

# LOOK AT THE STARS

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WHAT SCRIPTURE AND HISTORY TEACHES US ABOUT  
THE STARS AND THEIR VARIOUS CONSTELLATION FORMATIONS  
AND HOW THEY RELATE TO THE BIBLICAL NEW YEAR

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## LOOK AT THE STARS (MINI)

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To my dear friend and fellow brother in the faith, Arnold Bowen. Without him to keep me studying about these issues I do not think I would know nearly as much as I do right now.



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## Introduction

# The Purpose of This Book

I still remember the first time I ever began to realize that there was a calendar up in the sky. I smile even as I write this. It amazed me that right there in the very first book of the Bible, in the very first chapter of the Bible, we are told that the heavenly lights are to be used to measure time (Genesis 1:14-18). I thought everyone would want to know this, so I began to tell many other people about this information that was a fresh discovery to me. I never thought that people would have been disinterested, but they were. I also never thought people would think you were a nut for looking into such issues, but they did. Nevertheless, here I am today almost 15 years later writing a book like this.

My purpose in writing this book is two-fold. For starters, the book is primarily concerned with the stars and the constellations from a Scriptural and historical perspective. When I first began studying about the stars it was very difficult, and I don't think it was because I was uninterested in the topic. Rather, all of the information I found to read was extremely difficult reading. It seemed like you had to have a 6 inch dictionary and thesaurus beside you while reading, as well as be a professional astronomer. It discouraged me at first, but later on I began to press through all of the tedious material and eventually things began to click in my mind. I always thought to myself while studying, "Wouldn't it be great if I could put all of this information I'm learning into a book that was a whole lot easier to comprehend?" This is the primary reason I have written what you are holding in your hand. I'm not trying to declare that I've figured everything out in relation to this subject, I'm just trying to share with you some things in Scripture and history that I've learned over the past few years and present them to you in a way that doesn't require you to be an astronomer to figure it all out. Sure, there will be portions of this book that are more difficult than others, but I have really strived to make everything as simple as possible.

Secondarily, I have always wanted to write about my various thoughts on calculating the Biblical new year. I've known for a long time that the calendar is based upon the lights in the heavens, but that's just where it begins. It's a entirely different "ball of wax" to determine how the various revolutions of the heavenly luminaries join together to make up days, weeks, months, and years. My study of the stars eventually led me to examine the stars from a calendar perspective, specifically as they relate to calculating the Biblical new year. Therefore, towards the end of this study I go into my thoughts on the Biblical new year and how the stars relate to this. I also discuss other viewpoints like the barley harvest, the new moon, and equinox determination.

I would also like to thank a good friend of mine, Chuck Baldwin, for aiding me in editing this work. Chuck is a brother in the Scriptural faith and he has contributed suggestions not only in grammar, but also in content. His help is commended and appreciated.

I am by no means writing this book to tell everyone that I've got all of these issues squared away and everyone else is wrong. I willingly admit that I do not know all there is to know about the stars, the calendar, the new year, the new moon, etc. That being said, I have taken a considerable amount of time in my studies to examine these issues and I only ask that you take my thoughts into consideration when deciding how you will determine important events like the beginning of the Biblical year. I am open to any questions and/or comments about this material, and I am willing to change on anything I have written herein if I can be shown that what I believe is not correct.

I am not one of those people who part fellowship with others on every single doctrinal disagreement. I know there are certainly doctrines in Scripture that must be believed and/or followed in order for you to be a true follower of the one Elohim and His Son, but I also know very faithful believers that disagree with me on calendar issues and I am content to agree to disagree with them. I am likewise willing to continue to look into these matters with others as time progresses and our knowledge increases. I respect anyone who diligently studies the Biblical calendar principles even if they come to a conclusion different from my own. I believe the most important matter here is that we must be honest, serious, and truly heart felt in our desire to study these matters. If we arrive at the wrong conclusion about how to begin the year or month unintentionally, Yahweh will not hold us eternally accountable, that is, *if* we were genuinely striving to please Him by seeking for His appointed times. If, however we are lazy, complacent, and sloppy in our studies in these areas, Yahweh knows this as well, and I do believe that there is punishment for those whose hearts are not truly with Him and thus His inspired word. May the Father richly bless all those who take the time to study His word, even in those areas that many people deem unimportant.

## Chapter 1

# Take Time to Look Up

All of nature screams the majesty of the Creator. We look at the trees, the ocean, the birds, and even minute insects like ants. In all of this we see intelligent design. We see the work of the perfect Craftsman. We see the handiwork that man is incapable of duplicating.

One aspect of the creation of Almighty Yahweh<sup>1</sup> that is often overlooked, even amongst Bible believers throughout history, is found in the heavens. There is so much going on up in the sky. So much that we miss because we fail to do something as simple as take time to look up.

The Psalmist tells us in Psalm 19:1-6 that the heavens declare the glory of Elohim, and the sky proclaims the work of His hands. Day after day they pour out speech and night after night they communicate knowledge. There is no speech and there is no language where their voice is not heard. Their message has gone out to all the earth, and their words to the ends of the world. A question we need to ask ourselves is this: what knowledge is communicated by the heavens *night after night*?

What if I told you that there is a message in the sky? What if I told you that in the sky we find time-keeping devices that have existed since the initial creation of the universe? What if I told you that a sacred calendar is up there? What if I told you that the very Gospel message of truth may be read by just taking the time to tilt your head and look up?

We read in the book of Genesis 1:14-18<sup>2</sup> that Elohim appointed two great lights in the heavens. He tells us that the greater light, the sun, is to be the ruler of the day, while the lesser light, the moon, is to be the ruler of the night. In the midst of this text we are told that these heavenly lights serve as signs for festivals, and also for days and years.

However, there are other lights mentioned in this text that often get placed on the back burner. These lights, although existing in myriads, are usually forgotten in the shadow of the sun and the moon. These lights are commonly called stars. The stars are mentioned right there at the end of Genesis 1:18 along with the sun and moon. Other passages in Scripture, parallel to Genesis 1:14-18, show that the stars are considered to be a part of the lesser light with the moon, ruling by night.

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<sup>1</sup> Yahweh is the personal, proper name of the one Elohim of Israel in Scripture. Please refer to our online publication titled *Hallowed be Thy Name* for further and more detailed information.

<sup>2</sup> "Elohim said, 'Let there be lights in the vault of heaven to divide day from night, and let them indicate festivals, days and years. Let them be lights in the vault of heaven to shine on the earth.' And so it was. Elohim made the two great lights: the greater light to govern the day, the smaller light to govern the night, and the stars. Elohim set them in the vault of heaven to shine on the earth, to govern the day and the night and the divide light from darkness. Elohim saw that it was good. Evening came and morning came: the fourth day.'" (Genesis 1:14-18 | 1968 *Jerusalem Bible*)

**Jeremiah 31:35a**

This is what Yahweh says: The One who gives the sun for light by day, the fixed order of moon and **stars** for light by night...

**Psalms 136:7-9**

He made the great lights: His love is eternal. The sun to rule by day,  
His love is eternal. The moon and **stars** to rule by night...

The evidence surely does not end here. We see many other places in Scripture that mention the stars. For example, Psalm 8:3 says that Yahweh ordained the moon and the stars, setting them in place, and Psalm 147:4-5 tells us that Yahweh counts the number of the stars and gives names to all of them. In this we see that His power is vast and His knowledge is infinite.

What about texts in the Apostolic Scriptures, often called the New Testament portion of Scripture? For now, consider two texts from the book of Revelation. Revelation 12:1 speaks of a great sign in heaven of a woman who is clothed with the sun, has the moon under her feet, and just so happens to be wearing a crown on her head that is made up of 12 stars.

In the context of Revelation 12 this woman is symbolizing something righteous. If we've read all of Scripture that comes before this (like in Genesis, Jeremiah, and Psalms) we should recognize that there is a reason that the sun, moon, and stars are mentioned in connection with this righteous woman. Also recognize that *12 stars* are mentioned in this text. Why 12? Well, let me tell you that the deeper you dig into this, the more interesting it gets. More on this later.

Revelation 22:16 also speaks of the stars, one in particular that is called the bright morning star. This text is actually one in which Yeshua<sup>3</sup> the Messiah is speaking, calling himself the bright and morning star.

The Scriptures have so much to say about the stars, but we miss all of it because too often we don't really take the time to sit down and read the Bible. We have just mentioned eight passages of Scripture that speak either explicitly or implicitly about the stars, and this is barely scratching the surface.

Let's talk a little bit about the word astrology. When your Christian friends find out that you are studying about the stars there is a very good chance that you will be accused as dabbling in astrology. The odds are great that even at this very moment you might be wondering if you should continue reading the remainder of this book. I remember talking to a woman one time about Genesis 1:14-18 and her immediate response to me was, "Sounds like astrology to me." This woman was a professing Christian and she thought that to study the stars meant that you were getting yourself into things like horoscopes, witchcraft, and all sorts of non-Biblical material. Before you toss this book into the garbage can please give me a chance to share with you a little bit about what the word astrology originally meant.

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<sup>3</sup> Yeshua is the personal, proper, given name of the Lord and Savior, the Son of Yahweh. Please refer to our online publication titled *Yeshua vs. Jesus* for further and more detailed information.

The word astrology comes from the Greek language and is comprised of two words, *astro* and *logia*. The first word *astro* literally means "star" or "stars" and the second word *logia* means the "telling or treating of." Placing these two words together brings us to "astrology" which means nothing more than "the telling or treating of the stars." Originally, the word astrology was almost identical with a similar sounding word: astronomy. We've already covered the word *astro*, but what about the second part of this word astronomy? This second part stems from the Greek word *nomos* which means "regulation or law." Putting these two parts together we see that astronomy literally means "the regulating or law of the stars."

Granted, people have abused the stars, using them for reasons which are anything but Biblical. That being said, we should never let the abuse of something that is originally pure steer us away from properly using that very same something. In this case, yes, heathen people have abused the stars throughout the ages, but were not the stars created by Yahweh? Doesn't Scripture say that He ordained them and calls them by name? Didn't the Creator tell us that they are part of what dictates to us the days and the years?

You know, when you think about the heathen abusing originally pure objects, I don't know if there is a better example than the rainbow. It is very well known that today the homosexual community uses the rainbow as one of their signs if not their primary sign. Does this make the rainbow a homosexual sign that we shouldn't use? I don't think so at all, because the rainbow originally stems from a promise Yahweh made to Noah and his descendants back in Genesis 9:8-17.

Some have attempted to use Deuteronomy 4:15-19 as a proof text that we should not involve ourselves in star observation. Let's look at it. We read here of Yahweh telling the Israelites:

For your own good, be extremely careful (because you did not see any form on the day Yahweh spoke to you out of the fire at Horeb) not to act corruptly and make an idol for yourselves in the shape of any figure: a male or female form, or the form of any beast on the earth, any winged creature that flies in the sky, any creature that crawls on the ground, or any fish in the waters under the earth. **When you look to the heavens and see the sun, moon, and stars—all the array of heaven—do not be led astray to bow down and worship them. Yahweh your Elohim has provided them for all people everywhere under heaven.**

What we actually have here is not a condemnation of those who observe the stars, but rather a condemnation of those who *bow down and worship the stars* as though they are *elohim* other than Yahweh. This would be a first commandment transgression. Many people throughout history have looked at the brilliance of the heavenly lights and then turned to worship these heavenly lights in place of the one, true Elohim. This is what Yahweh commands us against. However, to look at the stars for the purpose of signs, seasons, days and years, would be exactly what Genesis 1:14-18 implies we should be doing in order to properly calculate our Creator's heavenly measurements.

Let's take a second look at our Deuteronomy passage. Notice carefully Deuteronomy 4:19. Here, just after Yahweh condemns the worship of the heavenly host, He makes the statement that He has provided these heavenly lights for all people everywhere under heaven. What does this mean? Could it be that Yahweh is focusing in on what He originally intended for these lights to do back in Genesis 1? This is truly *how* He has *provided* them for the people of the earth.

I would like to now look at a very well known text of Scripture in the New Testament. You may have never considered that this text teaches us the significance of the stars. We will begin in Matthew 2:1-3.

After Yeshua was born in Bethlehem of Judea in the days of King Herod, wise men from the east arrived unexpectedly in Jerusalem, saying, Where is He who has been born King of the Judahites? For we saw His **star** in the east and have come to worship Him. When King Herod heard this, he was deeply disturbed, and all Jerusalem with him.

In this text we have some men termed as "wise men." The Greek word here is *magi*, a word that is the foundation of the English word magician. When you study about who these men were you find that they are best seen as a group of astrologers or astronomers.<sup>4</sup> Please do not automatically put up a wall when hearing the word astrologers. I will show very shortly how this is a positive passage. There is nothing negative spoken here about these wise men. True enough you can find negative uses of astrology and negative uses of the word astrologer in Greek literature. What you must recognize is that in all languages of the world you can have both a positive and negative meaning of a singular word depending upon the context in which it is used. You can actually have a variety of meanings assigned to a single word. Words tend to have a very wide semantic range and it is actually quite rare to find a word that only carries with it one very strict definition.

Let me give one example from the Hebrew language. The Hebrew word *yom* (pronounced "yowm") is a word commonly translated into English as "day," but this word doesn't always carry with it the meaning of a 24 hour space of time. It can and does refer to a 24 hour day, but it may also refer to the daylight period of a 24 hour day, as opposed to the period called night. It also carries with it a definition of a life-span or period of time, like in the phrase, "in Abraham's day." We also see an eschatological use of the word day in the phrase "the day of the Lord" or the "day of Yahweh." Let's now move on to Matthew 2:4-6.

So he assembled all the chief priests and scribes of the people and asked them where the Messiah would be born. "In Bethlehem of Judea," they told him, "because this is

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<sup>4</sup> Some Bible students have suggested that the *magi* were in fact Israelite nobles, ambassadors from the Parthian empire, a part of the "lost" House of Israel, which the Israelite historian Josephus (writing in the 1st century A.D.) referred to as "a great multitude beyond the river Euphrates" (Antiquities 11.5.2). (Chuck Baldwin | Editor)

what was written by the prophet: And you, Bethlehem, in the land of Judah, are by no means least among the leaders of Judah: because out of you will come a leader who will shepherd My people Israel.”

This prophecy spoken about in Matthew 2 comes from the book of the prophet Micah (5:2) where Micah prophesied that the Messiah would come from a small town known as Bethlehem located in the territory of Judah.

So Herod has listened to what the wise men had to tell him, and he assembled learned priests and scribes, finding out that according to sacred prophecy, a Messianic King would be born in Bethlehem of Judea. Matthew 2:7-9.

Then Herod secretly summoned the wise men and asked them the exact time the **star** appeared. He sent them to Bethlehem and said, “Go and search carefully for the child. When you find Him, report back to me so that I too can go and worship Him.” After hearing the king, they went on their way. And there it was —the **star** they had seen in the east! It led them until it came and stopped above the place where the child was.

Now we see something coming together. This star that the magi had seen in the east (or it could be translated "rising into the sky") actually leads them to the location of the birth place of the King Messiah. This is nothing short of magnificent to me when I ponder upon it. Matthew 2:10-12.

When they saw the **star**, they were overjoyed beyond measure. Entering the house, they saw the child with Mary His mother, and falling to their knees, they worshiped Him. Then they opened their treasures and presented Him with gifts: gold, frankincense, and myrrh. And being warned in a dream not to go back to Herod, they returned to their own country by another route.

When the wise men saw the star they were overjoyed beyond measure. They recognized the pure purpose of Yahweh's creation. Here are some points about the wise men that prove this is a positive text concerning these wise men.

1. The wise men are never condemned here.
2. Yahweh was guiding and protecting them. These men were warned in a dream not to return to Herod after he had already told them to report back to him and tell him where this King they knew about was located. Who do you think sent them the dream? Wouldn't it be Yahweh that sent them the dream?
3. These men referred to Yeshua as the King of Judahites. This shows they recognized Yeshua's spiritual position amongst Israel. They were desiring to worship or pay homage to Him with precious gifts.
4. They were led to Yeshua's birth place by a star in the heavens. Don't forget that Genesis 1:14-18 speaks about these heavenly lights saying, "let them be for signs."

Strong's defines the word signs as "226. 'owth probably from 225 (in the sense of appearing); a signal (literally or figuratively), as a flag, beacon, monument, omen, prodigy, evidence, etc.:--mark, miracle, (en-)sign, token." This is the same word used in Genesis 9 to speak of the sign of the rainbow. The star in the east or the rising star was used by Yahweh as a sign for those who had knowledge of the heavens to know where the King Messiah would be birthed. These wise men were very wise to follow this star to the exact place where the prophet Micah had foretold many years earlier.

But what about texts that seem to insinuate that we are *not* to look at the stars? Certain texts of scripture are sometimes used by well meaning people to teach that we should leave the stars alone.

**Isaiah 47:13-14**

You are worn out with your many consultations. So let them stand and save you - the astrologers, who observe the stars, who predict monthly what will happen to you. Look, they are like stubble; fire burns them up...

**Jeremiah 10:2**

This is what Yahweh says: Do not learn the way of the nations or be terrified by signs in the heavens, although the nations are terrified by them...

What we see here in these texts is an abuse of the lights in the heavens. Recognize that this must be the case. These two scriptures (and any others like them) cannot trump all of the positive evidence that we have seen up to this point concerning the stars. What we have then is a proper use as well as an abuse. Notice the two contrasted:

<b>Proper Use</b>	<b>Abuse</b>
Signs of righteous events	Signs of personal future
Use to tell time (regular or festival)	Fear of what the heavens will do to you
Glorify Yahweh	Glorify Self
Worship Yahweh	Worship Idols

One abuse of the stars would be attempting to foretell your personal future by them. In other words you show up at this persons door because she has told you that for \$19.95 she can tell you who you will be married to, the color of their hair, their weight, their features, etc. You then say, "Wow! Only \$19.95? I need to slap 20 bucks down on the table!" No! Yahweh has told us that we are not to use the stars (or the sun and moon) for purposes as these. This is taking a pure object and seeking to use it for our own carnal desires.

In this chapter we have seen a basic foundation for studying the stars. The Scriptures teach very positively about looking to the stars and using them for the purposes that Yahweh designed them for. We will soon see that there is much more to learn about the stars, specifically the various star formations in the sky known as constellations. Yahweh created these star formations in the sky, formations like the big and little

dipper. The constellations are part of the handiwork of the magnificent Creator of the heavens. Heaven is Yahweh's creation. This includes the stars. They therefore have a righteous purpose. Though man may manipulate this purpose, the original, pure purpose of the stars still remains and prevails. I would encourage you to go out at night after sunset and begin to behold the wondrous creation of Yahweh. Man has not tampered with this part of Yahweh's creation, and man cannot tamper with it. It is truly a beautiful sight to see. We do so many things in life that simply do not matter on the eternal scale. Why not take the time to go outside at night and just look up?



## Chapter 2

# The Message in the Sky

Let's start this chapter by quoting a passage of Scripture that, if you are a Bible student, you are probably already familiar with. I know that I have heard a portion of this text quoted or read several times in my church upbringing. The reason I would like to bring this passage up is that not too long ago I saw this text in a light that I had never seen before. I believe it to be the correct light, or interpretation of the text.

### **Romans 10:17-18**

So faith comes from what is heard, and what is heard comes through the message about Messiah. But I ask, "Did they not hear?" Yes, they did: Their voice has gone out to all the earth, and their words to the ends of the inhabited world.

I would like for you to center in on the last sentence in this passage, the sentence that I have underlined. This is actually a quotation from the Tanak<sup>1</sup> or Old Testament portion of Scripture. So Paul (the author of the above text) is talking about a message preached and he asks the question, "Did they not hear this message?" He then gives us the answer. Yes, they did hear this message, and the message they heard is what I want you to listen to as you read this book thousands of years later.

See, Paul's quotation from the Tanak is not a quotation about a preacher preaching. It's not a quotation about a prophet giving a prophecy. It's rather a quotation from a passage I briefly mentioned in the first chapter of this work: Psalm 19. Notice as I place Romans 10:18 and Psalm 19:4 together.

<b>Romans 10:18</b>	<b>Psalm 19:4</b>
Their voice has gone out to all the earth, and their words to the ends of the inhabited world.	Their message has gone out to all the earth, and their words to the ends of the world.

What is the context of Psalm 19:4? What is the original author, the Psalmist David, writing about when he writes of a message going out to all the earth and words going all the way to the ends of the world?<sup>2</sup>

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<sup>1</sup> The word TANAK is based on the acronym TNK. The "T" stands for Torah (the law of Moses). The "N" stands for Nevaim (the prophets). The "K" stands for Ketuvim (the writings). Together they make up the law, the prophets, and the writings or the Torah, Nevaim, and Ketuvim, thus TNK or Tanak.

<sup>2</sup> Paul's quotation aligns more with the Septuagint text of Scripture (LXX). Most of the quotations by the New Testament authors of Old Testament Scripture stem from the Septuagint, although some stem from what is now

**Psalm 19:1-4 [18:1-4 LXX (Septuagint)]**

The heavens declare the glory of Elohim; and the firmament proclaims the work of his hands. Day to day utters speech, and night to night proclaims knowledge. There are no speeches or words, in which their voices are not heard. Their voice is gone out into all the earth, and their words to the ends of the world.

Here the author is talking about the heavens or the sky, and this is none other than a reference to the heavenly bodies of light in the sky. They speak to us. The Psalmist says that they utter speech day after day, and every night these same heavens proclaim knowledge. The sun, each and every day as it rises and sets speaks to us about the beginning of the daylight period and the end of the daylight period. The moon gives us knowledge, letting us know where we are at in a particular "moonth" or month by its waxing and waning. Then we have the stars, which as I've already said, are often overshadowed by the two greater lights (the sun and moon), but they too proclaim knowledge night after night. They teach us lessons about the past, present, and future, and may even teach us intricate details about the gospel message.

Do you see how verse 4 emphasizes that there is no speech or language where their voice is not heard? This is a reference to the fact that the heavens "speak all languages." It doesn't matter what literal language or dialect a person speaks, they can still look up into the heavens and see the same sun, moon, and stars that you see. The same sun, moon, and stars that Abraham and Moses viewed ages ago. All languages "listen" to the "voice" of the heavens.

So when Paul was writing to the Roman assembly in Romans 10:17-18, and he said that faith comes by hearing and hearing comes by the message preached, he was quoting a portion of Psalm 19:1-6 which is about the heavens declaring Elohim's glory through the heavenly lights.

Consider this: Psalm 19:7<sup>3</sup> begins by saying that the law of Yahweh is perfect converting the soul, but this is the *written* revelation of Yahweh's message. Scholars have sometimes been puzzled when reading Psalm 19 in its entirety because they wonder how Psalm 19:1-6 has anything to do with that which comes directly after it, Psalm 19:7-14. How do these two stanzas correlate? How do they parallel? This is how. The one, Psalm 19:7-11, speaks of the *written* revelation, the revelation we can handle with our human hands. The other, Psalm 19:1-6, speaks of the *heavenly* revelation, which speaks the same message, but in this case it is a message we cannot handle but rather see with our eyes, and indeed "listen" with our ears to what the heavens are "saying."

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called the Masoretic Hebrew. Sometimes authors quote the Tanak and the quotation aligns with neither text perfectly but carries across the meaning or sense of the original passage.

<sup>3</sup> The law of Yahweh *is* perfect, converting the soul: the testimony of Yahweh *is* sure, making wise the simple. The statutes of Yahweh *are* right, rejoicing the heart: the commandment of Yahweh *is* pure, enlightening the eyes. The fear of Yahweh *is* clean, enduring for ever: the judgments of Yahweh *are* true *and* righteous altogether. More to be desired *are they* than gold, yea, than much fine gold: sweeter also than honey and the honeycomb. Moreover by them is thy servant warned: *and* in keeping of them *there is* great reward. (Psalm 19:7-11 | King James Version)

I am specifically speaking about the revelation in the various star formations in the sky known as constellations. Remember, just because the heathen peoples of the world have taken the constellations and formulated them into things like horoscopes as well as the worship of certain stars, doesn't mean that the originally pure creation of these stars is a bad thing. Let's move now to examining some of these constellations.

**Isaiah 40:26**

Who will you compare Me to, or who is My equal? asks the Holy One. Look up and see: who created these? He brings out the starry host by number: He calls all of them by name. Because of His great power and strength, not one of them is missing.

Notice at the beginning of this text Yahweh asks the audience who they will compare Him to? He then gives a response by asking this same audience to "look up and see," and I believe He is literally speaking here of a human being tilting his head towards the night sky and looking up. When a person goes out at night and spends some time looking up into the sky they will begin to marvel at the message they are beholding. They will recognize that the Creator behind this creation is incomparable. He has no equal.

A brother at the local congregation I attend once spoke of the various creations of mankind. He mentioned a very detailed and intricate watch, remarking at how we take notice of such an instrument and marvel at how intelligent the person or persons must have been who designed such a watch. The same thing on a much larger scale takes place when you look into the heavens. I will also say that the more you understand the heavens, specifically the starry constellations, you really begin to see just how intelligent the Creator of the stars has to be.

The text in Isaiah goes on to speak of this Creator (Yahweh) bringing out the starry host by their number and calling all of them by name. This parallels with Psalm 147:4 which speaks of Yahweh counting the number of the stars and giving names to all of them. Both Isaiah 40:26 and Psalm 147:4 teach us that the Creator numbered and named the stars of heaven. Has He revealed to us any of these names? I believe that He has revealed *some* of these names, and we should be thankful for *any* revelation that our Creator shares with us, His creatures.

We will begin in the book of Job, which although very close in proximity in our Bibles to the book of Psalms (right in the middle of our English Bibles), it is believed by many in the scholarly community to be the oldest book of the Bible, or at least one of the oldest books of the Bible, taking place in the time frame of the book of Genesis or the patriarchal time period.<sup>4</sup> If this is the case then Job would have lived around the same

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<sup>4</sup> "It seems likely that Job himself lived in the second millennium B.C. (2000-1000) and shared a tradition not far removed from the patriarchs." (*The Zondervan Pictorial Encyclopedia of the Bible*, 1976, V3 p.602) "The apparent antiquity of the prose introduction (Job 1:1-2:13) and epilogue (42:7-17) is supported by details suggestive of the patriarchal period (early second millennium)... Job's personal offering of sacrifices in the absence of a priesthood or central shrine (1:5; 42:8), the reckoning of wealth similar to that of Abraham and Jacob (1:3; 42:12; cf. Gen. 12:16; 32:5 [MT 6]), and Job's longevity (Job 42:16-17)." (*The Eerdmans Bible Dictionary*, 1987, pp.583-584)

time period as people like Abraham, Isaac, and Jacob. With this in mind let's look at a text that was originally spoken by Job himself.

**Job 9:7-9**

He (Yahweh) commands the sun not to shine and seals off the stars. He alone stretches out the heavens and treads on the waves of the sea. He makes the stars: the Bear, Orion, the Pleiades, and the constellations of the southern sky.

Now, lest we be adverse to anything that has to do with constellations we need to make sure that we know that this text in Scripture mentions them. This alone shows that our attitude towards the constellations should not be one in which we shun all study of them because right here in this inspired book of the Bible we read of Yahweh creating them.

John MacArthur's commentary on the Bible at this particular passage sheds a bit of light on this text in Job. MacArthur writes: "**Bear, Orion ... Pleiades.** Three stellar constellations (cf. Job 38:31-32). **The chambers of the south.** These were other constellations in the southern hemisphere, unseen by those who could see and name the three in the northern skies."

MacArthur cites the text as speaking of not just the Bear, Orion, and the Pleiades, but also the chambers of the south. This is the rendering of the NKJV rather than the HCSB that I quoted previously which translates this as "the constellations of the southern sky." MacArthur notes that this is speaking of some *other* constellations seen by those in the southern hemisphere, while the three Job mentions by name are able to be seen by those living in the northern hemisphere. Let's now look at a similar text.

**Job 38:31-33**

Can you fasten the chains of the Pleiades or loosen the belt of Orion? Can you bring out the constellations in their season and lead the Bear and her cubs? Do you know the laws of heaven? Can you impose its authority on earth?

Let me point out first that this text (Job 38:31-33) is *Yahweh* speaking to Job and comes within one of my personal favorite passages in Scripture. This is after Job gets a little upset with Yahweh and has said a few things towards the Creator that he should not have. Yahweh then reprimands Job by basically telling him, "Who do you think you are? You should not speak to me in this way!" Yahweh then begins to ask Job some very eye opening questions. He asks things like, "Were you with me when I set the foundations of the earth? Can you tell me the dimensions of universe?" Of course Job would have to answer "no" to questions like these. This is the reason Yahweh asks such questions, to get Job to see that he was the creature, and the creature doesn't question the Creator.

In Job 38:31-33 we have Yahweh continuing this line of questioning by asking Job if he can perform certain tasks towards the constellations; like loosening the belt of Orion, or knowing the laws of the heavens. Laws of the heavens should sound familiar to you.

Remember, I mentioned earlier about the *written-law* revelation (Psalm 19:7-14) and the *heavenly-law* revelation (Psalm 19:1-6).

Do you see the word *constellations* here in this text in Job? This is the Hebrew word *mazzarah* which is defined by Gesenius Hebrew-Chaldee Lexicon as "the signs of the zodiac." The 1599 Geneva Bible, used by the Pilgrims (prior to the 1611 King James Bible), gives a footnote at the end of this passage stating of the word constellations, "Certain stars so called, some think they were the 12 signs." The 12 signs mentioned in the Geneva Bible is a reference to the zodiac. Zodiac sounds like a scary word on the surface. I remember seeing a documentary program on television one time about a murderer who was nicknamed the "Zodiac Killer." To even speak the word zodiac in many churches may get you thrown out of these same churches.

There is a dispute about where the word zodiac actually comes from, but my studies have led me to the most likely origin being an ancient Arabic word meaning "the way or the path," referring to the path of the sun through the sky, moving through all 12 constellations in an entire stellar year.<sup>5</sup> In others words, this word zodiac is intricately tied to the heavenly lights, the lights Yahweh ordained to be for signs, seasons, days, and years. Now I do want to point out an alternate understanding for the word zodiac. Some scholars believe it is associated in its etymology with the word zoo or zoology because many of the constellations in the sky are named after certain animals. We just briefly saw one of these mentioned in both passages in Job: the Bear and her cubs. More on this later.

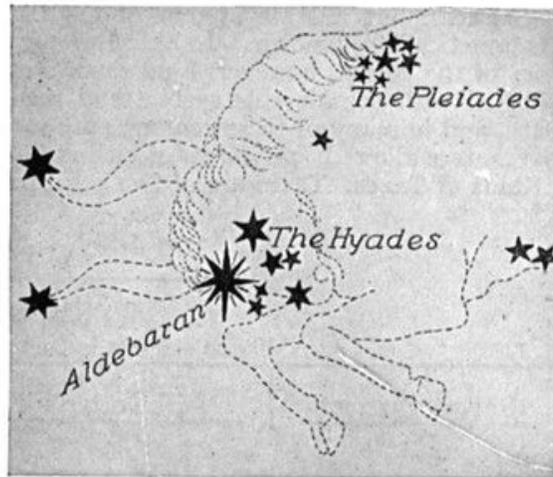
So, let's take some time to look at each of these named constellations mentioned in Job. The first one mentioned is the **Pleiades** and comes from the Hebrew word *kima* meaning "a cluster of stars." Gesenius defines this word as, "...a heap or cluster... specially of stars, hence the Pleiades, or the seven stars, consisting of seven larger stars, and other lesser ones closely grouped." The word Pleiades finds its origin in the Septuagint.



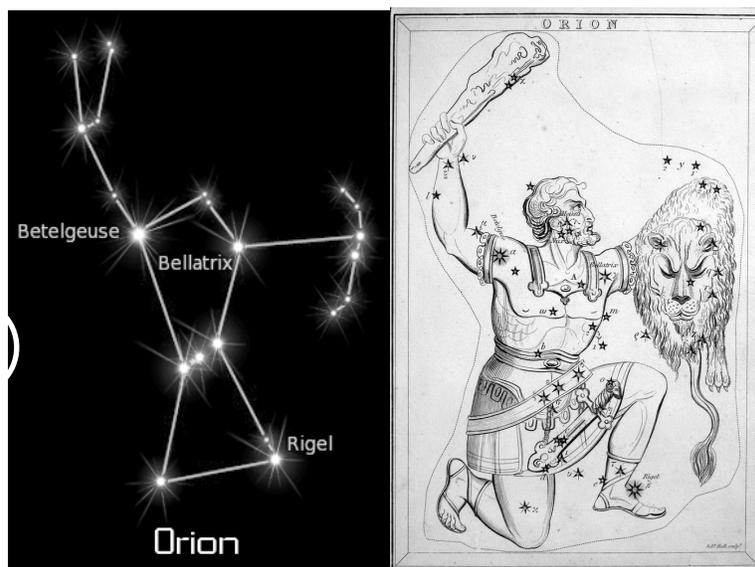

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<sup>5</sup> "The word *Zodiac* itself is from the Greek... which is not from... *to live*, but from a primitive root through the Hebrew *Sodi*, which in Sanscrit means *a way*. Its etymology has no connection with living creatures, but denotes *a way*, or *step*, and is used of the *way* or *path* in which the sun appears to move amongst the stars in the course of the year." (*The Witness of the Stars*, E.W. Bullinger, reprint of 1893 edition, p.15)

The Pleiades is a sum total of 7 very bright stars in the sky. These stars are actually located in the zodiacal sign of Taurus, the Latin name meaning "the Bull."



If you'll look right in the neck or shoulder of Taurus you will notice a group of 7 stars. This is the Pleiades, and this is what both Job 9 and Job 38 are talking about when the name Pleiades is mentioned. I know you might be thinking to yourself, "Where in the world did they (whoever "they" are) get the formation of a bull out of all those stars?" You'll have to wait just a little bit more for the explanation of the various formations we know of today. For now, notice that Yahweh asks Job, in Job 38:31, "Can you *fasten the chains* of the Pleiades?" What this is referring to is if you look at those 7 stars in the cluster, they are grouped in a way that looks like they are fastened or chained together. Yahweh is the fastener here, therefore He shows His power over Job, pointing out to Job that He, and not Job, fastened together this cluster of stars. Let's move along to the next constellation mentioned in Job 38 named Orion.



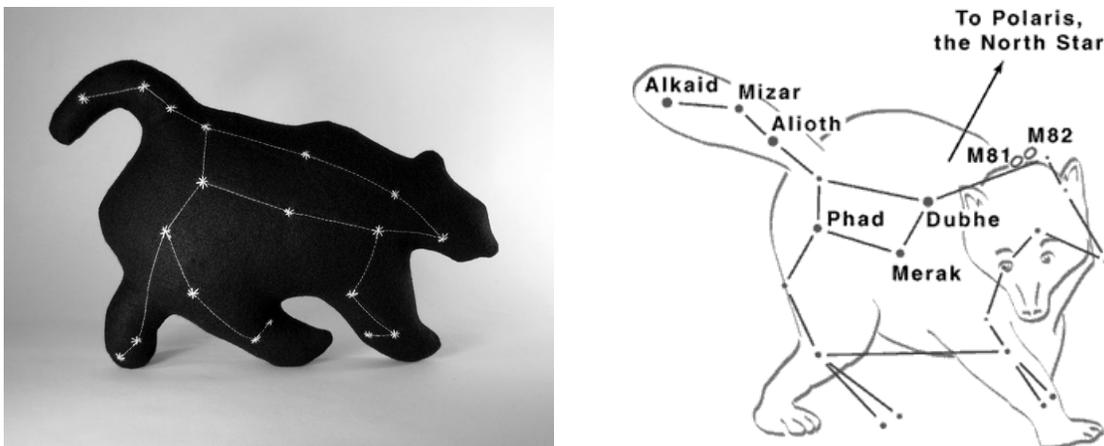
The Hebrew word for this particular constellation is *keseel* which Strong's defines as, "any notable constellation; specifically Orion; as if a burly one." James Strong uses this definition of "burly one" not to mean obese, overweight, or fat, but rather strong. Some ancient civilizations have referred to this particular constellation with the name "the glorious hunter."

Gesenius defines this word as, "...according to many of the ancient translators, Orion; which the Orientals call... the giant." See, out of this star formation, all ancient civilizations (not just the Hebrews) had this particular depiction in their mind when they looked at this star formation. A depiction of a giant, mighty hunter; a burly one if you will.

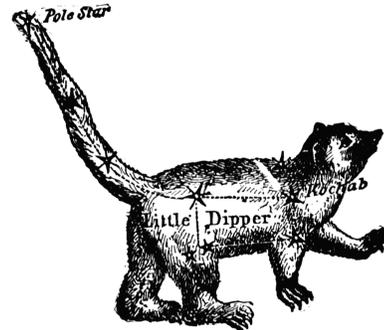
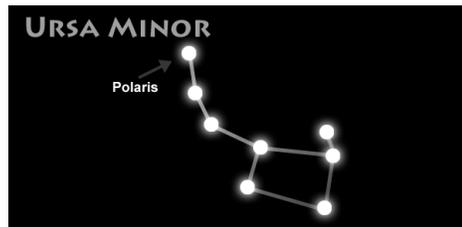
If you'll go back to Job 38:31 you will notice that Yahweh doesn't just ask Job if he can *fasten the chains* of the Pleiades, but also if he can *loosen the belt* of Orion. It is very interesting that Yahweh mentions a belt here, and what He is saying to Job is, "Look Job, can you take the belt of the giant hunter off of him?" If you'll take a good look at Orion in the night sky you will see that one of the easiest portions of Orion to spot is a formation or line of stars appearing as a belt. My oldest daughter often says if we are outside at night, "Dad, there's the belt of Orion." Orion's belt is a good place to start your star observation.

Next in Job 38:31 we have a constellation referred to as "the Bear." Yahweh asks Job, "Can you lead *the Bear* and her cubs?" This constellation is, in scientific terms, called *Ursa Major*, more commonly known among people of the earth today as the "Big Dipper." The dipper is actually the back portion of this constellation.

The Hebrew word for this Bear is *ayish* and Strong's defines it as the constellation of the Great Bear and Gesenius gives the same definition in his lexicon.



Notice in Job 38:31 that Yahweh not only asks Job if he can lead or guide "the Bear" but he also asks "Can you lead "her cubs?" Bible scholars and astronomers believe that the cubs are most likely a reference to stars which are behind "the Bear," what scientists call Ursa Minor or "the little bear." When you look at the stars in this "little bear" you know what you find? None other than the "little dipper."



Now, we not only have reference to these constellations in the book of Job, but we also see them spoken about in the prophetic book of Amos.

### **Amos 5:8**

The One who made the Pleiades and Orion, who turns darkness into dawn and darkens day into night, who summons the waters of the sea and pours them out over the face of the earth – Yahweh is His name.

Yahweh is speaking through the prophet Amos about His mighty acts in His creation of nature. Feats like turning darkness into dawn and darkening day into night, calling forth the waters of the sea and pouring them out over places upon the earth. In this scene Yahweh also makes mention that He is the one who created the Pleiades and Orion.

In my studies I've come to see that there is also mention of another constellation in Acts 28:11.

After three months we set sail in an Alexandrian ship that had wintered at the island, with the Twin Brothers as its figurehead.

Here we have Luke writing about a journey of Paul, and here are a few thoughts on this text from various Bible versions and commentaries.

KJV: “whose sign was Castor and Pollux”

ASV: “whose sign was the Twin Brothers”

John Gill: “...these are placed among the constellations in the Zodiac, and go by the name of Gemini, or the twins...”

Adam Clarke: “These were two fabulous semi-deities, reported to be the sons of Jupiter and Leda, who were afterwards translated to the heavens, and made the constellation called Gemini, or the Twins. This constellation was deemed propitious to mariners; and, as it was customary to have the images of their gods both on the head and stern of their ships, we may suppose that this Alexandrian ship had these on either her prow or stern, and that these gave name to the ship.”

You must recognize here that some of what you've just read from these commentaries is based upon heathen belief. As I've mentioned, worshipers of other Elohim look at the stars and formulate ideas to go along with various star formations using them to fit their religion and worship. This doesn't make the star formations wrong, Adam Clarke is just relating to his readers one of the heathen ideas behind the zodiacal sign of Gemini.

Let's now take some time to re-cap on all of the information we have looked at in this chapter.

1. Stars and even particular constellations are mentioned in Scripture. I recognize people have used the constellations in their fortune-telling, horoscopes, and good luck, but when we use them in their pure and proper purpose, they are beautiful creations of our Creator.
2. Even the zodiac is mentioned in Scripture in Job 38:32 under the Hebrew word *mazzarah*.
3. Zodiac is defined as meaning "circle, or way, or path." It refers to the path of the sun through the stars in the course of the year.

In a book that pertains to the constellations and their meaning titled *The Witness of the Stars* author E.W. Bullinger states the following on page 9.<sup>6</sup>

If we turn to history and tradition, we are at once met with the fact that the 12 signs are the same, both as to the meaning of their names and as to their order in all the ancient nations of the world.

What Bullinger is saying is this: it's not only when you go to the ancient Egyptian civilization or any other singular civilization that you see these particular names and figures for the constellations. Think about how the Egyptian civilization, the Chinese civilization, the Hebrew civilization, the Babylonian civilization, and the ancient Sumerians all called the constellations by the same or similar names, and gave them the same or similar figures. What does this tell us? It tells us that these constellation formations have a singular origin.

I would like to share with you the opinion of one man concerning the origin of the names and figures of the constellation. This man's name is Flavius Josephus. Josephus was an Israelite that lived between 37 A.D. and 100 A.D. Josephus wrote much about the history of the Israelite people and he also recorded much about what was taking place amongst his people during his lifetime. Josephus believed that astronomy originated with the children of Seth. We cannot say that Josephus was absolutely correct here, but it is interesting to take note of the perspective of one Israelite man that lived some 2,000 years ago.

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<sup>6</sup> Some of Bullingers information about the constellations can also be found in Appendix 12 of *The Companion Bible*.

## Antiquities 1.2.3

They (*sons of Seth*) also were the inventors of that peculiar sort of wisdom which is concerned with the heavenly bodies and their order.

## Antiquities 1.3.9

...Elohim afforded them a longer time of life on account of their virtue, and the good use they made of it in astronomical and geometrical discoveries, which would not have afforded the time of foretelling [the periods of the stars] unless they had lived six hundred years; for the great year is completed in that interval.

I am not saying I understand everything about these two quotes but I do know that based upon these two citations in the works of Josephus, he believed that one of the reasons that Yahweh let the pre-flood peoples live such a long life was so that they could perfect the science of astronomy and also geometry. This may have very well been a common understanding or belief in Josephus' time. I don't know about you, but just thinking about this is phenomenal in my mind.

When we examine the constellations from a Biblical, spiritual perspective we see them in a Biblical, spiritual light. For instance, we look at the constellation named *Virgo* and we do not just see any virgin, but we see the virgin Miriam that had never known a man when she conceived the Son of Elohim (Luke 1:26-38). When we look at the constellation named *Leo* we don't just see a lion in the sky, we see Yeshua, the mighty Son of the Most High, the Lion of the tribe of Judah (Revelation 5:5). We see the star formation named *Libra* (which sign is tied to the autumnal equinox) and we see measuring scales that depict the just weights and measures found in the Torah (law) of the Almighty (Deuteronomy 4:5-7). We also see the sign of *Aries* the ram (which sign is tied to the spring equinox) and it takes our mind to Yeshua who was the lamb of Elohim that takes away the sin of the world (John 1:29).

There also exists the possibility that based upon something termed the *sidereal zodiac*, we can see the message of Biblical history. I'll get more into this in the chapters to follow, but for now let me just say that currently (in 2012) we are living towards the end of the age of Pisces the fishes. About 2,000 years ago, at the time of the crucifixion of the Messiah we were at the end of the age of Aries the ram. 2,000 years before that, prior to the time of Abraham we were at the end of the age of Taurus the bull, and 2,000 years before that we find the end of the age of Gemini the twins at the time of Adam and Eve. This very well could be Yahweh telling us the story of His creation from the time of His creation of Adam, up to the time we currently live in. The age of Gemini could depict Adam and Eve (or either Cain and Abel) while the age of Taurus could depict animal sacrifices, many of which were sacrifices of bullocks. As Abraham found the ram in the thicket in Genesis 22 the descendants of Adam began to enter the age of Aries the ram which also foreshadowed the coming of the lamb of Yahweh, Yeshua. As Yeshua ascended to heaven, the heavens were entering the age of Pisces the fishes, and after all didn't Yeshua tell his followers, "I will make you fishers of men" (Matthew 4:19)? His followers have been fishing for men ever since.

I realize that secularism in the world today will just dismiss these type of explanations for the zodiac, but I honestly do not believe any of it is coincidental. There does exist a message in the sky, and it is not a message of witchcraft or forecasting your personal fortune. It is a message our heavenly Father, the *Father of lights* (James 1:17), is telling us. I would like to close this chapter out by re-quoting a text of Scripture from a major prophet in the Tanak.

**Isaiah 40:25-26**

Who will you compare Me to, or who is My equal?" asks the Holy One. Look up and see: who created these? **He brings out the starry host by number; He calls all of them by name.** Because of His great power and strength, not one of them is missing.

He says that if you can show me somebody else that does these things, then I'll believe I have an equal. If you can show me someone else who hung all of the stars in the sky, knows the number of them, and calls them all by name, then I can be compared with that person. Of course Yahweh's point is rhetorical. He is saying that you are not going to find His equal. He is saying, "I'm the awesome Creator, and proof of this is seen by just simply looking up at my starry creation."



## Chapter 3

# The Ecliptic and the Zodiac

Sometimes I encounter people when witnessing that tend to think the ideas or thoughts I have are essentially pagan in nature. What is going on here? Well, generally the reason people make such an assumption is because they are simply believing something they have heard from someone who barely scratched the surface concerning a particular topic. The chapter at hand is a prime example. If you want someone in the Christian community to think you are lacking Biblical sense, just bring up the words "ecliptic" and "zodiac" and relate them to the Bible. They will surely think that you have joined a cult.

Just to remind you, the term zodiac stems from an ancient Arabic word most likely, and refers to the way or the path of the sun through the various stellar constellations in the heavens. In science this path that the sun takes through the star constellations is called the ecliptic.

Let me again mention the text in Job 38:31-33 for just a moment. Here Scripture speaks of some of the constellations in the sky. Job 38 is unique in that this is actually Almighty Yahweh speaking to Job about these constellations. Man has tried to manipulate them, using them for purely human purposes like fortune telling and witchcraft, but there remains a purity of them in their original form.

I would like to center in on Job 38:32 where it says, "Can you bring out the constellations *in their season*?" There is a reason that Yahweh asked this to Job, and as we will see, it is based upon an understanding that the various signs within the zodiac are linked with the seasons of the Biblical year.

In his book titled *The Witness of the Stars* E.W. Bullinger stated the following quite well on page 15:

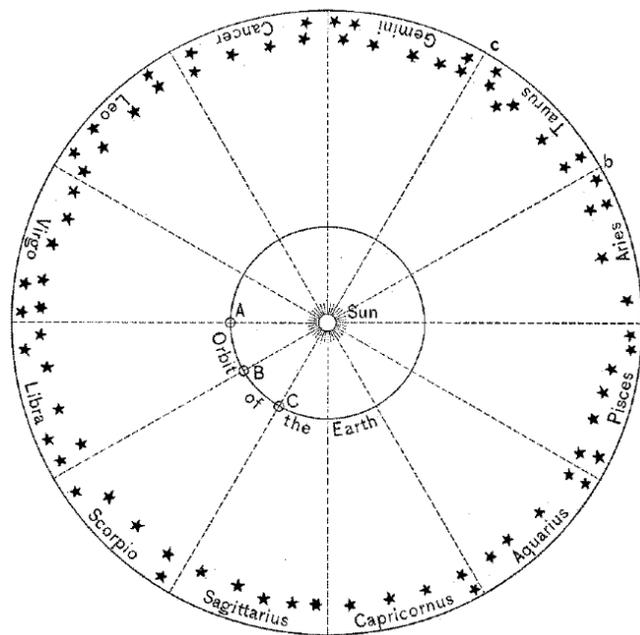
To an observer on the earth the whole firmament, together with the sun, appears to revolve in a circle once in twenty-four hours. But the time occupied by the stars in going round, differs from the time occupied by the sun. This difference amounts to about one-twelfth part of the whole circle in each month so that when the circle of the heavens is divided up into twelve parts, the sun appears to move each month through one of them. This path which the sun thus makes amongst the stars is called the Ecliptic.

Next I would like to give a definition of the word ecliptic from the *American Heritage Science Dictionary* of 2002:

The great circle on the celestial sphere that represents the sun's apparent path among the background stars in one year.

What we are now going to take time to look at is two different views when it comes to the ecliptic. There are some people who believe in what is called the *apparent* path of the sun, and there are others who believe in what we might term the *actual* path of the sun. Which position you take depends greatly upon whether you believe that the universe is sun-centered or earth-centered. The technical terms for each of these is heliocentricity (sun-centered) and geocentricity (earth-centered). The heliocentric view believes that the sun is fixed and that everything revolves around the sun. Juxtaposed to this we have the geocentric view which takes the position that the earth is fixed and everything else revolves around the earth. In ancient times almost everyone (if not everyone) was a believer in the geocentric model. It was not until after the middle ages that heliocentricity took the predominant place in science. I personally lean towards the geocentric model rather than the heliocentric model, but either way you slice it, it is workable when it comes to movement in the heavens.<sup>1</sup>

I would like to show you a chart that portrays the heliocentric model. What we have right in the middle of this chart is the sun. The larger circle around the sun represents the orbit of the earth. This means that each time the earth moves to a different place in relation to the sun, the sun appears to be in a different location against the backdrop of the stars. This is why the heliocentric model terms this the *apparent* motion of the sun. The sun in this view doesn't really move at all, it only appears to be moving from the observer's point of view, standing on planet earth.

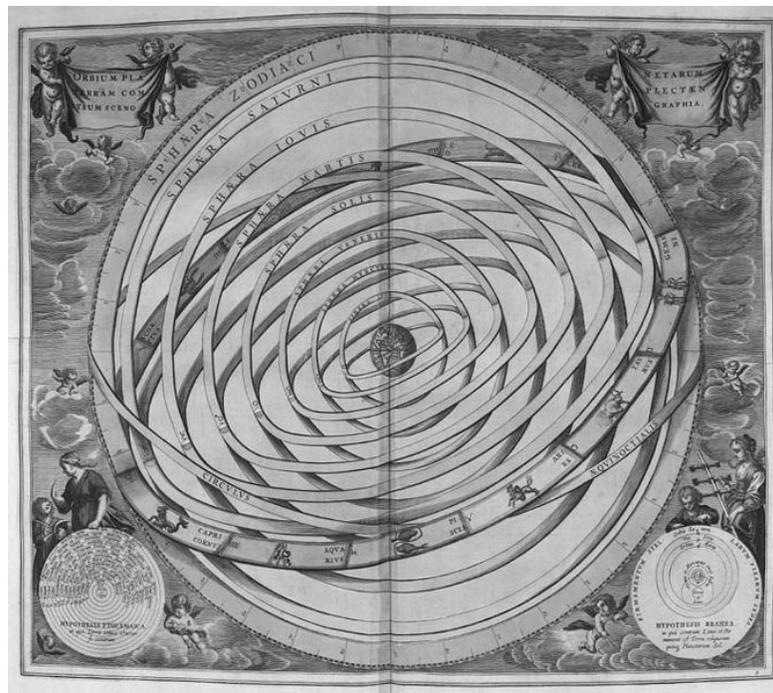


So let's say that you are standing upon the earth in position A in the above illustration. If you were to walk outside about an hour before dawn and look in the

<sup>1</sup> For detailed information on the earth being the center of the universe (rather than the now commonly held view of the sun being the center of the universe) please visit [geocentricity.com](http://geocentricity.com) or [fixedearth.com](http://fixedearth.com)

eastern sky you would see the sun rise in the constellation of Aries (the Latin word for ram). However a few weeks later when you were at position B in the above illustration you could go outside at the same time and see the sun rise in the constellation of Taurus (the Latin word for bull). If you follow the orbit of the earth (shown previously) to positions C, D, and E you can see that your view of the sky at an hour before dawn will change every so often. This is what is termed the *sidereal zodiac* as opposed to the *tropical zodiac*, but I do not want to get ahead of myself. We will discuss these two zodiac reckonings later. For now, recognize that as you go throughout a 12 month year (which Biblically begins in the spring after the vernal equinox)<sup>2</sup> you will see the sun rising and setting in each of the zodiac signs at different points within the year. If we count these zodiac signs there are about 12 in all, and I believe there is a reason that Yahweh created or made 12 signs in the path of the sun.

Next we have the geocentric model, which for me, is a little more difficult to explain. I believe in the geocentric model because I believe that Scripture teaches the earth to be fixed and the sun to be moving, but that doesn't mean I can explain to you about how all the particulars in this scientific model work.



If you'll notice right in the middle of the illustration is the earth, and the rings counting up from the earth represent the other planets in outer space (the fourth one up representing the sun). The ring closest to you that is divided up into sections represents the various zodiac signs, and the ring that overlaps the zodiac signs on each side and crosses the zodiac twice is the celestial equator. This is the imaginary line in space that

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<sup>2</sup> Chapters 5 and 6 of this book, as well as Appendix 4 detail the reasons why I believe the Biblical new year to be determined by what we now call the spring equinox.

is a projection of the earthly or terrestrial equator. These times of crossing in the heavens represent an equinox, whether vernal (spring) or autumnal (fall). These are the two times in the year when the day portion (the sun above the hemisphere of the earth) is equal with the night portion (the sun below the hemisphere of the earth).

Next I have a screen shot taken off of a video I have saved to my computer. This shot enables you to sort of view the path of the sun through the sky without the aid of video. If you will notice to the far, top-right corner you have the constellation of Leo (the lion) and then as you enter the constellation of Virgo (the virgin) you have another line crossing the ecliptic. This is the point of the autumnal or fall equinox.



The little shiny dot in the middle of the above picture is the sun, and it is shown right in the middle of the constellations Virgo (the virgin) and Libra (the measuring scales). As the sun continues to travel it will go through Libra and then not long after enter Scorpio (the scorpion) and then Sagittarius (the archer). This helps you visualize what the sun is doing in the heavens. It is traveling through the various stellar constellations in the sky. We may term this a sidereal year or stellar year. Seeing that there are 12 signs of the zodiac, and seeing that they are divided up (tropically) into 30 degrees each (roughly 30 days each) we know that this will fit right into the solar year of 365.25 days.

Now, I know that some of this may be difficult to grasp at first, but just stop here if you need to and go back and read the first part of this chapter over again. If you choose to continue on from here that is fine too. I would like to quote a relevant passage to all of this. It is a text I have quoted in this book already, and a text that those who have studied the Biblical calendar are familiar with.

**Genesis 1:14-16 NASB**

Then Elohim said, "Let their 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 for lights in the expanse of the heavens to give light on the earth"; and it was so. Elohim made the two great lights, the greater light to govern the day, and the lesser light to govern the night; He made the stars also.

We have learned from Psalm 136 and Jeremiah 31 that these two great lights are the sun and the moon. The sun having dominion over the day, and the moon having dominion over the night. The part that gets overlooked often is right at the end of the text where it says "as well as the stars." The stars, with the moon, are set in place to be a portion of the "lesser light" that has dominion over the night. We should not leave the stars out of the equation. Yahweh, in His inspired word, did not leave the stars out of the equation. Many who have taken the time to study the Biblical calendar center only upon the sun, and others only upon the moon. Either of these two extremes are not Biblical. The Biblical calendar includes the sun, moon, *and* stars.<sup>3</sup>

Pause here for a moment and recognize that this is what *the Bible* actually says. It doesn't say that if you use the sun, moon, and stars for a calendar that you are a pagan or that you belong to a cult. It rather says that Elohim appointed these heavenly lights for time keeping devices. In spite of clear Scripture here we have so many people who refuse to acknowledge the Creators calendar today. This is because it is difficult to get people to believe what the Bible says, while at the same time easier to get people to believe what the Bible *doesn't* say. I have heard preacher after preacher on television spouting off falsehood after falsehood and people in the congregation are shaking their head and clapping their hands. Yet, when the preacher is through, he has taught next to nothing from the Biblical text. If we have been guilty of desiring for someone to tickle our itching ears with soothing words of falsehood rather than desiring for our ears to hear sound words of instruction from Scripture, we need to repent of our wicked ways.

Now, let's take a look at another Scripture that people may be familiar with, but may have never looked upon in this particular light.

### **Genesis 37:9-11**

Then he had another dream and told it to his brothers. "Look," he said, "I had another dream, and this time the sun, moon, and 11 stars were bowing down to me." He told his father and brothers, but his father rebuked him. "What kind of dream is this that you have had?" he said. "Are your mother and brothers and I going to bow down to the ground before you?" His brothers were jealous of him, but his father kept the matter in mind.

If you will, remember back to Joseph's first dream. Joseph and his brothers were in the field binding up sheaves of grain. Suddenly, Joseph's sheaf stood up straight, and all of the other *11 sheaves* gathered around Joseph's sheaf and bowed down to it. His brothers interpreted the dream as Joseph ruling and reigning over them (Genesis 37:5-8). What we have in our text above is Joseph telling his brothers he had another dream after this "sheaf dream," but in this second dream there also were certain objects bowing

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<sup>3</sup> My statements here are not meant to be taken as derogatory towards those who at this present time only view the sun or moon, or sun and moon as the heavenly calendar. I once took the position of a solar-lunar calendar until I came to the realization that the stars were a part of Yahweh's calendar in the heavens. I point this out in hopes of awakening others to this "starry realization" so that study will continue and others will add further enlightening points in addition to what I have researched here. We should strive to help one another, not hinder one another.

down to him. This time it was the sun, moon, and 11 stars that bowed down to him. Joseph tells this dream to his father and brothers and Joseph's father (Jacob/Israel) rebukes him because he interprets the dream like this: he, Joseph's mother, and Joseph's 11 brothers will all bow down to Joseph.

Let's start with the brothers. How many brothers did Joseph have? Remember, Joseph was part of the sons of Israel, later termed as the tribes of Israel. How many sons or tribes of Israel were there? 12 total. So, 12 sons minus 1 would equal what? You guessed it, 11 sons. Doesn't it make sense to you that Joseph's father recognized that Joseph dreaming *11 stars* bowed down to him represented his *11 brothers* bowing down to him just as in the first dream about the sheaves of grain?

Now, in the book of Genesis 1:14-18 we read that the greater light, the sun, has dominion over the day. We also read in the entirety of Scripture that the leader or priest of the home, setting the example for his wife and children is the man or the husband. He is to rule his wife and children well, in love, kindness, compassion, and by example. So, I believe that what Jacob-Israel here understood about Joseph's second dream was not only that the 11 stars represented Joseph's 11 brothers, but also that the sun represented himself. The sun, the greater of the heavenly lights, represented Joseph's father (the great man of the family) bowing down to his own son. This leaves only the moon left in the picture so who would the moon represent? Well, obviously the mother. She is a great light, but lesser than the sun and we should know according to Scripture that she is to submit to her husband and stand with him in holiness, truth, family, etc. So Joseph's dream shows that the sun represents the father, the moon the mother, and the 11 stars the brothers.

When you take Joseph's 11 brothers and add Joseph you come to 12 brothers, or might we say 12 stars. This is significant because we have been discussing how that there are 12 zodiac signs in the heavens. Coincidence? I don't believe in coincidences myself. I believe that Yahweh is the Creator of nature and this includes His heavenly creation. Yahweh designed and planned all of this numerology out eons ago.

This is how I understand Genesis 37:9-11 and not only is this how I understand it, but a Methodist Bible Minister in the 1800's named Adam Clarke understood it this way as well. He writes this commentary under this Biblical text:

**The sun and the moon and the eleven stars** - Why eleven stars? Was it merely to signify that his brothers might be represented by stars? Or does he not rather there allude to the Zodiac, his eleven brethren answering to eleven of the celestial signs, and himself to the twelfth? This is certainly not an unnatural thought, as it is very likely that the heavens were thus measured in the days of Joseph; for the zodiacal constellations have been distinguished among the eastern nations from time immemorial.

Let me also point out that an English Baptist Pastor (John Gill) who's life spanned from the 1600's into the 1700's also interpreted the text in a fashion similar to myself:

**Shall I, thy mother, and thy brethren, indeed come to bow down ourselves to thee to the earth?** whereby it plainly shows he understood the meaning of the dream, though he would not seem to countenance it. By the "sun" he understood himself, the principal and head of the family, the active instrument of the generation of it, the light, life, and support of it; and by the "moon" his wife, the passive instrument of generation, who had the lesser share of rule in the family, yet contributed much to its good and welfare; by whom is meant not Rachel, the real mother of Joseph, who was dead, unless this is observed to show the seeming absurdity of it, from whence the whole might appear ridiculous; but rather Leah, who was now Jacob's only true wife, and the stepmother of Joseph; or else Bilhah, Rachel's handmaid, who since her death was a mother to Joseph; and by the eleven "stars" he understood the eleven brethren of Joseph, who were as stars that receive their light from the sun; and in allusion to the twelve constellations in the Zodiac, to which Joseph and his eleven brethren answered. This had its fulfillment, in some measure, when Jacob sent presents to Joseph when governor of Egypt, though unknown to him, and when he and his family went thither, when, no doubt, Jacob showed a civil respect according to his dignity, and in regard to the office he bore: and so his wife, if he then had any, that went with him, and if not personally, yet in her posterity paid a deference to him, as it is certain all his brethren did. Grotius observes from the Oneirocritics or interpreters of dreams, particularly Achmes, that according to the doctrine of the Persians and Egyptians, that if anyone should dream that he rules over the stars, he shall rule over all people.

These commentators do not automatically make my thoughts about Genesis 37:9-11 correct, but they are "food" for thought. I do not personally see how Joseph's dream could be understood any other way. Please take some time to ponder upon his dream as well as all of the Scriptures mentioning the sun, moon, and stars. Remember most of all how Joseph's father, Jacob-Israel, interpreted the dream.

The number 12 in Scripture is very significant. For example we have in Scripture:

- 12 sons of Jacob-Israel
- 12 disciples of Yeshua
- 12 months in the year
- 12 stones in the breast plate of the High Priest
- 12 slices of bread in the bread of the presence
- 12 gates in the New Jerusalem
- 12 foundations of the New Jerusalem
- 12 names of the apostles of the Lamb on the foundations of the New Jerusalem

And then, as we've seen, there are 12 signs of the zodiac. Yahweh created these zodiac signs to be 12 in number.

I recently saw the History Channel claiming there is a way to number the zodiac signs as 13 rather than 12. This is quite possible and poses no problem with the Biblical numerology. The 12 tribes of Israel can be numbered as 13 tribes of Israel, when we take into account Joseph's two sons Ephraim and Manasseh as representing Joseph (Genesis 48:5). We can also number the disciples as 13 if we take into account Paul, one born out of due season (First Corinthians 15:1-8).

I would like to give you some quotes from a 1st century Israelite historian named Philo. Philo was born before the time of Yeshua, but lived during, as well as after the

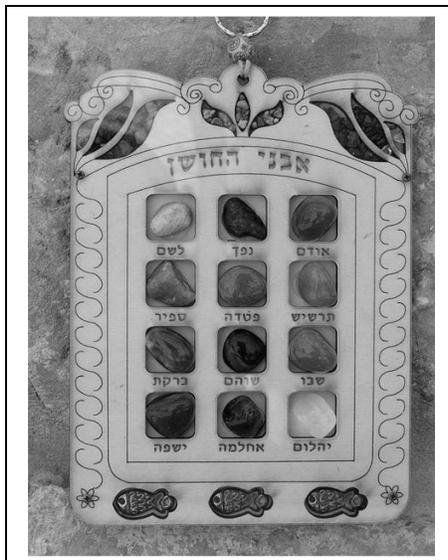
time of Yeshua. Philo was from the Israelite tribe of Levi, and he lived in a place called Alexandria, Egypt. Many Israelites of the dispersion lived in this area. The majority of these Israelites used the Septuagint for their Scriptures rather than the Hebrew text. The Septuagint is the Greek translation of the Hebrew Old Testament. Philo writes in his book titled "QA on Exodus" page 25 the following:

**At each season of the year the sun completes (its course) through three zodiacal signs, which He has called "mixing-bowls," since three powers, distinct and separate from one another, undergo a unified mixing to make up the time of one year. For example, the spring (consists of) Aries, Taurus, Gemini; and again, in the summer (we have) Cancer, Leo, Virgo; and in the autumn, Libra, Scorpio, Sagittarius; and in the winter, Capricorn, Aquarius, Pisces.**

We see from this quote that in Philo's day the zodiac was most certainly understood by at least some Israelites. Philo speaks of the sun traveling through various signs of the zodiac and each season of the year being made up of 3 zodiac signs. Here is another text from the book of Philo. This is in his writing called "On the Life of Moses" 2(124):

**Then the twelve stones on the breast, which are not like one another in color, and which are divided into four rows of three stones in each, what else can they be emblems of, except of the circle of the zodiac?** For that also is divided into four parts, each consisting of three animals, by which divisions it **makes up the seasons of the year, spring, summer, autumn, and winter**, distinguishing the four changes, the two solstices, and the two equinoxes, **each of which has its limit of three signs of this zodiac**, by the revolutions of the sun, according to that unchangeable, and most lasting, and really divine ratio which exists in numbers...

Here, Philo not only allots 3 zodiac signs to each of the 4 seasons in the year, he also equates this to the breast plate of the high priest which consisted of 12 stones in all, representing the 12 tribes of Israel. Philo says that the breast plate functions as an emblem of the zodiac seeing the stones are laid out in 4 rows with 3 stones in each row. This is exactly in alignment with Scripture.



#### **Exodus 28:17-20**

Place a setting of gemstones on it, four rows of stones: The first row should be a row of carnelian, topaz, and emerald; the second row, a turquoise, a sapphire, and a diamond; the third row, a jacinth, an agate, and an amethyst; and the fourth row, a beryl, an onyx, and a jasper. They should be adorned with gold filigree in their settings. The 12 stones are to correspond to the names of Israel's sons. Each stone must be engraved like a seal, with one of the names of the 12 tribes.

This is where things get a bit difficult to follow, but if you follow carefully I believe you will be able to understand each point I make hereafter. Philo very clearly mentions here that the sun moves through 3 zodiac signs in each season of the year. Let's take the first season Philo mentions, the spring. He states that spring consists of Aries, Taurus, and Gemini. Is Philo correct? Well, yes and no. Philo is correct if he is referring to what we now call the *tropical zodiac*, but he is not correct in reference to what we now call the *sidereal zodiac*.

When I first began to study the zodiac signs in the heavens I did not realize that there were two reckonings of the zodiac. I was under the impression that there was 1 and only 1 way to reckon the zodiac. After about 1 year of study I began to notice some discrepancies in the material I was studying. For starters, I ran across ancient authors like Philo (among others) who spoke of 3 signs of the zodiac being allotted to each season of the year. This fits nicely. We have four seasons of the year, with three signs of the zodiac fitting into each season. 4 times 3 equals 12, and this fit perfectly with my research about the number 12 in Scripture. However, I then began to watch the heavens and I realized that what I thought fit nicely, was not so precise of a fit after all. With further and deeper study though, I began to see the relevance of each zodiac reckoning.



## Chapter 4

# Tropical and Sidereal Zodiac

Most often we like to have things in "black and white." We want there to be a clear cut line between what is right and what is wrong. I'm like this. Many times if I can't absolutely and definitively prove something, it bothers me to the point of losing sleep until I am able to track down exactly how that something works. This is how I have felt over the years of studying the Biblical calendar, and I must say, it continued when I started studying the stars as they pertain to this calendar.

I have now gotten to the point (after many years of research) where I am content to allow the mysterious to be mysterious. It seems to me that all of Yahweh's calendar components are not a perfectly nice fit. For instance, there are about 29.5 days in a lunar month. Why not just 29 or 30? Some people have told me that Biblical months used to be all 30 days in length until some sort of cataclysmic event, but of this I'm not certain. I am certain that there are not 30 days in a lunar month at this current time.

There are also about 354 days in a lunar year, but 365.25 days in a solar year. It would be nice if there were 365 in each or 354 in each, but such is just not the case. I am content to just trust Yahweh's creation at this point. I have faith that He made His creation, and He causes it to do exactly what He wants, when He wants. My *theory* is that Yahweh's calendar pieces don't all fit together perfectly because He wants us to step out on faith and trust His heavenly clock. Who wouldn't follow a calendar that had zero "glitches" within it? That would take no faith from a person, because it would make complete, logical sense. For Yahweh to have an uneven number of days in a lunation, or between a lunar and solar year makes a person think twice before adopting His calendar. His children take the leap of faith knowing that even though they don't understand perfectly, Yahweh's calendar is the narrow way to walk within.

So, why do the zodiac signs *not* fit so nicely into each of the 4 seasons of the year? Here is the answer in simplicity. When you observe the actual star formations in the sky, some are large formations and some are small formations. In other words, the sun takes a longer time to travel through a big constellation than it does a much smaller constellation.

Not long ago I watched a video documentary put out by the History Channel that discussed the constellations, the zodiac, and the ecliptic. In it, a professor

said that there existed a problem with dividing the zodiac up into exact 30 degree segments, allotting each segment to a particular zodiac sign. He remarked that the sun only took about 7 days to pass through the sign of Scorpio whereas it took about 44 days for the sun to pass through Virgo. This means that Scorpio *falls short* of our exact 30 day mark by 23 days, and Virgo *extends* that same mark by 14 days.

I've experienced this by watching the sun rise from day to day myself. You can do this with the naked eye, but you can also use some very neat technology. I have two programs that I use on my iPhone and iPad called *Stellarium* and *Star Walk*. These are stellar programs (pun intended) and can be used to follow the path of the sun through any given constellation throughout the year. When you watch the sun from day to day using these programs and then look into the heavens yourself (with the naked eye), you will see that the professor in the documentary on the History Channel is exactly right. The sun does not take as long to go through certain constellations as it does others. What does all this mean when considering those few statements from the Israelite historian Philo in the last chapter? Well, like I said, I generally cannot sleep well if I don't at least have somewhat of a handle upon the subject I'm currently studying. A few months ago I decided to call up the *Old Farmer's Almanac* which did talk a bit about astronomy and astrology within their publication. I asked them about the differences between what I was viewing in the heavens and what I was viewing on the astrological charts where each sign was allotted an exact 30 degree segment. Here was their response:

#### **Tropical astrology**

Our astrologer uses tropical astrology, as most Western astrologers do. This method separates the ecliptic (sun's apparent annual path across the celestial sphere) into 12 segments. These are of equal width of 30 degrees each. 0 degrees is the Sun's position at the March equinox. **Long ago, each segment was named after a constellation that overlapped that position;** each segment may not actually align with that constellation nowadays, because of precession of the equinoxes. [Precession is the slow westward shift in equinox positions along the ecliptic due to Earth wobbling on its axis. A complete rotation takes about 26,000 years.] **So, the date of the astrological "Aries" may not coincide with the dates when the constellation Aries is visible to astronomers.** This type of astrology stays in step with the seasons, **but does not necessarily align with the constellations visible at night.** [Therefore, the left-hand calendar pages "Moon's Place" in our Almanac lists the Moon's position in constellations for astronomers (what they'll see in the sky), but those signs may not agree with the Moon's *astrological* place listed in the chart in the back of the Almanac.]

#### **Sidereal astrology**

A few Western astrologers, as well as Hindu astrologers, use sidereal astrology (also known as Vedic, Indian, or Hindu astrology). These use the same 12 segments (in most cases, although a few add a thirteenth sign, Ophiuchus; the ecliptic now passes through

this constellation as well), **but they stay fairly aligned with the positions of the visible constellations** (fixed stars). 0 degrees starts when the Sun passes through the actual constellation Aries. This type of astrology stays in step with the precession of the equinoxes, and uses the actual positions of planets in relation to the fixed stars. (Aries is treated as the first sign in the zodiac.) **With this method, the constellations are always seen during the same months, but the timing of the seasons will change.**<sup>14</sup>

I'm sure that you now have everything straightened out in your brain (smile). In all seriousness, hopefully you are beginning to see the difference in the two types of astrology or the two reckonings of the zodiac. One begins at the vernal equinox and at 0 degrees Aries. Aries then lasts for 30 degrees, Taurus for another 30, and Gemini for another 30 and so on. Each zodiac sign is allotted an exact 30 day segment in spite of the actual size of each constellation. Here is a chart showing the tropical zodiac dates, along with the sidereal dates, on our current calendar.

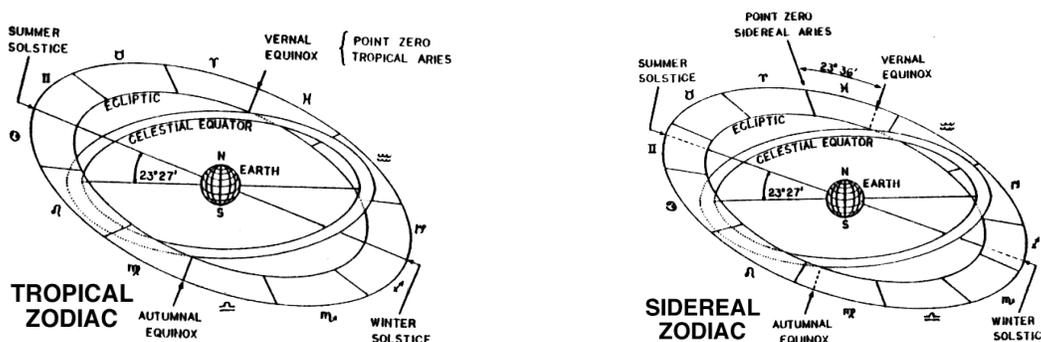
Constellation	Tropical Date	Sidereal Date	Sun in Constellation
Aries	March 21 - April 20	April 15 - May 15	April 19 - May 13
Taurus	April 21 - May 21	May 16 - June 15	May 14 - June 19
Gemini	May 22 - June 23	June 16 - July 15	June 20 - July 20
Cancer	June 24 - July 23	July 16 - August 15	July 21 - August 9
Leo	July 24 - August 23	August 16 - September 15	August 10 - September 15
Virgo	August 24 - September 22	September 16 - October 15	September 16 - October 30
Libra	September 23 - October 23	October 16 - November 15	October 31 - November 22
Scorpius	October 24 - November 22	November 16 - December 15	November 23 - November 29
Ophiuchus			November 30 - December 17
Sagittarius	November 23 - December 21	December 16 - January 14	December 18 - January 18
Capricornus	December 22 - January 19	January 15 - February 14	January 19 - February 15
Aquarius	January 20 - February 18	February 15 - March 14	February 16 - March 11
Pisces	February 19 - March 20	March 15 - April 14	March 12 - April 18

<sup>14</sup> Taken from an email sent to me dated on Thursday, April 26, 2012, 11:05 a.m. This email was received by me from Heidi Stonehill and included within it this link for further information:

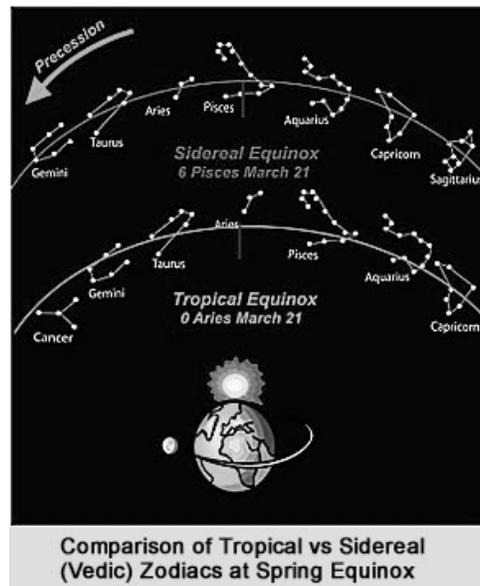
[http://www.astro.com/astrology/in\\_praezession\\_e.htm](http://www.astro.com/astrology/in_praezession_e.htm)

Take note that while Aries is listed on the tropical zodiac as being from March 21 through April 20 (a precise 30 degrees or 30 days) Aries is listed on the sidereal zodiac as being from April 15 through May 15, while the sun is actually traversing through the constellation for only 25 days from April 19 through May 13. Aries is one of the those constellations that is smaller than a 30 degree segment of time.

Next notice Taurus. On the tropical zodiac we have a precise time that the sun is in Taurus, from April 21 through May 21; 30 degrees or days. Following the sidereal zodiac though we have Taurus being from May 16 through June 15 with the sun actually traversing through Taurus for 37 days; from May 14 through June 19. Adding up the actual number of days the sun is moving through Aries and Taurus gives us a sum total of 62 days. This is 2 days over the precise 60 day count on the tropical zodiac. Remember, the sun is in Aries for 25 of these days and Taurus for 37 of these days so the count is off kilter within each constellation, that is, if you are reckoning by the sidereal zodiac. Consider these two reckonings side by side.



As you look first to the tropical zodiac you see the vernal equinox taking place right at the beginning of the sign of Aries, then traversing left into and through Taurus and Gemini with the summer solstice being at the end of Gemini. However, as you look at the sidereal zodiac you see the vernal equinox starting well into the constellation Pisces (the fishes). From the starting position of the vernal equinox until the sun moves out of Pisces is around 23 degrees. This shows that the sidereal zodiac is not as fine-tuned (at least in our minds) as the tropical zodiac. The starting place (the vernal equinox) is not directly at the beginning of a zodiac sign, and as the sun travels through the zodiac it takes longer than 30 days to get through some signs and shorter than 30 days to get through others.



The sidereal zodiac is basically what you see within the actual sky. If you were to wake up on the morning of the vernal equinox (which on our current Gregorian calendar takes place anywhere from March 19-21), about 2 hours before sunrise and look due east you could visualize the constellation of Pisces just above the horizon. The sun would not actually begin to enter the constellation of Aries until around April 19.

Here's what we must factor in. This is why the two zodiac reckonings are not in alignment. There is a phenomena within the sidereal zodiac circle itself called the *precession of the equinoxes*. This was briefly mentioned a bit earlier when I quoted the response I received from the staff at the Old Farmer's Almanac. The heliocentric model defines precession of the equinoxes as the slight wobble of the earth as it is tilted on its axis. The Encyclopedia Britannica defines it in part as follows:

Motion of the equinoxes along the ecliptic... caused by the cyclic precession of the earth's axis of rotation. In compiling his famous star catalogue... the Greek astronomer Hipparchus noticed that the positions of the stars were shifted in a systematic way from earlier Babylonian (Chaldean) measures...

What this means is that the stars shift forward about 1 degree or 1 day *approximately* every 72 years. This makes it look like the sun is slowly tracking backward through the signs of the zodiac. As noted in the encyclopedia, a 2nd century B.C. astronomer named Hipparchus is said to have discovered precession by studying ancient Babylonian star records and noticing how that what he was observing in his day was different from what he was reading in Babylonian records from many years prior to his day. I personally believe the

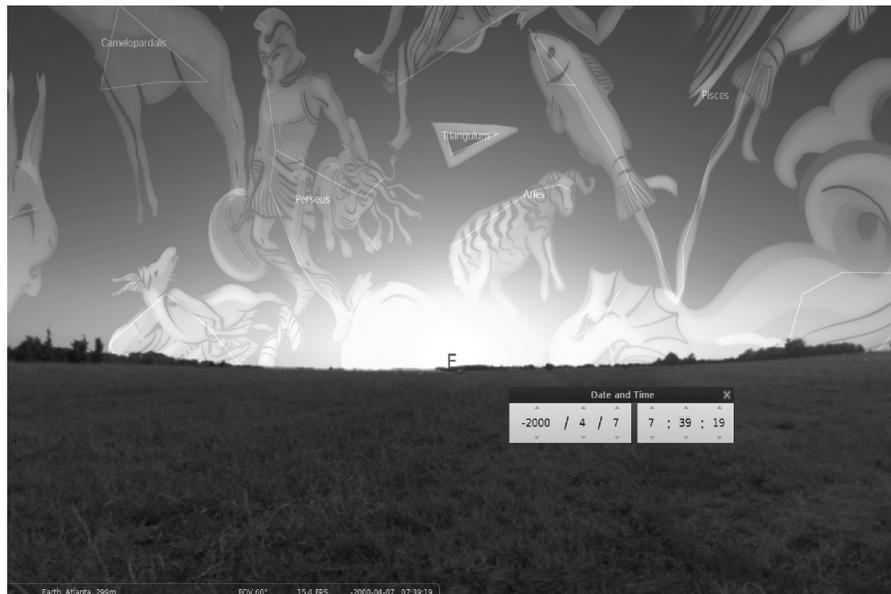
ancients long before Hipparchus knew of precession. I believe the ancient peoples of the earth knew much more than people today give them credit for. Hipparchus may have formally discovered precession, but from what I've researched it is hard for me to fathom that the ancient civilizations like the Sumerians, Egyptians, and even Hebrews did not know about precession.

Getting back to observing the constellations themselves, if you looked due east, 2 hours before sunrise, on the morning on the vernal equinox, each year of your lifetime you would see the sun rise slightly west of where it rose about 70 years prior. Precession is so gradual that it is extremely difficult to observe in your human lifetime. Most people today live anywhere from 70 to 100 years of age, so you would only be able to *possibly* recognize a 1 degree shift of the stars in your lifetime. This means that to each person observing the constellations in their lifetime, they would appear to be fixed rather than movable. This is what scientists speak of when talking about "fixed stars." It is not that the stars are literally or permanently fixed, it's just that we cannot view them as moving from the human perspective in one lifetime. The 1 degree shift every 72 years means that it takes several years for the sun to "move" to a new constellation. As I mentioned before, the sun would trek through the smaller constellations quicker and it would take longer for the sun to go through a bigger constellation.

Let's take Aries and Taurus as our examples here. I mentioned earlier that it takes the sun about 25 days to travel through the constellation. Multiplying 72 by 25 gives us a sum of 1800 years, thus the sun rises on the day of the vernal equinox, in the sign of Aries, for *about* 1800 years. Taurus, on the other hand, is a bit different. The sun stays in the sign of Taurus every year for about 37 days. Multiplying 72 by 37 brings us to a total of 2,664 years. So in the course of the sun throughout history, it rose on the day of the vernal equinox in the sign of Taurus for *about* 2,664 days. Let's get a visual of this throughout history. We are able to do this because of the advancement of technology in our age, specifically with an astronomy computer program named *Stellarium*. This program was created by a French research engineer who worked at the Paris, France astronomical observatory. The program is used by astronomers today to study the sky and all that goes on in the sky with the sun, moon, and stars. The first shot we will look at is from 4000 B.C. on the morning of the vernal equinox. As you can see, the sun is rising due east and it is rising at the end of the constellation Gemini (the twins) and entering into the sign of Taurus (the bull).



Next is a shot from 2000 B.C. about 2,000 years after our first shot. This shot is taken on the morning of the vernal equinox (sun rising due east) and the sun is now rising towards the end of the constellation Taurus. We are visualizing here (by way of technology) the exact same day, only 2,000 years later. Why is the sun rising at the end of Taurus rather than the beginning? It is none other than because of the precession of the equinoxes.

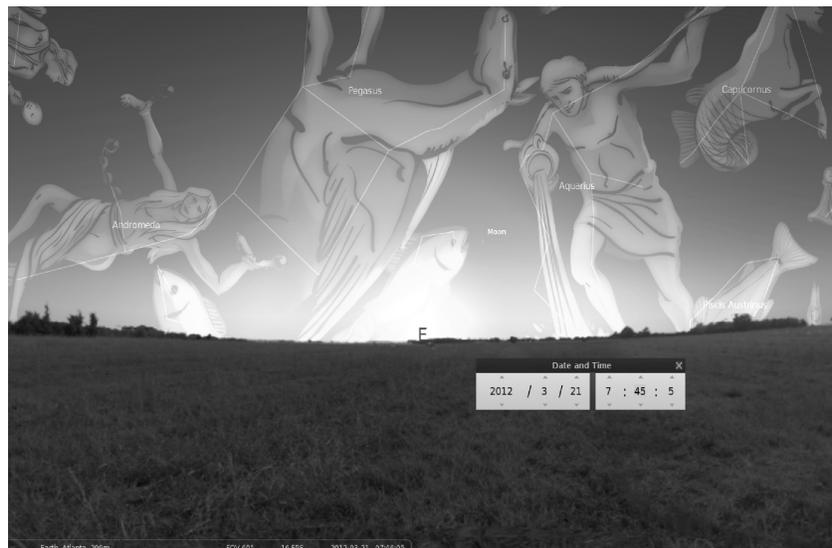


We now move ahead another 2,000 years to 1 A.D. This time period is very close to the birth of Yeshua the Messiah. What we see taking place is that the sun is rising on the morning of the vernal equinox at the end of the sign of Aries (the

ram) and the beginning of the sign of Pisces (the fishes). So from 2,000 B.C. to 1 A.D. the sun has traversed through the entire constellation of Aries. Remember, Aries is about 25 degrees in length, so it takes the sun approximately 1800 years to trek through this sidereal zodiac constellation formation.



Let's look now to our current lifetime in the year 2012. We are still visualizing sun rise on the morning of the vernal equinox but we are 2,000 years removed from 1 A.D.



This places us towards the end of the constellation of Pisces (the fishes) at the vernal equinox. Astrologers debate the year in which they believe the sun will enter the sign of Aquarius (the water-bearer), because of the uncertainty of the

exact location of the ending of one sign and the beginning of another. I've heard some say that we are extremely close to entering Aquarius, but I've heard others say it will be still another 200 years before we exit Pisces.

In all of this keep in mind that this is reckoning based more on the sidereal zodiac. The sidereal zodiac is the only one of the two reckonings that takes into account precession. This is because it is founded upon the actual star formations in the sky. **The tropical zodiac is fixed.** It always begins on the vernal equinox at the beginning of Aries and counts 30 day segments regardless of the size of the different constellations. The vernal equinox took place at the beginning of Aries on the tropical zodiac in 1 A.D. and it still takes place at the beginning of Aries on the tropical zodiac in 2012 A.D.

If we look at this from a Biblical perspective, knowing that nature is designed and created by the Sovereign Creator, we may think in our minds that the sidereal zodiac is the only authentic zodiac. After all, it is what is actually going on in the heavens, taking into account the movement of the celestial bodies throughout history. We would tend to believe that the tropical zodiac is only man-made and really should not be considered when looking at all of this from a Biblical perspective. I believe this conclusion is premature.

Remember back with me to the quotes I gave from the Israelite historian Philo. Philo very clearly spoke about the sun completing its course through three zodiacal signs in each season of the year (QA on Exodus, p.125), and Philo was a man who believed in Holy Scripture. According to this writing of Philo, the seasons are aligned as follows:

Aries, Taurus Gemini	Spring
Cancer, Leo, Virgo	Summer
Libra, Scorpio, Sagittarius	Autumn
Capricorn, Aquarius, Pisces	Winter

Philo even spoke of this division of the year in relation to the breast plate of the Aaronic high priest in Israel (Special Laws 1.87 p.151), stating that the stones on the breast plate were aligned in 4 rows with 3 stones in each row forming the model of the zodiac (4 seasons with 3 signs in each season). He also likened the 4 cups or bowls on the lamp stand (Exodus 25:33-36) with the 4 seasons of the year divided into 3 zodiac signs a piece (QA on Exodus, p.127). The only way for Philo to be accurate in what he is saying is if we understand Philo to be viewing the zodiac from the tropical perspective rather than the sidereal perspective. This leads me in the direction of recognizing some validity to the tropical zodiac even though the constellations are no longer in alignment with the signs in our current era.

In my studies I ran across an ancient astronomer who most likely never knew Philo but who made almost the exact same statement as Philo concerning the signs of the zodiac and the seasons of the year. I speak of a Greek astronomer named Geminus (90 - 35 B.C.) who wrote about this on page 114-117 of his work titled *An Introduction to Phenomena*. This will be a bit lengthy, but stay focused and take the time to follow what Geminus wrote.

The year's time is divided into 4 parts: spring, summer, fall, and winter. **Spring equinox occurs around the height of the flowering time, [when the Sun is] in the first degree of Aries...**

The two solstices and the two equinoxes occur, **in the way of thinking of the Greek astronomers, in the first degrees of these signs; but in the way of thinking of the Chaldeans, they occur in the eighth degrees of these signs.** The days on which the two solstices and the two equinoxes occur are the same days in all places, **because the equinox occurs in all places at one time**, and similarly the solstice. And again, the points on the circle of signs at which the two solstices and the two equinoxes occur are exactly the same points for all astronomers. **There is no difference between the Greeks and the Chaldeans except in the division of the signs, since the first points of the signs are not subject to the same convention for them: among the Chaldeans, they precede by 8 degrees.** Thus, the summer solstitial point, according to the practice of the Greeks, is in the first part of Cancer; but according to the practice of the Chaldeans, in the eighth degree...

**The vernal equinox occurs when the Sun, in the course of its climb from south to north, is on the equatorial circle: at that time the day becomes equal to the night.** For day and night are not always constantly equal, but on certain days the day is longer than the night, and on certain others the night is longer than the day. **Night and day are not equal except on two days in the year, which are the days of vernal equinox and autumnal equinox.** Summer solstice occurs when the Sun arrives closest to the zenith in our region and is elevated to its greatest elevation above our horizon, when it describes its most northerly circle and produces the longest day of all those in the year, and the shortest night... **Autumnal equinox occurs when the Sun, passing from north to south, is again located on the equator circle and makes the day equal to the night...**

The times between the solstices and the equinoxes are divided in the following way. **From spring equinox to summer solstice there are 94 1/2 days, for in just so many days the Sun passes through Aries, Taurus, and Gemini;** then arriving at the 1st degree of Cancer, it produces summer solstice. **From summer solstice to autumnal equinox there are 92 1/2 days, for in just so many days the Sun passes through Cancer, Leo, and Virgo;** then, arriving at the 1st degree of the Claws, it produces the autumnal equinox. **From autumnal equinox to winter solstice there are 88 1/8 days, for in just so many days the Sun passes through the Claws, Scorpio, and Sagittarius;** and when the Sun arrives at the 1st degree of Capricorn it produces winter solstice. **From winter solstice to spring equinox there are 90 1/8 days, for in just so many days the Sun passes through the remaining three signs Capricorn, Aquarius, and Pisces.** All the days of these four seasons, when added up, make 365 1/4, which was just the number of days in the year.

So both Geminus and Philo speak of the exact same signs of the zodiac for the seasons of spring, summer, fall, and winter. They must have both been writing from the tropical perspective.

Who was the first person to reckon the zodiac from a tropical perspective? Of this we cannot be for certain, but I will say that I personally believe that it began sometime around the life of Abraham.<sup>15</sup> The reason I say this is because using Stellarium we can calculate the time period when the sun rise on the morning of the vernal equinox would be just at the beginning of the zodiac sign of Aries. This is roughly between 2000 to 1800 B.C. which is right around the time of Abraham. I believe (and this is my theory) that during this time period someone or most likely a group or nation of people made the decision to divide the ecliptic into 30 degree segments beginning at the vernal equinox which then actually took place at the first of Aries when you gazed up into the heavens. This would make for a starting point and you could then devise a total of 12 segments in all of 30 degrees (or 30 days) a piece. Evidently, this reckoning of the zodiac took hold very firmly because we find it recorded in many civilizations, including the Hebrew culture. It wasn't just something formulated and used by the heathen.

At first, I myself wanted to just discard the tropical reckoning of the zodiac. I reasoned that it did not match what I was seeing in the heavens so it must be erroneous. After much study and meditation on this subject I have come to the realization that at one time in history the constellation of Aries *did* begin on the vernal equinox. If such a zodiac schedule consisting of 12 signs total with 30 days in each sign was developed at that time (for calendar or timing purposes) it then makes sense. We can still learn from what was developed then even though what we look at now in the heavens, thousands of years later, is different.

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<sup>15</sup> "For whereas the Egyptians were formerly addicted to different customs... Abram conferred with each of them, and confuting the reasonings they made use of... demonstrated that such reasonings were vain and void of truth... He communicated to them arithmetic, and delivered to them the science of astronomy; for before Abram came into Egypt, they were unacquainted with those parts of learning; for that science came from the Chaldeans into Egypt, and from there to the Greeks also." (*Josephus, Antiquities 1.8.2*)