

# Determining the background of the Christmas 'star'

LOOK HIGH IN the east before sunrise in December and you cannot fail to see a brilliant "star." It's actually not a star at all; it's the planet Venus. High in the southwest is another brilliant object, Jupiter. These are two of the brightest objects in the sky. Only the sun and the moon are brighter. When seen before sunrise, a bright planet is often called the "morning star," seen after sunset it's the "evening star."

When seen in December it is often given another name: the "Christmas Star," and that's what people wonder about a special "star" that appeared nearly 2,000 years ago. What was the star that guided the wise men to Bethlehem? That question has puzzled people for centuries.

To try and determine the nature of the Christmas Star, we must look back in time. Of all the astronomical objects that were visible to the wise men, what did they actually see?

Could the "star" the wise men saw have been what we call a "falling" star? Probably not. Falling stars are not stars at all; they are bits of rock and dust that fall into our atmosphere from space. As they fall they heat up because of friction and burn, producing streaks of light.

Most falling stars, more commonly called meteors, are not very spectacular. At certain times of the year there are meteor showers when dozens of falling stars can be seen. If you are a patient observer, most meteor showers do not attract much attention, although in 1833 one shower produced an estimated 30,000 meteors in a single minute.

SOMETIMES A LARGE meteor, called a fireball, falls into our atmosphere and it may explode in the air. That would be a startling sight, but only for a few seconds, and meteor showers last only a few days at best. That would not be enough time to guide anyone on a long journey.

A "halcy" star, or comet, would last long enough.

In the year 1054 A.D. Chinese and American Indian sky-watchers noticed a new star blaze into view where there had been no star before.

This is called a nova, which actually means "new" star, and one can appear at any time and remain visible for weeks. A supernova can be bright enough to be seen even during the day. A nova is really not a new star. It's a very old star going through a violent death. The star collapses, which causes its internal temperature to increase. The star becomes very unstable and explodes. A supernova is easily visible to anyone who looks up. But not everyone saw the "star." There is no record that King Herod ever saw it, nor did any of his advisers, nor did the shepherds.

In the year 1604, astronomer Johann Kepler saw a supernova and this made him wonder about the identity of the Christmas Star. He knew of no written records which mentioned the appearance of a nova in 7 B.C., so the "star" must have been something else. Unfortunately, the Bible does not explain the nature of the star for us. As important as the "star" is, there are only four references to it in the entire Bible, all within four verses in Matthew Chapter 2, and never with any explanation.

Kepler also knew that everything in the sky was called a "star" at that time. We have considered falling, halcy and new stars. There were also objects called "wandering" stars — the planets. They appear to drift through the stars from week to week as they orbit around the sun. Kepler remembered watching a rather rare conjunction, or grouping, of planets in 1603, when Jupiter appeared to pass Saturn. He wondered if a grouping of planets might be considered for the "star."

To the early skywatchers, the planets were mysterious wandering stars. They had no idea what the planets really were, but it was assumed that the planets must be very important objects because they moved. Astrologers believed that life was influenced by the location of the planets among the stars and they devised complex interpretations of their movements.

KEPLER CALCULATED the positions of the planets far back in time and found that Jupiter and Saturn appeared close together in the early evening sky in 7 B.C., that they would soon be in conjunction. A conjunction (close grouping) of planets is not very spectacular, not everyone would notice it. But astrologers would consider it as being something special, and it is believed that the wise men were astrologers.

The planet Jupiter would have had very special significance to astrologers. Anything involving Jupiter had to be important because it was named for the most important of the gods. Saturn was regarded as the guardian of the Hebrew people, so anything involving Saturn was of special significance to the Jewish. In addition, the meeting between the two planets took place within the constellation of Pisces, and the fish was also a Hebrew symbol. While most people do not take astrology seriously today, it was a matter of great importance 2,000 years ago. Such a gathering might have a great significance to astrologers.

Because Jupiter orbits around the sun faster than Saturn, it would be seen (over the course of weeks) to slowly catch up to Saturn. Jupiter passed Saturn on May 29, 7 B.C. But

then both planets appeared to stop and go backward! Jupiter passed Saturn a second time, on Sept. 29, 7 B.C.

Planets do not actually reverse direction and move backward. They always orbit counterclockwise around the sun, appearing to drift from west to east through the constellations. Retrograde (backward) motion is an optical illusion. It's caused when the faster moving earth catches up and passes a slower moving planet, making the slower planet appear to be drifting backward (westward) through the stars. After a period of time, retrograde motion ends and the planet resumes its eastward motion through the sky.



skywatch  
**Raymond E. Bullock**

ward motion through the sky.

A third conjunction between Jupiter and Saturn occurred on Dec. 4, 7 B.C. In February, 6 B.C., the planet Mars joined Jupiter and Saturn, forming a triangle in Pisces, creating a magnificent symbol for astrologers.

THE WISE MEN probably would

not have started their long journey when the first conjunction occurred in May. The planets would have been visible in the eastern sky, but with the approach of summer's heat they would have delayed a trip across the desert. As the weeks passed they would have watched the planets drifting through the sky. They would

have seen the second conjunction in September and then, perhaps, begun their journey.

By the time the third conjunction occurred the planets would be seen in the west, as if leading that direction.

A conjunction such as this is very rare. Kepler used multiples of Jupiter-Saturn conjunctions to claim that special events in history occurred every 800 years. This same gathering would have occurred around the year 1600 B.C., about the time of the birth of another great leader: Moses. Could the early astrologers have known that?

Was the Jupiter-Saturn conjunc-

tion the Star of Bethlehem? No one can really be certain.

Perhaps the Christmas Star was a special, one-time only event, never to happen again. But is it, after all, important to know just what the Christmas Star was? The important fact is that a man named Jesus was born, that he lived for a time on the earth and his teachings altered the history of the world.

Raymond Bullock is the former coordinator of the planetarium and observatory at the Cranbrook Institute of Science, Bloomfield Hills. He now works for a Troy firm which specializes in laser displays and effects.

## LIVONIA OUTLET STORE

# SEARS WAREHOUSE



## HAPPY HOLIDAY SAVINGS SALE — 4 DAYS ONLY — DEC. 12, 13, 14 & 15

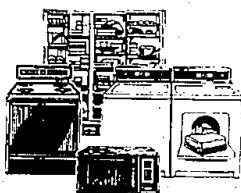


• OVERSTOCK • REBUILT • SOILED • DAMAGED • DEMONSTRATORS • USED

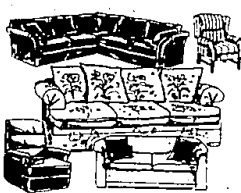
OPEN 7 DAYS A WEEK

MON.-SAT. 10:00 A.M. TO 9:00 P.M., SUNDAY 12:00 NOON TO 5:00 P.M.

### ELECTRONICS



### APPLIANCES



### FURNITURE

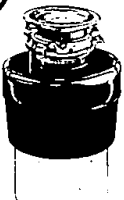


**TAKE ADDITIONAL 10% OFF**  
(ALREADY REDUCED PRICES)



**ALL MERCHANDISE WITH THIS VALUABLE COUPON**

### Great Savings!



LIMITED QUANTITY

1/2 HP  
INSULATED  
KENMORE  
FOOD  
WASTE  
DISPOSER  
3 YR. WARRANTY  
STK. #6030  
NOW: \$59<sup>88</sup>  
WAS: \$69<sup>99</sup>  
OTHER DISPOSERS AVAILABLE  
AS LOW AS \$34<sup>99</sup>

### Great Holiday Buy!

ALL  
CURIO CABINETS  
JUST REDUCED!

NOW \$699<sup>88</sup> TO \$119<sup>88</sup>

• PRICES WILL VARY •  
• LIMITED QUANTITY AND STYLES •  
• DELIVERY NOT AVAILABLE •

### COUPON

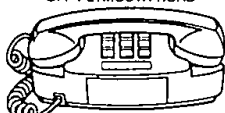
GOOD FOR ADDITIONAL  
**10% OFF**  
ANY PURCHASE AT THE  
**SEARS**  
LIVONIA OUTLET STORE

THIS COUPON MUST BE  
PRESENTED AT TIME OF PURCHASE  
OFFER ENDS DECEMBER 15, 1991

PREVIOUSLY SELECTED MERCHANDISE NOT INCLUDED ★ LIMITED STYLES, QUANTITIES AND MODELS  
ALL MERCHANDISE PRICED FOR IMMEDIATE TAKE WITH

### SEARS WAREHOUSE OUTLET

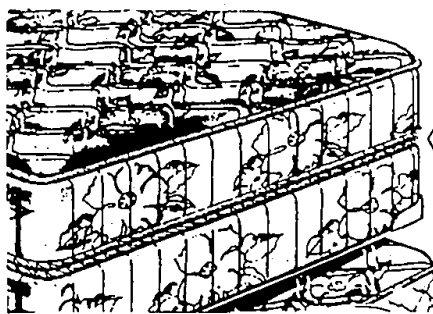
12001 SEARS AVE.  
LIVONIA  
1 MILE WEST OF MIDDLEBELT  
OFF PLYMOUTH ROAD



PHONE 422-5700

DELIVERY NOT INCLUDED IN SELLING PRICE OF ITEMS ON THIS PAGE

Sears Warehouse Store



**EXCEPTIONAL  
VALUES  
ON  
MATTRESSES  
AND  
BOX SPRINGS**  
ASSORTED SIZES  
SOLD IN SETS AND SOME  
SEPARATELY

IN STOCK CONDITION