. 119:160; John 17:17), we are justified in looking to the biblical text as the appropriate starting point for the construction of our worldview.¹ As it concerns the study of astronomy, we look to the synthetic message of what the Scriptures proclaim about the cosmos to inform (and, sometimes, to constrain) the development of our scientific models. In this chapter, we will therefore seek to conduct a broad survey of what the Bible teaches about the heavens and the things therein, which will serve to frame the topics addressed in the chapters to follow. In particular, we will consider the Bible’s grand purposes in discussing the wonders of God’s created cosmos.

While we may grant, as stated before, that the Bible is limited in what it says about the study of the heavens—it is not an astronomy textbook—we can nevertheless be confident that the pages of Scripture will reveal a wealth of knowledge. With respect to all matters on which Scripture touches, we may hold tightly the promise of Psalm 119:130:

The unfolding of your words gives light;
it imparts understanding to the simple.

That which perhaps figures the most prominently in the Bible’s discussion of astronomy is the origin of the cosmos. Though succinct, the Scriptures are brilliantly explicit in ascribing the creation of the heavens to God. On Day Two of the Creation Week, detailed in Genesis 1:6–8, God formed the “expanse” and called that expanse “heaven.” On Day Four, God spoke the heavenly bodies into existence, as it is detailed in Genesis 1:14–19:

¹ For a fuller discussion of the role of Scripture in the construction of a Christian worldview through theological method, and how it equips the Christian to engage with the truth claims of science (and other disciplines), see the Appendix: “Scripture as the Controlling Factor in Christian Worldview Development.”

And God said, “Let there be lights in the expanse of the heavens to separate the day from the night. And let them be for signs and for seasons, and for days and years, and let them be lights in the expanse of the heavens to give light upon the earth.” And it was so. And God made the two great lights—the greater light to rule the day and the lesser light to rule the night—and the stars. And God set them in the expanse of the heavens to give light on the earth, to rule over the day and over the night, and to separate the light from the darkness. And God saw that it was good. And there was evening and there was morning, the fourth day.

The creation of the two heavenly bodies most important to life on earth—the sun and the moon, described in this passage as “the greater light” and “the lesser light,” respectively—receive the bulk of the attention in these verses. The stars are mentioned collectively, and are relegated to what is essentially a footnote in the text. The Hebrew word for “star” (כּוֹכָב) refers to any point of light in the heavens (including planets, distant galaxies, etc.), so there was no need in Genesis 1 to expressly mention any other astronomical phenomena. However, lest there be any doubt that the events of the Creation Week accounted for the formation of the entire cosmos, Scripture notes, “in six days the LORD made heaven and earth, the sea, and all that is in them” (Exod. 20:11). So too, Hebrews 11:3 states, “By faith we understand that the universe (αἰῶνας) was created by the word of God, so that what is seen was not made out of things that are visible.”²

Here in the creation of the heavens is showcased the incredible power of the Lord. As if creating the earth and all that is in it were not enough, the Lord crafted a great expanse filled with billions of galaxies, each containing billions of stars, along with (potentially) countless planets, moons, and other entities. Scripture draws attention to the vastness of heaven, thereby amplifying its attestation to the Lord’s awesome power. We have already noted the implications of God’s rhetorical directive that Abram count the stars. Likewise, Job 22:12 maintains,

Is not God high in the heavens?

See the highest stars, how lofty they are!

² For discussion on the translation of αἰῶνας, see F.F. Bruce, *The Epistle to the Hebrews*, The New International Commentary on the New Testament (Grand Rapids, MI: William B. Eerdmans Publishing Company, 1964), 4, 280. Bruce convincingly argues that here is meant “the whole universe of space and time.”

Though it is unlikely that the biblical authors could have fully grasped the incredible size of the heavenly expanse, they surely knew that the skies were of seemingly endless depth, with many of the celestial objects so distant that they were beyond any hope of man reaching them. The Lord, to have made outer space so vast, must have at His disposal unimaginably great power! This fact is underscored by Scripture's reminder to its readers that God was unaided in making the cosmos. Everything we observe in the night sky, from the most intricate details of Saturn's rings, to the artistic grandeur of the Milky Way, was the result of God acting according to His perfect wisdom and sovereign design. Isaiah 44:24 records the Creator's words:

Thus says the LORD, your Redeemer,
who formed you from the womb:
"I am the LORD, who made all things,
who alone stretched out the heavens,
who spread out the earth by myself."

Truly, the human mind is downright incapable of fathoming the essentially limitless power that must have been required to fashion the heavens. Human beings, even working together in large teams, struggle to engineer things which pale by comparison to even a single star, much less a galaxy full of them. The fact that the Scriptures employ an anthropomorphism, describing the creation of the stars as being merely the work of God's *fingers* (Ps. 8:3) ought to make us pause in humble, reverent awe of the Lord's omnipotence that was brilliantly displayed in His mighty work of creation.³ As Psalm 33:8–9 fittingly exhorts its readers,

Let all the earth fear the LORD;
let all the inhabitants of the world stand in awe of him!
For he spoke, and it came to be;
he commanded, and it stood firm.

As much as God's power is displayed in His creative acts, though, we must also acknowledge the Bible's attestation to His power shown in how He

³ As a point of devotional reflection, it is significant that while the stars are described as merely being the work of God's fingers, the text emphatically states that God bares His mighty arm to accomplish salvation for His people (Isa. 52:10; cf. 53:1). This emphasizes the care and attention that the Lord devotes to His redemptive work, and ought to be something in which we take great comfort. The God who displays unfathomable might in creation exercises His power all the more in bringing salvation to those who trust in Him.

has subsequently interacted with the cosmos. At the time of creation, God established natural laws that govern physical processes, including, among other things, the movement of the heavenly bodies. The movements of the earth, sun, moon, planets, and stars relative to each other follow a set pattern controlled principally by the force of gravity. These movements are reliable and mathematically predictable, and, as far as we are concerned, so regular that any deviation from their normal pattern would be cause for great surprise—if not outright amazement—as to the cause. Yet on at least two occasions in recorded history, the Lord miraculously intervened in the movement of the heavenly bodies in order to accomplish His purposes. In Joshua 10, the Lord apparently halted the rotation of the earth so that the Israelite army would continue to have daylight and be able to complete the rout of their enemies, the wicked Amorites. As such, the writer of Joshua concludes succinctly, “There has been no day like it before or since . . . the LORD fought for Israel” (Josh. 10:14).

Similarly, in 2 Kings 20 (cf. 2 Chron. 32; Isa. 38) the Lord caused a reversal of the earth’s rotation such that the shadow cast on “the steps of Ahaz” progressed opposite to its normal direction. This miracle was given as a sign of the Lord’s promise to heal Hezekiah from a deadly disease. In both cases, we observe that God altered the motion of at least one of the heavenly bodies, effectively suspending (by supernatural means) the physical laws at play. Despite efforts to account for these events in terms of purely natural phenomena, no compelling explanations have been set forth. Yet this is truly unnecessary. After all, we must realize that, for the God who created everything in the heavens, the miraculous suspension of the physical laws so as to bring about His purposes in these rare instances *is really nothing at all*.⁴ (Both of these astronomical anomalies are discussed in more detail in Chapter 6 of this book.)

⁴ Critics of the inerrancy of Scripture have pointed to these passages (especially Josh. 10) in order to argue that the Bible supports a geocentric view of the universe—which is clearly contrary to observation. After all, if the sun and moon are told to “stand still,” this implies that the earth is stationary and is being circled by the other bodies. And, as the argument goes, if the Scriptures get the facts wrong in this instance, how can they be trusted in other matters? Notwithstanding the efforts of zealous (but grossly misguided) Christians to “prove” geocentrism in the hopes of “defending” the Bible, the fact remains that what we encounter in these two texts is quite recognizably just the very normal use of phenomenological language—rather than a scientific description—to explain the events. We often use such language today (far more often than we use technical scientific description) to express the same sorts of things. For example, in observing a beautiful sunset, no one exclaims, “Wow, wasn’t that a lovely rotation of the earth!” The manner of expression must fit the context of the remark, and, as such, it is perfectly natural (and correct) for the Bible to speak of the halting of the earth’s rotation as the sun and moon standing still.

Returning now to the creation narrative, we find embedded in the Genesis account of the Lord's creation of the cosmos two very closely related polemics. While these polemics may seem hardly evident to us reading English translations of the biblical text in the present day, they would have been conspicuously apparent to the original readers of the Hebrew Scriptures when Moses wrote Genesis (15th century BC). These polemics evidence themselves when we compare the biblical record of creation to ancient Near Eastern creation myths. While it has become commonplace in contemporary biblical scholarship (particularly of a more liberal vein) to stress the *similarities* between the Bible and the ancient Near Eastern source material—and so conclude that they are not essentially different in their focus, message, or origin—the original readers of the biblical text would have in fact been struck by the profound *differences* which exist in the Scriptures. So this is what we will devote our attention to in the following paragraphs.

The first polemic that we observe in the creation account runs throughout the whole narrative, from Genesis 1:1 to 2:3. Notably, this polemic, though it would have been patently obvious to the original readers, to us seems subtle, because it concerns principally *what is not* in the text, rather than what is there. The ancient Near Eastern creation myths, such as the notable *Enûma Eliš*, are really more about the origin of the gods than the origin of the universe. In this sense, they are *theogonies*,⁵ not *cosmogonies*. The ancient Near Eastern myths do not present the gods as existing eternally, but they are born out of eternal matter or are fashioned by other gods. These gods are often not very god-like, but are typically very petty and human in their character. While powerful, they are usually mere deified natural forces. Moreover, in these myths, the universe is typically made only after a period of battle between opposing deities, through which the victor essentially wins the right to create. But, even then, the victorious deity does not “create” the world in the sense of crafting it from nothing. Rather, he fashions the world from preexistent matter—in some cases, from the carcass of a vanquished rival deity.

Genesis stands in stark contrast to these crude and disgusting myths. In Genesis, the existence of the Lord is neither explained nor defended, but is rather assumed. This strongly implies His self-existence and eternity. The Lord is totally separate from His creation and is not associated with any kind of natural force. In His creative actions, the Lord speaks the creation into

⁵ Theogony is the origin or genealogy of a group or system of gods.

existence in the span of six days; He relies upon no matter that existed before this time. Furthermore, the Lord never encounters resistance in His creative work; He exercises complete sovereignty in His work, unhindered by any opposing beings or forces.⁶ Thus, the whole creation account, of which the Day Two and Day Four records of the creation of the cosmos are integral parts, shows the Lord in perfect dignity, strikingly different from the ancient Near Eastern deities.

The second polemic, which more directly concerns the Day Four account, again has to do mainly with what the text does not include rather than what it does include. As noted above, Genesis 1:14–19 describes the creation of the sun, moon, and stars. Notably, neither the sun nor moon are mentioned by name, but are simply referred to (collectively) as “the two great lights” and (individually) as “the greater light” and “the lesser light,” respectively. This lack of naming is to show that the sun and moon are not gods, nor are they even sentient beings. Their stated purpose, “to give light on the earth” demonstrates implicitly that they have been placed in the heavens to serve man, which inherently precludes any notion that they are to be worshiped. (Notably, the Scriptures expressly forbid this elsewhere; e.g., Deut. 4:19.) Furthermore, since the Lord is shown to be the one who created the sun, moon, and stars, the only reasonable conclusion is that He is greater than they, so *even if* one insists that they are deities (which the text does not affirm) they are nevertheless subservient to the Lord. The Scriptures show that He is supreme over them, and they do not compare to Him.

The polemic against the sun and moon is picked up later in the biblical text. For instance, in Psalm 121:5–6, the psalmist utters these comforting words:

The LORD is your keeper;
the LORD is your shade on your right hand.
The sun shall not strike you by day,
nor the moon by night.

⁶ For further discussion of the polemical features of the creation record, especially in how the Lord and His creative work are juxtaposed against the ancient Near Eastern deities and their efforts, see Steven W. Boyd, “The Genre of Genesis 1:1–2:3: What Means This Text?” in *Coming to Grips with Genesis: Biblical Authority and the Age of the Earth*, edited by Terry Mortenson and Thane H. Ury (Green Forest, AR: Master Books, 2008), 188–89. Particularly pivotal in this discussion are considerations of differences with respect to the reason for the creation of humanity and the place that is then given to humanity in the created order.

Even today, we might relate to the desire for shade from the sun; but the moon? The original readers of the psalm were hardly concerned with “moonburn” (or sunburn, for that matter). This text advances an attack on the idea, common some 3,000 years ago, that the sun and moon were deities—deities who might harm the children of Israel. No, says the God of Israel; no harm will come on account of the fabled sun and moon gods! The sun and moon are created entities; they are the Lord’s handiwork (verse 2). Additionally, the Lord God is ever vigilant (verses 3–4), and will Himself ensure the protection of His people. It is with this assurance that the psalmist can rightly say that his help “comes from the LORD” (verse 2).

The point to take away from this is that the Bible, through its polemics, teaches something about astronomy that virtually no other ancient writings or cultures recognized: the heavenly bodies are not deities, nor are they to be worshiped as such. They are physical entities, created by the one true God, who rules over them in majestic, unopposed sovereignty.⁷

Having looked briefly at Scripture’s teaching about the creation of the cosmos, as well as at the role that the Day Four creation narrative plays theologically and polemically, we now turn our attention to the Bible’s discussion of astronomy as it concerns the structure of the cosmos. It is in this area especially to which the Bible speaks but little, but it does still touch on the matter. And, while the Scriptures do not address this topic the way we might expect of a science textbook, we still see that what Scripture says about astronomy is entirely concordant with that which we have learned from

⁷ There are, of course, more direct polemics in the text directed against sun and moon deities that communicate their message through what they do say, rather than what they omit. For example, in Exodus 10, the Lord sends a plague of darkness on Egypt, making the land pitch black for three days and nights. It was a darkness so severe that, as the text says, it could be felt (Exod. 10:21). The darkening of the skies—especially during the daytime—was a not-so-subtle attack on the Egyptian sun god *Ra*, and the plague would have been understood as the Lord doing battle for His people, whom the Egyptians had enslaved and oppressed. Interestingly, this plague is more integral to the narrative than many people realize, as can be shown by its relationship to the plague to follow. In ancient Egyptian mythic lore, *Ra* is the father figure to Pharaoh. The plague of darkness showed *Ra* to be powerless before the Lord, incapable of defending Pharaoh or the Egyptian people. In the tenth plague, recounted in Exodus 12, the firstborn children throughout the land of Egypt die, including (and explicitly mentioned, lest it be overlooked) “*the firstborn of Pharaoh who sat on his throne*” (Exod. 12:29). By means of these two plagues, the Lord had cut Pharaoh off from both his fabled heritage and his actual progeny. He was left alone and vulnerable. It was almost as if the Lord was saying to Pharaoh, “I’m coming for you next, and there is nothing anyone can do to stop Me.”

observational science. In much of what it says about astronomy, the Bible has been shown to be ahead of its time compared to other ancient sources.

As we have mentioned already, the Bible indicates that the universe is extremely vast and that it contains more stars than can be identified and numbered (Gen. 15:5; 22:17; Deut. 1:10; 10:22). This claim of Scripture stands in contrast to the common belief of a bygone era in which it was erroneously assumed that Ptolemy's catalogue of 1,022 stars in his 2nd century BC work, *The Almagest*, was exhaustive. (Interestingly, Ptolemy never claimed his work was exhaustive.) Of course, observation of the night sky with even a basic telescope or a good set of binoculars is enough to corroborate the testimony of Scripture, and the large telescopes used by professional astronomers have shown without a doubt that the number of stars in the universe may indeed be, as the Bible says, likened to the number of sand grains on the shore.

Aside from this point, in Judges 5:20, Scripture also acknowledges the "courses" of the heavenly objects, that is, their pattern of motion through the sky. While we must recognize the figurative language used in reference to the stars in this verse—which is appropriate to the poetic genre of the passage—there is no satisfactory reason *not* to understand the mention of the "courses" of the stars as a simple but accurate description of the mechanics of their motion. While other ancient cultures understood the predictable nature of the heavens and were able to track the motion of the heavenly bodies, the Bible goes further to give the reason for *why* such tracking and predication was possible. In Jeremiah 33:25, the Lord states that He had made a covenant with day and night, and that He had established "the fixed order (תִּקְוֶה; *literally*, statutes) of heaven and earth." This, it seems, is a subtle reference to the physical laws that govern planetary motion—laws that we did not really begin to understand scientifically until millennia later.

One final noteworthy point about the structure of the cosmos concerns Job 26:7, in which we are told that God "hangs the earth on nothing." While some ancient cultures conceived of the earth as being supported by some giant object (e.g., a tortoise), Job rightly presents the earth as being suspended in space. As a word of caution, we must be aware of the fact that much of the book of Job is poetry and avoid unnaturally forcing its poetic statements into an overly literalistic mold, taking them as scientifically exacting assertions about cosmology. Indeed, if we were to do this, how would we read other poetic—

and clearly figurative—expressions in Job which speak of the earth as resting on “pillars” (Job 9:6), or on a foundation with “bases” and a “cornerstone” (Job 38:6)? Job 26:7 should not be made to say more than the biblical author intended. At the very least, however, it may be affirmed that Job 26:7 denies a mythical cosmology, and in doing so it *allows* for observational science to inform one’s approach to cosmology. R. Laird Harris’ outlook on this matter is appropriately balanced and perceptive. He writes,

Job plainly says that God “hangs the earth upon nothing” (Job 26:7), which gives not detail, but is in accord with the facts and faithfully avoids the bizarre and mythological pictures that were sometimes used in antiquity. The Bible was written in an early age. But it was written by God who created the world and who knows the end from the beginning. No one needs to reject the Bible because it is alleged to contain an outmoded view of the world.⁸

In summary, therefore, we see that while the Bible speaks little about the layout of the heavens, what it does say is truly profound and wholly worthy of our attention.

This now leads us to consider what the Scriptures say about the *function* of the cosmos and the objects therein. As we saw earlier in the Day Four creation account, God created the sun, moon, and stars “to give light on the earth” (Gen. 1:17). In the case of the sun, its brilliant light is accompanied by an appreciable amount of warmth (cf. Ps. 19:6), which is necessary for life to exist on earth. The sun especially, therefore, is a display of God’s merciful providence to all the people of the world, whether they acknowledge Him or not (Matt. 5:45).

The Lord also states in Genesis 1:14 that the heavenly bodies are to serve as markers “for signs and for seasons, and for days and years.” Chapter 4 will discuss in much more detail the function of the sun, moon, and stars for

⁸ R. Laird Harris, “The Bible and Questions of Cosmology,” *Presbyterion* 7, no. 1–2 (1981): 201. Another matter related to astronomy on which the language of the biblical text is commonly overextended is the expansion of the universe. It is often claimed that Isaiah 40:22 speaks of the present expansion of space, a scientific phenomenon that was not understood until the 20th century. However, every other verse in the book of Isaiah which speaks about the “stretching out” of the heavens (42:5; 44:24; 45:12; 48:13; 51:13; cf. Jer. 10:12; 51:15; Zech. 12:1) does so in reference to God’s initial work of creating the universe. While it is true that in some sense God stretched out the heavens, this action on His part seems to have been relegated to the past. Thus, the Bible does not appear to speak directly to the presently observed expansion of space, though the text does not deny it either.

keeping track of time. However, it is worth noting that, even with the invention of highly accurate timekeeping devices, the determination of the day and year are still tied to astronomical indicators: the earth's daily rotation relative to the sun and the earth's annual revolution around the sun, respectively. Throughout much of history, most cultures used the cycles of the moon as the basis for determining the length of the month. Notably, the Hebrew word used in the Old Testament to indicate a month is *שִׁנְיָה*, which literally means "new moon." Indeed, time measurement is a continuing function of the heavenly bodies.

Instances of the heavenly bodies serving as "signs" are comparatively rare in Scripture. The unusual events occurring in the days of Joshua and Hezekiah mentioned before constitute signs. However, the vast majority of astronomical signs mentioned in Scripture concern events which are yet to occur in the end times. For example, the prophet Isaiah links the approaching Day of the LORD with a mass darkening of the sun, moon, and stars (Isa. 13:9–10; cf. 24:21–23). Joel 2:30–31 echoes this theme, wherein the Lord describes coming judgment:

"And I will show wonders in the heavens and on the earth, blood and fire and columns of smoke. The sun shall be turned to darkness, and the moon to blood, before the great and awesome day of the LORD comes."

Similarly, Jesus Christ in the New Testament announced that miraculous signs in the heavens would accompany His Second Advent. Matthew 24:29–30 (cf. Mark 13:24–26; Luke 21:25–27) describes in brief the wonder of these future events:

"Immediately after the tribulation of those days the sun will be darkened, and the moon will not give its light, and the stars will fall from heaven, and the powers of the heavens will be shaken. Then will appear in heaven the sign of the Son of Man, and then all the tribes of the earth will mourn, and they will see the Son of Man coming on the clouds of heaven with power and great glory."

The book of Revelation, which arguably contains the most detailed biblical account of the events of the eschaton, mentions occurrences very similar to those foretold by Jesus Christ. It describes the future darkening of the sun, the moon becoming like blood in appearance, and the stars falling from their places (Rev. 6:12–14; cf. 8:12). After fulfilling their purposes in the Lord's spectacular

eschatological judgments, ultimately the material heavens will pass away (Ps. 102:25; Heb. 1:10–12), being, as Isaiah 34:4 says, rolled up like a scroll. John, in his vision of the New Heaven and New Earth, states that the holy city, the New Jerusalem, has no need for the light of the sun or of the moon (implying that they do not exist), “for the glory of God gives it light, and its lamp is the Lamb [Jesus Christ]” (Rev. 21:23). These and other relevant eschatological passages will be discussed later in Chapter 9 of this book.⁹

The main point that may be seen in the grand sweep of what the Bible says about the heavens and the heavenly bodies is this: From the beginning to the end, from the original creation to the new creation, the cosmos and everything in them function to serve the purposes of the Lord and to evidence His greatness and power. The heavens are not merely incidental to the Lord’s plan and purposes, but are integral to them, having been designed with tremendous wisdom and care. Thus, the psalmist does not call out in vain when he exclaims in Psalm 148:3–5,

⁹ One other important function of the heavenly bodies which is not stated in the biblical text, but which still connects very closely with our study of the Bible, concerns the development of a biblical chronology. The Old Testament contains a fairly extensive *relative chronology*, in that it tells us when events happened relative to each other, but it does not provide an *absolute chronology*, one in which the events are connected with actual dates. However, placing the relative chronology offered by the Scriptures within an absolute chronology is enabled by observing correlations between astronomical events, which are mathematically calculable, and the Assyrian eponym (or *limmu*) lists, which provide centuries of unbroken sequences of years, with notes on the events of those years. Descriptions of an eclipse (known to have occurred in 763 BC) allow for the precise dating of multiple events in ancient Near Eastern history, including the Battle of Qarqar. From both biblical and extrabiblical data, we know that this battle must have occurred late in the reign of King Ahab, just before his death (cf. 1 Kings 22), for this was the only time during his reign in which Israel allied with its longtime enemy Syria (due to the encroachment of Assyria). This allows us to anchor the Bible’s history within an absolute timeline, with dates accurate to within a few months. By employing a proper understanding of Israel and Judah’s regnal dating practices, we can work our way back chronologically from the Battle of Qarqar to the reigns of Israel’s first monarchs. Of greatest significance is Solomon, whose reign spanned 40 years, and commenced in 970 BC. From the plain statement of 1 Kings 6:1, we know that the fourth year of Solomon’s reign was in the 480th year after the Exodus, which allows us to place the Exodus in 1446 BC. Looking to passages such as Exodus 12:40 (cf. Gen. 15:13; Acts 7:6), which indicate that the length of the Egyptian sojourn was 430 years, we are likewise able to accurately date the entrance of Israel into Egypt. And from that point, by relying on the chronological information in Genesis, we can also reconstruct the timeline of the Patriarchs. For more detailed discussion on this point, see Andrew E. Steinmann, *From Abraham to Paul: A Biblical Chronology* (Saint Louis, MO: Concordia Publishing House, 2011); and Eugene H. Merrill, *Kingdom of Priests: A History of Old Testament Israel*, 2nd ed. (Grand Rapids, MI: Baker Academic, 2008).

Praise him, sun and moon,
praise him, all you shining stars!
Praise him, you highest heavens,
and you waters above the heavens!
Let them praise the name of the Lord!
For he commanded and they were created.

Though without voice, the heavens and the heavenly bodies do “praise” God by functioning harmoniously within their intended purpose. In fact, their very existence—along with the rest of creation—testifies to the existence and boundless might of an intelligent Creator. The intricacy, order, and grandeur of the cosmos are a clear witness to their Designer. In following this line of reasoning, the Scriptures offer a profound apologetic in Romans 1:18–20:

For the wrath of God is revealed from heaven against all ungodliness and unrighteousness of men, who by their unrighteousness suppress the truth. For what can be known about God is plain to them, because God has shown it to them. For his invisible attributes, namely, his eternal power and divine nature, have been clearly perceived, ever since the creation of the world, in the things that have been made. So they are without excuse.

It is really inconceivable as to how the heavens—in all their vastness and splendor, and yet, at the same time, in their fine-tuned precision—could have come to exist without an intelligent Creator. All theories of cosmic evolution ultimately stumble over the question of a *first cause*. Moreover, assuming an evolutionary origin for the cosmos—which has *chaos* as its driving force and *chance* as its mastermind—it is virtually impossible to account for the remarkably precise order of our place in the cosmos. For example, our planet, earth, orbits the sun at just the right distance and has just the right axial tilt to sustain life. Our moon is of just the right size and mass, orbits earth at just the right distance, and exerts just the right amount of gravitational force on the planet to provide for healthy ocean tides. Our sun—when compared with the many other stars in our galaxy—has just the right mass and composition, and is so remarkably consistent, that it is beneficial rather than detrimental to the flourishing of life on our planet. If any of these factors, along with many others, were off even slightly, life on earth could not exist.

However, the heavens do more than testify to the *existence* of their Creator; they also convey something—albeit something limited—about His Person.

Psalm 19:1–4 says,

The heavens declare the glory of God,
 and the sky above proclaims his handiwork.
 Day to day pours out speech,
 and night to night reveals knowledge.
 There is no speech, nor are there words,
 whose voice is not heard.
 Their voice goes out through all the earth,
 and their words to the end of the world.

This passage captures the fact that the witness of the heavens, though not employing human language, is still a means of communication capable of powerfully conveying its point. There is “knowledge” that is revealed, and the heavenly witness is universal in scope.

The heavens, the psalm says, “declare the glory of God,” that is, in a nutshell, God’s marvelous power, His unfathomable wisdom, and, ultimately, His deity (cf. Rom. 1:20)—which entails a worthiness of honor and worship.¹⁰ This connection is more clearly traced out in Revelation 4:11, in which the Apostle John records words of praise from a scene of heavenly worship:

“Worthy are you, our Lord and God,
 to receive glory and honor and power,
 for you created all things,
 and by your will they existed and were created.”

Here the Lord receives praise as Creator of the universe. The one who made the sun, moon, and stars is not a faceless, nameless deity; but rather,

¹⁰ This point is underscored by comments on the psalm by Willem A. VanGemeren, who says that, for the psalmist, “Creation reveals the Lord’s royal majesty and sovereignty (cf. Ro 1:19–20). It evokes a response of recognition of God’s existence, majesty, and wisdom—and therefore of praise (cf. Ro 10:18). . . . The glory and wisdom of God are evident in the vastness of space. . . . For the psalmist ‘space’ is not empty but a revelation of God’s creation of the magnificent heavenly bodies, which are characterized by radiance and regularity. The verbs ‘declare’ and ‘proclaim’ are participle forms, expressive of the continuous revelation of the heavens, and could be translated ‘keep on declaring. . . ; keep on proclaiming.’ The wars and disturbances on earth often camouflage God’s glory, as they divert attention away from the created heavenly bodies, which show more clearly God’s majesty by their regularity and orderliness. He alone is the Creator, because the magnificence of the heavenly bodies confirms that they are all ‘the work of his hands.’” Willem A. VanGemeren, “Psalms,” in volume 5 of *The Expositor’s Bible Commentary*, rev. ed., edited by Tremper Longman III and David E. Garland (Grand Rapids, MI: Zondervan, 2008), 214–15.

as Psalm 19 goes on to make abundantly clear, He is the one true God, the LORD, who has issued forth His word (verse 7), who is worthy of fear (verse 9), who is righteous and true in His judgments (verse 9), and who offers the hope of redemption (verse 14). Of course, these things cannot be gleaned from the witness of the heavens alone. However, the spectacular testimony to the Creator that is manifested in the night sky ought to humble the observer in the face of the Creator's power and deity, and then spur him to seek out the Creator who reveals Himself further, and more intimately, in the pages of Scripture. The desired end is that the one who sees the Lord's glory revealed in the heavens can speak to Him as the psalmist in verse 14, with words full of adoration and praise:

Let the words of my mouth and the meditation of my heart
be acceptable in your sight,
O LORD, my rock and my redeemer.