

Greetings in the name of our Lord Jesus Christ! In this edition I'll be looking at the astronomical elements of the scriptures.

I'm extending an invitation for submissions to be published in The Gospel Notes Newsletter. The primary criteria for inclusion are these:

1. It should be oriented towards the Gospel of Jesus Christ.
2. It should use the scriptures as a source of information.
3. It should include the references for any quoted 3rd party sources.
4. It should not be political.

Also, if you have particular subjects that you would like me to cover in the Newsletter, please let me know.

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Job 9

4 He is wise in heart, and mighty in strength. Who hath hardened himself against him and hath prospered?

5 Which removeth the mountains, and they know not; which overturneth them in his anger;

6 Which shaketh the earth out of her place, and the pillars thereof tremble;

7 Which commandeth the sun, and it riseth not; and sealeth up the stars;

8 Which alone spreadeth out the heavens and treadeth upon the waves of the sea;

9 Which maketh **Arcturus, Orion, and Pleiades**, and the chambers of the south;

When we think of astronomy in the scriptures, we are often drawn to Genesis chapter 1 because of the Sun, Moon, and stars that are mentioned in it. While those are certainly valid – and I will get to those in a bit – they are not the only things referenced as indicated by this passage in Job.

Let us first look at what these things are as recognized today.

Arcturus, Orion, and the Pleiades are, in order, a star, a constellation, and a star cluster. The only thing these all have in common is that they are comprised of individual stars. To give a very brief description of what each of **these** terms means, I'll describe them below:

1. A **star** is the more generalized term for an object like our Sun which is not in our solar system. The Sun, as we often call it, has another proper name: **Sol**. Hence,

the “**Sol**-ar” system. The Sun is only one of many different kinds of stars that have been observed either by the naked eye or by telescopes. In fact, astronomers classify it as a G2-type star, meaning that it has a spectral category of G (out of the range of O, B, A, F, G, K, M) and a subcategory of 2. In that range from O to M, M-type stars have the lowest surface temperature – less than about 6,000 degrees Fahrenheit. At the high end of that range O-type stars have a surface temperature that may exceed nearly 90,000 degrees Fahrenheit. For comparison, our Sun has a surface temperature around 10,000 degrees Fahrenheit. M type stars can be a dark red in appearance (for example, Red Dwarf stars), whereas O-type stars are brilliant blue – with much ultraviolet in their spectrum because of the high surface temperature.

2. A **constellation** is a collection of stars visible to the naked eye which have been identified by people because they are easily recognized. The patterns these stars form are often identified with the shapes of animals, people, or other things. The constellation “Orion” for example is identified as “The Mighty Hunter” or sometimes as “The Celestial Warrior” (Burnham’s Celestial Handbook, vol. 2, p. 1281). Other constellations are known for their resemblance to horses (“Pegasus”), bears (“Ursa Major/Minor”), scorpions (“Scorpius”), as well as harps (e.g., “Lyra”) or even foxes (“Vulpecula”) and so on.
3. **Star Clusters** are pretty much what they sound like. They are groups of stars that are in **apparent** close proximity to each other as we see them in the sky even though they may be separated from each other by lightyears. Sometimes this is a visual effect and not a real grouping, but for those that are actually bound together by gravity in space we identify **open** clusters, **global** clusters, and other types that I won’t get into here. Open clusters may have anywhere from a few tens of stars up through thousands, while global clusters are almost exclusively in the range of 100,000 to more than a million stars. The Pleiades star cluster is an example of an **open** cluster, while global clusters tend to have other names like the “The Hercules Cluster” (M13) and others. The true number of star clusters that can be seen with the naked eye is in the neighborhood of a few dozen or maybe a hundred at most. The Pleiades star cluster is found in the constellation **Taurus** (“the bull”).

Definitions being complete, we now turn our attention to the passage in Job to understand some history...and a little bit of error (but not in a bad way). Job explains how God made Arcturus, Orion, and the Pleiades. The keen astronomy enthusiast will note that one of these is different than the others.

The constellation Orion and the Pleiades star cluster are actually relatively close to each other visually in the sky, with Orion being a little further south than the Pleiades. Arcturus, however, is not particularly close to either of these formations. Instead, Arcturus is further north in the sky in the constellation Boötes (“the herdsman”) which is near the constellation Ursa Major (Great Bear) and Camelopardis (can you figure out what that is? – just kidding, it’s “the giraffe”).

In another place, the book of Job refers again to Arcturus, but this time it is the Lord speaking:

Job 38

31 Canst thou bind the sweet influences of **Pleiades** or loose **the bands of Orion**?

32 Canst thou bring forth **Mazzaroth** in his season? Or canst thou guide **Arcturus** with his sons?

33 Knowest thou the ordinances of heaven? Canst thou set the dominion thereof in the earth?

A few additional terms appear here. “Mazzaroth” is the literal translation from the Hebrew pronunciation, but its English equivalent is “Constellations” – we might call them the Zodiacal constellations.

[https://en.wikipedia.org/wiki/Mazzaroth#:~:text=Mazzaroth%20\(Hebrew%20Transliteration%3A%20%D7%9E%D6%B7%D7%96%D6%B8%D6%BC%D7%A8%D7%95%D6%B9%D7%AA%20Mazz%C4%81r%C5%8D%E1%B9%AF,its%20context%20is%20that%20of](https://en.wikipedia.org/wiki/Mazzaroth#:~:text=Mazzaroth%20(Hebrew%20Transliteration%3A%20%D7%9E%D6%B7%D7%96%D6%B8%D6%BC%D7%A8%D7%95%D6%B9%D7%AA%20Mazz%C4%81r%C5%8D%E1%B9%AF,its%20context%20is%20that%20of)

What are the “bands of Orion”? The constellation Orion consists of stars that we interpret as the torso, others as the arms, others as the legs, and between the torso and the legs is Orion’s belt. This unmistakable row of three stars is easily visible and recognizable – they are very bright and they form a “nearly” straight but slightly diagonal row of stars.

What are the “sons” of Arcturus? These would be the stars that are adjacent to Arcturus in the handle of the Big Dipper (the common name used by many to refer to Ursa Major.)

<https://www.biblicalcyclopedia.com/A/arcturus.html>

The Pleiades are often called the 7 sisters, though in reality the Pleiades star cluster consists of nearly a thousand stars that can be seen with larger telescopes. The 7 sisters are often referred to because they can – to a degree – be used to determine your visual acuity. Most people can see about 7 stars, but those with better vision can see more. For most people you have to use averted vision because the very center of your retina does not provide the greatest sensitivity to light.

I have left out something from the very first scripture quoted, which refers to the “chambers of the south.” The meaning of this phrase is not well understood, though it is likely to refer to other constellations further south, perhaps some of the gas clouds that can be seen in the Milky Way galaxy. For example, the Coalsack nebula is a so-called dark nebula, meaning that it is a very large cloud of galactic gas and dust which obscures a portion of the sky in the southern hemisphere. Other regions in the southern hemisphere include the Large and Small Magellanic clouds, which are in reality separate, irregular galaxies that are not part of the Milky Way galaxy. Each of these are visible to the naked eye (the Large Magellanic cloud is especially notable). To see these features, however, you would need to be south of the equator.

What are the meanings behind the use of these astronomical objects in the scriptures?

On the one hand, Job explains to his “friends” how God created all of these things, while on the other hand, God explains to Job how he (Job) is not able to make any of these change their courses or move their positions, but that God can. In fact God has put these all in their places and has directed their courses from the beginning.

The fact that God can even **touch** these things should be enough to show the greatness of God, because neither Job nor any man can actually touch them.

You might be thinking, “That’s a lot of astronomy for just a few verses,” and so it is, but it is not the end either.

Getting back to the Sun, Moon and stars, we know that they were created for specific purposes.

Genesis 1 (Inspired Version)

18 And I, God, said, Let there be lights in the firmament of the heaven to divide the day from the night; and **let them be for signs and for seasons**, and for days and for years, and let them be for lights in the firmament of the heaven to give light upon the earth; and it was so.

19 And I, God, made two great lights: **the greater light to rule the day and the lesser light to rule the night**; and the greater light was the sun, and the lesser light was the moon.

20 And **the stars also were made**, even according to my word; and I, God, set them in the firmament of the heaven to give light upon the earth--and the sun to rule over the day, and the moon to rule over the night, and to divide the light from the darkness.

Here is where many Christians really struggle with astronomy, and I believe it comes from accepting the interpretation of unbelievers. From the misinterpretation of this passage many believe that it says the Lord created the sun, moon and stars in this first week of creation. Let’s really look at what it says.

“And I, God, made two great lights...”

Reading this by itself we could easily misinterpret what this is saying. The verse doesn’t stop there, however. After all, how could there be an evening and a morning if there were no lights to differentiate them? We return to an earlier verse:

Genesis 1:8 And I, God, called the light day, and the darkness I called night. And this I did by the word of my power; and it was done as I spake. And the evening and the morning were the first day.

There was light for the first day, but the lights in the firmament of heaven were not created until the 3rd day? How can that be?

Here is how I see it. On the first day there was indeed light and dark, but you'll also notice that on the first day there was no difference between the waters above the earth and the waters

Genesis 1

4 And **the earth was without form and void; and I caused darkness to come up upon the face of the deep.**

5 And my Spirit moved upon the face of the waters, for I am God.

6 And I, God, said, **Let there be light; and there was light.**

7 And I, God, saw the light, and that light was good. And I, God, divided the light from the darkness.

8 And I, God, **called the light day, and the darkness I called night.** And this I did by the word of my power; and it was done as I spake. And the evening and the morning were the first day.

9 And again, I, God, said, **Let there be a firmament in the midst of the waters;** and it was so, even as I spake. And I said, **Let it divide the waters from the waters;** and it was done.

10 And I, God, made the firmament and divided the waters, yea, **the great waters under the firmament from the waters which were above the firmament;** and it was so, even as I spake.

11 And I, God, **called the firmament heaven.** And the evening and the morning were the second day.

12 And I, God, said, **Let the waters under the heaven be gathered together unto one place;** and it was so. And I, God, said, Let there be dry land; and it was so.

13 And I, God, called the dry land earth; and the gathering together of the waters called I the sea.

There is a process described here that is actually pretty specific, and all along the process God is defining terms as he goes.

1. The earth started out without form – meaning it had no solid surface. It was a worldwide ocean.
2. There were waters below and waters above, with no separation between the two. Think of the worst fog you could possibly imagine and multiplied by a hundred, and if you were there you could see nothing except a general glow of light for the day, and pitch black for the night.
3. When God separated the waters from the waters, he made a boundary line between the liquid oceans and the misty fog. That boundary grew larger until there were thick, overcast clouds above the waters of the ocean. For the first time there was a clear region of air that you could see horizontally through.
4. God brought up dry land out of the ocean and called it earth.
5. We return to the creation of the lights – in the plural sense

Genesis 1

18 And I, God, said, **Let there be lights in the firmament of the heaven** to divide the day from the night; and let them be for signs and for seasons, and for days and for years, and let them be for lights in the firmament of the heaven to give light upon the earth; and it was so.
19 And I, God, made two great lights: the greater light to rule the day and the lesser light to rule the night; and **the greater light was the sun, and the lesser light was the moon**.
20 **And the stars also were made**, even according to my word; and I, God, set them in the firmament of the heaven to give light upon the earth--and the sun to rule over the day, and the moon to rule over the night, and to divide the light from the darkness.

6. As I return to what I understand, we have to note that **the firmament of heaven** is that region just directly **below the thick clouds**.
7. Until this time, the only distinction between night and day is the general visibility of light during the day and the pitch blackness of night.
8. In verse 18 we read that God put lights (plural) “in the firmament of the heaven”. If this were strictly so, wouldn’t that mean that the Sun, Moon and stars were below the cloud layer? I don’t think so. I think it means that the waters **above the firmament of the heaven** became transparent – the clouds dissipated. **The earth no longer had complete cloud cover**.
9. The lights existed before it says that God made the two great lights and the stars. If the scripture cannot be broken, I think it should be apparent that on the day that it says God made the two great lights and the stars, that he made it possible to see them by dissipating the clouds, thus appearing to be “in the firmament of the heaven.”

Christians for a long time have allowed their atheist friends tell them how to interpret this passage. A careful read of the passage illustrates – to me at least – that we cannot allow unbelievers to tell us how to read and believe our scriptures.

One of the important takeaways from this view is that **it does not force** the Lord to create the **entire universe** in 6 days as many seem to believe. Moses was only given understanding about “this heaven” and “this earth” – (Inspired Version - Genesis 1:1 And it came to pass that the Lord spake unto Moses, saying, Behold, I reveal unto you concerning **this heaven** and **this earth**; write the words which I speak.)

It should also be apparent that the ancient Israelites knew more about astronomy than we give them credit for. They knew about the motions of the planets around the Sun:

Alma 16:55 Yea, and also **all the planets which move in their regular form** do witness that there is a Supreme Creator. And yet do ye go about, leading away the hearts of this people, testifying unto them there is no God? And yet will ye deny against all these witnesses?

57 Oh, how great is the nothingness of the children of men; yea, even they are less than the dust of the earth.

58 For behold, the dust of the earth moveth hither and thither, to the dividing asunder at the command of our great and everlasting God;

59 Yea, behold, at his voice doth the hills and the mountains tremble and quake; and by the power of his voice they are broken up and become smooth, yea, even like unto a valley;

60 Yea, by the power of his voice doth the whole earth shake; yea, by the power of his voice doth the foundations rock, even to the very center;

61 Yea, and if he **say unto the earth, Move, it is moved; yea, if he say unto the earth, Thou shalt go back, that it lengthen out the day for many hours**, it is done;

62 And thus according to his word, **the earth goeth back; and it appeareth unto man that the sun standeth still; yea, and behold, this is so; for sure it is the earth that moveth, and not the sun.**

63 And behold, also, if he say unto the waters of the great deep, Be thou dried up, it is done.

64 Behold, if he say unto this mountain, Be thou raised up and come over and fall upon that city, that it be buried up, behold, it is done.

We see that they not only understood that the planets they could see in the sky moved in orbit around the Sun, they knew that the Earth rotated on its own axis to give us the day/night cycle.

In referencing the earth moving back, Nephi recalls to memory the events in the days of Joshua, the son of Nun, who took Moses' place.

Joshua 10

12 Then spake Joshua to the Lord in the day when the Lord delivered up the Amorites before the children of Israel; and he said in the sight of Israel, Sun, stand thou still upon Gibeon; and thou, Moon, in the valley of Ajalon.

13 And the sun stood still, and the moon stayed until the people had avenged themselves upon their enemies. Is not this written in the book of Jasher? **So the sun stood still in the midst of heaven and hasted not to go down about a whole day.**

14 And there was no day like that before it or after it, that the Lord hearkened unto the voice of a man; for the Lord fought for Israel.

There is also a reference regarding Hezekiah:

2 Kings 20

8 And Hezekiah said unto Isaiah, What shall be the sign that the Lord will heal me and that I shall go up into the house of the Lord the third day?

9 And Isaiah said, This sign shalt thou have of the Lord, that the Lord will do the thing that he hath spoken. Shall the shadow go forward ten degrees, or go back ten degrees?

10 And Hezekiah answered, It is a light thing for the shadow to go down ten degrees; nay, but let the shadow return backward ten degrees.

11 And Isaiah, the prophet, cried unto the Lord; and he brought the shadow ten degrees backward, by which it had gone down in the dial of Ahaz.

12 At that time Berodach-baladan, the son of Baladan, king of Babylon, sent letters and a present unto Hezekiah; for he had heard that Hezekiah had been sick.

The physics necessary to cause the earth's rotation to both stop and reverse itself, then start up again is beyond the understanding of modern physics, but the Lord is capable of anything, especially those things we might normally think are physically impossible. The star that guided the wise men to Jesus is but one example of something beyond our capacity to understand among these other mentions of the great power of God.

There are other references to astronomy in the scriptures that are far more obscure, but suffice it to say that the signs and seasons and wonder of the heavens and the earth show us that God knows what he is doing and has the power to do anything according to his will. All of these physical things seem marvelous in their own right, but these pale in comparison to the power needed to do one more thing for us:

Alma 16

207 Behold, I say unto you that I do know that Christ shall come among the children of men to take upon him the transgressions of his people, and that he shall atone for the sins of the world; for the Lord God has spoken it.

208 For it is expedient that an atonement should be made; for according to the great plan of the eternal God, there must be an atonement made, or else all mankind must unavoidably perish;

209 Yea, all are hardened; yea, all are fallen, and are lost, and must perish, **except it be through the atonement which it is expedient should be made;**

210 For it is expedient that there should be a great and last sacrifice--yea, not a sacrifice of man, neither of beast, neither of any manner of fowl; **for it shall not be a human sacrifice; but it must be an infinite and eternal sacrifice.**

211 Now there is not any man that can sacrifice his own blood, which will atone for the sins of another.

212 Now if a man murdereth, behold, will our law, which is just, take the life of his brother? I say unto you, Nay.

213 But the law requireth the life of him who hath murdered; therefore, there can be nothing, which is short of an infinite atonement, which will suffice for the sins of the world; therefore, it is expedient that there should be a great and last sacrifice;

214 And then shall there be, or it is expedient there should be, a stop to the shedding of blood; then shall the law of Moses be fulfilled; yea, it shall all be fulfilled, every jot and tittle; and none shall have passed away.

215 And behold, this is the whole meaning of the law--**every whit pointing to that great and last sacrifice; and that great and last sacrifice will be the Son of God, yea, infinite and eternal; and thus he shall bring salvation to all those who shall believe on his name;**

216 This being the intent of this last sacrifice, to bring about the bowels of mercy, **which overpowereth justice and bringeth about means unto men, that they may have faith unto repentance.**

217 And thus mercy can satisfy the demands of justice and encircles them in the arms of safety, while he that exercises no faith unto repentance is exposed to the whole law of the demands of justice; therefore, only unto him that has faith unto repentance is brought about the great and eternal plan of redemption.

218 Therefore, may God grant unto you, my brethren, that ye may begin to exercise your faith unto repentance, that ye begin to call upon his holy name, that he would have mercy upon you; yea, cry unto him for mercy; for he is mighty to save.