

SOMETHING IN THE "NORMAL" NIGHT SKY which was startling when explained. That is the hypothesis for the Star we developed in *Setting the Stage*. Our process of elimination has knocked out meteors, comets and novae as candidates. That leaves *planets*.

A Coronation

JUPITER. The name of the greatest god of Roman mythology. And the name of the largest planet of our solar system. Jupiter has been known from ages-old to the present as the King Planet. This greatest of planets is a "gas giant," approximately eleven times the size of Earth and over 300 times more massive. It circles the Sun far beyond Earth, in an orbit of about twelve years duration. In ancient times, planets like Jupiter were considered "wandering stars." Since humans have assigned kingly qualities to this giant wanderer for dozens of centuries, might it have something to do with our Star announcing the birth of a king? That will be our working theory.

It's not enough to have a kingly name and reputation, of course. To be Matthew's Star, Jupiter as viewed from Earth would have to do peculiar things. More precisely, as considered by a magus viewing from the Middle East during the years 3 and 2 BC, Jupiter's movements would have to satisfy all nine identifying characteristics of the Star. In September of 3 BC at the time of the Jewish New Year, Rosh ha-Shanah, Jupiter began to do just that.

A magus watching Jupiter that September saw two objects moving so close that they appeared to touch. This close approach of celestial bodies is sometimes called a 'conjunction.' Our Middle Eastern viewer saw Jupiter coming into a close conjunction with the star, Regulus. Regulus takes its name from the word root which yields our word 'regal.' The Babylonians called Regulus *Sharu*, which means 'king.' The Romans called Regulus *Rex*, which means 'king.' So to start things, at the beginning of the new Jewish year, the Planet of Kings met the Star of Kings. This conjunction may have indicated kingship in a forceful way to a Babylonian magus (satisfying one qualification for the Star), but would it have startled him?

Probably not. Jupiter glides slowly past Regulus about every 12 years. Let's assume our magus enjoyed a 50-year career, say from age 20 to age 70. We don't know how old the Magi were, but if our man was in the second half of his career, he might have seen such a pass two or three times before. Jupiter's orbit wobbles relative to Regulus, so not every conjunction is as close as the one he saw in 3 BC. Perhaps our magus recorded this event with some interest, but it is hard to imagine great excitement. Not from this alone. But, of course, there is more.

The planets move against the field of fixed stars. From Earth, they appear to be "active." For example, were you to watch Jupiter each night for several weeks,

you would see that it moves eastward through the starry field. Each night Jupiter rises in the east (satisfying a second Star qualification). Each night it appears to be slightly farther east in the field of fixed stars. All of the planets move like this.

But the wandering stars exhibit another, stranger motion. Periodically, they appear to reverse course and move *backward* through the other stars. This may seem odd, but the reason is simple enough: we watch the planets from a moving platform—Earth—hurtling around the Sun in its own orbit. When you pass a car on the freeway, it *appears* to go backward as it drops behind. For similar reasons, when the Earth in its orbit swings past another planet, that planet appears to move backward against the starry field. Astronomers call this optical effect retrograde motion.

In 3/2 BC, Jupiter's retrograde wandering would have called for our magus' full attention. After Jupiter and Regulus had their kingly encounter, Jupiter continued on its path through the star field. *But then it entered retrograde.* It "changed its mind" and headed back to Regulus for a second conjunction. After this second pass it reversed course again for yet a *third* rendezvous with Regulus, a *triple* conjunction. A triple pass like this is more rare. Over a period of months, our watching magus would have seen the Planet of Kings dance out a halo above the Star of Kings. A coronation.

The Birth of a King

Jupiter's interesting behavior may explain the kingly aspect of the Star. But there are *nine* qualifications of the Star of Bethlehem. Many are still missing. How did Jupiter's movement relate to the Jewish nation? Is its association with the Jewish New Year enough? Where is an indication of a birth? Some might say that the triple conjunction by itself would indicate to a magus that a new king was on the scene. Maybe. But there is more.

The Jewish nation is composed of twelve ancient tribes. Jewish prophecy states that a particular tribe will bring forth the Messiah: the tribe of Judah. The symbol of Judah's tribe is the lion. You can see these connections in an ancient prediction of Messiah's coming found in the first book of the Bible, the *Book of Genesis*, Chapter 49:

9 You are a lion's cub, O Judah; you return from the prey, my son. Like a lion he crouches and lies down, like a lioness-- who dares to rouse him? 10 The sceptre will not depart from Judah, nor the ruler's staff from between his feet, until he comes to whom it belongs and the obedience of the nations is his.

This association of Messiah with the tribe of Judah and with the lion is a productive clue. It clarifies the connection between Jupiter's behavior and the

Jewish nation, because the starry coronation—the triple conjunction—occurred within the constellation of Leo, The Lion. Ancient stargazers, particularly if they were interested in things Jewish, may well have concluded they were seeing signs of a Jewish king. But there is more.

The last book of the New Testament is, in part, a prophetic enigma. But a portion of the *Book of Revelation* provides clear and compelling guidance for our astronomical investigation. The apostle John wrote the book as an old man while in exile on the island of Patmos. Perhaps the austerity of this exile or a lack of companionship left him time to ponder the night sky. Whatever the reason, *Revelation* is full of star imagery. In Chapter 12, John describes a life and death drama played out in the sky: the birth of a king.

1 A great and wondrous sign appeared in heaven: a woman clothed with the sun, with the moon under her feet and a crown of twelve stars on her head. 2 She was pregnant and cried out in pain as she was about to give birth. 3 Then another sign appeared in heaven: an enormous red dragon with seven heads and ten horns and seven crowns on his heads. 4 His 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 he might devour her child the moment it was born. 5 She gave birth to a son, a male child, who will rule all the nations with an iron sceptre...

A woman in labor, a dragon bent on infanticide and a ruler of the nations. We have already seen this ruler in the *Book of Genesis*, above. This would be the Messiah, in his role as King of Kings. If that interpretation is correct, then according to the gospel story the woman would be Mary, the mother of Jesus. The dragon which waits to kill the child at birth would be Herod, who did that very thing. John says the woman he saw was clothed in the Sun. She had the moon at her feet. What can he be describing? When we continue our study of the sky of September of 3 BC, the mystery of John's vision is unlocked: he is describing more of the starry dance which began with the Jewish New Year.

As Jupiter was beginning the coronation of Regulus, another startling symbol rose in the sky. The constellation which rises in the east behind Leo is Virgo, The Virgin. When Jupiter and Regulus were first meeting, she rose clothed in the Sun. And as John said, the moon was at her feet. It was a new moon, symbolically birthed at the feet of The Virgin.

The sheer concentration of symbolism in the stars at this moment is remarkable. These things could certainly lead our magus to conclude that a Jewish king had been born. But even this is not the whole story. These symbols could indicate a birth, but if they were interpreted to indicate the time of conception, the beginning of a human life, might there be something interesting in the sky nine months later? Indeed. In June of 2 BC, Jupiter continued the pageantry.

Westward Leading

By the following June, Jupiter had finished crowning Regulus. The Planet of Kings traveled on through the star field toward another spectacular rendezvous, this time with Venus, the Mother Planet. This conjunction was so close and so bright that it is today displayed in hundreds of planetaria around the world by scientists who may know nothing of Messiah. They do it because what Jupiter did makes such a great planetarium show. Jupiter appeared to *join* Venus. The planets could not be distinguished with the naked eye. If our magus had had a telescope, he could have seen that the planets sat one atop the other, like a figure eight. Each contributed its full brightness to what became the most brilliant star our man had ever seen. Jupiter completed this step of the starry dance as it was setting in the west. That evening, our Babylonian magus would have seen the spectacle of his career while facing toward Judea.

No one alive had ever seen such a conjunction. If the Magi only began their travel plans in September, when they saw this sight nine months later, someone may have shouted "What are we waiting for? Mount up!" At the end of their travel, which may have taken weeks or months, these experts arrived in Jerusalem. They told their tale, and "all Jerusalem was disturbed." Herod wanted to know two things: when the Star had appeared, and where this baby was. The Magi presumably described the timing of events starting in September of 3 BC and continuing through June of 2 BC. Herod sent them to Bethlehem in search of the child with orders that they return to tell where he was.

To qualify as the Star, Jupiter would have to have been ahead of the Magi as they trekked South from Jerusalem to Bethlehem. Sure enough, in December of 2 BC if the Magi looked south in the wee hours, there hung the Planet of Kings over the city of Messiah's birth.

All but one of the nine Biblical qualifications for the Star have now been plausibly satisfied:

1. The first conjunction signified birth by its association to the day with Virgo "birthing" the new moon. Some might argue that the unusual triple conjunction by itself could be taken to indicate a new king.
2. The Planet of King's coronation of the Star of Kings signified kingship.
3. The triple conjunction began with the Jewish New Year and took place within Leo, showing a connection with the Jewish tribe of Judah (and prophecies of the Jewish Messiah).
4. Jupiter rises in the east.
5. The conjunctions appeared at precise, identifiable times.

6. Herod was unaware of these things; they were astronomical events which had significance only when explained by experts.
7. The events took place over a span of time sufficient for the Magi to see them both from the East and upon their arrival in Jerusalem.
8. Jupiter was ahead of the Magi as they traveled south from Jerusalem to Bethlehem.

But the ninth qualification would require that Jupiter stop over Bethlehem. *How* could a planet do that? And *did* Jupiter do it?

To Stop a Star

The problem with a planet stopping is not what you might think. The problem is not that planets can't stop. Just the opposite. The problem is that all planets are *always* stopped to the eye of a human observer. The sky moves above Earth at half the speed of the hour hand on a common clock. Its movement is imperceptible to the naked eye. So, if all stars are always stopped, what can Matthew have meant?

Perhaps you have already anticipated the key to this final mystery: retrograde motion. An astronomer tracking the movement of planets through the star field watches not so much on the scale of minutes, but on the longer scale of days, weeks and months. On this scale of time, Jupiter did stop. On December 25 of 2 BC as it entered retrograde, Jupiter reached full stop in its travel through the fixed stars. Magi viewing from Jerusalem would have seen it stopped in the sky above the little town of Bethlehem.