

THE STAR OF BETHLEHEM DECODED

3rd Ed.

**Volume 2
The Birth of Jesus**

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starofbethlehemdecoded.com

THE STAR OF BETHLEHEM DECODED VOL. 2

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PART TWO (cont'd)

III. THE NIGHT OF THE BIRTH OF JESUS

A. The Signs In The Heavens On The Night Of Jesus' Birth

1. The Conjunction Of Venus And Jupiter In June Of 2 B.C.



Jupiter and Venus (under high magnification) approach apparent merger above the western horizon (horizontal white line) just before they set as seen from Bethlehem on June 17, 2 B.C.

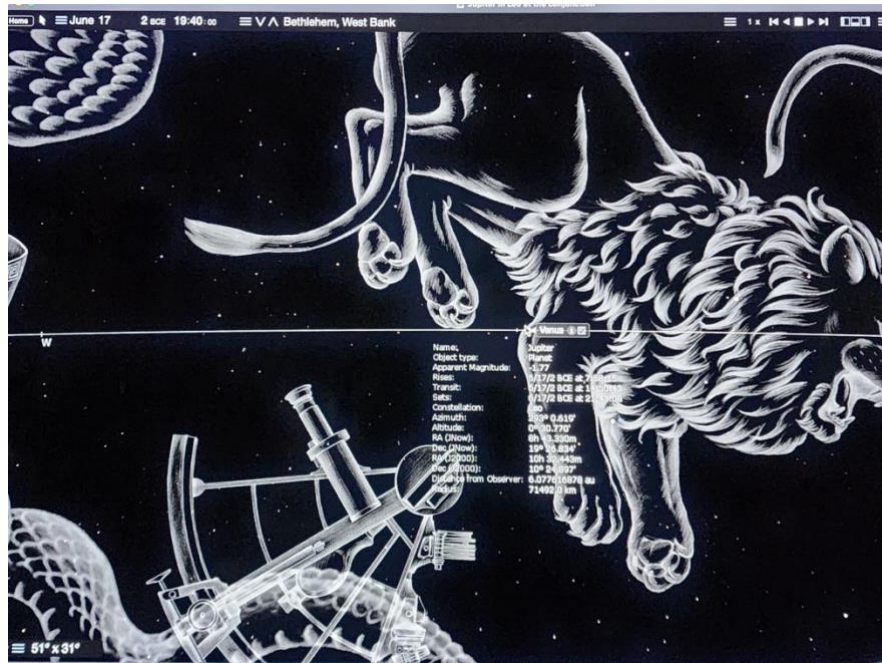
Images provided courtesy of Starry Night Education. Photograph by the author.

On the night of the 15th of Sivan in 3759 (the night of June 17th/June 18th of 2 B.C. on the Julian calendar, which was the night of June 15th/16th on our modern, Gregorian calendar) there was a conjunction of Venus and Jupiter in which these two planets appeared to come so close together that, as seen from many areas, the two planets would have appeared to merge into one object; this would have happened just as they set as seen from Israel. (Note: Delta T is 598.4 for all observations on the night of June 17/18, 2 B.C., for reasons explained in the Appendix in the section entitled THE COMPUTER DISCREPANCY AND OUR LADY OF GUADALUPE.)

And to anyone far to the west, where they would remain above the horizon for several hours, they would have appeared to remain merged for about two hours before appearing to separate.

Since Venus is the planet associated with womanhood and fertility, it is easy to see how this event could have been thought of by the Magi as signifying the coming forth of a king from the womb

of his mother, and in particular the coming forth of the King of the Jews from his mother, since this conjunction took place in the midst of the constellation Leo:



Jupiter and Venus appear to merge into one in the constellation Leo as they set in the West, as seen from Bethlehem on the night of June 17, 2 B.C.

Images provided courtesy of Starry Night Education. Photograph by the author.

And as Larson points out, since neither of these planets would have appeared to move in front of the other when they were at their closest, the light of the two of them would have combined into the brightest object which anyone alive would have ever seen.

As it turns out, according to Starry Night Pro 6 (which is a version that version Pro Plus 8 can be adjusted to), the Magi themselves would not have been able to see this unless any of them happened to be at least as far west as Israel at that moment. For as we saw in the photo above, according to this configuration of Starry Night, Jupiter and Venus would have set just as the apparent merger came for anyone in Israel, and so they would have already set for anyone farther east than that, such as those in Babylon.

We should also bear in mind, however, that first of all, just by their knowledge of astronomy, the Magi would have known that an unusually close conjunction of Jupiter and Venus would have taken place, anyhow. Second, trade caravans may very well have brought them news of their apparent merger; for the event would have been so unusual, and would have created an apparent object so bright, that even many of those who did not pay close attention to the heavens may have taken note of it. And any correspondence which they may have received from men of learning to the west of Jerusalem (such as Rome) could very well have mentioned it.

Furthermore, the apparent approach of these two planets together may have also been of

particular interest even to certain persons to the east who could not have seen this event, such as those living in and around Karachi, Pakistan, a place from which I suspect that one or more of the Magi may have come (for reasons which we shall consider shortly). Later on we shall also examine this conjunction itself in more detail in Part Five of this book.

2. The Other Signs In The Heavens On The Night Of Jesus' Birth

Have you ever wondered what the skies over Bethlehem looked like on the night when Jesus was born? As it turns out, there was much to behold. So let us now consider what else we could find in the heavens that night. We shall begin here with two of these other signs, and we shall consider other signs as well in Part Five of this book.

a. The Other Symbol Of King David

We all know what the most famous symbol of King David is: the Star of David. But the second-most closely associated symbol with him is the handheld harp, the lyre.¹ For King David apparently wrote 73 of the 150 psalms (songs of worship, praise, and thanksgiving) which are in the Bible.² What is more, the Hebrew name for the Sea of Galilee, *Chinneroth*, may be based on the Hebrew word for "harp"; and this sea (a lake, actually) does indeed resemble a harp.^{3,4} Jesus was raised near the Sea of Galilee (in Nazareth), and His ministry began there.

As it turns out, there is a constellation named Lyra, and it depicts a lyre. And 2,000 years ago, every single day it would pass directly over Bethlehem, sometimes by day, and sometimes by night, depending on the time of year. (These days, it still does pass over Bethlehem, though only at the edge of the constellation.) And it was directly above the town of Bethlehem on the night of June 17,⁵ 2 B.C., the night when Larson and I and many others believe that Jesus was born. Specifically, it was directly on the meridian, as seen from Bethlehem, from 21:10 to 22:02 UTC (11:10 P.M. to 12:02 A.M. local time), and at that time it also crossed the zenith itself. We shall examine later on just exactly what it is that is so significant about that one particular moment in time. Suffice it to say for now that what that means is that at that time, the heart of Lyra stood directly over the place where Jesus was born:

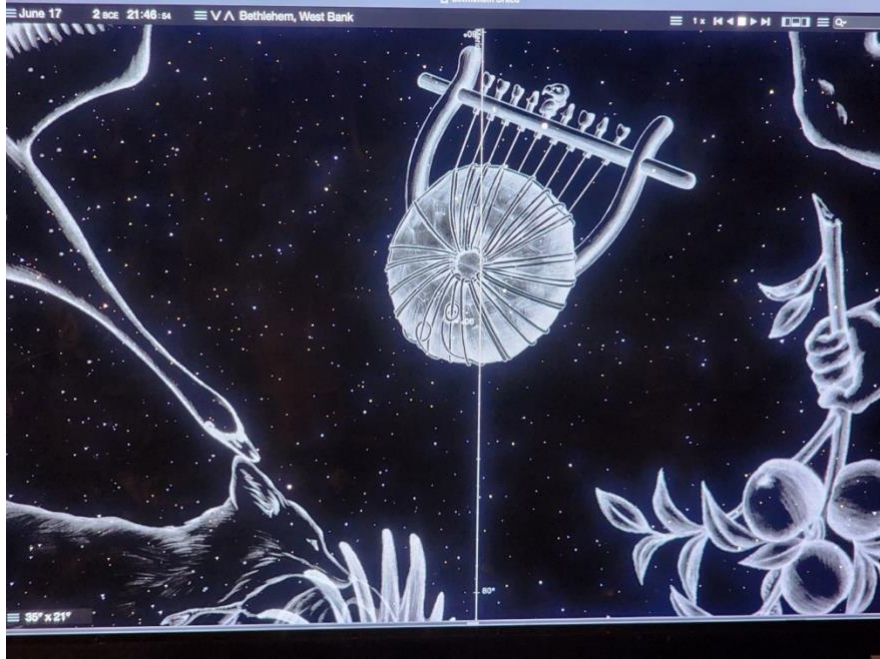
¹ <https://www.merriam-webster.com/dictionary/lyre>

² <https://www.learnreligions.com/book-of-psalms-701125>

³ <https://www.gotquestions.org/Sea-of-Galilee.html>

⁴ <https://swisscows.com/en/images?query=sea+of+galilee+map&=1707440840096>

⁵ on the Julian calendar (*i.e.*, June 15th on our modern calendar)



The constellation Lyra at the zenith as seen from Bethlehem (while facing south) on the night of June 17, 2 B.C. The white vertical line marks the meridian.

Images provided courtesy of Starry Night Education. Photograph by the author.

Now, that being said, I do not know for a fact what it is that got King David interested in playing the hand-held harp instead of any of the other musical instruments which were available during his time, such as the flute. But I cannot help but note that quite possibly, on many occasions, night after night, year after year during the warm summer months of June, July, and August (during the Hebrew months of Sivan, Tammuz, Av, and Elul), the young shepherd boy named David may have looked up into the heavens from a spot near to the very place where Jesus would be born a thousand years later, or perhaps even from that very spot itself. And on such occasions he would have seen, straight above his head, the one constellation which the ancient world considered to be a handheld harp.

With that in mind, I cannot help but think that as this young shepherd boy/musical artist first began to compose his songs of worship, praise, and prayer, he may have begun to compose those tunes, and others, on the instrument which the heavens themselves held before his very eyes as he gazed upwards. In that respect, Psalm 19 in particular comes to mind:

- 1 {To the chief Musician, A Psalm of David.} The heavens declare the glory of God; and the firmament sheweth his handywork.
- 2 Day unto day uttereth speech, and night unto night sheweth knowledge.
- 3 *There is no speech nor language, where their voice is not heard.*
- 4 Their line is gone out through all the earth, and their words to the end of

the world. In them hath he set a tabernacle for the sun, (Psalm 19:1-4; KJV)⁶

Likewise, how interesting it is then, that at the time when a constellation depicting a musical instrument (the lyre) stood high over the stable where Jesus was born, the angels came rejoicing and announced to some shepherds the wondrous news that the Savior had been born in Bethlehem.⁷ And with this in mind we should also take a moment to reflect on the fact that, as is seen above, the Psalm itself is a Psalm which starts out with a notation that it is dedicated “to the chief Musician”.

Hmmm ... was this "chief Musician" a man whom David was dedicating this Psalm to? Or was it perhaps God Himself instead?

b. The Dragon Lies In Wait

Of no less interest is the fact that at the same time that night, still another significant sign stood above in the heavens. As we have just seen, the constellation depicting a lyre, Lyra, was poised directly over the stable where Jesus was born at that time. But let us now pull back just a little bit; and instead of facing south as we look straight up, this time we shall face north to see what else may be found:



The head of Draco the Dragon (just below center) beneath Lyra (at the zenith, in the center) as seen from Bethlehem (while facing north) at the time when Jesus was probably born.

View is to the north.

Images provided courtesy of Starry Night Education. Photograph by the author.

⁶ <http://biblehub.com/kjv/psalms/19.htm>

⁷ <http://biblehub.com/kjv/luke/2.htm> (Luke 2:8-14)

Here we see the head of the dragon in the constellation Draco (along the bottom of the screen). It lies in front of the lyre. With that in mind, let us look at a verse in Scripture which we have already looked at before:

3 Then another sign appeared in heaven: an enormous red dragon with seven heads and ten horns and seven crowns on its heads. **4** Its tail swept a third of the stars out of the sky and flung them to the earth. The dragon stood in front of the woman who was about to give birth, so that it might devour her child the moment he was born. **5** She gave birth to a son, a male child, who “will rule all the nations with an iron scepter.” (Rev. 12:3-5; NIV)⁸

Let us also look again, specifically at what the first half of verse 4 says about the great dragon. It says,

4 Its tail swept a third of the stars out of the sky and flung them to the earth. (Rev. 12:4a; NIV)⁹

With that in mind, let us next consider this view of Draco (with daylight removed) as it would have been positioned for the twelve-hour period (in six- hour increments) ending just prior to Midnight on the night of June 17th:



Draco the Dragon (with its head beneath the horizon) as seen looking to the north from Bethlehem 12 hours before Jesus was born. The rotation of Earth appears to make the stars rotate counter- clockwise. To illustrate this point, notice the changing position in the following photographs of the constellation Ursa Major (the Big Bear), which starts out just above and to the right of the tail of Draco in this picture.

Images provided courtesy of Starry Night Education. Photograph by the author.

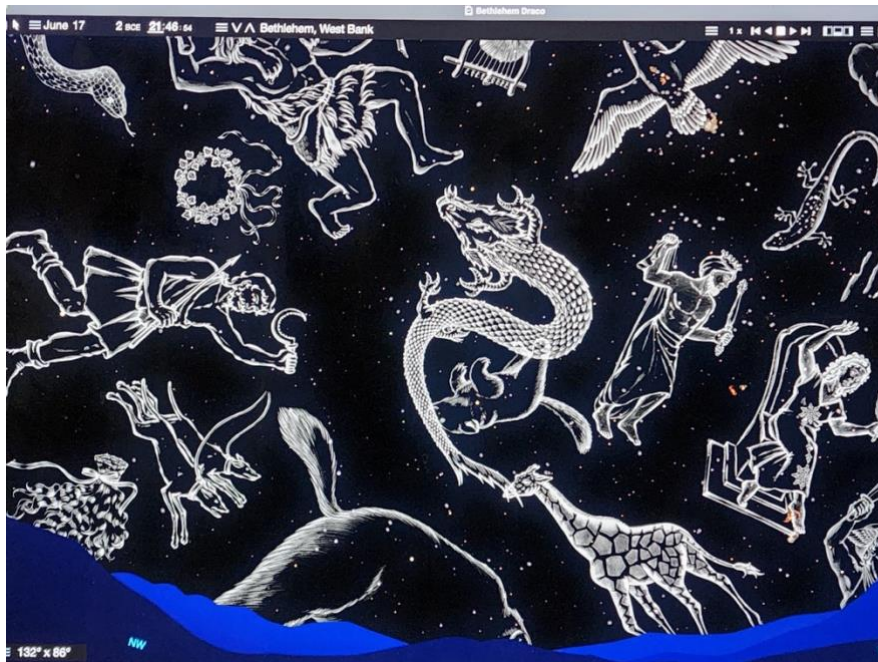
⁸ <https://biblehub.com/niv/revelation/12.htm>

⁹ <https://biblehub.com/niv/revelation/12.htm>



Draco as seen looking to the north from Bethlehem 6 hours before Jesus was born. The stars--- including Ursa Major---can be seen to follow the counter-clockwise motion of the tail of Draco as the tail starts its plunge down toward Earth.

Images provided courtesy of Starry Night Education. Photograph by the author.



Draco (beneath Lyra, partially visible at the top-center) as seen looking to the north from Bethlehem at the time when Jesus was probably born, as the tail of Draco completes its daily sweep of the heavens.

Images provided courtesy of Starry Night Education. Photograph by the author.

Here we can see that in this series of images, the tail of Draco does appear to be sweeping stars along ahead of it; and, during the last six hours of that time, it appears to be casting them down to earth as it rotates in the heavens. This happens every day, in fact, both now and then: sometimes by day, and sometimes by night, depending on the time of year.

Bear in mind also that as seen from any latitude north of the Equator, not all of the stars which appear to be swept ahead of the tail of Draco are capable of being cast down to earth.¹⁰ That is to say, not all of them actually reach or set below the horizon. This is due to the fact (as explained more fully in the Appendix)¹¹ that as seen from any given latitude (other than the Equator), some stars, as they rotate around a celestial pole (either the North Celestial Pole in the northern hemisphere or the South Celestial Pole in the southern hemisphere), are too close to the celestial pole to reach down to the horizon and set even when they reach their lowest point; that is to say, they are too close to the celestial pole to be “cast down to earth”. Consequently, they can never rise and they can never set; but rather, they are above the horizon at all times all throughout the year, both by night, when they can be seen, and by day, when they are hidden from view by the glare of daylight.

The stars which neither rise nor set, as seen from any given latitude, are referred to as circumpolar stars.¹² (pronounce: <https://www.howtopronounce.com/circumpolar>) (The ancient Egyptians referred to the circumpolar stars, as seen from their latitude, as The Indestructibles.¹³) As seen from Bethlehem, the Little Dipper¹⁴ (just to give one example), which is in the constellation Ursa Minor (the Little Bear), illustrates the point, because as seen from Bethlehem (both then and now), none of the stars of the Little Bear (including the stars of the Little Dipper) ever rise or set. This is because they are too close to the North Celestial Pole to ever reach the horizon. (Note: The Big Bear---Ursa Major---is also shown in the above images. As to the Little Bear, it lies between the tip of the dragon's tail and the main part of its body.)

Now, all that being said, we need to consider the fact that Bethlehem is located at approximately 31.7 degrees (31 degrees, 42 minutes) North Latitude,¹⁵ in other words, just slightly more than one-third of the way from the Equator to the North Pole (which itself is a total difference of 90 degrees). That means that the stars within approximately one-third of the sky which can be seen from Bethlehem are circumpolar, and that only the other two-thirds of the stars as seen from that latitude will rise and set. So just to begin with, only two-thirds of the stars that can be seen from Bethlehem could ever possibly be seen as being swept down to Earth at any time at all.

Furthermore, with respect to the stars which do rise and set (*i.e.*, the two-thirds which are

¹⁰ Note: Draco is not visible at all from most of the Southern Hemisphere.

¹¹ In the Appendix find: HOW OBJECTS APPEAR TO MOVE ACROSS THE SKY.

¹² <https://earthsky.org/space/what-are-circumpolar-stars>

¹³ <https://authenticwildness.com/the-ancient-egyptian-connection-to-the-stars/>

¹⁴ <https://earthsky.org/favorite-star-patterns/big-and-little-dippers-highlight-northern-sky/>

¹⁵ <https://www.latlong.net/place/bethlehem-israel-22367.html>

not circumpolar), at any given moment, half of those stars (*i.e.*, one-third of all the stars which could be seen from Bethlehem) appear to be ascending, as they make their way up from the eastern horizon to the meridian, and it is only the other half (*i.e.*, the final, remaining one-third) which appear to be in the process of being cast down to earth, as they move from the meridian down toward the western horizon. The thing is, within any 24-hour period, there would be only one point in time when the process of sweeping one-third of the stars of heaven down to earth by the tail of the dragon would come to completion for that day, and that would be when the tail of Draco would be pointing down toward the northern horizon.

In fact, during the time of each day when the tail of Draco would be pointing in the opposite direction (up toward its highest point along the meridian), that is when the process of sweeping the stars from heaven down to Earth by the tail would have been just getting started; and in this case, that would have been twelve hours earlier (late morning the day beforehand), as can be seen in an image above.

Notice from the image that at 21:46:54 UTC on June 17th (the time I referred to earlier, and which I shall cover in more detail soon) that the tail of Draco, as seen from Bethlehem, was pointing toward the northern horizon. That means that that time (which was during the time when the constellation Lyra was directly overhead) was also the one time within that 24-hour period when the tail of Draco could be seen completing its daily twelve-hour cycle of casting one-third of the stars of heaven down to Earth.¹⁶

With that in mind, let us now consider once again the second half of Revelation 12:4. It says,

The dragon stood in front of the woman who was about to give birth, so that it might devour her child the moment he was born. (Rev. 12:4b; NIV)¹⁷

So here we have an illustration of the dragon sweeping one-third of the stars from heaven down to Earth, and with its mouth and jaws in front of the lyre, which was directly over the stable where Jesus was born at the time when Jupiter and Venus would have appeared to separate (for observers to the west of Israel).

What a clear illustration of Revelation 12:4 this is! And furthermore, here we also see that the dragon, who was personified in King Herod (as Rick Larson pointed out), lies in wait in an attempt to devour the child Jesus, just as Scripture said he was.

Now, I know that most Bible scholars say that Revelation 12:4 is meant to indicate that

¹⁶ Note: The illustration of the constellation Draco which is shown at that time in an above photo is actually incomplete. Notice that there is a faint star just to the left (lower left) of the illustration of the tip of the dragon's tail. As it turns out, that star (HIP 51808)---which is directly above the horizon, straight to the north---is also part of Draco, and any complete illustration of Draco should show that star as being part of Draco's tail. So at the time which we are considering here, the tip of the dragon's tail truly was right above the horizon when facing straight north.

¹⁷ <https://biblehub.com/niv/revelation/12.htm>

when Lucifer fell, he took one-third of the angels with him.¹⁸ I do likewise agree with that assessment; and in fact, I do not think that what I am pointing out here operates in any way to the contrary to that belief. In fact, I believe that this sign in the heavens actually does show God's poetic, artistic way of illustrating precisely that very point of Scripture, in fact, and that from the very beginning of time itself, God specifically intended these signs to illustrate Revelation 12:4 when that verse would eventually come to be written more about ninety years after Jesus was born.

c. The Third Triple Event Of Jupiter

As was mentioned previously, the triple events of Jupiter from this era which we are studying didn't just consist of the triple conjunctions of that planet with Saturn and with the star Regulus. There was another triple event as well, the next one being what I call a triple rendezvous of Jupiter with a particular place in the sky: specifically, the place where Jupiter and Venus would appear to merge into one during the night when Jesus was probably born. These photographs illustrate the point:



Jupiter moves in normal forward motion (right to left) from the first conjunction of its triple conjunction with Regulus in September of 3 B.C. to its first rendezvous (in October) with the point where it would later appear to merge with Venus in June of the following year.

Images provided courtesy of Starry Night Education. Photograph by the author.

¹⁸ <http://www.compellingtruth.org/one-third-angels.html>



Jupiter continues in normal forward motion (right to left) past its first rendezvous with the point where it would appear to merge with Venus (the following year, in June of 2 B.C.), and then slows down and comes to a stop in November of 3 B.C. as it prepares to enter retrograde motion. (The moon is also shown.)
Images provided courtesy of Starry Night Education. Photograph by the author.



Jupiter moves in retrograde motion (upper red line, left to right) in November and December and returns for its second rendezvous with the point where it would appear to merge with Venus (the following year, in June of 2 B.C.).
Images provided courtesy of Starry Night Education. Photograph by the author.



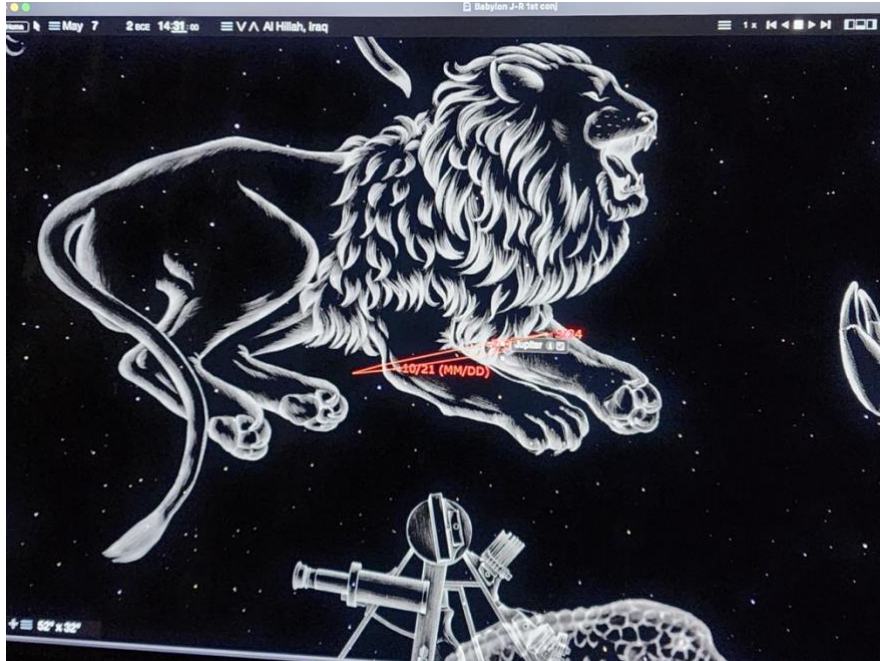
Jupiter continues on in retrograde motion (upper red line, left to right) and enters its second conjunction with Regulus in February of 2 B.C. (The moon is also shown.)

Images provided courtesy of Starry Night Education. Photograph by the author.



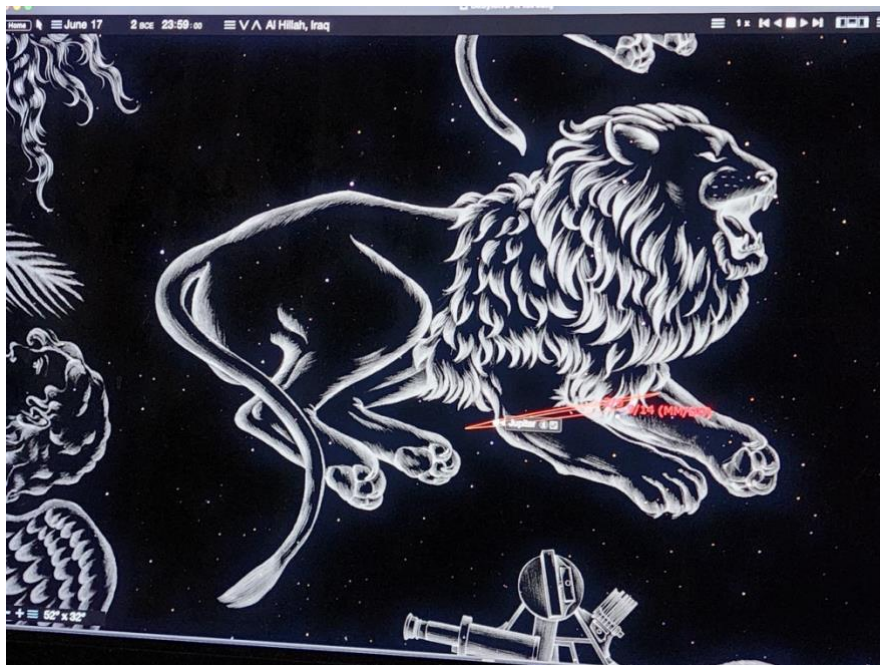
Jupiter continues on in retrograde motion (upper red line, left to right) and then slows down and comes to a stop in March of 2 B.C. as it prepares to leave retrograde motion and reenter normal forward (prograde) motion.

Images provided courtesy of Starry Night Education. Photograph by the author.



Jupiter returns to normal forward motion (middle red line, right to left) and enters its third conjunction with Regulus in May, thereby forming a crown over Regulus.

Images provided courtesy of Starry Night Education. Photograph by the author.



Jupiter continues on in normal forward motion (middle red line, right to left) to its conjunction with Venus (also shown, combined with Jupiter) in which Venus would appear to merge with Jupiter on June 17th of 2 B.C., thereby completing the triple rendezvous of Jupiter with the point in space where the planets appeared to merge, and also completing the crown over both the spot where Jupiter was at the conception of Jesus (near Regulus) and also this spot here where Jupiter was when He was born.

Images provided courtesy of Starry Night Education. Photograph by the author.

Here we see that after Jupiter had had its first conjunction with Regulus, on the night of September 13/14, 3 B.C., it moved through the constellation Leo with prograde motion (normal forward motion). In so doing, in October of 3 B.C., it had its first rendezvous with the spot where it would be, along with the planet Venus, in June of the following year (2 B.C.), on the night when those two planets would appear to merge into one, and when Jesus was probably born.

It then continued on from that point (in Oct. of 3 B.C.) in normal forward motion through Leo until November of 3 B.C., when it slowed down, stopped, and then entered retrograde motion, at which time it swung back to pass once again the point where the conjunction of Jupiter and Venus would take place the following June (for its second rendezvous with that point, in December of 3 B.C.). Jupiter then continued further on beyond that point, still in retrograde motion, for its second conjunction with Regulus in February of 2 B.C.

After it had passed Regulus, it slowed down and stopped as it prepared to leave retrograde motion in March and changed course yet again, thereby resuming normal forward (prograde) motion, which is what brought it to its third conjunction with Regulus (in May). Then, shortly after that event came its noteworthy conjunction with the planet Venus as it passed through the midst of Leo once more (in June), thereby marking, on the night when apparently Jesus was born, the third rendezvous of Jupiter with the point in the sky where the conjunction of Jupiter and Venus took place.

In fact, I can't help but notice that in doing all this, Jupiter not only formed a crown over Regulus as it went through its triple-conjunction with that star, but it also formed a crown over the point where Jupiter and Venus would be on the night of Jesus' probable birth, as is illustrated in the photo above. So both the spot where Jupiter was when Jesus was apparently conceived (*i.e.*, in conjunction with the star Regulus, in September of 3 B.C.) and the spot where Jupiter was on the night when Jesus was apparently born (June 17, 2 B.C.) were artistically crowned by this combination of events.

Now, although the Magi would not have known about the Annunciation specifically, they would have then been able to infer in June of 2 B.C. that the spot where Jupiter had been nine months previously (*i.e.*, in September of 3 B.C.), when Jupiter started its triple conjunction with Regulus, would have been the spot where Jupiter was when the King of the Jews most likely would have been conceived: *i.e.*, in conjunction with Regulus, the king star. And I think it likely that the Magi would have noticed ahead of time the symmetrical framing of these two spots which was in the process of being formed by the king planet, Jupiter, with respect to both of its conjunctions: one conjunction which marked the conception of the king, and the other which marked the birth of the king, all marked by one continuous crown, just as I have shown here.

Furthermore, any Jewish Magi probably would have noticed that at about the same time that the conception of the King of the Jews would have taken place, the sun, as we have already seen, had been near an ovary and the start of a Fallopian tube of the virgin, signifying the virgin birth which had been prophesied by Isaiah. And so all of this, I think, could also have formed part of the reason as to why they may have concluded that the King of the Jews had been born in June of 2 B.C.

All that being said, there were yet more signs in the heavens on the night when Jesus was probably born, but in order to discuss them properly, we will have to add some further background discussion of that night, which we shall do later on, in Part Five (Patience, please!).

B. The Birth Of The True King Of Kings And Lord Of Lords

At this point, let us pause to consider one specific aspect of the history of the Magi. The Magi class of priests, as mentioned earlier, arose in ancient Persia¹⁹ (i.e., for the most part, modern-day Iran).²⁰ One of the kings of ancient Persia, as was likewise mentioned earlier, was Xerxes I, who played such a prominent role in the events which gave rise to the Feast of Purim.²¹ During his kingship he referred to himself as being the King of Kings.²² In the Book of Revelation, however, it is Jesus instead who is then later identified as being the true King of Kings (and Lord of Lords). (Rev. 19:16)²³ (In fact, this phrase “King of Kings and Lord of Lords” from the Book of Revelation is quoted in the lyrics of the *Hallelujah Chorus* of Handel’s *Messiah*.²⁴)

With that in mind, let us consider how the planet Jupiter, the king planet, behaved with respect to Regulus, the king star, during the triple conjunction of Jupiter with Regulus. First of all, Regulus is fixed in its place in the heavens; it does not move. By contrast, Jupiter is free to move 360 degrees about the heavens (at least, within an area close to the plane of the ecliptic,²⁵ which is the path of the sun across the sky throughout the year).

In other words, with respect to Regulus, Jupiter appears to be free to do things which Regulus could never do. In modern terms, we even might think of Jupiter as having run circles around Regulus during this triple conjunction; and, as viewed from the latitudes of the Middle East, Jupiter was in a place above Regulus. These same two aspects were likewise true for the triple conjunction of Jupiter with Saturn, the only difference being that Saturn can also move, though not nearly as robustly or fully as Jupiter can.

All that being said, there is certainly ample reason for the Magi to have concluded that the triple conjunction of Jupiter with Saturn, followed by the triple conjunction of Jupiter with Regulus, which was then in turn followed by a conjunction of Jupiter and Venus that produced the brightest “star” (*aster*) which anyone then alive had ever seen in the heavens,²⁶ were the main parts of quite a large series of events which pertained to the birth of a king, a king who was above any other king on earth, one who could run circles around all other kings, and one whom the heavens themselves

¹⁹ <https://www.britannica.com/topic/Magus>

²⁰ <http://www.heritageinstitute.com/zoroastrianism/iranpersia/>

²¹ <https://promisestoisrael.org/jewish-culture-2/jewish-holidays/purim/>

²² https://www.ancient.eu/Xerxes_I/

²³ <http://biblehub.com/kjv/revelation/19.htm>

²⁴ <http://www.lyrics.net/lyric/324457>

²⁵ <https://www.merriam-webster.com/dictionary/ecliptic>

²⁶ On some rare occasions there probably would have been a meteor which, momentarily, was even brighter. But since a meteor would not be a fixed point of light in the sky, it would not have been an *aster*.

were declaring to be the true King of Kings and Lord of Lords. This is, in fact, consistent with one of Jesus' own claims about Himself:

[18](#) And Jesus came up and spoke to them, saying, "All authority has been given to Me in heaven and on earth." (Matt. 28:18; NASB)²⁷

Having now therefore established in a series of events from 9 B.C. to 2 B.C. that the Magi could have found a more-than-ample basis for concluding that the King of the Jews had been born, let us now look more closely at just exactly who these Magi may have been.

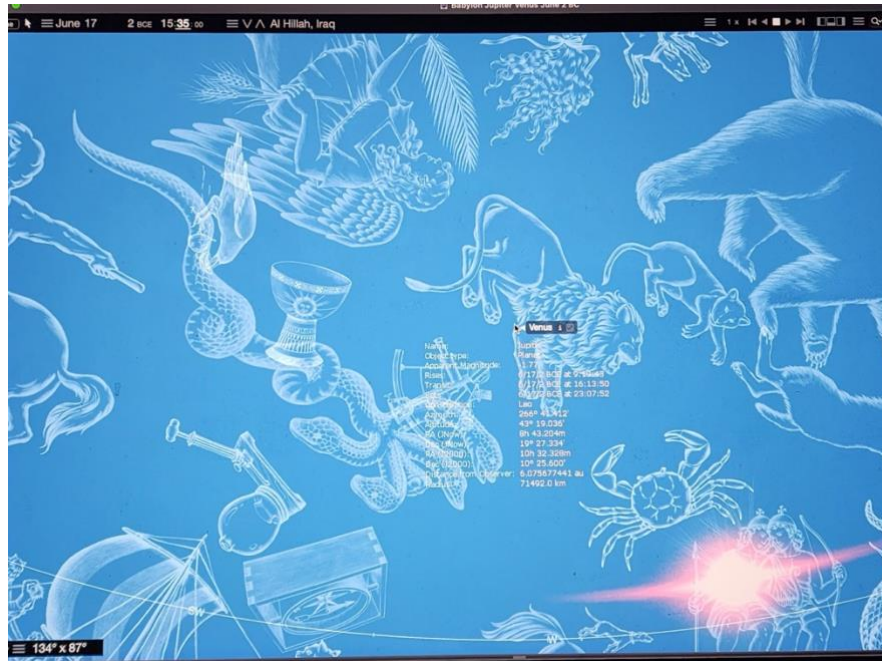
²⁷ <http://biblehub.com/nasb/matthew/28.htm>

PART THREE
THE VISIT OF THE MAGI

I. WHO WERE THE MAGI? (FURTHER DETAILS) EVIDENCE FROM
ASTRONOMY, GEOGRAPHY, TRADITION, AND DNA

Let us consider just exactly how in fact this conjunction of Venus and Jupiter in June of 2 B.C. would have looked to the Magi. Before we begin, however, just to clarify a point, let me first say that Larson believes that as seen from Babylon, this conjunction would have appeared to take place over the area on the horizon in the direction of ancient Israel, and so Larson thinks that those who have said over the years that the Magi may have come from Babylon are correct. However, as seen from Babylon, when these two planets appeared to merge into one, they would have already set, and when they did set, they would have set in the northwest, in the direction of present-day Syria.

Granted, their motion through the sky would have positioned these two planets above the area on the horizon along a line from Babylon to Israel earlier that same day. But this would have been prior to sunset as seen from Babylon or Jerusalem, and prior to the time that Jupiter and Venus would have appeared to merge as seen from anywhere:



Venus and Jupiter during daylight, about five hours before their apparent merger into one object, and about six hours before their conjunction in June of 2 B.C., when they were lined up with Jerusalem as seen from Babylon (Al Hillah, Iraq). Venus is labelled and the data for Jupiter (which was immediately adjacent to it at that time) is shown directly beneath it. Also, the sun is just above the white horizon line (the curved line near the bottom running left and right). Notice also that the stated Azimuth for Jupiter (under the word "Leo" and the right-front paw) at this moment is just under 267 degrees: *i.e.*, within one degree of the heading out towards Jerusalem, as was seen in a previous image.

Images provided courtesy of Starry Night Education. Photograph by the author.

All that notwithstanding, however, please note that for reasons which I shall discuss later, there does in fact happen to be some separate astronomical evidence which supports the idea that one or more of the Magi may have come from Babylon. And so in the end, I think that Larson and the others are correct in thinking that at least one of them may have come from Babylon, anyway.

All that being said, let us now consider in greater detail who the Magi were, and where they may have come from. As was noted already, the ancient Magi class of priests was based in Persia.²⁸ The ancient Persian Empire encompassed mostly modern-day Iran, although it did also include certain adjacent areas, such as modern-day Iraq, part of the eastern edge of the Arabian Peninsula, and it also stretched down to modern-day Pakistan, which was then considered part of India. Here is a map of the ancient Persian Empire: <http://iranpoliticsclub.net/maps/maps02/>.

As mentioned previously, although the Bible does mention three gifts that the Magi brought to Jesus, the Bible does not specify how many Magi there were (nor does it specifically state whether the three gifts which are mentioned---gold, frankincense, and myrrh---are necessarily the only three gifts which they brought). Nonetheless, let us consider, at least for a moment, the traditional view of the Magi, which says that there were three Magi. This tradition assigns names to them: Balthasar (an Arab), Melchior (a Persian), and Casper, who apparently is based upon King

²⁸ <https://www.britannica.com/topic/Magus>

Gaspar (also known as Gondophares),²⁹ an actual monarch who did in fact reign in what is now Pakistan (though it is not known if he was in fact one of the Magi who visited Jesus).

As noted, Babylon specifically is sometimes mentioned as being the home of at least one of the Magi (presumably Balthasar, or someone like him).³⁰ Others think that one or more of the Magi may have come from Ur, the town which many believe that Abraham came from.³¹ Ur is located in southeastern modern-day Iraq,³² near the modern-day Imam Ali Air Base (formerly known as the Tallil Air Base).³³

A. Ancient Jewish Refugees In India

As I likewise mentioned previously, one or more of the Magi may have been a member of one of the Lost Tribes of Israel.³⁴ India is considered to be a likely place where at least some descendants of the Lost Tribes may have settled.³⁵

More specifically, a group of people known as Bene Israel, who live along the west coast of India---in an area known as Konkan, and along the adjacent coast of Pakistan---also claim to be Jews. Some of them live in Karachi, Pakistan. Some others live in certain towns and cities in India, such as Ahmedabad, Mumbai (formerly known as Bombay), and Pune.³⁶

In fact, as it turns out, the members of Bene Israel are not really descendants of a Lost Tribe at all (though certain other people in India might be). But rather, an article in 2002 in the *Jerusalem Post* pointed out that DNA evidence indicates that the members of Bene Israel are instead descendants of the Tribe of Levi,³⁷ one of the three tribes of Israel which, as I mentioned previously, was not one of the Lost Tribes, because it was not overrun and scattered abroad (the other tribes which were not any of the Lost Tribes being Judah and Benjamin).

²⁹ <https://www.peepultree.world/livehistoryindia/story/people/gondophares-indias-biblical-connection?srsId=AfmBOor1SG8QRm-uBHy0bkr9dhyj7RzZQhbFG8xQ5WK84NWfnhPYO7v>

³⁰ <https://torahportions.foz.org/disciples/matthew/who-were-the-magi-from-the-eas.html>

³¹ <http://www.gty.org/resources/bible-qna/BQ122011/who-were-the-magi>

³² <https://www.ancient.eu/ur/>

³³ <https://www.worldabandoned.com/ali-air-base>

³⁴ <https://www.britannica.com/topic/Ten-Lost-Tribes-of-Israel>

³⁵ In addition to the persons mentioned here in the text, certain persons from the northeast portion of India known as the Bnei Menashe have claimed for many years that they are descended from the Tribe of Manasseh, and modern DNA testing has proven this claim to be true: <https://www.israel365news.com/65744/lost-tribe-found-new-dna-tests-prove-bnei-israel-india-share-jewish-genes/>

³⁶ <https://www.myjewishlearning.com/article/the-bene-israel/>
<https://discover.hubpages.com/education/Jews-in-India>

³⁷ <http://www.ipost.com/Food-Index/Bene-Israel-The-Jews-of-Mumbai-India>

B. The Application Of Astronomy To Geography Showing That One Or More Of The Magi
May Have Come From Karachi

Since we are still on the topic of why it is that the Magi may have become persuaded to make the long, dangerous, and costly journey to visit Jesus, we should consider what the events in the heavens may have looked like from where they lived, and whether this personal perspective of theirs may have suggested to them something about these events which otherwise may not have meant much to other persons.

Throughout this book there are various references to the possibility that one or more of the Magi may have come from Babylon (which I think is true for at least one of them); but turning that thought aside for just a brief moment to consider other possible places which one or more of the Magi may have come from as well, let us look at a line in the direction in which Jupiter and Venus would have appeared to have set on the night of June 17, 2 B.C. (the night when I believe Jesus was born), as seen from Karachi, Pakistan (referred to as Karahi on Starry Night Pro Plus 8). This is one of the areas where, as I said, Levites who were members of Bene Israel had settled.

As seen from there, Jupiter and Venus would have reached the horizon at an azimuth of about 291.5 (*i.e.*, 21.5 degrees north of straight west) as seen from Karachi (Karahi). This line runs straight through the heart of the ancient Persian Empire and passes just south of Ur. It also passes just barely north of the Old City portion of Jerusalem:



Jupiter and Venus at high magnification just above the western horizon (white horizontal line) as they prepare to set as seen from Karachi (Karahi), Pakistan on the night when the two planets would appear to be merged into one (from about two to four hours later), as would be seen from places where they would then be above the horizon.

Notice that the Azimuth of Jupiter is shown as being just under 291.5 (291 degrees 28.418 minutes).

Images provided courtesy of Starry Night Education. Photograph by the author.



The line from Karachi, Pakistan to Jerusalem at a heading of about 291.5 degrees.

Image from Google Earth Pro: <https://google-earth-pro.en.softonic.com/mac>. Photograph by the author.

So this application of astronomy to geography---showing a connection between the area around Jerusalem with India, Persia, and the Arab world--- does lend at least some support to the idea that the traditional legend of the Magi might in fact be true; or at least, with respect to Casper (Gaspar) it may be true. For any magus in Karachi on the night of June 17, 2 B.C. would have known that Venus and Jupiter would have to have merged that night shortly after they had set as seen from Karachi, and that when they did so, this would have been somewhere out beyond the horizon, straight toward Jerusalem. And of course, they would have known that when the two planets would have separated a few hours later, they would have likewise done so out in the same direction.

Granted, if any of the Magi did come from in or around Karachi, this would mean that one or more of them may have come quite a long way to worship Jesus. But let us also keep in mind that if this line does in fact suggest that one or more of them may have come from Karachi (or perhaps Mumbai), such persons could have made their way by ship up to the head of what we now call the Persian Gulf; and this would have been a much quicker, easier, safer, and less costly way to travel much of the distance to Jerusalem than by making the entire journey from Karachi or India over land. That being said, we shall now look at why I believe that a concern by the Magi for the proper timing of when they should visit Jesus was the reason that the Magi may have decided to arrive in Jerusalem on the night of December 25, 2 B.C.

II. Evidence That The Magi Would Have Visited Jesus On The Night Of December 25, 2 B.C.

A. The Heavens In Transition

1. The Motion Of The King Planet

Rick Larson implies that the visit of the Magi to Jesus on December 25th may have been due (in part, at least) to some act of Divine Providence (by implication, apparently as a sign to us by overlapping their visit with the modern date on which we have come to celebrate the birth of Jesus). For the most part, however, he apparently thinks that the fact that the Magi may have visited Jesus on this particular date is otherwise a product of them merely having arrived in Bethlehem when Jupiter just happened to be stopped in its motion against the background of stars as it prepared to enter retrograde motion; on top of all that, he implies that the Magi even may have arrived in Jerusalem well ahead of time (in November) in any event.

Now, I do agree with him that the Magi probably visited Jesus on the night of December 25th that year (on the Julian calendar), and I do agree that Divine Providence played at least some role in this. But I must disagree with Larson's implied conclusion that their visiting Jesus on this date apparently was otherwise the result of mere happenstance.

As I have already mentioned, anyone who is familiar with observational astronomy can know what the planetary positions will be, at least generally speaking, for at least a few years in advance. As it turns out, this also applies to knowing when a planet will come to a stop as it prepares to enter retrograde motion.

Now, depending on how good one's eyesight is, Jupiter will normally appear to the unaided eye to come to a stop for a period of about a week as it transitions from its normal forward motion (prograde motion) against the background of stars into retrograde motion. Normally, it would appear to stop for simply one night alone only if it were to stop in very close proximity to a bright star (which was not the case on this occasion), or if one were to use a modern telescope to magnify its image and its movements.

On December 25th of that year, Jupiter would have already appeared to have been stopped for about three or four nights, and Larson implies that the Magi just happened to be looking for Jesus at that time. Larson then concludes that the fact that Jupiter was stopped on that night (which he implies was the only night on which it would have appeared to be stopped to the unaided eye) is the basis for Scripture saying that the star "stood over" the place where they found Jesus (as the King James Version and Douay-Rheims Bible put it), or "stopped" or "came to rest", as other versions put it.

To the contrary, however, not only do I *not* think that Jupiter being in the midst of a standstill on that night was the *principal* basis for Scripture saying that the star stood over the place where Jesus was (though I think that that probably does constitute at least part of the basis for that statement in Scripture), but I think furthermore that the Magi deliberately planned well ahead of time to visit the newborn King of the Jews specifically on the night of December 25th, and the fact that Jupiter was in the midst of a complete stoppage on that night was, I believe, simply one of four celestial events that night which gave the Magi so much interest in that one night specifically.

2. The Motions Of The Two Most Important Objects In The Sky

On the night of December 25th that year, two other heavenly bodies besides Jupiter were undergoing a transition and the renewal of a pattern at that time.

a. The Sun In Transition

In 2 B.C., the sun would have reached the northern hemisphere's winter solstice on December 23rd,³⁸ although, as can be seen on Starry Night, the sun would not have moved enough north or south, as seen by the unaided eye, for one to have noticed its motion in either direction from December 21st until sunrise on December 26th, when this transition period for the sun would have appeared to end. So both Jupiter and the sun would have been in a transition on December 25th, and each would have been in a time of changing course and starting things anew. And this transitional period of the sun was, in light of the transitional period of Jupiter, the second celestial event which, I believe, gave the Magi so much interest in the night of December 25th.

i. The Feast Of the Saturnalia And the Dies Natalis Solis Invictus

Then there is the Feast of the Saturnalia to consider. This ancient Roman feast was celebrated in tribute to the god known as Saturn.³⁹ As noted previously, Saturn was considered the father of some of the gods, including Jupiter.⁴⁰ Saturn was also the god of the harvest and the god of time. In other words, among his attributes was the character of being the god of bringing things to completion and starting anew.

In keeping with this theme, the modern depictions of Father Time---who is commonly depicted as an old man with a long beard and with a sickle in his hand, and who is sometimes seen in various cartoon depictions around New Year's Eve---is actually a modern-day representation of Saturn.^{41, 42} The Greeks, by the way, called this same god Chronos (who was conflated with Kronos),⁴³ and we get modern words such as chronological and chronometer from the Greek name Chronos.⁴⁴

³⁸ As can be seen on Starry Night Pro, the sun reached the winter solstice shortly after noon (as seen from Jerusalem) on December 23rd in the year 2 B.C.

³⁹ <https://www.ancient.eu/Saturnalia/>

⁴⁰ <https://www.gods-and-goddesses.com/roman/jupiter/>

⁴¹ [https://swisscows.com/image?query=saturn god&culture=en®ion=en-US](https://swisscows.com/image?query=saturn+god&culture=en®ion=en-US)

⁴² <https://s-media-cache-ak0.pinimg.com/236x/05/19/99/05199992daaa1c57bf35959789ed7b23.jpg>

⁴³ <https://www.waggish.org/2013/father-time-chronos-and-kronos/>

⁴⁴ [https://www.answers.com/Q/What is the root word of chronological](https://www.answers.com/Q/What_is_the_root_word_of_chronological)

In any event, the Feast of the Saturnalia began on December 17th, and ended on December 23rd.⁴⁵ (Some have also said that another Roman holiday, the Dies Natalis Solis Invictus,⁴⁶ also known as the Dies Natalis Sol Invictus-- the Birthday of the Unconquerable Sun--was celebrated on December 25th at that time; however, perhaps the more likely timing for celebrating that holiday 2,000 years ago would have been during August or November, and would not have been on December 25th until approximately three and a half centuries later.)⁴⁷

I mention all of this to show that the Magi may have had it in mind to show disrespect toward Caesar, toward the entire ancient Roman pantheon of gods, and toward the Romans' holidays generally by making a deliberate point of celebrating the birth of the King of the Jews instead of honoring the ancient Roman gods. After all, the ancient Persians and Romans never did get along very well, anyway, and this would probably be particularly true for any Persian Magus who might happen to have been a Hebrew.⁴⁸

b. The Moon In Transition

The third celestial event that would have drawn the Magi to this one night specifically was that the moon was also in the midst of a transition. Specifically, it was nearing the end of a phase called a waning (*i.e.*, decreasing) crescent.

This is the time between the point in which the moon begins its last phase of the month (third quarter) and new moon. It starts as the moon goes from being a half moon in the early morning sky (as we saw with respect to the time around the probable date of the Annunciation) to becoming a crescent moon, one which appears to get thinner and thinner over the course of a week as it also appears to draw closer and closer to the sun, and closer and closer to the horizon, with each passing morning.

During this time, it is seen just above the eastern horizon around dawn until it becomes so thin of a crescent, and appears to get so close to the sun, that it can no longer be seen at all until just after new moon, when it will slip around to the other side of the sun and appear in the evening sky as a waxing (*i.e.*, increasing) crescent.⁴⁹ Specifically, in December of 2 B.C., as can be seen on Starry Night, the moon reached new moon on December 26th. The thing is, although it can be determined from Starry Night that the thin waning crescent moon could have been seen from Bethlehem in the early morning sky on the morning of December 25th (*i.e.*, at the end of the night of the 24th), it would have been too thin of a crescent to have been seen on the morning of December 26th in 2 B.C. (*i.e.*, at the end of the night of December 25th). So that year, there would have been two days in a row when the moon would not have been visible around new moon in

⁴⁵ <https://www.ancient.eu/Saturnalia/>

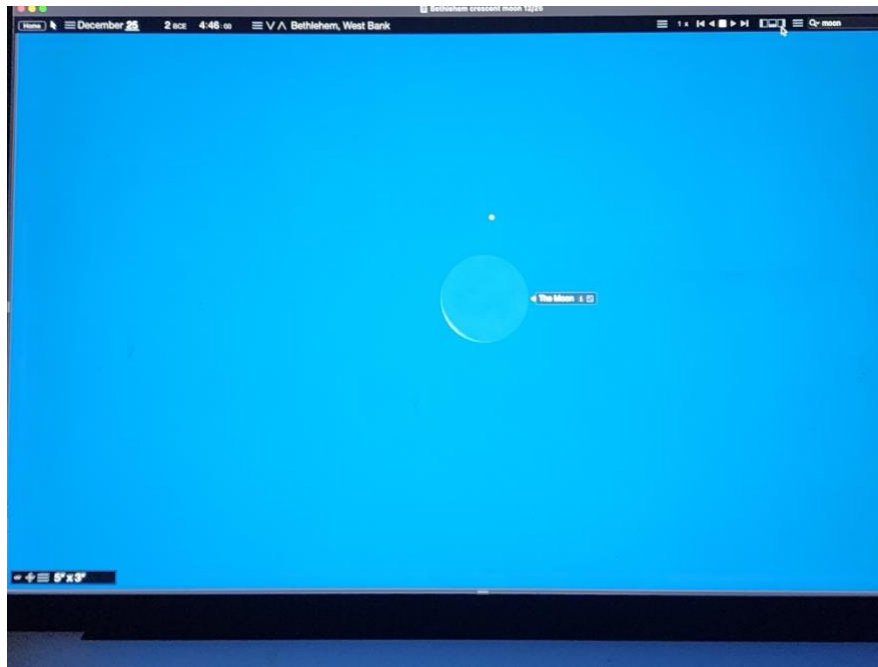
⁴⁶ <https://mythology.net/roman/roman-gods/sol-invictus/>

⁴⁷ <http://apologetics-notes.comereason.org/2015/12/christmas-solstice-and-december-25th.html>

⁴⁸ <https://www.historynet.com/roman-persian-wars.htm>

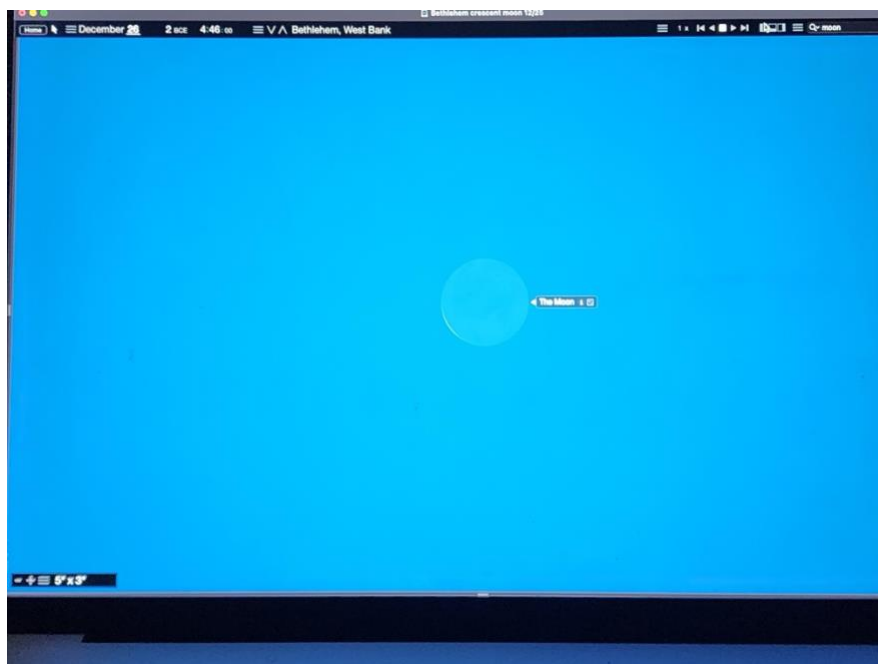
⁴⁹ <https://spaceplace.nasa.gov/moon-phases/en/>

December (*i.e.*, Dec. 26th and 27th):



The barely-visible waning crescent moon as seen from Bethlehem at sunrise on December 25, 2 B.C. (The star Nunki, in Sagittarius, is also shown.)

Images provided courtesy of Starry Night Education. Photograph by the author.



The now essentially-invisible waning crescent moon as seen from Bethlehem at sunrise on December 26, 2 B.C.
(Note: The moon would reach exactly new moon about 15 hours later.)
Images provided courtesy of Starry Night Education. Photograph by the author.

Consequently, during the evening of December 25th/early morning hours of December 26th that year, you had the two most significant astronomical bodies---the sun and the moon---in a time of transition. The sun was in the process of reversing its movement in the sky from southward to northward; and, as can be seen here, the moon was reversing its appearance, from a crescent that was getting smaller and smaller as it appeared to get closer and closer to the sun in the early morning sky (nearing the end of one lunar orbit around the Earth), to a waxing crescent moon a couple of days later, (which would mark the start of a new lunar orbit), and then appearing at that time in the evening sky, rather than in the morning sky.⁵⁰ Thus, the night of December 25th was the only night during that whole era when the two most important objects in the sky were in a period of transition together while simultaneously, Jupiter---the very planet which the Magi associated with this newborn King of the Jews---was directly in the midst of its own period of transition as well.

As to the fourth celestial event which would point the Magi toward coming to worship the newborn king on this one night specifically, we shall look at that after we have covered other background material which follows later on. What we shall consider now is a non-celestial transition which may have also caused the Magi to focus on this one night in particular.

B. Evidence From Jewish Culture: The Feast Of Hanukkah

In light of the fact that the Magi may have been Hebrews, it is worth considering the fact that in the year 2 B.C., December 25th occurred during the middle of a feast known as the Feast of Dedication, a feast which is commonly known today as Hanukkah (which is based on the Hebrew

⁵⁰ <https://spaceplace.nasa.gov/moon-phases/en/>

word meaning “to dedicate”), and which is also known as the Festival of Lights.^{51, 52} On the Hebrew calendar, sunset on the evening of December 25th in the year 2 B.C. apparently marked the start of the 28th day of Kislev, the fourth night of the eight-day holiday of Hanukkah,⁵³ although it is perhaps the case that sunset that day marked the start of the 29th of Kislev instead, making it the fifth night of Hanukkah; we shall consider this particular point in detail shortly.

The eight days of Hanukkah mark the anniversary of the time that the Jews rededicated their temple following the victory of Judas Maccabeus and his family, along with their followers, over King Antiochus IV Epiphanes, who literally wanted to end the practice of Judaism completely and who, in the process of trying to do so, had brought severe persecution to those Jews who had dared to defy him and who continued to practice Judaism anyway.⁵⁴ More to the point, he had erected an altar to Zeus in the Jewish temple and had ordered pigs to be sacrificed there.

This desecrated the temple, and after the victory over Antiochus, in order for the Jews to use their temple again, they had to purify it. But they faced a serious problem. In order to purify the temple, they had to do so by the light given off by burning a special type of oil. And the oil itself could only be made in the temple.

They did have enough oil to last one day, but the task of making the new oil would last eight days. So what were they to do?

They decided to trust God, and began the task of making the oil even though, at the outset, it seemed hopeless as to whether they would be able to complete the task before the oil ran out. But God intervened, and the oil lasted eight days instead of only one.^{55, 56} This is something which Christians and Jews alike can celebrate. For instance, the New Testament notes that on at least one occasion, Jesus was in Jerusalem for Hanukkah:

22 At that time the Feast of the Dedication took place at Jerusalem; 23 it was winter, and Jesus was walking in the temple in the portico of Solomon. (John 10:22-23; NASB)⁵⁷

Unfortunately, however, the holiday is still commonly celebrated only by the Jewish people, though it could rightfully be celebrated by all freedom-loving people as a triumph for freedom of conscience over tyranny, reflecting what Thomas Jefferson, the main author of the Declaration of Independence, and the third President of the United States, would say centuries later:

“... for I have sworn upon the altar of God eternal hostility against every form of tyranny

⁵¹ <https://www.history.com/articles/hanukkah>

⁵² <http://www.cgsf.org/dbeattie/calendar/?roman=2bc>

⁵³ <http://www.cgsf.org/dbeattie/calendar/?roman=2bc>

⁵⁴ <https://www.history.com/articles/hanukkah>

⁵⁵ http://www.chabad.org/holidays/chanukah/article_cdo/aid/102911/jewish/What-Is-Hanukkah.htm

⁵⁶ <https://www.learnreligions.com/feast-of-dedication-700182>

⁵⁷ <https://biblehub.com/nasb/john/10.htm>

over the mind of man.”⁵⁸

1. A Special Meaning For Members Of Bene Israel

The Magi might have been especially influenced by the fact that this night occurred during the midst of Hanukkah if one or more of the Magi were members of Bene Israel from India, as mentioned above. For the members of Bene Israel apparently are descended from members of the Tribe of Levi who fled Galilee under the persecution of Antiochus IV Epiphanes, the very tyrant who, as I just mentioned, was overthrown in the rebellion which led to the first Hanukkah.⁵⁹

All in all then, the Eight Days of Hanukkah mark a time not only of renewal and rededication; they also commemorate a miracle in which God provided His people with the oil which would bring forth light, a light which would not only cast out the darkness which was present at that one particular moment, but which would also allow them to do their holy work of making more oil to bring forth even more light continually, endlessly, and so cast out darkness forever. Certainly then, if any of the Magi were Jewish, they would have noticed that the very night when they apparently believed that the heavens themselves were summoning them to come worship the newborn King of the Jews was a night which was taking place right during the middle of Hanukkah, and so it may have seemed especially important to them to come to worship the newborn King of the Jews on this one particular night.

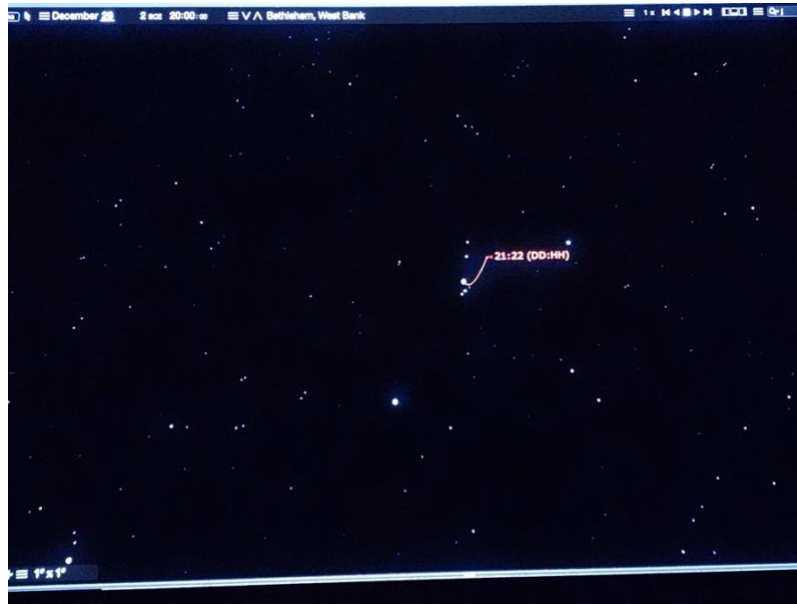
2. The Eight Days Of Jupiter

Let us now consider more fully something which I touched on briefly before: As seen by the unaided eye, when Jupiter prepares to enter retrograde motion, it doesn't just stop for one night alone; rather, for several nights beforehand and afterwards, Jupiter will appear to have been stopped, and the night of December 25th was simply the one night right in the middle of that time. The thing is, depending on how good one's eyesight might be, it might have appeared to go through only one day's motion over the course of eight nights.⁶⁰

⁵⁸ <https://www.monticello.org/research-education/thomas-jefferson-encyclopedia/sworn-upon-the-altar-of-god-quotation/>

⁵⁹ http://www.jewishvirtuallibrary.org/jsource/judaica/ejud_0002_0003_0_02450.html

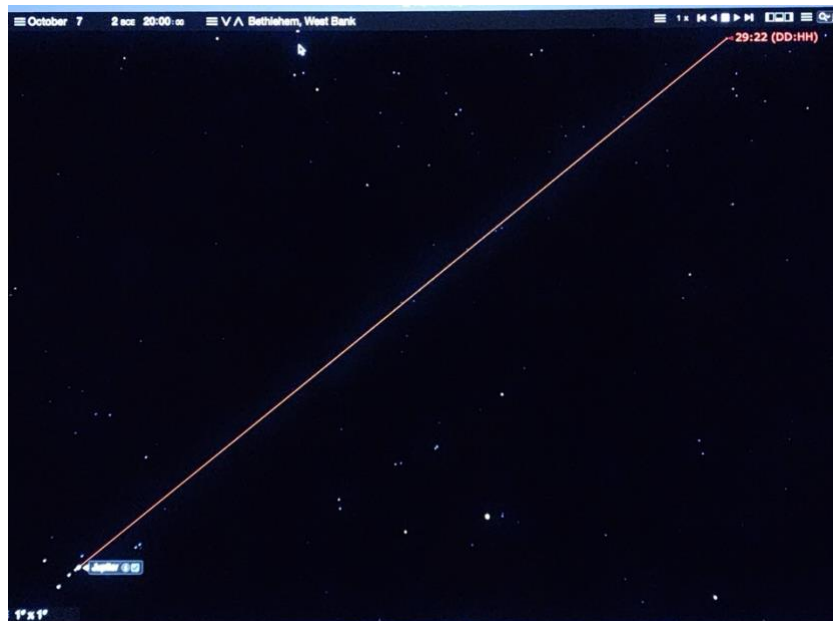
⁶⁰ Delta T 535 for all observations in December of 2 B.C. (by interpolating the Delta T between NASA'S lunar eclipse catalog numbers 04820 and 04821): <https://eclipse.gsfc.nasa.gov/LEcat5/LE-0099-0000.html>, as modified according to the method explained in the Appendix in the section entitled THE COMPUTER DISCREPENCY AND OUR LADY OF GUADALUPE; and likewise, Delta T 537 for observations in September/October of 2 B.C.



Magnified image showing Jupiter's motion (red line) over the course of eight days (December 21st to December 29th) of 2 B.C. as it first came to a stop and then entered retrograde motion. Images provided courtesy of Starry Night Education. Photograph by the author.



Jupiter's motion over the course of just one average day (November 29th to 30th in 2 B.C.), when its motion was only partially affected by its gradual approach to retrograde motion.
Images provided courtesy of Starry Night Education. Photograph by the author.



Jupiter's motion over the course of eight days (September 29th to October 7th in 2 B.C.) when its motion was not affected at all by entering or leaving retrograde motion.
Images provided courtesy of Starry Night Education. Photograph by the author.

Notice that in each of these three images, the scale is always the same (1 degree by 1 degree), as indicated by the computer notation in the lower left portion of the image. This shows how dramatically different the motion of Jupiter was during the eight days of Hanukkah that year as compared to its usual eight-day motion, and how its motion over the eight days of Hanukkah that year was similar to its normal, one-day motion.

So the eight days of Hanukkah celebrate the miracle which had happened when one day's worth of oil was spread out to give light over eight days; and years later, when the Magi came to visit Jesus, one day's worth of normal celestial motion of the light from Jupiter was spread out over eight nights. This Platonic, poetic symmetry between Earth and the heavens, I think, is worth noting today. And the overlap of one day's worth of motion for Jupiter being spread out over eight days with the commemoration of one day's worth of oil being spread out over eight days was also probably thought of as being significant by any of the Magi who were Jewish, without respect to whether they based this comparison on Plato.

With that in mind, it is also worth emphasizing that as the sun was transitioning from going in one direction (south) to the other direction (north), and as the moon was transitioning from one side of the sun to the other, and likewise, as Jupiter was transitioning from moving in one direction (normal forward motion) to the other (retrograde motion), so also the progression of the lighting of the candles of Hanukkah was in a time of transition: a time of going from one side of the menorah to the other, whether the night of December 25th was the fourth night, when the completion of lighting the candles on one side of the menorah would be accomplished, or (as will be discussed in detail shortly) the fifth night of Hanukkah, when the lighting of the candles on the other side would be just beginning.

3. They Have Seen A Great Light

Consider how the visit of the Magi during the midst of Hanukkah, the Festival of Lights, parallels what the Book of Isaiah said about the coming of Messiah Himself:

¹ Nevertheless, there will be no more gloom for those who were in distress. In the past he humbled the land of Zebulun and the land of Naphtali, but in the future he will honor Galilee of the nations, by the Way of the Sea, beyond the Jordan—

2 The people walking in darkness have seen a
great light;
on those living in the land of deep darkness a light has
dawned. (Isaiah 9:1-2; NIV)⁶¹

Significantly, a few verses later, the following passage from the Book of Isaiah shows that the reason for the coming of this great light is the birth of the Messiah:

6 For a child will be born to us, a son will be given to us; And the
government will rest on His shoulders;

And His name will be called Wonderful Counselor, Mighty God, Eternal
Father, Prince of Peace,

7 There will be no end to the increase of *His* government or of peace,
On the throne of David and over his kingdom,
To establish it and to uphold it with justice and
righteousness
From then on and forevermore.
The zeal of the LORD of hosts will accomplish this. (Isaiah 9:6-7; NASB)⁶²

Verse two from the passage above is quoted in the Gospel of Matthew when it discusses the very start of Jesus' earthly ministry, in which Jesus first visited the regions of Zebulun and Naphtali (in northern Israel, near the Sea of Galilee), the areas referred to by the Prophet Isaiah in the quote above from Isaiah 9:2, as follows:

13 Leaving Nazareth, he went and lived in Capernaum, which was by
the lake in the area of Zebulun and Naphtali—
14 to fulfill what was said through the prophet Isaiah:
15 “Land of Zebulun and land of Naphtali, the Way of
the Sea, beyond the Jordan, Galilee of the Gentiles—
16 the people living in darkness
have seen a great light;
on those living in the land of the shadow of death a light has
dawned.” (Matt. 4:13-16; NIV)⁶³

This is consistent with what Jesus said about Himself:

12 Then Jesus again spoke to them, saying, “I am the Light of the world; he who
follows Me will not walk in the darkness, but will have the Light of life.” (John 8:12;

⁶¹ <http://biblehub.com/niv/isaiah/9.htm>

⁶² <http://biblehub.com/nasb/isaiah/9.htm>

⁶³ <http://biblehub.com/niv/matthew/4.htm>

NASB)⁶⁴

So then, on the night of December 25, 2 B.C., here we have the Magi coming to worship the one Jew who would do more than any other Jew, either before or since, to illuminate the darkness, the One whom the candles of Hanukkah truly represent. This helps illustrate the point that no matter how impenetrable the darkness which surrounds us may be, God and His light can shine through to us anyway, as it did for the Magi in the midst of their darkest hour out in the wilderness, when they were cut off from the rest of humanity, in the midst of circumstances which seemed to cut off His light and all hope altogether. And we ourselves are likewise called to become thereby a vessel of His light unto the world, to pass His light on to others, so that they in turn may likewise become vessels of light, a process which can (and should) repeat itself throughout all time, just as the rabbis at the time of the first Hanukkah used the oil which they had at the beginning in order to produce yet more light- giving oil from then on, continually.

In addition, there are other verses of Scripture which deal more fully with the idea of Jesus being the Light of the World (and that His followers should be like Him in that respect), and I discuss those verses in the Appendix. (In the Appendix find JESUS AS THE LIGHT OF THE WORLD.)

a. The Night Of December 25th As The Start Of The 29th Of Kislev

The appropriateness of the fact that the Magi came to worship Jesus, who called Himself the Light of the world, would perhaps be even greater if in fact it was the case that sunset on December 25th that year actually marked the start of the 29th day of Kislev (the fifth night of Hanukkah) instead of the 28th of Kislev. For the fifth night of Hanukkah is referred to as “the darkest night”; this is so because even though there might be a thin, crescent moon in the morning sky on some years at end of the fourth night of Hanukkah (although specifically, such was not the case in 2 B.C.), it is the case that there is no moon in any year on the fifth night of Hanukkah (the 29th of Kislev), and also because it is the one day of Hanukkah which---according to the rules of the sages, at least⁶⁵---can never fall on Shabbat (the Sabbath).⁶⁶ As one rebbe (a high-ranking rabbi)⁶⁷ put it:

“It happens that the fifth day of Chanukah can never occur on a Shabbat.

⁶⁴ <http://biblehub.com/nasb/john/8.htm>

⁶⁵ The fact that the fifth night of Hanukkah can never fall on Shabbat apparently pertains (if I understand things correctly) to the method of sanctifying months on the Hebrew calendar which was developed about 350 years after the birth of Jesus by Rabbi Hillel II (as is discussed elsewhere in this book):

https://books.google.com/books?id=ajZJDgAAQBAJ&pg=PT42&lpg=PT42&dq=hanukkah+d%20arkest+night++shabbat+OR+sabbath+OR+saturday+%22fifth+night%22&source=bl&ots=n%20%20-%20%20F_Vz46jA&sig=zIXH3DEboU5MelADJKILbbwAqwQ&hl=en&sa=X&ved=0ahUKEwjV2oTO%2024rYAhUE_IMK

(Allow me also to note here that I have found no such similar rule for the fifth night of Hanukkah pertaining to the eyewitness testimony method of sanctifying Hebrew months.)

⁶⁶ http://www.treppenwitz.com/2006/12/the_darkest_nig.html

⁶⁷ http://www.chabad.org/therebbe/article_cdo/aid/1561748/jewish/What-is-the-Difference-Between-a-Rabbi-and-a-Rebbe.htm

This represents great darkness [such that even the great holiness of Shabbat cannot penetrate]. The fifth candle symbolizes that the light of Chanukah can illuminate even such intense darkness. This is the duty of every Jew, wherever he may find himself, be it in Warsaw, in Moscow or in London, to illuminate even the greatest darkness.”⁶⁸

Now, if I may say so myself, I think that that is an outstanding thought.

Moving on, in order to see a discussion of why I have concluded that the night of December 25th that year was the start of the 28th of Kislev (the fourth night of Hanukkah) instead of the 29th of Kislev, and why I also concede that I might be wrong on that point, in the Appendix find ASCERTAINING THE START OF KISLEV IN 3760 (2 B.C.) BY THE SIGHTING OF THE NEW MOON. That being said, allow me to note also that whether this was the fourth night of Hanukkah, when the candles would finish being lit on only one side of the menorah, or the fifth night of Hanukkah, when the lighting of candles would be just beginning on the other side of the menorah, it was the case either way, as I mentioned above, that this was a time of transition for the lighting of the candles, just as it was a time of transition for the sun, the moon, and Jupiter.

4. The True “God Manifest”

At this point, let us pause for a moment to consider the name of the tyrant whose overthrow by the Jewish people brought about the first Hanukkah. His name, as mentioned before, was Antiochus IV Epiphanes, which means, in essence, “God manifest”.^{69, 70} By contrast, consider what Jesus would come to say about Himself years later, during His earthly ministry:

He who has seen Me has seen the Father; (John 14:9b; NASB)⁷¹

How appropriate it was then, as we can now see today, for the Magi to journey to Bethlehem to worship the Messiah during Hanukkah. For here in Bethlehem was the one true “God Manifest”, the Light of the World in the midst of the Festival of Lights, as opposed to Antiochus IV Epiphanes, the phony “God manifest”, from whom Bene Israel had fled in the face of his dark and merciless persecution.

Furthermore, if indeed one or more of the Magi were a member of Bene Israel, then bear in mind, as I said above, that those persons are descended from the Tribe of Levi. In the Bible, the Levites were the priests who ministered unto God and who represented the people before God, (Deut. 18:1- 5);⁷² and this is in fact precisely what the Magi were doing by bringing gifts to Jesus and worshipping Him, and proclaiming Him to be the King of the Jewish people themselves. In fact, one of their gifts, frankincense, pertains to a priestly function. For the burning of incense was used by

⁶⁸ <http://ascentofsafed.com/cgi-bin/ascent.cgi?Name=113-13>

⁶⁹ https://www.newworldencyclopedia.org/entry/Antiochus_IV_Epiphanes

⁷⁰ <https://sabbathsentinel.org/2021/12/07/antiochus-iv-foreshadowing-the-man-of-lawlessness/>

⁷¹ <http://biblehub.com/nasb/john/14.htm>

⁷² <http://biblehub.com/kjv/deuteronomy/18.htm>

the priests as a symbol of the prayers of the people ascending to God.⁷³

⁷³ <https://www.1timothy4-13.com/files/teach/goldfrankincense.html>

5. Is It Even Possible For A Belief In Jesus To Be A Jewish Belief?

At this point, one might ask whether a belief in Jesus as the Messiah is even capable of being a true Jewish belief on the one hand, or a belief instead in a supposedly different religion altogether on the other hand. To consider that question in detail, I have placed a discussion of that topic in the Appendix. (In the Appendix find: HOW JEWISH IS JESUS?)

C. The Symmetrical Motion Of The Magi And The Star

It is also worth noting the symmetrical motion of the Magi and the Star. That is, when an outer planet (such as Jupiter) prepares to enter retrograde motion, it first appears to slow down gradually, night by night, as it proceeds in normal forward motion (prograde motion) from west to east against the background of stars. Then, after the planet has come to a complete stop in its apparent motion, and enters retrograde motion, it appears to head back west (against the background of stars) to where it came from.

By contrast, from one perspective, the Magi, in coming to see Jesus, travelled in opposite fashion: from the east, (where they lived) quite slowly to Jerusalem and then to Bethlehem, where they stopped, and then they headed back east to where they had come from when their visit to Jesus was over. So both the Star of Bethlehem and the Magi came to rest at the place where Jesus was: Bethlehem. And they then headed back to where each had come from, in opposite directions.

And yet, from another perspective, they could be thought of as traveling in the same direction instead of opposite directions each time. That is, as seen from above, looking down on Earth, the Magi travelled from right to left, then came to a stop in Bethlehem, and then travelled from left to right (analogous to retrograde motion) to get back home. While they were doing this, the Star could be seen to travel across the background of stars from right to left, then come to a stop when the Magi themselves came to a stop, and then travel from left to right to go back to where it came from (retrograde motion) after it had stopped.

Larson doesn't mention this point specifically, but it is, I believe, an earthly/starry dance, one which does at least rhyme with the Platonic theme, even if this does not reflect Plato's Theory of Forms in the usual sense. For on the one hand, the motion on Earth is indeed a reflection of that which is true in the heavens; yet, on the other hand, the Magi are hardly comparable to Jesus Himself, whom the Star represents.

D. The Potential Complications Of Traveling On Preparation Day (Friday)

Complicating all of this (or at least, potentially complicating this) might have been the fact that a Sabbath began at sunset on Friday, December 26th of that year.⁷⁴ So if they were to wait until the morning of December 26th to make their journey to Bethlehem, they would have to consider the fact that any delay in getting to Bethlehem by sundown on that same day would have delayed them even further, since travelling more than "a Sabbath's Day journey" was prohibited on the Sabbath

⁷⁴ <http://www.cgsf.org/dbeattie/calendar/?roman=2bc>

itself.⁷⁵ Therefore, they would also have to consider the fact that travelling on Preparation Day (Friday)⁷⁶ might have made it more difficult for them to make the usual and customary preparations for the Sabbath, which would begin at sunset. And if they did not actually make it to Bethlehem by sunset for any reason, they would find themselves stuck out in the desert at night anyway, amidst the bandits and cutthroats, and with no preparations having been made as yet for the Sabbath.

All in all then, I do agree with Larson that December 25th of 2 B.C. is probably the very night when the Magi made their trip from Jerusalem to Bethlehem, though for at least somewhat different reasons from those which he has. Consequently, I believe that all of these various, seemingly unrelated things (both celestial and religious), when taken together, form the very basis of why the Magi wanted to visit the newborn King of the Jews on December 25th specifically, and why they went at night from Jerusalem to Bethlehem in the first place; for at sunrise on the 26th, the multi-object transitional phase would have ended (for the sun, on the morning of the 26th, would be seen to have already moved north from its position a few days earlier, at the solstice).

As for Jupiter, after this night, it would no longer be right in the middle of its transition, and would have already started into retrograde motion the next time it could be seen (*i.e.*, the night of December 26th). So even though the Magi would not have been able to detect that one night's motion, they would have known from their knowledge of astronomy that the mid-point of Jupiter's transition would have already come and gone by the following night (*i.e.*, the 26th).

⁷⁵ <https://answers.yahoo.com/question/index?qid=20071027145024AAlJNn8>

⁷⁶ <https://www.myjewishlearning.com/article/preparing-for-shabbat/>

In any event, at a minimum, even if the Magi did not personally have Hanukkah or the potential difficulties of travelling on Preparation Day in mind, the astronomical aspects of this night alone were, I believe, sufficient by themselves to form the basis for the Magi's decision to go on this night rather than take the safer approach of waiting until morning, so as to ensure that they would come to worship the newborn King at the proper time: this one night of nights, when all of heaven itself seemed to hold its breath and come to a complete standstill in honor of Him. And as to Hanukkah, even if it was not specifically part of what the Magi were thinking, it is at least a sign to we ourselves today about the significance of their journey, and it attests to the truth of the Scriptures which describe Jesus as being the Light of the World.

E. The Extra Expense And Time Involved

Another reason why the Magi might have decided against delaying their journey is that once the word got out in Jerusalem that they had gold, frankincense, and myrrh (something which they probably would have kept secret along the way), they probably would have to have recruited a larger army than they had brought with them. For once that night was over, one could expect word to travel quickly all throughout the land that a group of Magi with fabulous treasures would be heading from Jerusalem to Bethlehem. By contrast, before daybreak the next day, one could reasonably expect that people would not venture out of Jerusalem into the darkness and spread the word, so that if the Magi were to slip away from Jerusalem to go down to Bethlehem on that night, they could do so in relative secrecy. Furthermore, they would not have to fear facing the Roman governor about this idea of proclaiming someone to be king without Caesar's blessing.

We should bear in mind as well that a larger army would have cost a considerable sum, and they might not have brought along enough money for that without dipping into the treasures which they had brought for the newborn king, something which they may have considered unthinkable. Taking the time to recruit the army also probably would have delayed them past the upcoming Sabbath for the start of their trip down to Bethlehem.

Now, God only knows how long it would have taken if they had had to await the passage of a large trade caravan from Jerusalem down through Bethlehem, something which may have been uncommon, since Bethlehem by itself would not have attracted a large caravan, neither was the town on any direct path to or from any significant population center. So if they wanted to

get things done quickly, they would be on their own in terms of providing for the protection of themselves and of the treasures which they had brought for the newborn king. Going that very same night instead of waiting for daybreak, however, would have avoided the need for a larger army.

F. A Review Of Why The Magi Would Have Gone At Night

Now, we have looked before at the puzzling question of why the Magi went at night (Introduction VII. A.); for the sake of refreshing our memories, however, let us review all that here and now. First of all, the highways at night were notorious for having gangs of thieves about, and these Magi had gifts of extraordinary value (not to even mention their own lives) to protect. Wouldn't it have made much more sense, then, for them to have waited until morning to go, when it would have been much safer?

Furthermore, Bethlehem in 2 B.C. was just a tiny hamlet, with probably only a few dozen families. So even if there had been more than one boy born in Bethlehem around the time that the Magi believed that the newborn king had been born, it should not have taken too much effort to figure out which one was most likely the one descended from King David and who best fit the prophecies. So why would they need the Star to guide them? Besides, there is nothing in Scripture which would indicate that the Magi even had the idea in mind of the Star being over the house of the newborn king until they actually did arrive in Bethlehem and saw it there.

In addition, there is no direct road from Jerusalem to Bethlehem, either now or even back then, apparently. So they would have to have placed extraordinary faith in the guidance of the Star to have risked going at night, for they could have easily made a wrong turn and become lost, wandering out in the desert at night in the midst of unfamiliar territory teeming with armed robbers, and with no one around to help them.

In essence, then, I believe that the Magi went at night---and took the extraordinary step of risking their lives and fortunes on the idea that the Star would somehow guide them through an unfamiliar, dangerous wilderness---for two main reasons. First of all, I believe that they were in a panic, or at least, nearly so. For they had only a few hours left (*i.e.*, until the glare of morning twilight would cause Jupiter to fade from the sky) to get to the place where the newborn King of the Jews was if they were to accomplish the goal of coming to worship Him at the proper time (or at least, approximately so). For as we have seen, at sunrise on December 26th, the sun would finally be visibly moved north from where it had been in the midst of its transition (on December 23rd, at the northern hemisphere's winter solstice). And so the time of transition of all three of the main celestial objects together (the sun, the moon, and Jupiter) would have come to an end at sunrise on December 26th. And to all of that we must also add the above discussion of possible concerns pertaining to the observance of the Sabbath.

As was likewise noted before, in response to that, some might say that they had to go at night so they could supposedly keep following the Star which they had followed to Jerusalem. But remember, the Bible does not say anything about them following the Star to Jerusalem. It does say, in Matthew 2:1-10, that when they got to Jerusalem, they said that they had seen His star, and it

does say that the Star went before them from Jerusalem to Bethlehem.⁷⁷ But there is no indication in the Bible that they had first followed His Star to Jerusalem.

Nor, for that matter, would there have been any need to do so. For everyone knew where Jerusalem was. Trade caravans came and went from this capital of ancient Israel all the time, as can be seen on a map.⁷⁸ And certainly, they fully expected that when they would come to Jerusalem, everyone (presumably) would know just exactly where to find this newborn king within that city itself (*i.e.*, at the palace, no doubt). And in any event, they would not have wanted to be faced with the choice of either waiting for a large caravan to go from Jerusalem through Bethlehem or else paying a large sum of money in order to recruit a large army.

But now, having come to Jerusalem, and finding that they have to continue on their journey just a little ways farther, they take the extraordinary step, and they take the extraordinary risk, of making the journey at night outside of the city walls instead of waiting for daylight. But why would that be?

I found myself coming to the conclusion that this was so not only because they were in a near panic to get to Bethlehem that very night itself (for the reasons stated above), but also, as the second main reason, because I believe they had concluded with confidence that they could indeed use the Star as a guide to go across the wilderness of the desert hills of Judea at night, a task which no ordinary person would ever attempt, especially in unfamiliar territory filled with bandits. But then, these were no ordinary persons, for they had extraordinary skills.

You see, the Magi, as men of learning, would have been familiar with not just astronomy; they would have also been highly familiar with mathematics. And therein, I believe, lies the key to understanding how they could possibly have used the Star as a guide to go from Jerusalem to Bethlehem.

Allow me to explain.

G. How The Magi Used The Star As A Guide To Get To Bethlehem

For many years I had been puzzled---like countless others before me, for 2,000 years---by the question of how anyone could possibly have followed the Star from Jerusalem to Bethlehem. For stars, for the most part, rise in the east and set in the west; but Bethlehem is to the south-southwest of the Old City portion of Jerusalem, where the Magi visited King Herod.

I would envision myself in Jerusalem looking south toward Bethlehem, with the Star shining directly over Bethlehem. But just from any ordinary, layperson's knowledge of astronomy, I knew that if one were to ride to Bethlehem at that point, then even if there was a straight road from Jerusalem to Bethlehem (and apparently, there has never been), it would be the case that by the time one would reach Bethlehem, the Star would have moved to the west simply by the rotation of

⁷⁷ <http://biblehub.com/kjv/matthew/2.htm>

⁷⁸ <http://www.lloydthomas.org/1-IsraelTimeLine/ancientTrade.htm>

the earth; so using that technique, one could not possibly be following the Star while riding south to Bethlehem.

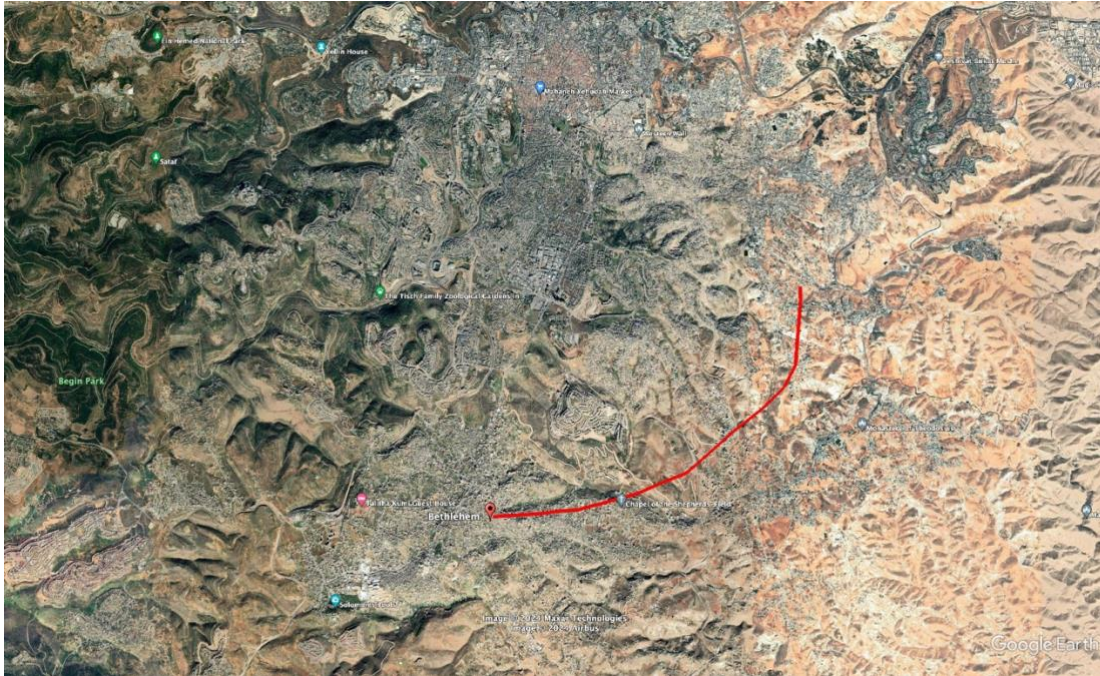
On the other hand, the only way I could imagine that the Star would be shining over Bethlehem when one would arrive in Bethlehem would be to leave Jerusalem earlier in the night, before the Star had moved into position over Bethlehem. But if that were the case, one could not possibly follow the Star and head south at the same time, since the Star, at the beginning of the journey, would not yet be positioned in the south over Bethlehem. So I wondered then as to how the Magi could possibly have accomplished this task which the Bible says they did.

1. The Application Of Astronomy And Mathematics To Geography

I decided to approach this puzzle by trying to construct some scenario of any kind whatsoever at all in which it would be possible for one to follow the Star to Bethlehem as it moved through the sky. So I decided to throw out the rulebook and think outside the box, so to speak, without even necessarily using Jerusalem as the starting point.

I pictured myself out in the middle of absolutely nowhere (from a point anywhere at all, on land or at sea, in the northern hemisphere) while looking straight south, with the Star directly in front of me. I then pictured myself moving forward toward the Star and then continually turning gradually to the right (*i.e.*, starting out by first heading south, then heading toward the southwest, and then toward the west) in order to follow the Star as it moved across the sky at night. I then realized that if this brought me to Bethlehem at the end of this sequence, then by tracing my steps backwards, this would lead me to my starting point, which would be to the northeast of Bethlehem and to the southeast of Jerusalem. And that location, as it turns out, really is right out in the middle nowhere even to this day, as no doubt would have also been the case 2,000 years ago.

Then I thought to myself, “But why in the world would anyone be out in the middle of nowhere like that as a starting point?” That didn’t seem to make any sense, and I even found the idea of anyone starting out in the middle of nowhere like that to be somewhat amusing. But then I decided to envision what this would look like on a map, and when I did, I noticed that this route would show up as a curve on a map:



The lower-right one-fourth of a theoretical circular path from Jerusalem to Bethlehem.

Image from Google Earth Pro: <https://google-earth-pro.en.softonic.com/mac>

And at that point, in a flash, it suddenly dawned on me as to how the Magi could have followed the Star from Jerusalem to Bethlehem.

You see, as I considered the curve which I envisioned in my mind, it suddenly struck to me that that curve is simply one-fourth of a complete circle, and I then envisioned a complete circle on the map with that curve itself being the lower-right one-fourth of it, with Bethlehem at the bottom of the circle, with Jerusalem at the top, and with the starting point which I had envisioned being at the right side of the circle (*i.e.*, at the “three o’clock position”), halfway along the slope of the curve from Jerusalem to Bethlehem. And that is the moment when it also suddenly struck me that these men, as Magi, would have been highly trained not just in astronomy, but also in mathematics. For in that moment, I then realized that this circle would in fact establish a mathematical connection between Jerusalem and the point out in the desert to the northeast of Bethlehem which I had just envisioned, and likewise from there onward to Bethlehem to complete the journey.

What makes all of this significant is this: From mathematics the Magi would have known that the circumference of a complete circle is $2\pi R$ (where “R” is the radius---*i.e.*, half the diameter---of a circle).⁷⁹ This means that half of the circumference (*i.e.*, the distance of a semicircle) is πR ; and this would be the approximate distance from Jerusalem to Bethlehem if one were to follow a semicircular route.

From this the Magi could have known that if they headed east from Jerusalem in a

⁷⁹ For a discussion of the history of the discovery of the mathematical tools which would be needed to calculate the circumference of a circle, see: <https://sciencing.com/origins-perimeter-circumference-7815683.html>

semicircular path that turned to the right at the proper rate, they would complete a semicircle that would bring them to Bethlehem while following the Star as it moved from where it began in the east, and then to the southeast, to the south, to the southwest, and then finally to the west. Of course, turning to the right over the course of too short of a distance (by traveling too slowly) would have them trace out the path of a smaller semicircle, one which would bring them to a point just barely south of Jerusalem, and far to the north of Bethlehem. Or likewise, turning to the right over a longer distance (by traveling too quickly) would have them complete a larger semicircle, one which would bring them to a point not only to the south of Jerusalem, but also to the south of Bethlehem as well.

I realized that all in all, though, with their skills at mathematics, the Magi could have figured out how to make the journey. They could have calculated not only the approximate length of the semicircle they would have to follow in order to arrive in Bethlehem, and the distance they would have to go in any given direction in order to follow that semicircle, but also the proper speed at which to travel in order to follow the Star to Bethlehem while doing so. And so from their knowledge of astronomy and mathematics, and how the Star would guide them over that path, they could then do just exactly that.

In essence then, I believe that our problem all along in trying to figure out how the Magi accomplished the task of following the Star from Jerusalem to Bethlehem lay in the fact that for 2,000 years, we have considered this puzzle strictly from a standpoint of only one scientific discipline: astronomy. But the Magi most likely would have been equally astronomers and mathematicians. I believe that they rose to the challenge which was before them, and that they successfully met that challenge, by drawing equally from both disciplines simultaneously instead of from just one.

In fact, on another note, I cannot help but wonder if one or more of them had already at least practiced this technique previously for reasons not even related to the Star of Bethlehem, perhaps as a survival technique to be learned and then possibly used in case one of them should happen to get lost out in the desert some night. After all, it is well-known that persons who are lost have a tendency to circle back around, after a long walk, to the very place where they started from if they have no fixed point of reference, such as a mountain (or the sun, the moon, or a star) to give them guidance.⁸⁰

So within the culture of one or more of the Magi, this may have been a technique with which they were already familiar. In fact, we might even wonder if perhaps this was some technique which one or more of them might have even used routinely (or at least, nearly so) to journey from one city to another through the barren desert at night. If not, it is all the more amazing that they may have developed this technique on the spot on this very night itself, when they had the greatest need to employ it.

⁸⁰ https://scienceblogs.com/notrocketscience/2009/08/20/do-lost-people-really-go-round-in-circles#google_vignette

a. The Estimated Distances Involved

They could have found out from the people of Jerusalem approximately how far it was from Jerusalem to Bethlehem: about six miles (by our modern reckoning) along the shortest path, but less than that (about 5.3 miles specifically, one could reasonably estimate) in a straight line. And since they could have estimated that the distance from Jerusalem to Bethlehem in a straight line would be roughly 5.0 to 5.5 miles, they could have known that the radius of a circle with Jerusalem on the north end and Bethlehem on the south end would be one-half of 5.0 to 5.5 miles; in other words, approximately 2.5 to 2.75 miles.

These figures, when multiplied times π (approximately 3.1415926), would mean that the distance from Jerusalem to Bethlehem in a semicircle would be about 7.9 to 8.6 miles; and since Bethlehem would lie just past the mid-point of a circular route from Jerusalem to Bethlehem if one started out by traveling east from Jerusalem, they could reliably know that the distance of such a journey, under ideal circumstances, would be anywhere between 9 and 10 miles. Of course, they also would have taken into account the fact that there was no perfectly semicircular road from Jerusalem to Bethlehem, either, so I think it likely that they would have figured that the actual path itself, travelling along actually-established roads, would have probably been about 10 to 15 miles.

That being the case, the Magi would have known that if the distance from Jerusalem to Bethlehem would be 10 to 15 miles total when traveling in a roughly semicircular direction, they could have determined that if they were to travel east for about two miles or so, and then southeast for about two miles, then south for two miles or so, then southwest for about two miles, and then west, they should be able to find their way to Bethlehem that way.

The only problem, then, would lie in trying to determine in unfamiliar territory how far they had gone in each of these directions, so that they could confirm what the Star itself seemed to indicate when they came across various intersections. Now, as experienced travelers, they probably would have had a pretty good idea of how fast they could ride or walk along the road, including stops to rest. So that would help them right there. The only thing they would need to do, then, would be to measure time, so that that way they could know how far they had gone in any given direction, and so they could thereby know when to change course. But how do you tell time out in the desert at night, with no modern-day clocks, or anything?

b. The Heavens As A Clock

The answer lies in their knowledge of astronomy. As Larson has pointed out, and as is well-known throughout the astronomical community, the heavens move with the precision of a clock. In fact, the movements of the heavens are so precise that when NASA sent astronauts to the moon in the '60s and '70s, the Apollo astronauts were equipped with instruments which would enable them to double-check the accuracy of NASA's computers by sighting on certain stars---Sirius (the brightest star in the sky as seen from earth), as well as Canopus, the second-brightest of such stars, and Procyon, another bright star---in much the same way that the mariners of old would use a

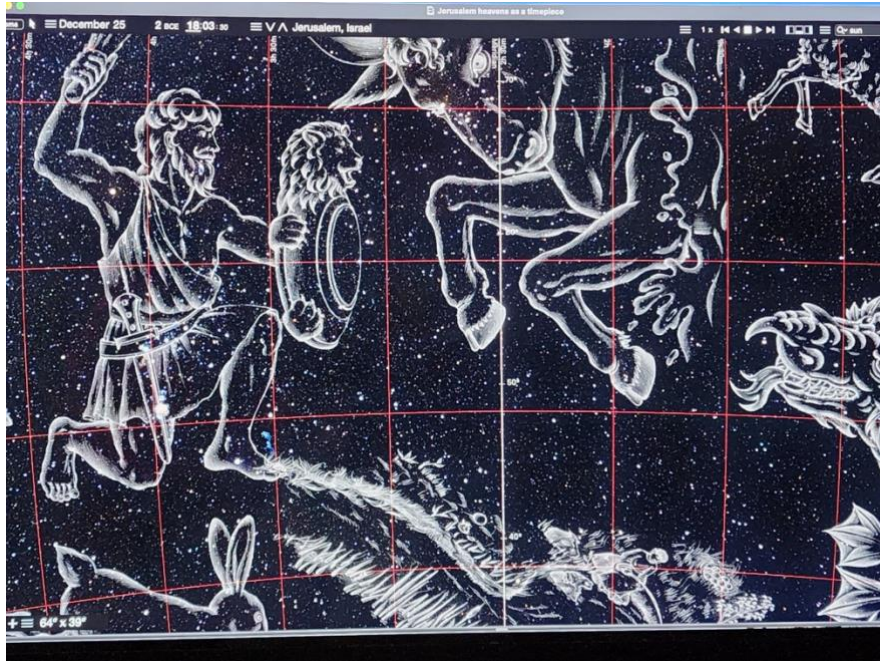
sextant while aboard sailing ships to sight on the sun and stars to determine their position.^{81, 82}

Now, all of their lives, the Magi would have observed the movements of the heavens over the course of each night. They would have been trained to know since childhood that because each object in the sky moves 360 degrees in 24 hours, each object must therefore move 15 degrees in one hour (360 degrees divided by 24 hours = 15 degrees/hour). And quite probably, they would have been highly experienced in determining just exactly when each object would have moved 15 degrees, or any significant fraction thereof, such as 5 degrees, for they would have known the heavens so well.

That being said, here we have a series of images which shows how the sky along the meridian would be giving the Magi an accurate measure of how much time had elapsed for any given segment of their journey:

⁸¹ <http://onebigmonkey.com/apollo/stars/staquotes.html>

⁸² <http://www.newsweek.com/rewind-christmas-eve-1968-apollo-8-orbited-moon-535844>



The transit of Taurus, Orion, and Monoceros (the unicorn) across the meridian (vertical white line, in the center) in a series of images shown at one-hour intervals as seen from Jerusalem (looking south) the night of December 25, 2 B.C. The vertical red lines are the so-called lines of Right Ascension, and they are spaced at thirty-minute intervals, which places them 7.5 degrees apart (on the celestial sphere).

Images provided courtesy of Starry Night Education. Photograph by the author.



The view to the south one hour later.

Images provided courtesy of Starry Night Education. Photograph by the author.



The view to the south one hour after that (two hours after the first photo).
Images provided courtesy of Starry Night Education. Photograph by the author.



The view to the south one additional hour later.
Images provided courtesy of Starry Night Education. Photograph by the author.

Since the Magi could know from the appearance of the heavens how much time had elapsed, they could know whether it would be time for them to turn yet, and they could thereby find confirmation of the fact that the path which the Star seemed to suggest they should take would indeed be the right path.

For those who are not familiar with how the apparent motion of objects in the heavens would have fit in here, I shall refer you again to a discussion in the Appendix of this foundational aspect of our inquiry, including photos which show what I mean by this. (In the Appendix, again find HOW OBJECTS APPEAR TO MOVE ACROSS THE SKY.)

c. The Roads Which May Have Been Available

Moving on, we face the question of whether the roads at that time even could have accommodated an attempt to go from the Old City portion of Jerusalem down to Bethlehem along a roughly semicircular route. First of all, in attempting to answer to that, we would find it difficult, if not impossible, to know the exact details about what roads were or were not in existence at the time. But at least some things generally can be known about what roads may have been present, for we do know at least some of the towns which were in existence back then. And they certainly would have had roads connecting them to various other towns.

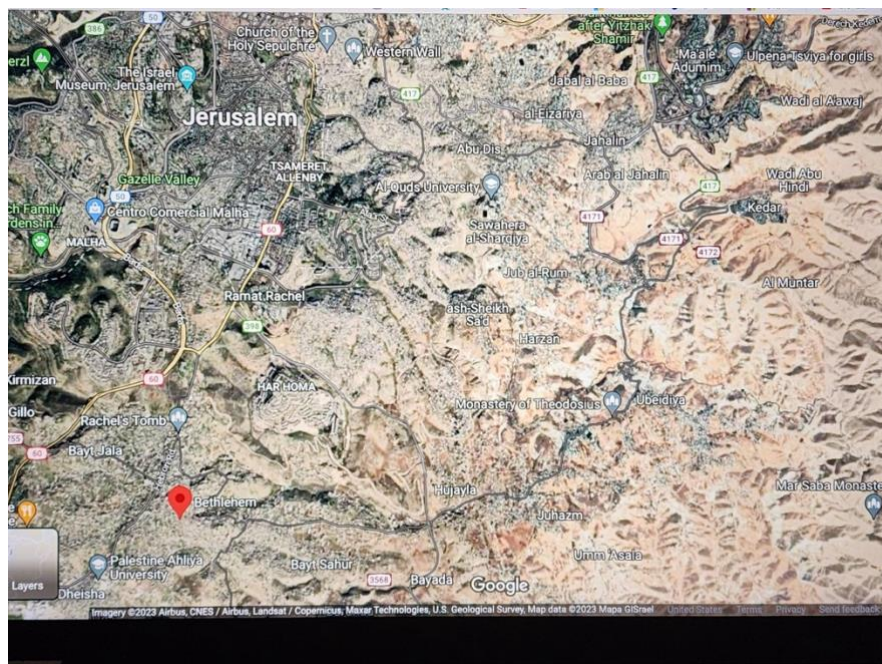
For instance, we know that Jerusalem was in existence back then, as well as Bethlehem. We also know that Jericho was in existence back then. In addition, certain other, smaller towns existed in the area during the rule of the Roman Empire, towns such as Abu Dis, to the east-southeast of Jerusalem, for example; ceramics from the period of the Roman Empire have been found there, as well as other, apparently undated artifacts from ancient times.⁸³ It probably would not be unreasonable to believe as well that at least some other settlements could have existed in that same area during the time of the birth of Jesus.

Likewise, further to the south, there is the present-day town of al- Ubeidiya (also known simply as Obeidiya), which lay to the northeast of Bethlehem. There may not have been an actual town there in ancient Roman times, but during that era there was a pool that was used to collect water.^{84, 85} (Note: both Abu Dis and al-Ubeidiya are still in existence today.) All in all then, there probably would have been at least some roads which the Magi could have used to travel in a roughly semicircular route from Jerusalem to Bethlehem. See the following image:

⁸³ https://en.wikipedia.org/wiki/Abu_Dis#cite_note-3

⁸⁴ http://vprofile.arij.org/bethlehem/pdfs/VP/Al%20'Ubeidiya_tp_en.pdf

⁸⁵ <https://en.wikipedia.org/wiki/Al-Ubeidiya>



Jerusalem, Bethlehem, and the area east of them.

Jerusalem is shown in the upper left. The East Gate (the Golden Gate) may be the gate through which the Magi left Jerusalem. It lies atop the letter "W" in the word "Western" in the phrase "Western Wall", which is indicated by a grey marker near the top, just left of center (above and to the right of the word "Jerusalem").

The village of Abu Dis is shown slightly below the top, at the center (just above the gray marker for Al-Quds University), while the village of Ubeidiya (Obeidiya) is shown below and to the right of center (just to the right of the gray marker for the Monastery of Theodosius).

Bethlehem is indicated by the red marker in the lower left.

Image is from Google Maps:

https://www.google.com/maps/place/Bethlehem/@31.7053816,35.2024425,2261m/data=!3m2!1e3!4b1!4m6!3m5!1s0x1502d865aec80d67:0xf5c4213de4baf1f8!8m2!3d31.7053821!4d35.2024425!16zL20vMDFjeV8?entry=ttu&g_ep=EgoyMDI1MDgxOS4wIKXMDSoASAFQAw%3D%3D

Photograph by the author.

So let's see if this idea would have worked.

2. The Night Of December 25, 2 B.C.

a. The Timeframe Which The Magi Had To Work With

Let us say it is the night of December 25, 2 B.C. If Jupiter was the Star of Bethlehem, and if the Magi followed it to Bethlehem, they certainly could not have done so while Jupiter was below the horizon, and they could not have done so during daylight because Jupiter is not visible during the day, except sometimes briefly under rare circumstances, circumstances which were not quite present that day (though they were in fact nearly so). The next question we face then, is this: When was Jupiter above the horizon on the night of December 25, 2 B.C., as seen from Jerusalem and Bethlehem? The answer is that Jupiter would have risen at 19:58 UTC; *i.e.*, 9:58 P.M. Standard Time in Jerusalem.⁸⁶ (The rising of Jupiter that night as seen from Jerusalem and its rising as seen from

⁸⁶ For some reason, Starry Night Pro 6 indicates that 19:58 UTC would be 10:58 P.M. local time in

Bethlehem, by the way, would have been within five seconds of each other.)

We then face the question of how long the Magi would have had until Jupiter either set or disappeared in the glare of morning twilight. In December of 2 B.C., Jupiter would have set during daylight. So specifically, we must ask ourselves how long the Magi would have had until the glare of morning twilight would have caused Jupiter to disappear from the sky.

The answer to that depends principally on two things: 1.) how bright Jupiter was; and, 2.) how near to the eastern horizon (and the bright glare of impending sunrise) Jupiter would have been. In response to that, allow me to note that Jupiter is quite bright; only the sun, moon, Venus, and sometimes Mars are brighter. According to Starry Night, on the night of December 25, 2 B.C., Jupiter would have been nearly at its brightest, at magnitude -2.18 (“minus two point one eight”). So only Venus, which rose in the early morning sky, would have been brighter that night, since the moon was not visible that night at all, and because Mars, which rose late that night, was dimmer than Jupiter on that night. As to how close to sunrise Jupiter can be seen, let me note that I myself have seen Jupiter just eight minutes before sunrise.⁸⁷

Now, on the morning of December 26, 2 B.C., the sun, as seen from Bethlehem, would have appeared to be astride the theoretical horizon at 6:46 A.M. Taking all that into consideration, I would say that due to the slightly brighter appearance of Jupiter in December of 2 B.C., the increased transparency of the desert night air as compared to the position from which I saw it, and the slightly darker portion of the sky in which Jupiter was for the Magi on that morning than when I had observed it, they quite probably would have been able to see Jupiter up until at least 6:38 A.M. on the morning of December 26, 2 B.C., and quite possibly for a few minutes beyond that.

That being said, let us see if it would have been possible for the Magi to have made it to Bethlehem by 6:30 A.M. that morning. Now, I know some of you may be wondering why I am focusing on 6:30 itself, instead of perhaps fifteen minutes earlier, or half an hour earlier. In anticipation of such questions I shall simply say now that I shall focus on 6:30 for reasons which I shall develop in depth later on.

Jerusalem, although the current version, Starry Night Pro Plus 8, correctly indicates that this would instead be 9:58 P.M. (with Daylight Savings Time turned off).

⁸⁷ This was at 6:47 A.M. Central Standard Time on November 19, 2015, as viewed from the outskirts of Rockford, Illinois. On that occasion, Jupiter was dimmer than it had been on the night when the Magi visited Jesus, at magnitude of -1.90. Also, it had an altitude of about 52 degrees above the horizon, and an azimuth of about 164, to the south-southeast. (The sun, I should note, was about 1.5 degrees below the horizon at that time, with an azimuth of about 115.) By comparison, on the night that the Magi went to visit Jesus, as morning twilight progressed to the point that Jupiter would have disappeared from the sky (about eight minutes before sunrise), Jupiter was well-removed from the eastern horizon, being about 52 degrees above the horizon to the west-southwest, at an azimuth of 242 (*i.e.*, 28 degrees south of straight west), where the sky would have stayed just slightly darker during morning twilight than the sky along the eastern horizon.

(Note: as a practical matter, one can generally see Jupiter closer to sunrise than one can see it following sunset because in the morning, one can locate Jupiter while the sky is still completely dark and then follow it along until it disappears, whereas in the evening, one usually will not know precisely where to look for Jupiter until the planet starts to become somewhat obvious in the darkening sky.)

Suffice it to say for the moment that I am highly convinced that the Magi arrived in Bethlehem at approximately 6:30 A.M. that morning, give or take a few minutes. In any case, Bethlehem would have been a tiny hamlet at the time, and if they were to arrive by 6:30, they no doubt would have been able to make their way to any house in the village before Jupiter faded from view about eight minutes or so later.

b. Their Possible Rate Of Travel

To see if they could have arrived by 6:30 A.M., we shall first estimate the speed at which they would have to have traveled in order to arrive in Bethlehem by that time. Normal walking speed under ordinary circumstances is about three miles per hour. This is, in fact, the basis for the old measure of distance known as the league,⁸⁸ as in the Jules Verne science fiction novel *20,000 Leagues Under the Sea*⁸⁹ and the opening words of the famous poem *The Charge of the Light Brigade*: “Half a league, half a league, half a league, onward ...”^{90,91}

That is to say, the league was originally defined loosely as the distance which a man or a horse could travel at normal walking speed in an hour, and this was later accepted as three miles specifically. Now, since the Magi most likely would have had servants and a small army accompanying them, they could have been expected to travel no faster on their camels (or perhaps horses) than their servants and soldiers could have traveled on foot. But there are several other things to consider in this respect as well.

First, although normal walking speed is about three miles per hour, we must consider the fact that they were traveling at night. That right there would no doubt have had at least some tendency to slow them down. Furthermore, as we have already seen, they would have had no moonlight to assist them. In fact, as a side note, let me state here that the very reason I noticed that the moon would be entering its monthly transition from a waning crescent moon to new moon is that I wanted to see how much moonlight the Magi might have had that night; and of course, I found out through *Starry Night* that they had no moonlight at all.

We must also consider the fact that the Magi were travelling through unfamiliar territory. I strongly suspect that before they left, however, they would have told various persons whom they had encountered at the palace in Jerusalem of their hope to make it to Bethlehem that night before they actually left Jerusalem. Assuming that the method they intended to use for following the Star was to travel to Bethlehem by a semicircular route, they no doubt would have asked residents of Jerusalem if the roads in that area would make the plan at least feasible, and if so, where and when they could expect to find the major crossroads they would have to go through, and which ones would mark the critical junctures for changing course in order to follow the Star down to Bethlehem.

⁸⁸ <https://www.britannica.com/science/league-measurement>

⁸⁹ A nautical league is related to the land-based league:
<https://www.sizes.com/units/league.htm>

⁹⁰ <https://www.history.com/news/the-charge-of-the-light-brigade-160-years-ago>

⁹¹ <https://poets.org/poem/charge-light-brigade>

They also would have had to pause to rest from time to time, even if they did not stop to eat. For the servants and guards, as I say, would have had at least ten miles to walk, and possibly fifteen, or maybe even a little more. So when we estimate what their average speed may have been throughout the night, we shall have to factor in at least some time to pause and rest.

On the plus side in terms of how fast they may have gone, however, I believe they were, as I said, in a near panic. Remember, if my whole hypothesis is correct, they would only have had until the time that the morning twilight would eliminate Jupiter from the sky, just before sunrise, in which to complete their journey if they were going to do so within their desired time frame. So they would have wanted to move as swiftly as possible just to make sure they could get there in time. In addition, the faster they could go, the safer the journey would be. For if they moved swiftly, bandits who might see their torches from afar would then have less time to move into position to attack them before they had passed.

One thing above all others, however, would govern their overall rate of travel, assuming that my hypothesis is correct. That would be the semicircular nature of the route. With that in mind, allow me to restate here a concept which I expressed before: If they moved too slowly while following the Star, their arc of travel would be too small, and they would wind up well to the north of Bethlehem. If they moved too swiftly while following the Star, the arc would be too big, and they would wind up to the south of Bethlehem. So even if they did start out on the proper path, but at the wrong speed, then the Star could not guide them when they came across various key intersections, for they could not know if the Star would be in the proper position for it to show them whether they should turn or not, and if so, in which direction. And as learned men in the study of mathematics, they would have understood this.

That being said, in order for us to determine if this would work, we would have to see if the approximate speed at which they might have travelled would correspond to the distance which they would have to have travelled in order to arrive in Bethlehem around 6:30 A.M. With that in mind, let us now consider the actual distance they may have travelled, based upon the various routes they may have taken.

c. When Did The Magi Leave Jerusalem?

The first issue we face in trying to determine which of the various available routes they may have taken, and the speed at which they may have travelled, is to try to estimate when it is that they left Jerusalem. For in order to ascertain how it is that the Star could guide them when they reached various key intersections, we would have to know the position of the Star in the heavens at each step along the way. And that, of course, would depend first of all upon how much time had transpired since it had risen.

As mentioned previously, Jupiter rose that night just before 10:00 P.M. But that is probably not when the Magi left Jerusalem. I say that for two reasons. First, the Mount of Olives would have hidden their view of the eastern horizon (although they probably would have been able to see Jupiter from roughly 10:15 P.M. onward); so it is highly unlikely that they would have left before then. Of far greater significance is the fact that there are things which we can see from Scripture itself, and

from the application of astronomy to geography, which suggest that they may have left substantially later than that. Let us therefore turn to Scripture now to see what we may find there.

i. The Double Meaning Of “the East”

As we look at this issue, we face yet another question about the story of the Star of Bethlehem which scholars have puzzled over for 2,000 years. What does the Bible mean when it says that the Magi saw the Star “in the east”? Does it mean that the Star was in the east, or does it mean that the Magi themselves were in the east when they saw the Star?

The Koine Greek terms which are translated “east” (“in the east”)--- *anatolon* [ahn ah tow lahn], and *anatole* (pronunciation: <https://www.youtube.com/watch?v=7CLFJQiiMKA>) are terms which mean, in the most literal sense, “rising”, as in “rising of the sun”. It is a reference to the part of the sky in which the sun rises, and therefore means, in a practical sense, the east.⁹² This Greek word (in these two variations, *anatolon* and *anatole*) appears three times in the second chapter of Matthew, where the story of the Star of Bethlehem is told. The first time that word is used, it is in the form *anatolon*, and it obviously refers to the Magi themselves as having come from the east:

Now when Jesus was born in Bethlehem of Judaea in the days of Herod the king, behold, there came wise men from the east to Jerusalem, (Matt 2:1; KJV)^{93, 94}

⁹² <http://strongnumbers.com/greek/395.htm>

⁹³ <http://biblehub.com/kjv/matthew/2.htm>

⁹⁴ <http://biblehub.com/lexicon/matthew/2-1.htm>

The second and third times this Greek word is used it is in the form *anatole* instead of *anatolon*, and its exact meaning is less clear, although just the very fact that *anatole* was used instead of *anatolon* (which Matthew had just used a moment beforehand) implies that the positional aspect of "in the east" is not the thought which Matthew was trying to emphasize here, and that the motion aspect (*i.e.*, the act of rising) was more along the lines of what Matthew had in mind.

That being said, here is the second time we find a reference to the east:

Saying, Where is he that is born King of the Jews? for we have seen his star in the east, and are come to worship him. (Matt 2:2; KJV)^{95, 96}

Of course, the Magi probably would not have spoken to King Herod in Koine Greek. But the Hebrew word for "east" (*mizrach*; pronunciation: https://www.howtopronounce.com/mizrach#google_vignette) has essentially the same meaning as its Koine Greek counterpart: "east", or "sunrise", or "rising".^{97, 98}

Furthermore, the third reference to the east again uses the form *anatole*, and the verse says this:

When they had heard the king, they departed; and, lo, the star, which they saw in the east, went before them, till it came and stood over where the young child was. (Matt 2:9; KJV)^{99, 100}

As to these second and third uses of this word then, does the context mean that this is the star which the Magi had seen while they themselves were still in the east, or does it mean that this star, when they were looking at it, was seen in the east by them at that one particular moment? In addressing this question, let us go back and consider in fuller detail the actual arrival of the Magi at the palace in Jerusalem to determine if the Magi were conveying the thought that this star was in the east or that they had simply seen it while they themselves had been in the east. Specifically, as I said before, I believe that they wanted to arrive to worship the newborn King of the Jews on the right day; but not only that, I also believe that they wanted to arrive even at the proper hour. And that, I believe, was basically when Jupiter was rising (*i.e.*, when it was "in the east"), and more specifically, while it was still rising. I say this for three reasons.

The first reason I say that the Magi arrived at the palace when Jupiter rose is that Scripture itself, I think, implies that that is when they themselves did in fact arrive. We have just looked at how the King James Version words the beginning of their visit to the palace; but let us now look at how several other translations have worded that same verse about their visit there:

⁹⁵ <http://biblehub.com/kjv/matthew/2.htm>

⁹⁶ <http://biblehub.com/lexicon/matthew/2-2.htm>

⁹⁷ <http://biblehub.com/lexicon/psalms/103-12.htm>

⁹⁸ <http://strongnumbers.com/hebrew/4217.htm>

⁹⁹ <http://biblehub.com/lexicon/matthew/2-1.htm>

¹⁰⁰ <https://biblehub.com/lexicon/matthew/2-9.htm>

2 and asked, “Where is the one who has been born king of the Jews? We saw his star when it rose and have come to worship him.” (Matt 2:2; New International Version)¹⁰¹

Notice the phrase, “We saw his star WHEN IT ROSE,” in that verse.

Here is another translation of that verse:

2 “Where is the newborn king of the Jews? We saw his star as it rose, and we have come to worship him.” (Matt 2:2; New Living Translation)¹⁰²

Notice this phrase as well: “We saw his star AS IT ROSE.” Here is another translation of that verse:

2 saying, “Where is he who has been born king of the Jews? For we saw his star when it rose and have come to worship him.” (Matt 2:2; English Standard Version)¹⁰³

Again, notice this phrase, “For we saw his star WHEN IT ROSE ...” Here is yet another translation of that verse:

2 They asked, “Where is the one who was born to be the king of the Jews? We saw his star rising and have come to worship him.” (Matt 2:2; GOD’S WORD Translation)¹⁰⁴

The key phrase here is similar: “We saw his star RISING ...” There is also this version to consider:

2 saying, “Where is the one who is born king of the Jews? For we saw his star when it rose and have come to worship him.” (Matt 2:2; NET Bible)¹⁰⁵

Here yet again, we have a similar phrase: “For we saw his star WHEN IT ROSE ...”

Another version translates it this way:

2 and asked, “Where is the one who was born king of the Jews? We saw his star in the east^c and have come to worship him.” (Matt 2:2; International Standard Version)¹⁰⁶

Significantly, footnote “c” in that verse (at the end of the word “east”) reads as follows: “^c 2:2 Or *at its*

¹⁰¹ <http://biblehub.com/niv/matthew/2.htm>

¹⁰² <http://biblehub.com/nlt/matthew/2.htm>

¹⁰³ <http://biblehub.com/esv/matthew/2.htm>

¹⁰⁴ <http://biblehub.com/gwt/matthew/2.htm>

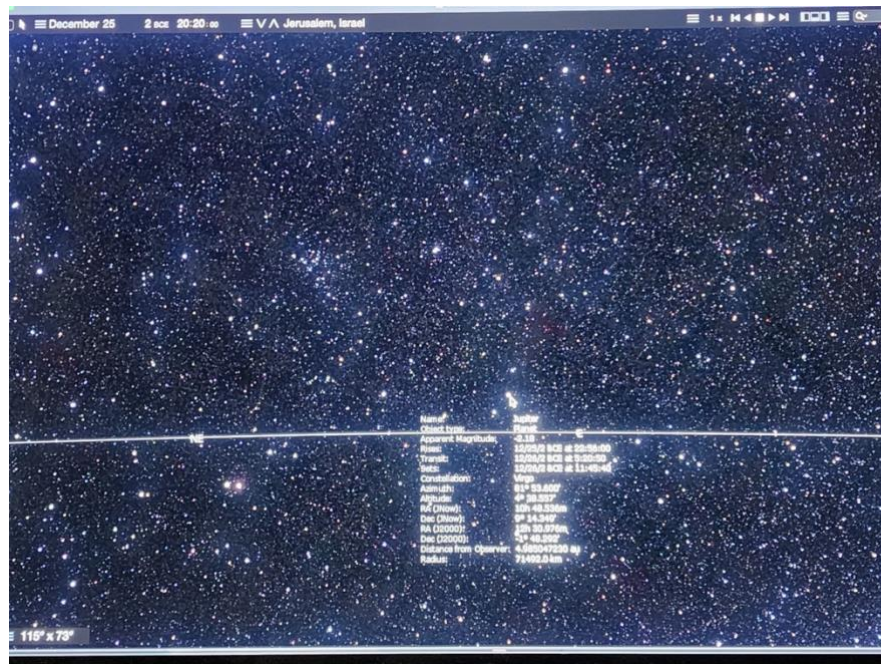
¹⁰⁵ <http://biblehub.com/net/matthew/2.htm>

¹⁰⁶ <http://biblehub.com/isv/matthew/2.htm>

rising".¹⁰⁷

In considering all of this, it is important to keep in mind that, although the Greek word which is used could, in every version, be correctly translated simply as "east", several translators nonetheless felt compelled to buck the popular trend. There are, after all, two different aspects of that word to consider: 1.) the positional aspect (*i.e.*, being positioned in the east), and 2.) the motion or action aspect (*i.e.*, the act itself of rising). And quite obviously, with respect to the verses which use *anatole* instead of *anatolon*, certain translators felt that they had to emphasize the motion aspect (the act of rising) rather than the positional aspect (being in the east).

The second thing which I believe supports the idea that the Magi wanted to arrive at the palace just after Jupiter rose pertains to the application of astronomy to geography. When Jupiter rose that night, it had an azimuth (heading) of 79 degrees, and a few minutes later, about the time that it would have become visible above the Mount of Olives (*i.e.*, five degrees or so above the astronomical horizon, around 10:20 P.M.; *i.e.* 2020 UTC), it had an azimuth of 82 degrees (81 degrees 53.600 minutes). And as we can also see, it is the case that as seen from Jerusalem, Babylon lies at a compass heading of 82 degrees:¹⁰⁸



Jupiter (pointed to by the small black-and-white arrow just above the letter "J" in the word "Jupiter") as seen

¹⁰⁷ <http://biblehub.com/isv/matthew/2.htm>

¹⁰⁸ Delta T 535 for all observations in December of 2 B.C. (by interpolating the Delta T between NASA'S lunar eclipse catalog numbers 04820 and 04821): <https://eclipse.gsfc.nasa.gov/LEcat5/LE-0099-0000.html>, as modified according to the method explained in the Appendix in the section entitled THE COMPUTER DISCREPANCY AND OUR LADY OF GUADALUPE.

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from Jerusalem at 10:20 P.M. (2020 UTC) with an azimuth of just under 82 degrees on the night of December 25, 2 B.C.

The horizon is also indicated by the white horizontal line.

Images provided courtesy of Starry Night Education. Photograph by the author.



The line (red line) from Jerusalem to Babylon along a heading of 82 degrees.

Image from Google Earth Pro: <https://google-earth-pro.en.softonic.com/mac>

So in other words, as Jupiter rose that night, if one were in Jerusalem while watching it rise, one would be facing out in the very direction in which Babylon was. As I had mentioned previously, there is a piece of astronomical evidence which suggests that one or more of the Magi may have come from Babylon, and this is it.

Now, even the Magi themselves would not have known with precision the exact heading along which one would look from Jerusalem to see the horizon out in the direction of Babylon. But the Magi most certainly would have known that shortly after Jupiter rose that night, its azimuth would have gone across that line. I believe that this point specifically is the second reason as to why the Magi would have wanted to show up at King Herod's palace just after Jupiter rose. For I can't help but think that as they looked at the newborn king, and also looked toward his Star, they might have wanted to be lined up with the home city of one or more of the Magi themselves.

Moving on, in order to consider the third reason as to why I believe that the Magi showed up at the palace of King Herod just after Jupiter rose, we shall have to look at the heavens not through our own eyes, but through theirs. We have seen in the photo above what the view toward Jupiter from Jerusalem would have looked like as seen through our own eyes just after Jupiter rose that night.

That might not look noteworthy to you or I, but here also is what that same view would have looked like within the minds of the Magi:



Jupiter (pointed to by the small black-and-white arrow just above the letter "J" in the word "Jupiter"), shown within the constellation Virgo (the virgin) at 10:20 P.M. (2020 UTC) with the constellation illustrations present, as seen from Jerusalem on the night of December 25, 2 B.C. The horizon is illustrated by the white horizon line (running left and right).

Images provided courtesy of Starry Night Education. Photograph by the author.

This shows the newborn king (Jupiter) snuggled in his mother's bosom, and showing her as she would look standing (or perhaps sitting), which presumably is how they would see her if they were granted an audience to see the newborn king. Although this view does not constitute proof that this one of the reasons as to why the Magi would have wanted to arrive at King Herod's palace just after Jupiter rose that night, I do consider it to be at least substantial evidence of that possibility, evidence which should be added to the other two factors mentioned above.

Now, as I mentioned earlier, there were, I believe, celestial signs in the heavens which caused the Magi to conclude that December 25th specifically would be the best night to visit the newborn king. So here is yet another sign---one that is framed by heaven and earth together---which would at least point to late December generally as being the time frame within which they should arrive. And not only that, but it is also a celestial sign which points to the very moment in time itself which they could easily have concluded would also mark the precise, perfect moment to come to visit and worship the newborn king.

Moving on, let us now consider that when they left Jerusalem to go to Bethlehem that night, if they were following the Star in a semicircle to get there, then when they started out from Jerusalem, the Star itself, at that moment, was basically in the east (which itself would be 90

degrees). As it turns out, five of the six translations which we just looked at treat the word “east” (specifically, *anatole*) in verse nine (the verse which describes the Magi’s journey to Bethlehem) the same way that they treated it in verse two, when they first spoke to King Herod and told him of the Star which they had seen “in the east”.¹⁰⁹ Here is how those five translations word the verse about them leaving Jerusalem to go to Bethlehem by following the Star in the east:

9 After they had heard the king, they went on their way, and the star they had seen when it rose went ahead of them until it stopped over the place where the child was. (Matt 2:9; New International Version)¹¹⁰

Notice the phrase, “the star they had seen WHEN IT ROSE went ahead of them,” in that translation.

Here is another translation of that verse:

9 After listening to the king, they went on their way. And behold, the star that they had seen when it rose went before them until it came to rest over the place where the child was. (Matt 2:9; English Standard Version)¹¹¹

Notice again the similar wording: “the star that they had seen WHEN IT ROSE went before them”.

This is another translation of that verse:

¹⁰⁹ In verse nine, of the six translations we just looked at, only the New Living Translation simply says that the Star was “in the east” (without even so much as dropping any footnote about it rising). See: <http://biblehub.com/nlt/matthew/2.htm>.

¹¹⁰ <http://biblehub.com/niv/matthew/2.htm>

¹¹¹ <http://biblehub.com/esv/matthew/2.htm>

9 After they had heard the king, they started out. The star they had seen rising led them until it stopped over the place where the child was. (Matt 2:9; GOD'S WORD Translation)¹¹²

This expresses the same concept: "The star they HAD SEEN RISING led them..."

Here we have yet another translation of that verse:

9 After listening to the king they left, and once again the star they saw when it rose led them until it stopped above the place where the child was. (Matt 2:9; NET Bible)¹¹³

Here yet again, notice the phrase "the star they saw WHEN IT ROSE led them".

And the International Standard Version gives similar treatment to that word in verse nine as it did in verse two:

9 After listening to the king, they set out, and the star they had seen in the east^h went ahead of them until it came and stopped over the place where the child was. (Matt 2:9; International Standard Version)¹¹⁴

Here again, footnote "h" (at the end of the word "east") says as follows: "^h 2:9 Or *at its rising*".¹¹⁵

This wording is, of course, perfectly consistent not only with the statement which they made in the palace about them having seen the Star itself rising in the east (for if they got to the palace when I think they did, the Star had just then risen), it is also perfectly consistent with the idea that the Magi went from Jerusalem to Bethlehem by following the Star in a semicircle. For in such a case, when they left Jerusalem, they would have seen the Star as it continued to rise in the east, and they then would have had to face to the southeast as it continued to move across the heavens, and then to the south, to the southwest, and then to the west in order to continue facing the Star all night long. So with respect to calculating their departure time, let us first assume at this point that just after Jupiter rose over the Mount of Olives (*i.e.*, at about 10:15 P.M.), the Magi arrived at the palace of King Herod.

ii. How Long Were The Magi Delayed In Leaving Jerusalem?

The next issue we face in trying to determine when it is that the Magi may have left Jerusalem would be the question of how much time they spent in Jerusalem from the time that they found out at the palace that the child was not there until the time that they actually left Jerusalem.

¹¹² <http://biblehub.com/gwt/matthew/2.htm>

¹¹³ <http://biblehub.com/net/matthew/2.htm>

¹¹⁴ <http://biblehub.com/isv/matthew/2.htm>

¹¹⁵ <http://biblehub.com/isv/matthew/2.htm>

First of all, King Herod may very well have been in bed when the Magi arrived around 10:30 P.M., or shortly beforehand; but if so, news of Magi from the east bringing gifts of gold, frankincense, and myrrh to a supposedly newborn King of the Jews would have undoubtedly prompted his servants to awaken him, and he probably would have had enough interest in this to agree to the unusual step of getting out of bed at that hour to see them.

Second, we know from Scripture that Herod summoned his wisest counselors to ask them where the Messiah would be born. (Matt 2:4)¹¹⁶ These persons no doubt would have lived either within close proximity to the palace, or perhaps somewhere within the grounds of the palace.

Third, Scripture says that when the Magi said they had come to worship the newborn King of the Jews, not only was King Herod troubled by this news, but that also, so was all of Jerusalem with him. (Matt 2:3)¹¹⁷ So while the Magi were awaiting their audience with King Herod, word of their arrival and of their mission must have spread throughout the city.

Granted, news of this level of importance must have spread like wildfire. But it would not have spread instantaneously; and at least some time would have been needed for this news to spread throughout the city.

Fourth, Scripture also says that Herod then took the Magi aside to consult with them secretly as to when the king whom they were seeking had been born. (Matt 2:7-8)¹¹⁸ This likewise might not have taken much time to accomplish just by itself, but each of these steps would have taken some time, at least.

We then have to consider the fact that if the Magi, at that point, developed their plan to go to Bethlehem that night by going in a semicircle to follow the star, they probably would have taken some time, as I said, to ask various persons at the palace as to where and when they could expect to find the roads, intersections, and towns they would come across on their journey, and in fact, if such roads even existed at all. They would no doubt have wanted to familiarize themselves as much as possible with as many details of this as they could accumulate before leaving. That right there would have taken at least some additional time as well.

Now, there were several gates in the walls of Jerusalem at that time, but if the Magi were to follow the Star (Jupiter) down to Bethlehem that night, the gate which would be the most likely one for them to have used would be an entrance at the site of the present-day walled-up East Gate, the so-called Golden Gate, just west of the Mount of Olives.¹¹⁹ (It is believed that 33-plus years later, this would be the gate through which Jesus would enter Jerusalem on Palm Sunday.¹²⁰) And it would

¹¹⁶ <http://biblehub.com/nasb/matthew/2.htm>

¹¹⁷ <http://biblehub.com/nasb/matthew/2.htm>

¹¹⁸ <http://biblehub.com/nasb/matthew/2.htm>

¹¹⁹ [https://en.wikipedia.org/wiki/Golden_Gate_\(Jerusalem\)](https://en.wikipedia.org/wiki/Golden_Gate_(Jerusalem))

¹²⁰ <http://www.magdalenepublishing.org/blog/jeruselems-golden-gate-history-prophecy/>

have taken a few minutes, at least, to go from Herod's palace, on the west side of the Old City,^{121, 122} to the Golden Gate, on the east side.

Even if that was not the gate by which they left, taking any other gate would have taken them only a few minutes more to come around to the road just outside of the Golden Gate, which is where their journey would have to have begun in any event, as we shall see in a moment. Taking all these things into consideration then, it is probably not unreasonable to estimate the entire time which they spent in Jerusalem after they had arrived at the palace to be about two and a half hours, meaning that they would have left at about 1:00 A.M.

This completes Volume 2 of The Star of Bethlehem Decoded. All four volumes plus the Appendix can be found at StarOfBethlehemDecoded.com.

¹²¹ <https://www.bible-history.com/sketches/ancient/herods-palace.html>

¹²² <https://swisscows.com/image?query=herod%27s%20palace%20jerusalem%20map&culture=en®ion=en-US>