

WESTMINSTER ASTRONOMICAL SOCIETY
of Carroll County, Maryland

Newsletter for February 1985, Vol 2 No 2

February 27 Meeting Features Galaxies Lecture

Dr. Laurence Marschall of Gettysburg College will speak on the subject of galaxies, "The Biggest Things In the Universe", at the February WAS meeting. Dr. Marschall is a frequent contributor to Astronomy and Sky and Telescope magazines, as well as a professor both at Gettysburg and Harvard.

Prior to the February meeting, the club will meet the speaker for dinner at 6:15 in Fan's Restraunt, 59 W. Main Street, in Westminster.

The meeting is scheduled for 7:30 p.m., February 27, in Rm. 111 of the Lewis Science Hall at Western Maryland College, Westminster.

Club Elects First Round of Officers

With 75% of the active members present at Western Maryland College's Pub, the first WAS Executive Committee was elected. Elected by a unanimous vote were:

President	Curt Roelle
Vice President	Todd Bonner
Secretary	Tom Prall
Treasurer	Blaine Roelke
Director at Large	Tom Appler

Congratulations to each of the new officers.

President's Message

The Westminister Astronomical Society is off to a superb start. This coming year, being the last full year before the return of Comet Halley, will provide us with a perfect opportunity to reach out to the public and introduce them to our fast growing society.

As President, my major goal for this year is the doubling of our membership. With Astronomy Day upcoming, and aggressive publicity in conjunction with it, this goal may become elementary.

-- Curt Roelle

WAS Members Obtain 17.5" Reflector

At a January meeting in Tucson of the American Astronomical Society, Mike Potter was talking with a friend from Columbia University. Mike was describing a project that he initiated to construct an instrument to be used for photometry when he was told that if he was willing to transport it, a 17.5" Odyssey II by Coulter Optical could be his.

In the pre-dawn hours on Wednesday January 23, Blaine Roelke and Mike drove Blaine's pickup to the Harvard-Smithsonian Center for Astrophysics in Cambridge to collect on the offer. Unfortunately, no one at their destination knew the whereabouts of the instrument. After waiting over two hours, they were instructed to drive to the south Massachusetts home of John Wright Briggs, who conducts the "Amateur Astronomers" column in Sky and Telescope magazine.

Luckily the telescope was found. While there Blaine and Mike toured Mr. Briggs' domed observatory in which he keeps an 8" refractor, and a number of smaller antique refractors.

In addition they transported a 10" Cave Newtonian to NYC. This instrument belongs to the former owner of the 17.5", and it was delivered as a favor in return for ownership of the 17.5".

The 17.5" optics are to be remounted into a new instrument which is now being constructed by Mike.

February Star Party

The star party for February will be held starting at 7:30 p.m., Saturday February 9, at Blaine Roelke's observatory in Keymar. Although a three-quarter moon will rise just after 10:30, the new 17.5" Dobsonian will see its first light after arriving from Massachusetts.

Blaine's address is 6700 Keysville Road. Directions can be found in the December newsletter, or by calling Blaine at 756-2886.

Dining With Our Speakers

In appreciation of those who journey to Westminster to visit our club and speak, WAS shall take them to dinner beginning with the first lecture of 1985 this month. For those months with outside speakers, the speaker will meet the club before the meeting at Fan's Chinese restaurant, 59 W. Main St. in Westminster, around 6:15.

Those who attend buy dinner for themselves including tip. The club treasury will purchase dinner for the guest. Individual dinners at Fan's usually run about \$6 to \$9, plus beverage.

Orion The Hunter

When it comes to stellar constellations, Orion is the signpost of winter. The British author Peter Lancaster Brown describes Orion as "One of the most beautiful constellations in the entire heavens and so distinctive that even the most dilatory of stargazers will never forget its configuration once they have seen it."

A fairly complete account of the mythological significance of Orion may be found in the column entitled "Skylore", in the January 1981, January 1983, and September 1983 issues of Astronomy magazine. Although believed to have been a real person who lived around 700 B.C. in the court of Periander, ruler of Corinth, Orion is remembered primarily through legend and myth.

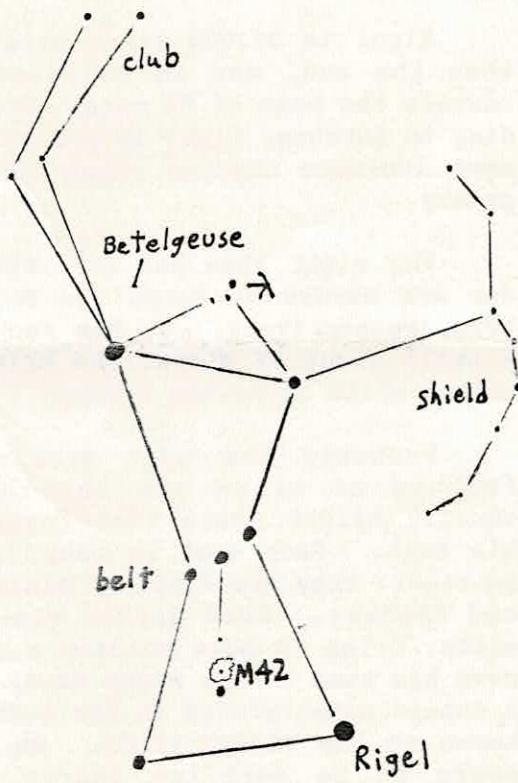
A most unusual tale is that of Orion's birth. Zeus, Poseidon, and Hermes, having disguised themselves as mortals, visited Hyrieus, king of Hyria in Boeotia. The king was such a generous host that his guests revealed their true identities and offered to grant a wish. Hyrieus wished for a son. The three gods then urinated on a side of beef and buried it in the ground. Nine months later Orion emerged from his mother Earth.

Naturally, there are many other tales regarding the circumstances of his birth and the identity of his parents. Space would not permit even a small subset of such legends to be repeated here. Burnham's Celestial Handbook discusses the alleged causes of Orion's death.

In the figure formed by Orion's stars he is represented during a hunt with the goddess Diana, a fellow hunter and lover. Homer does refer to Orion as "the tallest and

most beautiful of men", so we can credit Diana for her taste. For city bound dwellers affected by the pollution of artificial outdoor lighting, the constellation is identified by the four corner stars, and three stars of his belt.

The star Betelgeuse means "armpit of the giant", and marks Orion's right shoulder. Betelgeuse is a gargantuan red supergiant star 20 times more massive than our sun, and 14,000 times more luminous. One may imagine how impossible life would be on Earth were our sun to be replaced with Betelgeuse. The star pulsates irregularly over a period of decades, causing its diameter to shrink and swell from 480 million to 800 million miles, with its average diameter being 735



times that of the sun. Except when at its smallest size, Betelgeuse would contain the orbit of Jupiter whose orbit is 5.2 times larger than Earth's. Such an extended size means the average density of Betelgeuse is ten thousand times thinner than air.

Surely great Betelgeuse is the epitome of the adverbial use of the term "astronomical". This star is located 520 light years from earth. From this distance our sun would be a 10.8 magnitude star invisible to the naked eye.

Orion's left knee is marked by Rigel, the "left leg of the giant". Like Betelgeuse Rigel is also a supergiant, but it is blue instead of red. Rigel is estimated to be 900 light years away, almost double the distance of Betelgeuse. While farther away, Rigel outshines Betelgeuse being the 7th brightest star in the sky, while Betelgeuse is number 11.

Rigel is 57,000 times brighter than the sun, and is believed to contain the mass of 50 suns. According to Burnham, Rigel is one of the most luminous objects known in our galaxy.

The right knee and left shoulder are marked by Saiph and Bellatrix, respectively. At his neck is a small group of stars, the brightest of which is Lambda Orionis (λ).

Probably the most prominent feature of Orion are the three equally bright stars that comprise his belt. From east to west (left to right) they are Alnitak, Alnilam, and Mintaka. From darker viewing sites, Orion is seen holding a club over his head in his right hand, and a shield outstretched in the left as shown in the illustration. He appears to be battling Taurus the Bull, as his faithful hanging dogs Canis Major and Canis Minor look on.

Below his belt hangs a sword. Three or so stars form the sword and we draw special attention to the center member. This star is the center of the "Great Orion Nebula", or M42/M43. This diffuse nebula is the birthplace of new stars, or a stellar nursery. Gas knots and dark "globules" indicate regions where new stars, still in their stellar cocoon, are waiting to burst forth shining. For now they may only be observed by infrared and radio telescopes by the heat that radiates out of their dusty envelope.

The nebula may be seen with binoculars. Larger telescopes with wide-angle eyepieces show the mottled almost smoke-like texture of the nebula. At its edge, a large black empty space known as the "Shark Mouth" may be seen. This is actually a foreground portion of the nebula, lacking the bright internal stars that cause the rest of the nebula to glow.

In the center of the nebula may be seen a tiny knot of four hot blue stars called the "Trapezium". The Trapezium is one of the best known examples of a multiple star system. These four stars are at the center of a cluster that contains an estimated 300 faint stars.

These are only the highlights of this magnificent constellation. Orion contains many other deep-sky objects and nebulae. The Milky Way crosses the constellation making the area rich in stellar and non-stellar objects.

Orion is located along the celestial equator and will be due south, 50 degrees above the horizon at the following times of the year:

12:00 a.m. EST, December 15	
10:00 p.m. January 15	
08:00 p.m. February 15	

February Planetarium Show In Gettysburg

On February 17 the Hatter Planetarium will present "The Realm of the Galaxies". Meet in the rear parking lot of the Lewis Science Hall at 2:15 to organize carpooling. The show is free and for further questions call Curt Roelle at 848-6384.

Orion Constellation Guide

This month Orion the Hunter, king of the winter sky, is featured in the WAS constellation guide. Next to the "Big Dipper" Ursa Major, Orion is the best known constellation.

Baltimore Possible Site of 1987 or 1988 National Convention

The Baltimore Astronomical Society is planning to host the national convention of the Astronomical League, a federation of American amateur astronomy clubs, in either 1987 or 1988. The 1987 date was originally selected because as yet no society had offered to host the convention.

A convention in 1988 is more attractive for several reasons, however. Besides giving an extra year for planning, a major focus of the convention will be the Space Telescope, which is expected to have been operating for a year by convention time. Space Telescope will be operated from the Johns Hopkins Homewood campus in Baltimore. An unwritten "rule" states that annual conventions alternate from coast to coast. Since the 1986 convention is to be held in Pittsburgh, the next east-coast opportunity to host the national convention would be 1988.

WAS member Mike Potter is chairman of the convention committee. Mike, a member of the BAS, has suggested that the BAS first host a regional convention to practice for the big event. On the whole, the Middle East Region which serves the Maryland area, is not a very active region. BAS hopes to revitalize this region.

At the present time, WAS is not affiliated with the Astronomical League although several of its members are through other clubs in the area. It is hoped that by convention time, WAS will have grown and have become an A.L. member.

National Election Gives Space Green Light

NASA administrator James Beggs feels that the re-election of President Ronald Reagan assures four more years of space development. Alluding to fear of a Mondale victory Beggs said, "I think Fritz would have put the quietus on the space station...Mondale had a pretty bad record on space and high technology." It is believed that if the presidency had changed hands, the manned space station would have been cancelled, or its schedule would have been stretched to a lethal extent.

Planetary science missions through the mid-1990's include the Galileo Jupiter orbiter, the Venus Radar Mapper, and the Mars Polar Orbiter. Deep space research will include the Space Telescope, the Gamma Ray Observatory, and the Solar Optical Telescope. The space sciences budget has increased from \$900 million to \$1.6 billion over the last four years. (ref: Aerospace America)

February Calendar

FEB 9: 7:30 p.m. Star Party at Blaine's
17: 2:15 p.m. Meet at WMC - Planetarium in Gettysburg
19: 1:43 p.m. New Moon
26: 1:00 p.m. Venus at greatest brilliancy
27: 6:15 p.m. Dinner with speaker at Fan's Restraunt
7:30 p.m. WAS monthly meeting at Lewis Hall

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Westminster Astronomical Society

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