



SHENANDOAH ASTRONOMICAL SOCIETY

December 2008

The Pretty Triangle



**This is what we saw on the first day of December in the early evening. At lower right is the planet Venus and at upper right is Jupiter.
Picture by Dane Toler**

Earlier in the day, the Moon occulted Venus in the daytime. I don't know if it would have occulted here at our location but the experts said the occultation would be seen in parts of Europe. It got dark there earlier so we may have seen the occultation if we had looked in the early afternoon but I did not do that.

Speaking of occultations, some folks have thought that the so-called star of Bethlehem may have been one of these so check out the article on that.

December 10 SAS Meeting

7:00 PM at LFCC Room 318

We will be bringing some Christmas season goodies to enjoy so we want the program to be fairly short. I am going to give a talk on Optics and leave plenty of time for talk and fellowship. If anyone does not wish to tote food, that is fine, just bring yourself.

The best way to get to Room 318 is to park in the big lot at the southeast corner of the main building and come around the back corner to the steps, turn left and go through the double doors and turn right into the room.



Orion Nebula, M42 coming up soon

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The Star of Bethlehem

Much speculation has gone on about the story and no one knows the answer of what really happened in those days in Judea. Here are some of the theories and ideas concerning this subject. I thought it a fitting subject for this newsletter. Note I have mentioned three possibilities for the event and I suppose there are those who find other possibilities. The three are planetary conjunctions, comets, and simply astrological signs.

Conjunctions of planets occur in the Solar System when two or more planets apparently come close together in their orbits. This happens because the planets get into a configuration in which they are near the same line of sight as seen from Earth. A conjunction of Venus and Jupiter very close together would look like a very bright star indeed since they are the two brightest celestial objects except the Sun and Moon. This is the proposal of some for the Christmas Star. Researchers have searched back in astronomical records and run the computers backwards to find a possible conjunction. There was a conjunction of Jupiter and Saturn in 7 B.C. but there is no general agreement as to its significance.

Comets have often been seen as omens of good or bad, usually bad I think since history tells us that most cultures of the past were terrified by these apparitions. Therefore a comet does not seem to me to be a viable choice for the Star of Bethlehem. Not only that, but a comet that becomes very bright does not look like a star at all. Most of us know that after seeing Comet Hale-Bopp in 1997. Some astronomers think a very low, long tailed comet might best fit the claim that it came and stood over the place where the child was. And after all, anything shining brightly in the sky could be loosely called a star.

Our third candidate is a supernova. A nova is a new star, that is, a star discovered where there was not one before. That is the result when a

very dim star, not visible to the unaided eye, brightens enough to become visible.

Astronomers have studied this phenomena for years and have computer models today. A supernova is a very powerful event caused by the death of a giant star. When the basic hydrogen fuel in the core of a star is all used up a number of events take place between that time and the final end of the star. One of these is an explosion that produces the energy of millions of normal stars. Astronomers find these events mostly in distant galaxies so that we do not see them. However, some such events have happened in our own galaxy and were witnessed by many people.

Now for a very interesting theory that I heard about sometime in the past. The story goes that the "magi" were guided by the star. Magi were called "wise men" and were probably astrologers, those who seek signs in the heavens to predict earthly events. Thus the magi may have interpreted the transit of Jupiter at a certain time perhaps in connection with something else not mentioned in the story as the sign of the birth of a king. So there you are. We have several possibilities for the basis of the story related by Matthew.

Is one of these possibilities the explanation? It depends on whom you ask. Personally, I do not ascribe to any theory to explain the Star of Bethlehem. To many it has been a wonderful story down through the years and I leave it at that. Merry Christmas and a Happy New Year to all.

Jim Adkins