

OBSERVATIONS

A MONTHLY PUBLICATION OF THE
CHESTER COUNTY ASTRONOMICAL SOCIETY

★President: Edwin Lurcott
★Treasurer: Pete LaFrance

SEPTEMBER 1995

(VOLUME 3, NO. 9)

★ Vice President: Jim Sylvester
★ Secretary: Nancy Armstrong

CCAS SEPTEMBER MEETING

DATE: **Tuesday, September 12, 1995**

TIME: 7:30 PM EDT

PLACE: Planetarium (room 186)
Schmucker Science Center
West Chester University

LOCATION: South Church St. & Rosedale Ave.
West Chester, PA (see maps)

Starting with the September 12th meeting , we will resume meeting at our normal time and place. We'll be meeting the second Tuesday of each month at 7:30 PM in the planetarium (room 186) located in the Schmucker Science Center at WCU. Parking may still be a problem because of building construction. However, the large parking lot southeast of the intersection of Rosedale Ave. and South High Street is available.

This month Mike Tucker will be describing his visit to Arizona's Kitt Peak National Observatory, with side trips to Meteor Crater and the Grand Canyon. His talk is fully illustrated with colorful slides. Anyone who has heard one of his previous talks will attest to the wealth of information he presents, and to the quality of his slides. It should be a good presentation to start off the fall program!

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SEPTEMBER OBSERVING SESSION

On Friday Sept. 22, 1995 Pete La France is hosting this month's observing session at his home: 413 Church Road in Avondale, PA (see map). Pete's number is 268-2616 if you have difficulty finding his house. Pete has been taking more astrophotos this summer to add to his collection. All members are invited and may bring their own telescopes , and set them up in the yard next to his observatory. If the weather is obviously not good for observing you may come the next night, Saturday September 23.

AUGUST CCAS MEETING

The August meeting was held at the Brandywine Valley Association on Friday August 18. Hazy skies on Friday night prevented any serious observing. Some suggested returning to BVA on Saturday. Those who did were well rewarded, for the skies cleared, the humidity dropped, and the stars were crystal clear! The larger `scopes went for some very deep sky objects with success. Smaller `scopes were rewarded as well with excellent views of Jupiter, Saturn, Uranus, Neptune, and some of the brighter deep sky "fuzzies". Some members stayed until well after midnight. It proved to be the best observing session so far this year. If you missed it perhaps we will have such luck again soon.

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IMPORTANT CLUB BUSINESS

Enclosed is a page describing proposed changes to the Society's Constitution. Please read it carefully, ask Ed any questions you have, and follow the directions for casting your vote on these matters. Please return ballots to the Society's Secretary: Nancy Armstrong
200 Westbury Court
Downingtown, PA 19335

Other Business:

Membership cards will be available from the Treasurer, Pete LaFrance, at the September meeting.

The Society still has an urgent need for a Program Chairperson.

The 1995-96 budget will be available for review at the September 12th meeting.

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DOUBLE STARS, ANYONE? By Ed Lurcott

Moonlight, hazy summer skies, and light pollution discourage you from getting out your `scopes? Can't see much under such conditions? Not quite so. These conditions very often are coupled with a very steady atmosphere resulting in steady images of stars, which is just right for observing double and multiple star systems.

In the nineteenth century, the primary function of most observatories was to observe, measure and record the position angle and separation of visual binary stars. Knowing these properties permitted the calculation of the stars' masses independent of any other properties. Masses and luminosities allowed the estimation of many other properties of these stars which could not be otherwise determined. Thus the observation of visual double stars was of great importance to the advancement of astronomical knowledge of that time.

With the advent of bigger and better telescopes in this century, professionals turned their interests to ever deeper space, to astrophysics and cosmology. Only a few professionals world-wide still measure the many thousands of visual binaries. As a result many pairs go unobserved for long periods of time, leaving gaps in their observed motions.

Smaller telescopes often have advantages over larger ones for detecting close pairs and even determining their colors. Larger `scopes lose resolution due to atmospheric turbulence and tend to wash out any hint of color. Telescopes from 4 to 8 inches are therefore sometimes preferred. A review of lists indicating the "best celestial objects" often include many of the brighter double or multiple star systems. In their booklet *The Finest Deep-Sky Objects*, published by Sky Publishing Co. in 1966, James Mullaney and Wallace McCall listed 105 objects, over half of which were double or multiple star visible with small `scopes. Enclosed is a list of 25 double stars taken from *The Finest Deep-Sky Objects*, where the right ascension is between 15 hours and 24 hours (which means they are well placed for viewing in the summer and autumn). All primary stars in this list are 5th magnitude or brighter. How many can you pick out, and how many can you resolve? What colors do you see?

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STELLAR TALES By Jim Anderson

One of the voices in the dark at the August club meeting and observing party expressed an interest in where the names of stars come from, and what they mean. So here's a tale of three stars: *The Summer Triangle*, made up of *Vega*, *Deneb*, and *Altair*.

Altair is pretty much just part of the Arabic name for the whole constellation *Aquila*, the Flying Eagle (sometimes the Black Eagle). There are various versions of the constellation's name in different Arabic sources, such as *Al Okab*, *Alhhakhab*, *Al Nasr al Tair*. The last example is where we get the name *Altair*, of course. It doesn't appear to have any special meaning, I'm sorry to say.

Deneb is at one end of *Cygnus*. *Cygnus* is also known as *The Northern Cross*; if you look at the constellation that way, *Deneb* is at the head of the Cross. Looked at as a swan, though, *Deneb* is at the tail; and that's where it gets its name. Once again, like most star names, it comes to us from Arabic sources. The Arabs saw the constellation as a hen, *Al Dajajah*. Our *Deneb* come from the full Arabic name for the star, *Al Dhanab al Dajajah*, meaning "The Hen's Tail". That's easy to remember, then; *Deneb* means Tail (of the Swan or Hen).

You guessed it, we get the name *Vega* from Arabian culture. It appears to be from part of their name for the constellation, *Al Nasr al Waki*, "The Swooping Eagle". Medieval Arabic star charts also spell *Waki* as *Waghi*, *Vagieh*, and *Veka*. From those variants and/or corruptions, we get our name *Vega*.

Part of the reason that parts of constellation names became the name of stars is that the Arabs frequently used just one star for a sky figure, or constellation. It may be that the names became shortened to one word over time, using the distinguishing word in the full name. In our examples, two constellations were seen as eagles, *Al Nasr al tair* and *Al Nasr al Waki*. So the distinguishing parts of the names became the name of the brightest star in the constellation, which the Arabs tended to see as the whole constellation anyway.

These three examples also illustrate the cross-cultural currents of the science of astronomy: Arabic star names, Greek constellations, and from later times, Western Christian reinterpretation of some sky figures. So come out to the next star

party, gaze up at the beacons of The Summer Triangle, and call them by name like old friends, whose history you know. And at the same time be part of something bigger than yourself, bigger than any one nation or culture. Enjoy!!

References:

Star Names, Their Lore and Meaning by Richard H. Allen
Burnham's Celestial Handbook, vols. 1 & 2 by Robert Burnham, Jr.



Tip on good book bargains from The Bookworm

On August 19 I was shopping at *Baldwin's Book Barn*, along Route 100 south of West Chester. In their astronomy section (in section 4A of the barn) they had two complete sets of *Burnham's Celestial Handbook* (a three volume set) in hardcover! All six books appeared to be in fine shape, and were marked at \$10-12 a book (\$30-36 for a complete set). *Burnham's*, while dated in some respects, is still a treasure trove of info for amateurs. I've seen it for sale in stores, from mail-order vendors, etc., but only in paperback form. I thought I'd pass this tip along in case anyone's interested. Since I already had a full set in hardcover, both sets were still there when I left the barn...



Contributing to the newsletter

Contributions of articles relating to astronomy and space exploration, sketches of observations, maybe observing "challenge lists", etc. are always welcome. This is **your** club newsletter; contribute as often as you like. Such contributions can be handwritten, typed, or be on computer diskettes (I use Microsoft Word for Windows). If you don't feel too confident about your writing skills, but have an idea or info you'd like to share with the club, contact me and we'll work something out. Please don't let good ideas or knowledge get lonely! Share it with the club!

Newsletter Editor: James (Jim) Anderson
1086 King Road Apt. IVY-312
Malvern, PA 19355
Home phone: 993-0261



Membership Renewals

Many members have already renewed their membership, but there are some who have not. Now is a good time to check the date printed on the address label of this issue. If you are due to renew, you may send your renewal check made out to our Treasurer, Pete LaFrance.

Mail to: **Pete LaFrance**
413 Church Rd.
Avondale, PA 19311.

FALL SCHEDULE

Meeting dates for the remainder of this year are:

October 10 7:30 PM EDT
November 14 7:30 PM EST
December 12 7:30 PM EST

Mark your calendars now as to not miss a meeting!



CCAS's Purposes

The Chester County Astronomical Society was formed in September 1993, with the cooperation of West Chester University, as a non-profit organization dedicated to the education and enjoyment of astronomy for the general public.

The society holds meetings with speakers and observing sessions once a month. Anyone who is interested in astronomy or would like to learn about astronomy is welcome to attend meetings and become a member of the society.

MEMBERSHIP INFORMATION

The present membership rates are as follows:

REGULAR MEMBER

(18 years or older)\$20/year

SENIOR MEMBER

(65 years or older)\$10/year

STUDENT MEMBER

(full-time college student) \$ 5/year

JUNIOR MEMBER

(under 18 years old)\$ 5/year

For further information on membership or society activities you may call:

President: Edwin Lurcott (610) 436-0387
Vice Pres: Jim Sylvester (610) 696-1102
Treasurer: Pete LaFrance (610) 268-2616
Secretary: Nancy Armstrong (610) 873-7531
Public Rel: Kathy Cseke (610) 644-9543
Obs Chm: Mike Tucker (610) 584-8236

