



Observations

2006 Winner of the Astronomical League's
Mabel Sterns Best Newsletter Award

A Monthly Publication Of The

CHESTER COUNTY ASTRONOMICAL SOCIETY

OCTOBER 2006

(VOLUME 14, NO. 10)

Visit our website at www.ccas.us

In This Issue

The Sky Over Chester County: October 20062
 October Observing Highlights.....3
 Through the Eyepiece: The Pleiades.....3
 CCAS Observing Session.....3
 CCAS October Meeting4
 Fallen Star: Sylvia Hogate4
 Welcome!.....4
 Treasurer's Report & Membership Renewals.....4
 Minutes from CCAS September Meeting.....5
 Jim Anderson Receives *Mabel Sterns Award*.....5
 Notes on Various Star Parties6
 Astroimages by Pete LaFrance.....6
 "Astronomus," by Bob Popovich7
 NASA Space Place10
 Cartoon by Nicholas La Para.....11
 CCAS Information Directory 12-13
 Map for Brandywine Valley Association.....14
 Map for West Chester University15

Important October 2006 Dates

- 3** Hercules Observing Cluster meets.
Call Kathy Buczynski at 610-436-0821 for details.
- 6** Full Moon—the Harvest Moon.
- 9** The waning gibbous Moon crosses the Pleiades, temporarily occulting some of them.
- 10** **CCAS Meeting 7:30 p.m.** EDT (see page 4)
Location: West Chester University
COM: Lyra
Presentation: The Astrolabe
Also: Hercules Observing Cluster meets.
Call Kathy Buczynski at 610-436-0821 for details.
- 13** Last Quarter Moon.
- 16** Get up at 3:00 a.m. to see the waning Moon with Saturn below it.
- 16** Just after sunset look for Mercury below brighter Jupiter just above the western horizon.
- 17** Hercules Observing Cluster meets.
Call Kathy Buczynski at 610-436-0821 for details.
- 20/21** **CCAS Observing Session**
Location: Brandywine Valley Association
Time: sunset, or earlier (see page 3)
- 22** New Moon.
- 26** Deadline for contributions to the November issue of *Observations*.
- 29** **End of Daylight Savings Time** for 2006 at 2:00 a.m. EDT: turn clocks **back** one hour.
Also: First Quarter Moon.

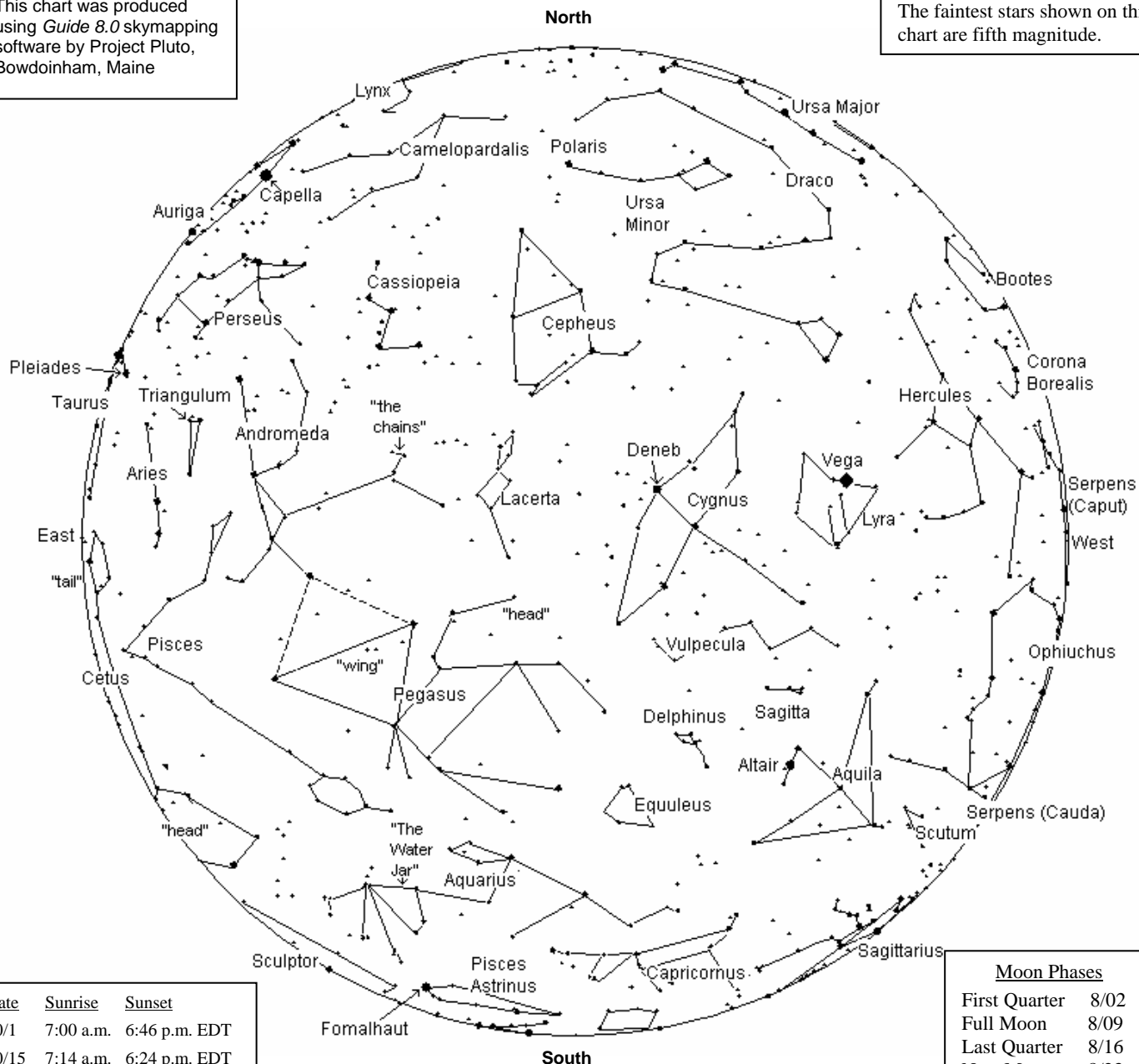


For Sylvia



This chart was produced using *Guide 8.0* skymapping software by Project Pluto, Bowdoinham, Maine

The faintest stars shown on this chart are fifth magnitude.



Date	Sunrise	Sunset
10/1	7:00 a.m.	6:46 p.m. EDT
10/15	7:14 a.m.	6:24 p.m. EDT
10/30	6:31 a.m.	5:04 p.m. EST

Moon Phases	
First Quarter	8/02
Full Moon	8/09
Last Quarter	8/16
New Moon	8/23
First Quarter	8/31

The sky over Chester County October 15, 2006 at 9:00 p.m. EDT

The Planets, by Don Knabb

Mercury: With a good western horizon Mercury can be seen very low at about mid-month.

Venus: Venus is in superior conjunction on October 27 and is not easily observed until early December.

Mars: Mars is lost in the glare of the sun by mid-month and will not be easily viewed until December.

Jupiter: In October Jupiter is getting lost in the southwest evening twilight. Binoculars are needed for finding Jupiter this low and dim in the twilight.

Saturn: Saturn is in Leo during October and rises near 1 a.m. It is nearly 40 degrees high at the beginning of morning twilight. When you go out to get the paper look to the southeast and find handsome Orion. Then to his lower left is Sirius, further yet to the

left (east) is Procyon in Canis Minor and then the next bright object is Saturn! Look for it!

Uranus & Neptune: Both gas giants are in reasonably good position for viewing around mid-evening. The May issue of *Sky and Telescope* magazine has charts to help you find the blue and green planets. If you don't have that issue send me an e-mail (observing@ccas.us) and I can scan it and send you a copy, or we can try to find them during our star party at Brandywine Valley Association on October 24th

Pluto: Pluto is in the evening sky, but to find this 14th magnitude speck you'll need at least a 10 inch telescope and good charts, not to mention clear skies!

Note: the constellation stick figures used on the chart above were adapted from the book *The Stars: A New Way to See Them*, by H. A. Rey. This excellent guide to learning the constellations can be purchased at many area book stores, or online.

October Observing Highlights

by Don Knabb, CCAS Observing Chair

Planets: The evening sky in October is sadly without planets. Jupiter and late in the month Mercury, can be caught low in the southwest after sunset but both are out of sight by the time it is dark. By mid-evening you can find Uranus and Neptune in the south and southeast respectively. The best planet viewing during October is without a doubt Saturn. So before we turn the clocks back to Eastern Standard Time get out around 6:00 a.m. and see the shining ringed beauty in the pre-dawn glow in the east.

Constellations: During October we begin to lose the summer triangle and all the delights it holds, but here come the fall and winter treasures! The dim but huge Great Square of Pegasus dominates the southern sky and by 9:00 we can find the jewels of the night—the Pleiades rising in the east. Stay up late and Taurus the Bull leads Orion the Hunter up from the eastern horizon.

Deep sky: The deep sky highlight of this time of year for me is the Andromeda Galaxy, M31. You don't need to be up late to catch the wonderful Double Cluster in Perseus and the compact star cluster M34 is just a bit to the south, also in Perseus. Stay up until 10:00 and you can see the star clusters in Auriga rising: M36, M37 and M38.

Meteor shower: The Draconid meteor shower occurs on October 8, but the Orionid meteor shower on October 24th will be a better show. At that time the Moon is new and we can expect to see up to 20 meteors per hour during the pre-dawn hours.

- October 6** Full Moon, the Harvest Moon.
- October 9** The waning gibbous Moon crosses the Pleiades, temporarily occulting some of them.
- October 13** Last quarter Moon.
- October 16** Get up at 3:00 a.m. to see the waning Moon with Saturn below it.
- October 16** Just after sunset look for Mercury below brighter Jupiter just above the western horizon.
- October 22** New Moon
- October 29** First Quarter Moon.
- October 31** For Halloween, the Moon, just past First Quarter phase, shines in the south.

★ ★ ★ ★ ★

Through the Eyepiece: The Pleiades, Jewels of the Night

by Don Knabb, CCAS Observing Chair

This month the “eyepiece” is a set of binoculars. The subject of this article covers too much sky to be seen in most telescopes. But I don't mind setting my telescope aside at this time of the year. As the end of October nears I look forward to crisp, clear nights that are not too cold for a good observing session. One of the many sights I look forward to is M45, the Pleiades.

The Pleiades is an open cluster in the constellation of Taurus, but I think of them as an object of their own. It is among the nearest to Earth of all open clusters and has been observed since ancient times. No wonder, they are indeed the jewels of the night sky.



Image source:

http://en.wikipedia.org/wiki/Image:Pleiades_large.jpg

The Pleiades are mentioned three times in the Bible, in Homer's *Iliad* and *Odyssey*, and were known to Australian Aborigines and the Sioux of North America.

The Pleiades are a true cluster, not a chance alignment of stars near and distant. But you had better hurry and study these gems since astronomers estimate that after about 250 million years the cluster will have dispersed due to gravitational interactions with the spiral arms of the galaxy and giant molecular clouds.

The Pleiades also carries the name "The Seven Sisters" but only 6 stars stand out under Chester County skies if you have good vision. I immediately grab my binoculars for the best view of this cluster. The total star count in the cluster is estimated at 500, these are mostly faint stars that spread out over a piece of sky four times the diameter of the Moon.

The Pleiades are easy to find in the late October sky but are better viewed in winter when they are higher in the sky. Look for Aldebaran, the eye of Taurus the Bull, then look up and to the right. The cluster is a great object in binoculars or a rich-field telescope, showing more than 100 stars.

A sure way to get a “WOW” from a friend new to studying the night sky is to mount your binoculars on a tripod and put the Pleiades in the field of view. Share this wonderful sight with your friends and family!

★ ★ ★ ★ ★

CCAS Observing Session

October 20/21, 2006

CCAS Observing Sessions will be at the Brandywine Valley Association's Myrick Conservancy Center (see map on page 14) on Fridays starting at sunset; or earlier, if you can get there earlier. If it's too cloudy on Friday, then the Observing Session will be on the next day, Saturday. At the observing sessions, there will be help available to set up and use your telescopes. If you're having trouble using your telescope, or

finding your way around the sky, come on out and get some assistance. All members are invited whether they have a telescope or not. Telescope owners are always glad to share the view through their telescope. CCAS Observing Sessions are free of charge and open to the public.

★ ★ ★ ★ ★

CCAS October Meeting

DATE: **Tuesday October 10, 2006**
 TIME: **7:30 p.m. EDT**
 PLACE: Room 113 – Boucher Building
 West Chester University
 LOCATION: South Church Street
 West Chester, PA

Please note that the October meeting will start at 7:30, which is the usual starting time.

A map of the campus showing the location is on page 15.

This month’s Constellation of the Month (COM) will be Lyra, presented by Don Knabb.

The title for the main presentation is “The Astrolabe,” presented by CCAS member Bob Popovich. For more information about this topic, see Bob’s monthly Astronomus article on page 7. Many thanks to Bob for putting this presentation together for us!

★ ★ ★ ★ ★

Fallen Star: Sylvia Hogate

by Kathy Buczynski, CCAS President

This past month the Society lost one of its most enthusiastic members. Sylvia Hogate joined the Society in October of 1998, shortly before our second field trip to Sproul Observatory on the grounds of Swarthmore College. Through their 24” refractor, Sylvia experienced “first light” looking through a telescope. Her first view was of Saturn. Can you imagine? The first time you look through a telescope, you’re perched on a ladder looking at the most beautiful object in the solar system using a telescope with a 36 foot focal length! I remember the excitement in her voice. I’m not sure if any other view compared with that, but she was ready to buy some equipment of her own. And so she did.

I would run into Sylvia at the Wawa on West Chester Pike where her duties included keeping the coffee area clean and well stocked. She would always find the time to talk about astronomical happenings and would complain that the lights from the car dealership across the street were very annoying. She always would offer to put up flyers for the class at the Wawa and keep them posted in her car as well.

She attended many meetings at West Chester University but couldn’t make the observing sessions because of her early morning work schedule. However, she was always up to date on what was going on astronomically. Sylvia took the day off and was in attendance with us as we watched the Transit of Venus in June of 2004. To my knowledge, it was the last time she participated in a Society event.

Recently Sylvia donated her entire (and sizable) astronomy book collection to the CCAS Library. It is being catalogued and prepared for lending. Currently, Ed Lurcott is in possession of her observing equipment; it was for sale. But Ed

says the relatives told him Sylvia’s care costs were all paid for, and they were in favor of donating the equipment to the Society for use as a lending telescope (and binoculars). This is not finalized yet, however; we’ll update the members when that matter is cleared up.



Sylvia Hogate at the Transit of Venus party, June 8, 2004.

Sylvia’s infectious enthusiasm was a real source of inspiration for all who met her. She will be greatly missed by those of us who were privileged to know her. Her memory will remain alive with us, every time we use one of her books, use her telescope, or even whenever we look at Saturn.

“Though my soul may set in darkness,
 it will rise in perfect light;
 I have loved the stars too fondly
 to be fearful of the night.”

from *The Old Astronomer to His Pupil*,
 a poem by Sarah Williams (1837-1868)

★ ★ ★ ★ ★

Welcome!

We welcome a new member to the Society this month: Paul Morgan, of Chester Springs. We’re glad you decided to join us under the stars in Chester County! Clear skies!

★ ★ ★ ★ ★

Treasurer’s Report by Bob Popovich

August 2006 Financial Summary

Beginning Balance	\$1,356
Deposits	78
Disbursements	<u>33</u>
Ending Balance	\$1,401

Membership Renewals Due

- 10/2006 Anderson
- Angelini
- Charitnonchick

End
 Hillenbrand
 Massarella
 Padgett
 Vely
 11/2006 Athens
 Bower
 Buczynski
 Cook
 Hepler
 Malloy
 Murray
 12/2006 Duncan
 Roseberry

Membership Renewals

You can renew your CCAS membership by writing a check payable to “Chester County Astronomical Society” and sending it to our Treasurer:

Bob Popovich
 416 Fairfax Drive
 Exton, PA 19341-1814

The current dues amounts are listed in the *CCAS Information Directory* on page 13 in this newsletter.



Minutes from CCAS September Meeting

by Vic Long, CCAS Secretary

For the meeting held on Tuesday September 12, 2006.

Main Presentation:

“Super Star Clusters in Our Own Backyard,” presented by Dr. Marc Gagné, professor of astronomy in the Department of Geology and Astronomy at West Chester University. Dr. Gagné’s astronomy class also attended.

Awards:

Jim Anderson won the 2006 Mabel Sterns Award for excellence in newsletter editing from the Astronomical League and was presented with a commemorative plaque

Constellation of the Month:

Sagitta was presented by Jim Anderson.

New Benefit for Members:

Jim Anderson provided Advantage discount cards for High Point Scientific in Montague. NJ. Anyone in CCAS is eligible.

Reports:

Treasurer: Bob Popovich reports our finances balance seems to have reached a steady state value.

Website: John Hepler announced new pages for next month. Suggestion was made to put a tagline on website and newsletter citing awards received. Believe website had such a tagline.

US Naval Observatory trip: Linda has received only two positive responses; will try again.

Library: Library continues to grow. Sylvia Hogate gave donation of books to library now available.

Observing:

- Next session 22/23 BVA;
- Springford Observing night (adult school) on Wed 27th. From Phoenixville go N on 29 over the river, turn left ¼ mile and drive to held at the headquarters of the Schuylkill Canal Association. May need scopes.
- Mercury transit Sun Wed 8th: Good places to observe western horizon from near Chester County Airport; also from tennis courts on West Chester University south campus.
- Idea rose about a West Chester star party in fall or spring.

Program: Jim Anderson has presentations lined up for Oct-Nov. He is looking for presentations and Constellation of Month for Jan-March.

Election: 2007 is election year for CCAS; election committee forming in March

Star Parties: York County Astronomical Society will host the 17th annual Mason-Dixon Star Party on October 18th - October 22nd.. Fees and info at

<http://masondixonstarparty.org/>



Jim Anderson receives Mabel Sterns Award

by Kathy Buczynski, CCAS President



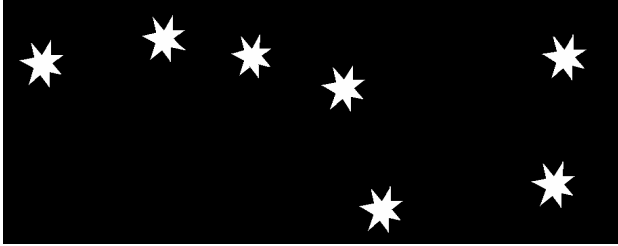
At our September meeting, Jim Anderson received his first-place plaque for the Mabel Sterns Award for Outstanding Newsletter. We all know that the newsletter is outstanding. Jim does a great job and this award is well-deserved.

Congratulations again, Jim.

From Jim: I thank Kathy for nominating me, and the Astronomical league for favoring me with this prestigious award. I also thank Kathy, and past presidents Ed Lurcott and Mike Turco, for encouraging me to keep developing and improving the newsletter. And I thank our members who give me such good suggestions and contributions for the newsletter: especially Don Knabb, Bob Popovich, and Nicholas LaPara who supply material every month, twelve months a year! Most of all, I thank my wonderful wife Donna

for her patience and support with my “second job” (she even proof reads it for me; when you see typos it’s because I was in a hurry and didn’t have her proof it before I sent it out). Our outstanding newsletter would not be so great without all this help! My thanks go out to all of you!

★ ★ ★ ★ ★



★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★

Oct. 20-22, 2006: Stella Della Valley Starfest

This 20th annual star party will be held at Camp Onas, Ottsville, PA, and is sponsored by the Buck-Mont Astronomical Association. Vendors, swap meet, pizza party, door prizes, raffles, and even some stargazing. For more information, visit the website:

<http://www.bma2.org>

★ ★ ★ ★ ★

October 18-22, 2006: Mason-Dixon Star Party

This annual star party in York County PA has been moved to October (it was previously held in late May or early June). See the website for more info:

www.ycas.org

Astroimages

by Pete LaFrance

I believe I have sent you M42 before, but I felt the detail of this image is pretty good. NGC 1977, a blue reflection nebula in the upper right corner, is more prominent than in previous images of this area that I have taken.

M42: Orion 120mm f/5 telescope with SBIG ST8-XME CCD imager, processed with Maxim/DL and Photoshop Action tools.
Exposures: Blue 3 x 5min. Red 3 x 5min. Grn 3 x 5min.



Exposure: through an HA filter, 55 min. total exposure.



Astronomus

“Don’t Leave Home Without It”

By Bob Popovich

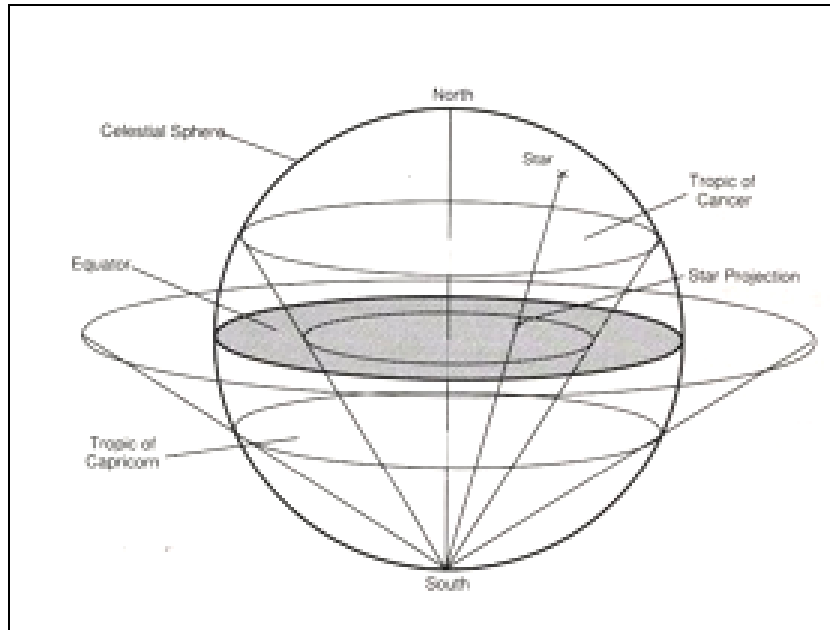
In this installment I offer a sampler of the topic slated for our October meeting (Tuesday, October 10). Ours is a technologic society. Forward seems to be the direction in which our gaze is firmly fixed. We crave new information (*knowledge?*) and a sense of how it might affect us in the future. New is exciting and full of promise. And old is, well, old. This is a bit sad. And a process quite incomplete.

Would not our appreciation of the *new* be richly embellished by a sense of how we got to this new place to begin with? That is to say, before we look forward, we should glance at what came before. Pause long enough to recall the effort and **achievement** of those who discovered, developed and documented the tools that were employed to give us the new. Those who answered questions previously unanswered.

Broadening of our timeline, I submit, is particularly rewarding with observational astronomy—good, old-fashioned stargazing. Each and every time we raise our eyes heavenward, think about how much we benefit from the gifts of those who came before. Tools that, if they weren’t at our disposal, we’d have to invent. The constellations, the Messier list, the planisphere. And even time telling itself is among the tools of yesterday that allow us to probe into tomorrow. Oh wait—there’s one more I’d like to include. The **astrolabe**. A tool that occupied a central role in astronomy for centuries. A tool that has immensely helped my understanding of celestial mechanics. And a tool that incorporates some pretty fancy science and is darn clever, to boot. I hope you’ll allow me to introduce this instrument to you at this time and that you’ll join me at our October meeting for some hands-on exposure.

As its foundation, the astrolabe uses a stereographic projection of the sky. Prior to the advent of spherical trigonometry (!) this enabled astronomers to display a view of the heavens that would allow examination of many aspects of its motion while maintaining the principle of “preserving the phenomena,” i.e., that the results would be accurate under a variety of scenarios without fiddling with

the observed phenomena in any way. If you think about it, this principle is very important in the development of the scientific method as it concerns the physical sciences.



Notice that the projection emanates from the south upward. Yet, it is viewed from the north downward—the way we look at a terrestrial map and not how we use a planisphere. On the 10th we'll see the effect of this perspective. But like a planisphere, the longitude of the user is of no consequence. Latitude, however, is crucial for tasks such as determining the time, the particulars of sunrise and sunset, as well as verifying a star's altitude.

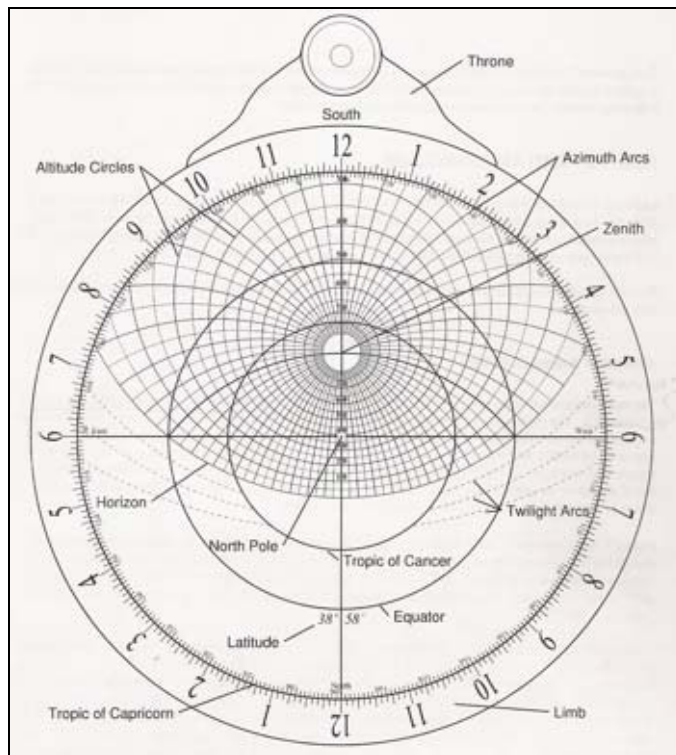
You can probably guess that this geometric projection comes to us from the Greeks. They were a clever lot, weren't they? Early work on this form of projection is seen in the 5th century BC. Written records on Hipparchus clearly describe his mathematical proofs of several aspects of stereographic projection, while Ptolemy described his own work with a *planispherium* that may have been a prototype of the instrument that we'll work with on October 10. Used primarily as a timekeeping device and as a means of developing astrological aspects, it was, in its pocket form, something that a learned man would always have at hand. It was—and remains—a tool that it offers invaluable insight into the mechanics of the heavens. Now before your blood pressure rises at the mention of astrology, you will recall that great astronomers of the past like Kepler and Brahe worked out the aspects of the zodiacal constellations and then sold the data to those who, in turn, interpreted them for wealthy patrons and royalty (*A fool and his money are soon parted*). This provided a convenient means for astronomers to fund **their** true desire—studying the universe.

Even though we have to peer through a bit of an historical fog to trace the roots, there is little doubt that the astrolabe was in use by the 7th century AD. But as Europe was poised to enter what we affectionately term the "Dark Ages," much work with the astrolabe (and astronomy in general) fell to the Arabs. Fortunately for us all, the Arabs passed it across Africa to the Moors who obligingly returned it to Europe via Spain.¹

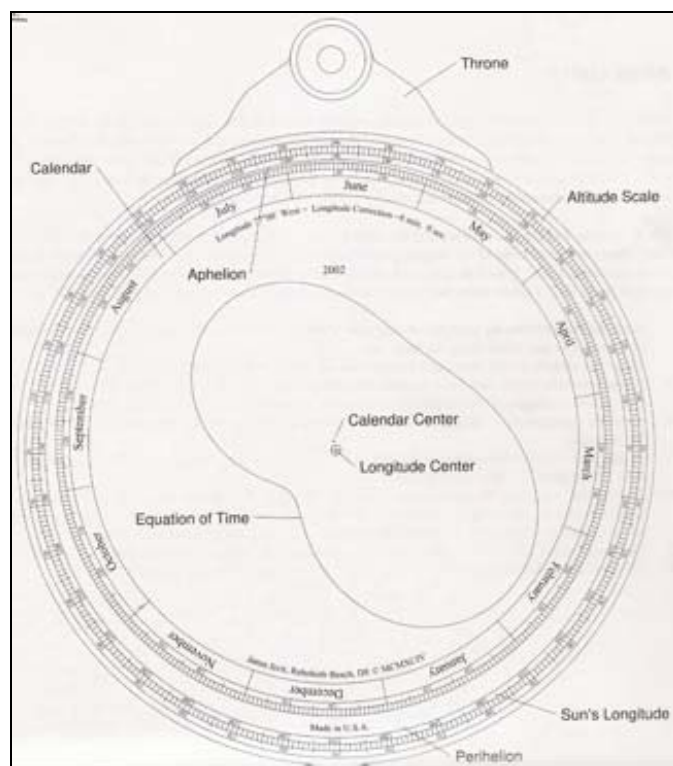
Having established the foundation of the stereographic projection, we can now populate our analog computer with data including:

- Principal stars
- Constellations
- The local horizon
- The ecliptic
- A calendar
- Clock hours
- Altitude-azimuth coordinate system

As we load the data, the front side of our computational device starts to take shape:



Similarly the backside begins to reveal its features:



All right then. The concept has been introduced and the “system” is loading. Soon we’ll be ready to put it through its paces. That we’ll do on Tuesday, October 10. I hope to see you then...

Next Time: Milky Way Zig Zag

(1) For you literary types, try reading Chaucer’s 1391 *Treatise on the Astrolabe*. I have a copy if you’re interested.

★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★



Staggering Distance

By Dr. Tony Phillips

Tonight, when the sun sets and the twilight fades to black, go outside and look southwest. There's mighty Jupiter, gleaming brightly. It looks so nearby, yet Jupiter is 830 million kilometers (km) away. Light from the sun takes 43 minutes to reach the giant planet, and for Earth's fastest spaceship, *New Horizons*, it's a trip of 13 months.

That's nothing.

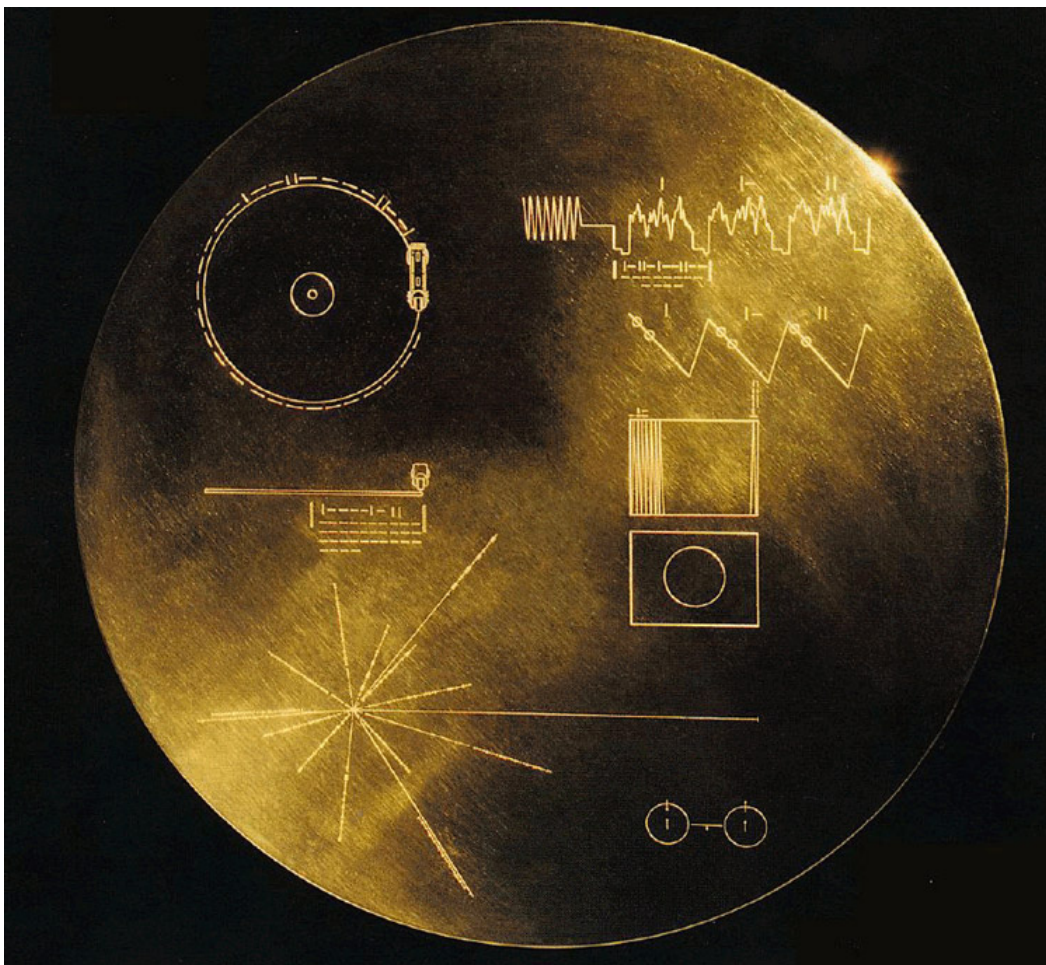
Not far to the left of Jupiter is Pluto. Oh, you won't be able to see it. Tiny Pluto is almost 5 billion km away. Sunlight takes more than 4 hours to get there, and *New Horizons* 9 years. From Pluto, the sun is merely the brightest star in a cold, jet-black sky.

That's nothing.

A smidgen to the right of Pluto, among the stars of the constellation Ophiuchus, is *Voyager 1*. Launched from Florida 29 years ago, the spacecraft is a staggering 15 billion km away. It has traveled beyond all the known planets, beyond the warmth of the sun, almost beyond the edge of the solar system itself.

Now that's something.

"On August 15, 2006, *Voyager 1* reached the 100 astronomical units (AU) mark—in other words, it is 100 times farther from the Sun than Earth," says Ed Stone, *Voyager* project scientist and the former director of NASA's Jet Propulsion Laboratory. "This is an important milestone in our exploration of the Solar System. No other spacecraft has gone so far."



In case it is ever found by intelligent beings elsewhere in the galaxy, *Voyager* carries a recording of images and sounds of Earth and its inhabitants. The diagrams on the cover of the recording symbolize Earth's location in the galaxy and how to play the record.

At 100 AU, *Voyager 1* is in a strange realm called “the heliosheath.”

As Stone explains, our entire solar system—planets and all—sits inside a giant bubble of gas called the heliosphere. The sun is responsible; it blows the bubble by means of the solar wind. *Voyager 1* has traveled all the way from the bubble’s heart to its outer edge, a gassy membrane dividing the solar system from interstellar space. This “membrane” is the heliosheath.

Before *Voyager 1* reached its present location, researchers had calculated what the heliosheath might be like. “Many of our predictions were wrong,” says Stone. In the heliosheath, *Voyager 1* has encountered unexpected magnetic anomalies and a surprising increase in low-energy cosmic rays, among other things. It’s all very strange—“and we’re not even out of the Solar System yet.”

To report new developments, *Voyager* radios Earth almost every day. At the speed of light, the messages take 14 hours to arrive. Says Stone, “It’s worth the wait.”

Keep up with the *Voyager* mission at voyager.jpl.nasa.gov.

To learn the language of *Voyager*’s messages, kids (of all ages) can check out spaceplace.nasa.gov/en/kids/vgr_fact1.shtml.

The preceding article was provided by the Jet Propulsion Laboratory, California Institute of Technology, under a contract with the National Aeronautics and Space Administration.



Cartoon by Nicholas La Para



CCAS Information Directory

Join the Fight for Dark Skies!

You can help fight light pollution, conserve energy, and save the night sky for everyone to use and enjoy. Join the nonprofit International Dark-Sky Association (IDA) today. Individual memberships start at \$30.00 for one year. Send to:

International Dark-Sky Association
3225 North First Avenue
Tucson, AZ 85719

Telephone: 520-293-3198
Fax: 520-293-3192
E-mail: ida@darksky.org

For more information, including links to helpful information sheets, visit the IDA web site at:

www.darksky.org

Note that our CCAS Webmaster John Hepler has a link to the IDA home page set up on our Society's home page at www.ccas.us.

Dark-Sky Website for PA

The Pennsylvania Outdoor Lighting Council has lots of good information on safe, efficient outdoor security lights at their web site:

<http://home.epix.net/~ghonis/index.htm>

★ ★ ★ ★ ★ ★ ★ ★

Good Outdoor Lighting Website

One of the biggest problems we face in trying to reduce light pollution from poorly designed light fixtures is easy access to good ones. When you convince someone, a neighbor or even yourself, to replace bad fixtures, where do you go for good lighting fixtures? Now there is a web site and business intended to address that very problem. At this site you can find information on all kinds of well-designed (that is, star-friendly) outdoor lighting fixtures. This company, Starry Night Lights, intends to make available all star-friendly fixtures they can find, and information on them, in one place. Check it out, and pass this information on to others. Help reclaim the stars! And save energy at the same time!

<http://www.starrynightlights.com/>



Our Local Astronomy Store: *Skies Unlimited*

In case you didn't know it, there is an astronomy equipment store called *Skies Unlimited* in our area, in Glenmoore to be specific. Their phone number is (610) 321-9881, and their Website URL is www.skiesunlimited.net.

Directions: Go north on PA-100, four miles past the Downingtown interchange of the PA Turnpike; then turn left onto PA-401, then immediately turn left again into Ludwig's Village. The store is next to Ludwig's Village Market.

<http://www.skiesunlimited.net/>



★ ★ ★ ★ ★ ★ ★ ★

Find out about Lyme Disease!

Anyone who spends much time outdoors, whether you're stargazing, or gardening, or whatever, needs to know about Lyme Disease and how to prevent it. Hopefully you will not also need to know how to recognize its symptoms, but you can learn all about it at:

www.LymePA.org

Take the time to learn about this health threat and how to protect yourself and your family. It is truly "time well spent!"

★ ★ ★ ★ ★ ★ ★ ★



www.ccas.us

CCAS Information Directory

CCAS Lending Telescopes

Contact Kathy Buczynski to make arrangements to borrow one of the Society's lending telescopes. CCAS members can borrow a lending telescope for a month at a time; longer if no one else wants to borrow it after you. Kathy's phone number is 610-436-0821.

CCAS Lending Library

Contact our Librarian, Linda Lurcott Fragale, to make arrangements to borrow one of the books in the CCAS lending library. Copies of the catalog are available at CCAS meetings, and on the CCAS website. Linda's phone number is 610-269-1737.

Contributing to *Observations*

Contributions of articles relating to astronomy and space exploration are always welcome. If you have a computer, and an Internet connection, you can attach the file to an e-mail message and send it to stargazer1956@comcast.net

Or mail the contribution, typed or handwritten, to:

Jim Anderson
1249 West Kings Highway
Coatesville, PA 19320-1133

Get CCAS Newsletters via E-mail

You can receive the monthly newsletter (**in full color!**) via e-mail. All you need is a PC or Mac with an Internet e-mail connection. To get more information about how this works, send an e-mail request to Jim Anderson, the newsletter editor, at:

stargazer1956@comcast.net

CCAS A.L. Award Coordinators

These are the members to contact when you have completed your observing log for the Messier, Binocular Messier, Lunar, or Double Star Awards:

Messier (both): Jim Anderson
(610-857-4751)

Lunar: Ed Lurcott
(610-436-0387)

Double Star: Jim Anderson
(610-857-4751)

Constellation Hunters: Jim Anderson
(610-857-4751)

CCAS Purpose

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. The Society also provides telescopes and expertise for "star nights" for school, scout, and other civic groups.

CCAS Executive Committee

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

President: Kathy Buczynski
610-436-0821

Vice Pres: Jim Anderson
610-857-4751

ALCor and Treasurer: Bob Popovich
610-363-8242

Secretary: Vic Long
610-399-0149

Newsletter: Jim Anderson
610-857-4751

Librarian: Linda Lurcott Fragale

Observing: Don Knabb
610-436-5702

Education: Kathy Buczynski
610-436-0821

Webmaster: John Hepler
484-266-0699

Public Relations: Deb Goldader
610-304-5303



CCAS Membership Information

The present membership rates are as follows:

REGULAR MEMBER\$25/year
SENIOR MEMBER\$10/year
STUDENT MEMBER\$ 5/year
JUNIOR MEMBER\$ 5/year
FAMILY MEMBER\$35/year

Membership Renewals

Check the Treasurer's Report in each issue of *Observations* to see if it is time to renew your membership. If you are due to renew, you can mail in your renewal check made out to "Chester County Astronomical Society." Mail to:

Bob Popovich
416 Fairfax Drive
Exton, PA 19341-1814

Sky & Telescope Magazine Group Rates

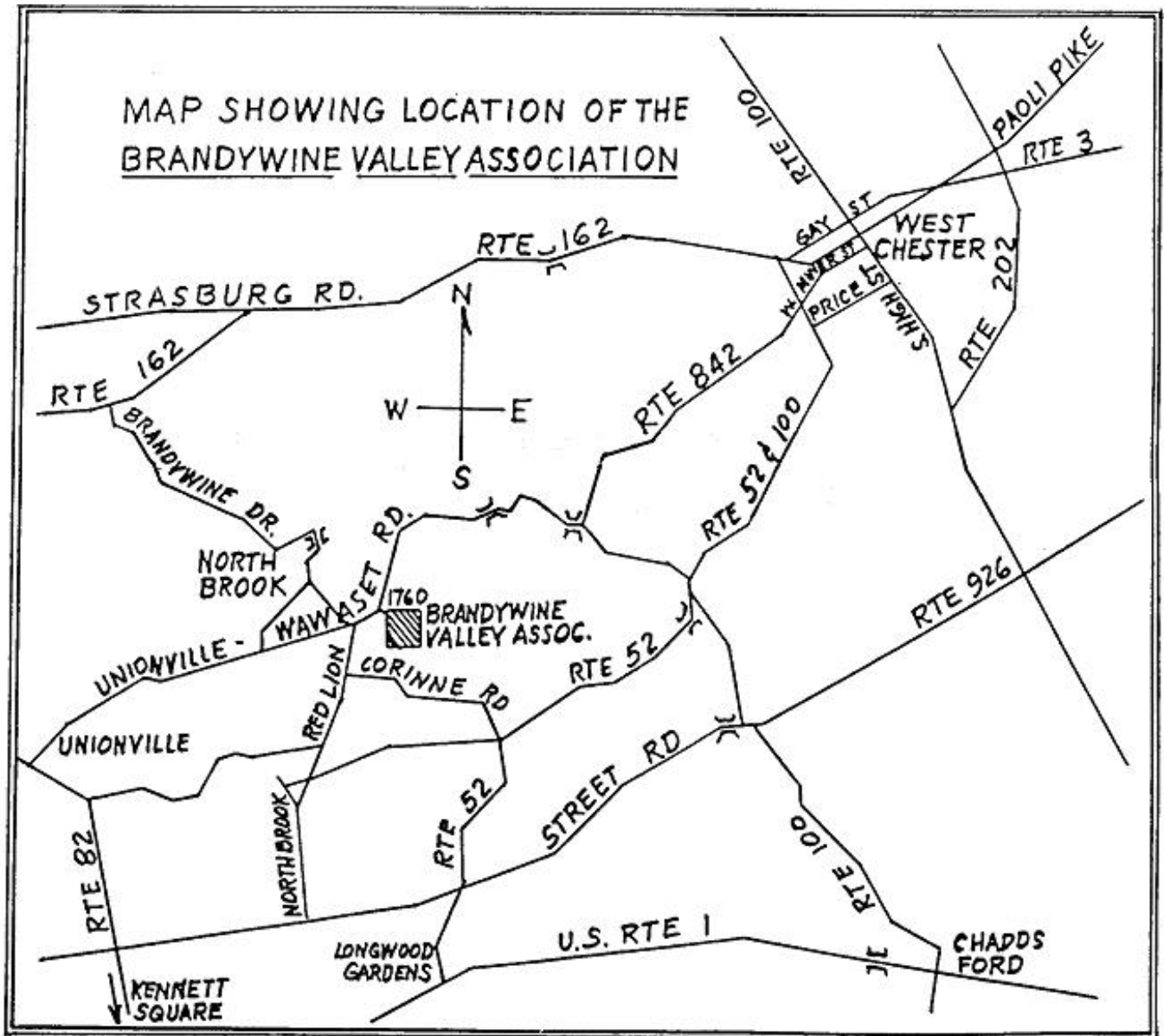
Subscriptions to this excellent periodical are available through the CCAS at a reduced price of **\$32.95** which is much less than the newsstand price of \$66.00, and also cheaper than individual subscriptions (\$42.95)! Make **sure** you make out the check to the **Chester County Astronomical Society** (do **not** make the check out to Sky Publishing, this messes things all up big time), note that it's for *Sky & Telescope*, and mail to Bob Popovich. Or you can bring it to the next Society meeting and give it to Bob there. **If you have any questions by all means call Bob first (610-363-8242).** Buying a subscription this way also gets you a 10% discount on other Sky Publishing merchandise.

CCAS Website

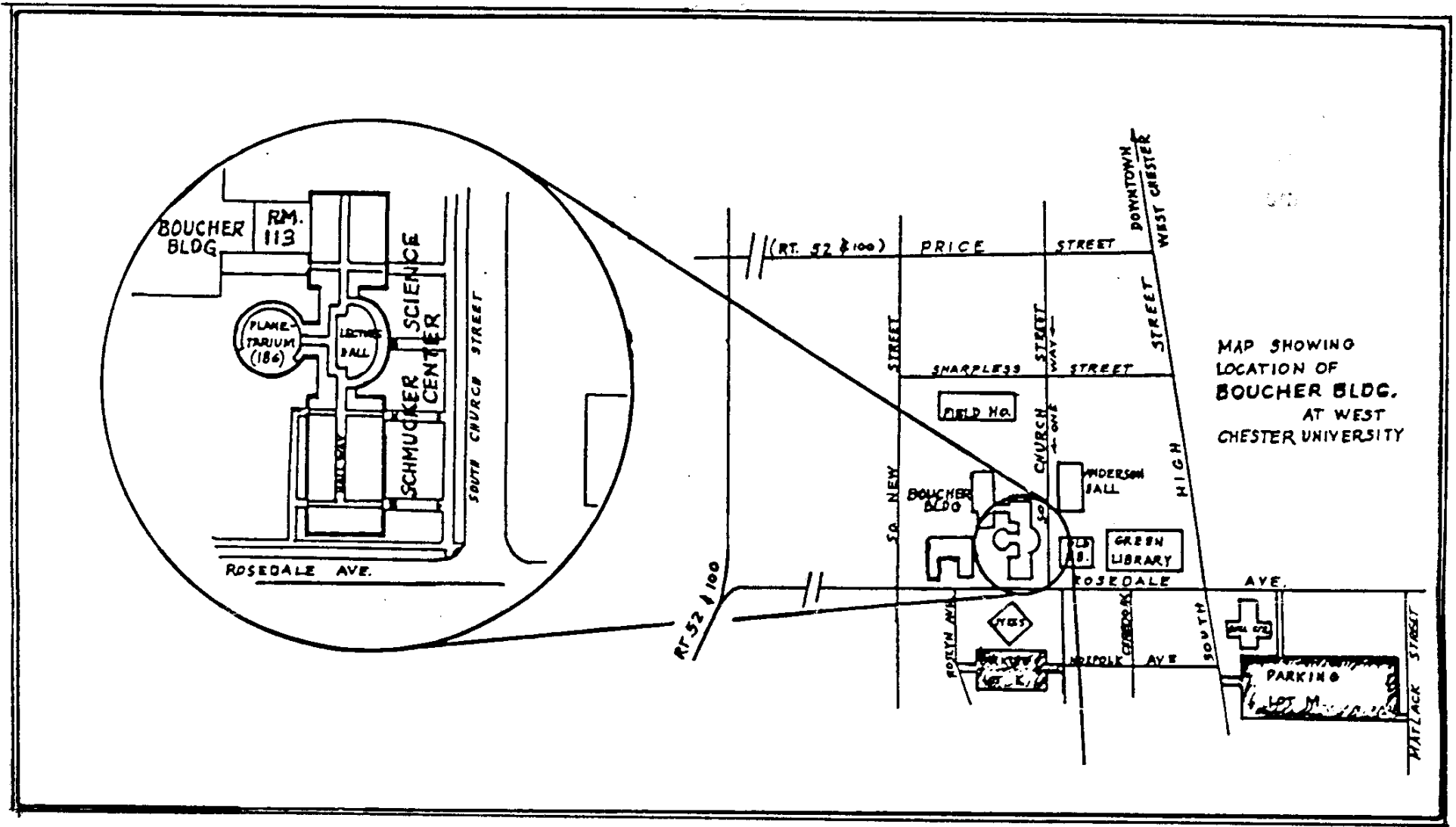
John Hepler is the Society's Webmaster. You can check our Website at:

<http://www.ccas.us/>

John welcomes any additions to the site by Society members. The contributions can be of any astronomy subject or object, or can be related to space exploration. The only requirement is that it is your own work; no copying copyrighted material! Give your contributions to John Hepler (484-266-0699) or e-mail to webmaster@ccas.us



To get to the Myrick Conservation Center of the Brandywine Valley Association from West Chester, go south on High Street in West Chester past the Courthouse. At the next traffic light, turn right on Miner Street, which is also PA Rt. 842. Follow Rt. 842 for about 6 miles. To get to the observing site at the BVA property, turn off Route 842 into the parking lot by the office: look for the signs to the office along Route 842. From that parking lot, go up the farm lane to the left; it's about 800 feet or so to the top of the hill. If you arrive after dark, please turn off your headlights and just use parking lights as you come up the hill (so you don't ruin other observers' night vision).



Parking is available behind Sykes Student Center on the south side of Rosedale Avenue (Parking Lot K), and behind the Bull Center at the corner of Rosedale Avenue and South High Street (Parking Lot M). If you arrive early enough, you may be able to get an on-street parking space along South Church Street, or along Rosedale Avenue. You can take the Matlack Street exit from Rt. 202 South; Matlack Street is shown on the map at the lower right corner with Rt. 202 off the map. If approaching West Chester from the south, using Rt. 202 North, you would continue straight on South High Street where Rt. 202 branches off to the right. This would bring you onto the map on South High Street near Parking Lot M, also in the lower right corner.