

OBSERVATIONS

A MONTHLY PUBLICATION OF THE
Chester County Astronomical Society



★ *President:* Mike Turco
★ *Treasurer:* Pete LaFrance

NOVEMBER 1999
(VOLUME 7, NO. 11)

★ *Vice President:* Steve Limeburner
★ *Secretary:* Frank Angelini

http://members.tripod.com/~ccas_2/ccas.html

CCAS November Meeting

DATE: Tuesday November 9, 1999
TIME: 7:30 p.m. EST
PLACE: Department of Geology and Astronomy Lecture Room (Room 113 – Boucher Building) West Chester University
LOCATION: South Church Street West Chester, PA (see map)

Parking is available behind Sykes Student Center on the south side of Rosedale Avenue, and behind the Bull Center at the corner of Rosedale Avenue and South High Street. If you arrive early enough, you may be able to get an on-street parking space.

November is "member's month." There will be a brief presentation by Steve Limeburner entitled "How I prepare for an observing session." Steve will cover such topics as deciding what to observe. After that, any member who wishes to do a brief presentation may do so. If there are no other "formal" presentations, then the floor will be opened for questions from the members. The questions can be anything about astronomy and space exploration, and other members will attempt to answer the questions. After that we will have refreshments (bring something like cookies or other snacks if you feel inclined to do so; actually you can do that for any meeting or observing session). Don't miss this opportunity to ask questions and expand our knowledge about astronomy and space exploration.

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Public Open House: F & C Observatory

There will be a **FREE** public open house program at the University of Pennsylvania's Flower & Cook Observatory in Malvern, PA on Friday November 19, 1999. The program starts at 8:00 p.m. EST with a talk entitled "Brown Dwarfs" by Dr. Neill Reid of the University of Pennsylvania. If the skies are clear, there will be observing with the Observatory's telescopes. Children are of course welcome as long as they are accompanied by an adult. The Observatory is located on Providence Road, just west of the intersection with Warren Avenue. A map is included on a later page.

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CCAS November Observing Session

The next CCAS Observing Session will be on Friday November 5, 1999 starting at about 6:00 p.m. or earlier, if you can get there earlier. Now that we're no longer on Daylight Saving Time, sunset is at about 5:00 p.m., and by 6:00 it's already pretty dark. If it's too cloudy on Friday, then the Observing Session will be on Saturday November 6, 1999. 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 `scope. CCAS Observing Sessions are always free of charge. Children are always welcome as long as an adult accompanies them. Make sure to dress warmly, as it gets cold rather quickly when you're standing around in an old farm pasture!

To get to the observing site at the BVA, 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.

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Calendar Notes

- November 15, 1999: Mercury transits the Sun! (Monday) just before sundown (see next page)
- November 17-18, 1999: (Wednesday night into Thursday) Leonid Meteor Shower peaks. Possible meteor storm (see next page)
- December 14, 1999: (Tuesday) CCAS Monthly Meeting Location: TBA 7:30 p.m. EST
- December 17, 1999: (Friday) Free Public Open House at Flower & Cook Observatory in Malvern, PA Topic: "Photo of the Millenium" by Jeff Goldader 7:00 p.m. EST
- December 17, 1999: (Friday) CCAS Observing Session Brandywine Valley Association **Also:** BVA Winter Solstice Celebration

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November Skies

Moon Phases

New Moon	11/07
First Quarter	11/16
Full Moon	11/23
Last Quarter	11/29

The Planets

Tiny little Mercury is the really big news for us this month. See the feature article below for more information.

Venus is in the morning sky in November, rising more than 3 hours before the Sun.

Mars is low in the southwest after sunset, in Sagittarius and Capricornus this month. It's pretty much impossible to see any details on the planet now; it's too far away.

Jupiter will be the "star feature" in our evening skies this month. Very bright in the east and easy to find, Jupiter is always a grand sight in a telescope of any size!

Saturn is about 40 minutes behind (east of) Jupiter, and will be a great sight in a telescope as the rings are now well-tipped toward us and thus "wide open." Saturn reaches opposition on November 5.

Uranus and Neptune are in the constellation Capricornus. These two planets are well placed for observing this month. There are finder charts for these two planets in the October 1999 issue of *Sky & Telescope* magazine. Can you see any of their moons? Mars will pass close by Neptune on November 28, and closer yet to Uranus on December 13.

Pluto is lost in the Sun's glare in November.



Mercury Transits the Sun: November 15

On the evening of Monday November 15, the planet Mercury will pass between the Earth and the Sun. You will be able to see the black circular silhouette of the planet moving across the face of the Sun! This is a somewhat rare event; it has happened only 13 other times this century. The last such transit visible from our area was on November 10, 1973.

You can see this event using eyepiece projection onto a screen, or with a safe solar filter on your telescope. You will not be able to see it with just your eyes (using "eclipse" glasses, of course, made with a safe solar filter material). Mercury is too small to be seen without magnification.

Mercury will cross the northeastern limb of the Sun's surface (the "top right" of the Sun's disk). You will probably be able to detect a tiny "bite" out of the Sun's edge at about 4:15 p.m. EST. By about 4:22, Mercury will be completely onto the Sun's disk. The Sun will set for us before the transit ends, so you can't see the whole show. But it's worth watching until sundown if you can. Obviously, you need an observing location with a good low south-western horizon. It doesn't matter if there are bright lights nearby, since this is an event you watch in broad daylight.

There is a very good article about the transit on pages 108-112 in the November 1999 issue of *Sky & Telescope* magazine.



Leonid Meteor Shower: November 16-18

The Leonids are predicted to peak after midnight on the night of November 17-18 (November 17 is a Wednesday). The best time to observe this shower is after midnight; look toward the east as the radiant point in the constellation Leo will be rising there. Some astronomers are saying we may see a meteor storm, with rates approaching 1000 meteors per hour. If we do, it will probably happen around midnight, or a bit later, as Leo is rising in the east. You'll want to start watching about then. The Moon will set at about 1:00 a.m. EST on November 18: it should not "wash out" too many of the meteors.



Report on October CCAS Meeting

The attendees of the October meeting enjoyed an invigorating talk about observing double and multiple star systems, delivered by author James Mullaney. Jim told us about the many colorful and fascinating star systems that are easy to see, year round, in our skies. He also covered the scientific reasons for observing them, and encouraged us all to study these gems. The professional community has all but abandoned this branch of astronomy, yet there is real scientific work that amateurs can do in this field, right in their own backyards. After the talk members could purchase copies of Jim's latest book, *Celestial Harvest: 300-plus Showpieces of the Heavens for Telescopic Viewing and Contemplation*. Copies of the book can be purchased via mail order by sending \$33.00 (\$30.00 plus \$3.00 shipping) to:

James Mullaney
P.O. Box 1146
Exton, PA 19341-0931



Report on Star Party at Exton Library: Oct. 29

The CCAS provided telescopes for a star party for middle-school children at the Exton Library as part of the Library's Outreach Program. About 25 people showed up for this event on Friday October 29, which was quite fun: the parents were well-behaved and some of the children knew quite a bit about what we were talking about! We showed them a sampling of celestial treats such as the Ring Nebula, several colorful double stars, globular clusters, the Andromeda Galaxy, and of course Jupiter and Saturn, right next to the Exton Mall! Thanks to the members who showed up to help: Bill O'Hara, Steve Limeburner, Mike Turco, and Donna and Jim Anderson. Thanks also go out to Denise Stout and the Library Staff for hosting this event. They even provided hot cider and cocoa!



News from Neighboring Societies

[Editor's Note: All that is required to have notices published here is to include Jim Anderson on the mailing list of your society's newsletter. See below for Jim's address.]

From *Focus*, the newsletter of the Delaware Astronomical Society:

Upcoming Meeting Topics and speakers:

November 16, 1999 (Tuesday) 8:00 p.m. EST	Topic: "Computer Programs for Astronomy", by Dr. Emil Volcheck
December 14, 1999 (Tuesday) 8:00 p.m. EST	Topic: member presentation night, with a swap table of astronomical objects, and "a galaxy of refreshments" at the end of the meeting

DAS meetings are held at the Mount Cuba Observatory in Greenville, Delaware. For more info contact President Warren Jacobs (610-566-0510). Or check their Website at:

<http://www.physics.udel.edu/>

From *The Delaware Valley Amateur Astronomer*, the newsletter of the Delaware Valley Amateur Astronomers :

Upcoming Meeting & star party dates

November 12, 1999 (Friday) 8:00 p.m. EST	Meeting. Topic: TBA
December 10, 1999 (Friday) 8:00 p.m. EST	Meeting. Topic: TBA

All DVAA meetings are held at the Schuylkill Center for Environmental Education on Hagys Mill Road in Philadelphia, PA. For more information contact CCAS member Mike Turco (610-399-3423) who is also a member of DVAA. DVAA President Mike Tucker could also help (610-584-8236). Or check the DVAA Website at:

<http://www.libertynet.org/~dvaa/>

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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 email message and send it to the editor at SNY114@aol.com.

Or mail the contribution, typed or handwritten, to:

Jim Anderson
19 Bluff Road
Thorndale, PA 19372-1104

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AL Observing Programs

One of the benefits of joining the CCAS is that you also become a member of the Astronomical League, a national federation of astronomy clubs. The AL has a series of Observing Awards, and four observing clubs based on these awards have been started in the CCAS. These are the Messier Club, the Binocular Messier Club, the Lunar Club, and the Double Star Club. Working on these awards also gives you a plan of observing: "What will I look at tonight?" becomes "Which Messier objects are visible tonight that I haven't seen yet?" Each club has a volunteer coordinator:

Messier Clubs (both): Frank Angelini (610-873-7929)

Lunar Club: Ed Lurcott (610-436-0387)

Double Star Club: Jim Anderson (610-380-4512)

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CCAS Website

Pete LaFrance has set up a Web page for the Society on the World Wide Web (Internet). He has included some pictures taken by CCAS members. Check it out at:

http://members.tripod.com/~ccas_2/ccas.html

Pete 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 Pete LaFrance (610-268-2616).

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CCAS Lending Library

Our Librarian, Bill O'Hara, has the books in our library all ready for members to borrow. You can drop by Bill's place (call first, of course) to borrow a book. Or you can call Bill before a meeting and ask him to bring a book to the meeting for you. Copies of the catalog are available at CCAS meetings. Bill's phone number is 610-696-1422.

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CCAS Membership Information

The present membership rates are as follows:

REGULAR MEMBER.....\$20/year
SENIOR MEMBER.....\$10/year
STUDENT MEMBER..... \$ 5/year
JUNIOR MEMBER.....\$ 5/year
FAMILY MEMBER.....\$ 30/year

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Membership Renewals

Check the date printed on the address label of this issue of *Observations*; "exp." appears in front of it, just after your name. 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 19311-9785

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Sky & Telescope Magazine Group Rates

Subscriptions to this excellent periodical are available through the CCAS at a reduced price of **\$30.00** (note that this has just increased, as of October 1999), which is much less than the newsstand price of \$54.00, and also cheaper than individual subscriptions (\$39.95)! Make out a check to the Chester County Astronomical Society, note that it's for *Sky & Telescope*, and mail to Pete LaFrance. Or you can bring it to the next Society meeting and give it to Pete there. Buying a subscription this way also gets you a 10% discount on other Sky Publishing merchandise.

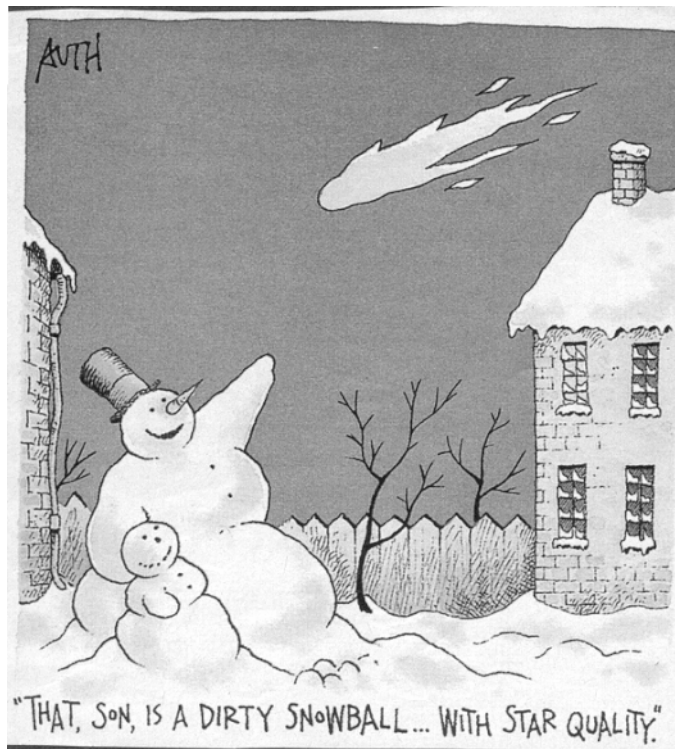
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CCAS Officers

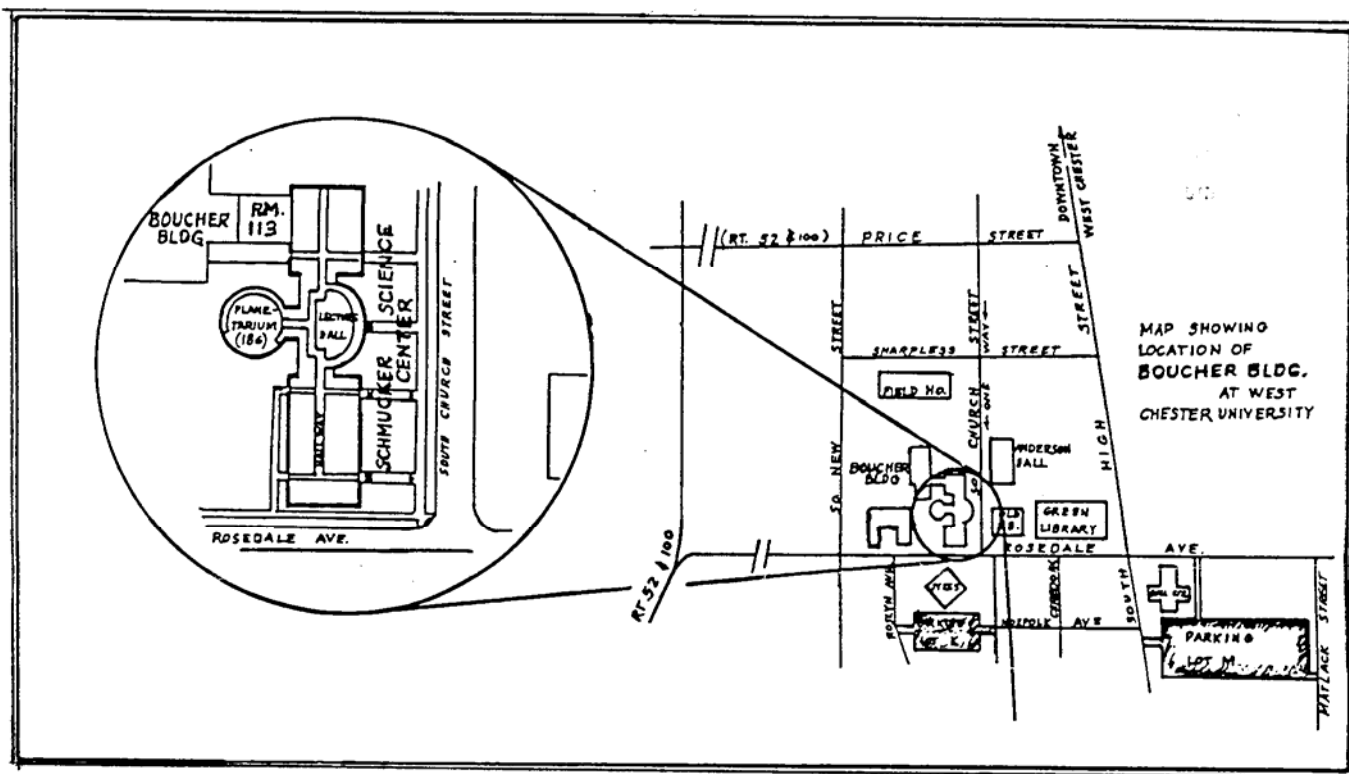
For further information on membership or society activities you may call:

- President:** Mike Turco (610) 399-3423
- Vice Pres:** Steve Limeburner (610) 353-3986
- Treasurer:** Pete LaFrance (610) 268-2616
- Secretary:** Frank Angelini (610) 873-7929
- ALCor and Newsletter:** Jim Anderson (610) 380-4512
- Librarian:** William O'Hara (610) 696-1422
- Observing:** Ed Lurcott (610) 436-0387

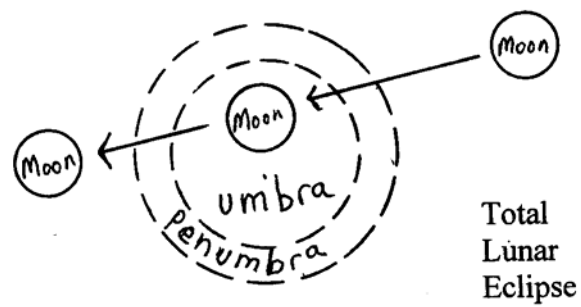
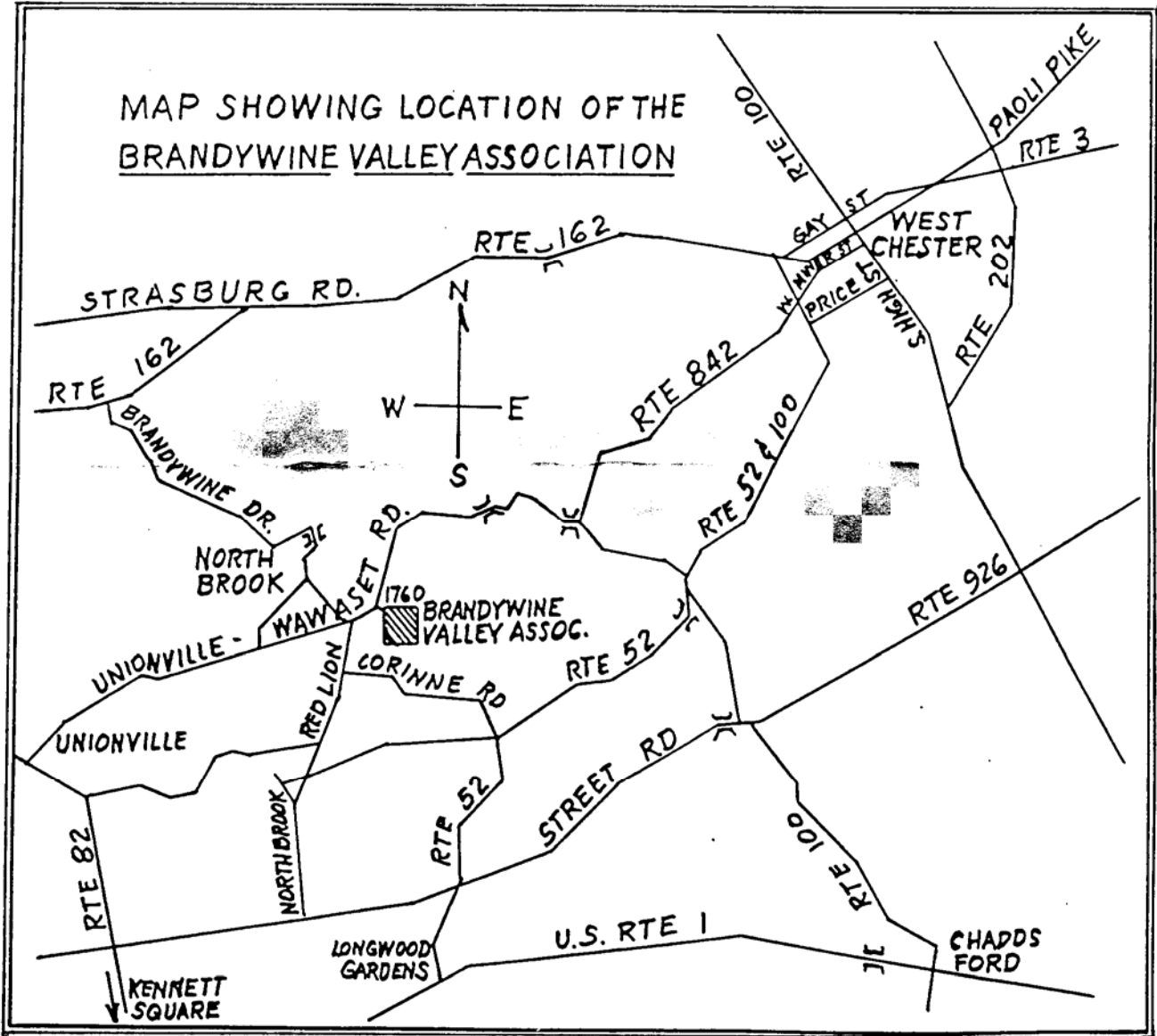
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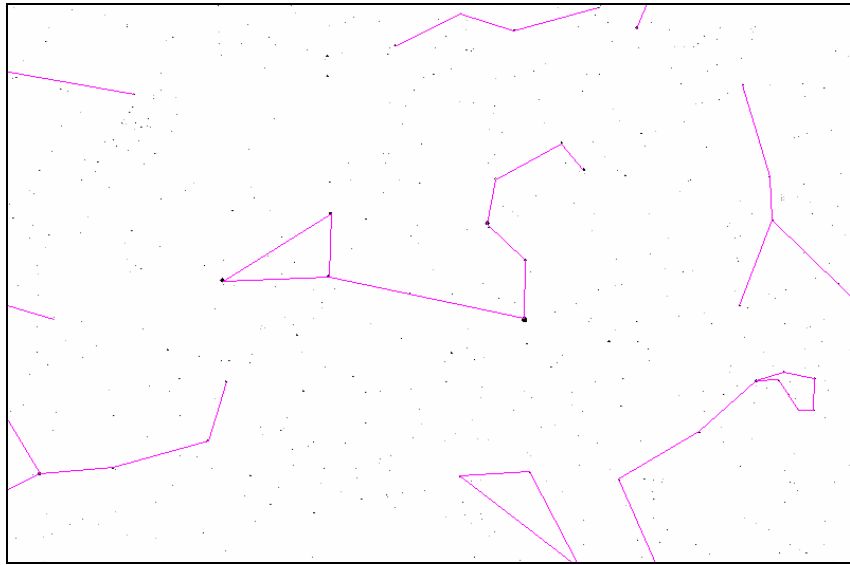
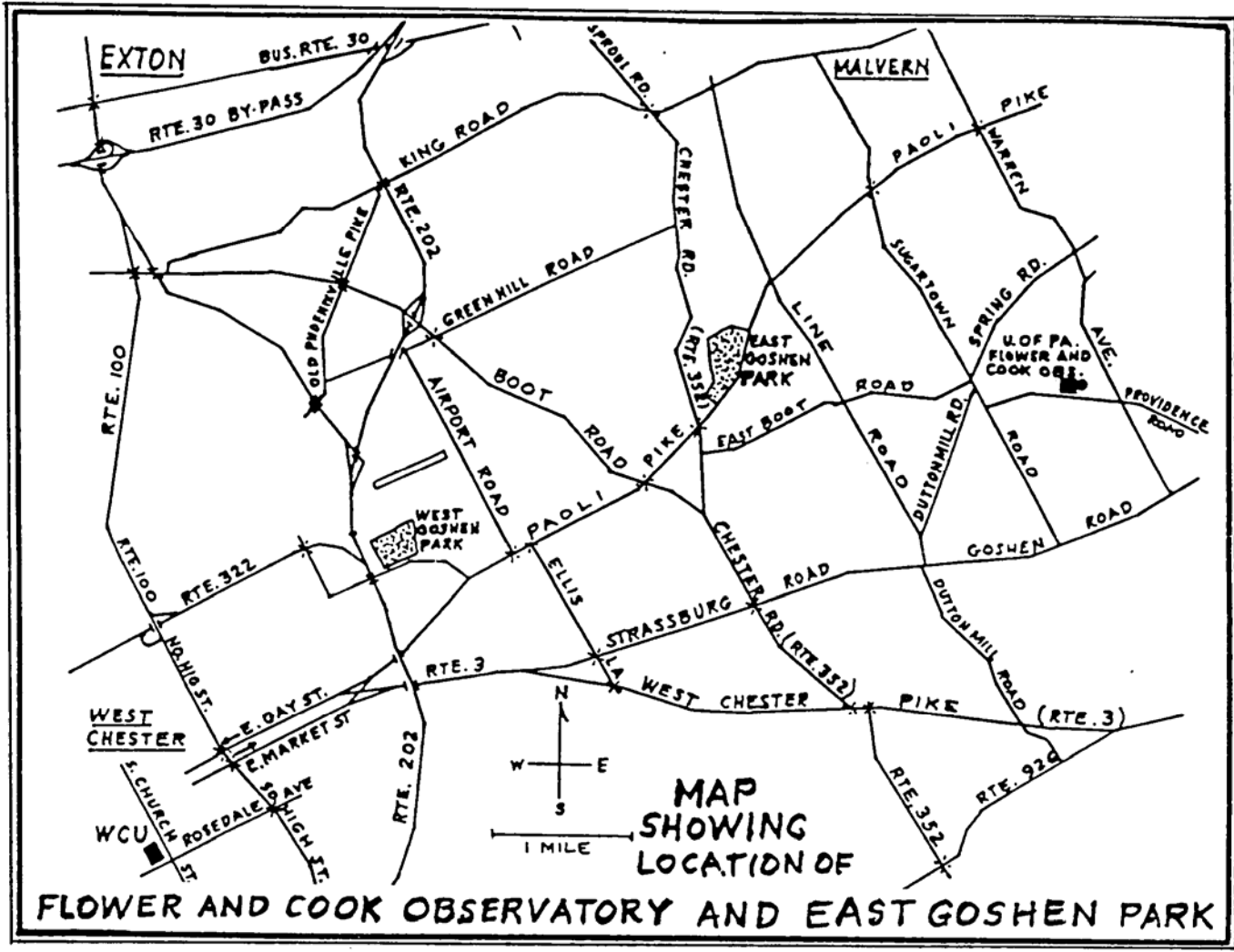
Cartoon about Comet Hale-Bopp by Tony Auth, from *The Philadelphia Inquirer*, March 9, 1997



MAP SHOWING LOCATION OF THE
BRANDYWINE VALLEY ASSOCIATION



There will be a total lunar eclipse visible from our area on January 20, 2000.
The Moon will pass through the darkest part of the Earth's shadow.



The Leonids appear to radiate from the "sickle" area of Leo the Lion (his head). That means if you trace back along the meteors' trails, they would all intersect in that part of Leo.