

**THE NORTHEAST KANSAS
WORKSHOP: MAY 10, 1997
by Brenda Culbertson**



If you have access to Internet, see the
Prairie Astronomy Club web page:
<http://www.4w.com/pac/>
E-mail us at: pac@infoanalytic.com
Omaha Astronomical Society web page:
<http://www.top.net/cdcheney>
NEKAAL web page: <http://world.std.com/~wic/>

The Prairie Astronomer

The 11.5" Warner & Swasey refractor, built in the late 1800's, is in need of refurbishing. I have been discussing the job with John Briggs of Yerkes Observatory and he will be coming in to Topeka, Kansas to do the work.

The telescope is housed in Crane Observatory on the campus of Washburn University of Topeka and is the main instrument. Its gears need cleaned and re-lubed; the optics need cleaned and re-seated; the inside of the tube needs re-painted; etc. Also, the few accessory items used with the telescope are pretty much junk, so we need eyepieces, cameras, etc. The star chart used in the observatory is of 1950 eph. We need current tech equipment and references. We don't even have red lighting—there is no lighting!

The 1997 Astronomy Workshop in Northeast Kansas will be May 10th, 1997 and will be built around this refurbishing project. John Briggs will be the main speaker and will tell about the refurbishing of this and other refractors.

Dr. Stan Alexander, Dr. Darrell Parnell, and others will also tell about the history of the telescope and other modern equipment. If people want to sit in on the work, Briggs is allowing people to help and/or watch. I don't have an actual date set yet for the refurbishing work, but it will probably be the same weekend as the workshop.

Cash donations are urgently needed, and equipment donations are being requested as well.

Warner & Swasey Refurbishing Project
Brenda Culbertson, Dr. Darrell Parnell and Dr. Steven Black,
4041 SW 10th Street, #232, Topeka, KS 66604

PRESIDENT'S PLEA Help!!!

Everyone from Behlen Observatory to my daughter's Brownie Troop are asking for help with their public comet programs. You don't need to be an expert, just enjoy what you're doing. Please bring a scope if you're able to. Remember that Hyde's permanent scopes will not be able to view the comet.

This month's star party will be on April 4th at Behlen Observatory after public viewing of the comet.

Don't forget. We have Astronomy Day on Saturday, April 12th at Mueller Planetarium. -Doug Bell

**MARCH/APRIL
MEETING NOTICES:**

PAC MEETING
TUESDAY, MARCH 25th, 7:30 p.m.
at Hyde Memorial Observatory

**HYDE MEMORIAL OBSERVATORY
OPEN NIGHTS FOR COMET H-B**
Tues., April 1st and Thur., April 3rd, 7:00-9:00 p.m.
Tues., April 8th and Thur., April 10th, 8:00-10:00 p.m. and regular Saturday nights

STAR PARTY
FRIDAY, APRIL 4th at Behlen Observatory
SATURDAY, APRIL 5th at Atlas Site (Rain Date)

BEHLEN OBSERVATORY OPEN NIGHTS
FRIDAY, APRIL 4th, 8:00 p.m. and
FRIDAY, APRIL 11th, 8:00 p.m.

ASTRONOMY DAY
SATURDAY, APRIL 12th at Mueller Planetarium

NSP MEETING
THURSDAY, APRIL 24th, 7:30 p.m.
at Mahoney State Park Lodge, Blue Agate Room

BRIEFS:

Many thanks to the members who showed my introductory astronomy students through their telescopes at the March 7 Atlas star party.

I'll try to do a telescope making demo for astronomy day in the Planetarium again. That 12" isn't finished yet! The 8.5 is finished. -Martin Gaskell

Hello PAC

Sure sounds like the club is doing well. Between the NSP and all the other activities, you guys are really doing some great things. I still hope to make it down to a meeting one of these days. My teaching schedule really keeps me busy in the evenings.

Take care!!! -John Lortz (jlortz@shf.org)

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MEETING ADJOURNED...



Secretary's Report by Liz Bergstrom

The 25 February 1997 meeting of the Prairie Astronomy Club was called to order promptly at 7:30 p.m. by President Doug Bell. Doug asked if there were any guests in the audience. There were three guests at this meeting. They were Melissa, Jerome Remer and Brian Weber. The club welcomed all our guests.

COMET HALE-BOPP:

Comet fever is taking over the citizens of the city of Lincoln, the county, state and the nation. Hyde Observatory will be open additional nights for the public to view one of the brightest, greatest and most exciting views in the night sky this decade, Comet Hale-Bopp. It already has been featured in various news media and the excitement builds for this heavenly body. To accommodate the expected public interest in viewing the comet Hyde Observatory will be open extra nights. Additional viewing for the comet will be at Behlen Observatory. See dates and times on page four. Martin Gaskell and Stephanie Snedden have asked for additional help while Behlen observatory is open.

VIEWING NEWS:

Dave Knisely reported that Comet Hale-Bopp is a GREAT!!!! COMET!!!! In his telescope Dave was able to see red colors in the dust tail and a dark area in the middle of coma over the top of the comet nucleus.

Martin Gaskell said don't forget to view planet Mars which is presenting its finest, brightest and reddest view this month and next.

NSP NEWS:

Tom Miller reported that the packets and brochures for the 4th annual Nebraska Star Party are ready to be mailed out. He mentioned that cabin space is at a premium and those wanting to rent a cabin need to contact him as soon as possible and to give him a deposit to confirm their reservation. Tom also advised that the canoe/tubing outfitter will provide transportation to either the canoe or tubing starting point on the Niobrara river near Valentine, Nebraska. This trip is one of the highlights of the day activities available at the party. Tom asked that anyone who wanted to help with the work in putting together the event, come to the meetings which are held on Thursdays at Mahoney State park at 7:30 p.m.

MAHONEY STAR PARTIES:

Tom Miller said that there will be a series of star parties at Mahoney State Park in conjunction with the Omaha club. These will be held on Friday nights with the final schedule to be announced. [Editor's note: The final Mahoney Star Party dates were already listed in the December 1996 newsletter and are: May 16th, June 13th, July 11th, September 5th and October 10th.]

ASTRONOMY DAY:

Dave Knisely reminded everyone that Astronomy day will be held on Saturday, 12 April 1997 at 8:00AM at Mueller Planetarium on the UNL campus. Dave passed out a sign up sheet for those who want to help. If

anyone is interested please sign up at this next meeting.

SITE NEWS:

John Bruce reported that someone is interested in buying the Atlas Site. However, before buying the site they wanted to jack hammer the cement cover open to gain access and to clean out the debris inside the silo. John said that in no way can the club allow this to happen. Currently there is only an option to buy contract for the site, however the realtors are quite active in wanting to show the site.

As of the meeting the combination lock had not been installed on the gate to our property. However, the gate being unlocked will not jeopardize the club's liability coverage.

The house has shingles on the roof but still only has stud walls. Electrical power has been run from the tire pile to the east of the site to the distribution box located near the house with power run to the garage and to the well.

TREASURER'S REPORT:

John Bruce said that the Money Market account has remained fairly static with not too much interest earned. The yield on the account is less than that of a CD. He has renewed the CD for another 12 months. John is looking forward to some profit in the club account due to the dues increase, which was passed last month.

OTHER NEWS:

It was mentioned that other clubs send their newsletters to our club. These newsletters are available to any one if interested.

The Astronomical League is having their 50th anniversary convention at Copper Mountain, Colorado from 1 July 1997 to 6 July 1997.

Jack Dunn mentioned the movie "Asteroid" which aired on TV Sunday, 22 February 1997. He stated that there were several discrepancies in the facts. To keep the audience's attention the writers used "poetic license" in the story line. Jack mentioned that there is a large 2 to 5 mile wide depression in central Nebraska just west of Merna, Nebraska in Custer County which is thought to be the remnant of an asteroid or very large meteorite strike.

DOOR PRIZES:

The door prizes of several Sky & Telescope magazines, [donated by June Moore], plus pocket hand warmers were awarded.

No further business was brought up for discussion therefore the meeting was moved and seconded for adjournment.

COSMOSPHERE:

Jack Dunn brought a video of the Kansas Cosmosphere & Museum located near Salina, Kansas. The video started out with the pioneer frontier spirit which conquered the westward frontier with ox, mule and horse drawn wagons 100 to 150 years ago. The current frontier to conquer is "Space". Steve Hawley has always been interested in anything to do with space exploration and realized that a place was needed to save and display many of the new artifacts of space missions conducted by the US, the Soviets and other countries. There were museums located in the eastern and the western USA, but none were in the center of the USA.

The Kansas Cosmosphere & Museum was built in Hutchinson, Kansas.

(Continued on page 3, column 2)

The Prairie Astronomer is published monthly by the Prairie Astronomy Club, Inc. Membership expiration date is listed on the mailing label. Membership dues are: Regular Members...\$20/yr.; Family Memberships...\$22/yr. Address all new memberships, renewals, or questions to THE PRAIRIE ASTRONOMY CLUB, INC., P.O. BOX 80553, LINCOLN, NE 68501. For other club information contact one of the following: President Doug Bell (Lincoln) 489-8197, Vice President Ron Veys (Lincoln) 486-1449, Treasurer John Bruce (Lincoln) 483-0389. All newsletter comments and articles should be sent to: Bryan Schaaf, 1309 W. PLUM, LINCOLN, NE 68522 (or e-mail to schaaafb@juno.com) ten days prior to the club meeting. Club meetings are held the last Tuesday of each month at Hyde Memorial Observatory in Lincoln, Nebraska.

Observing Chairman's Report

by Douglas Bell



(Secretary's Report continued from page 2)

For April observing

New Moon: April 7 Messier Monthly: M98
Club star party: April 4 (At Behlen Obs.)
Lunar object: Tycho Top 40: Comet Hale-Bopp
Deep sky: M99 Planet: Mercury
Challenge: Counting galaxies

Quote of the month: "F = ma" -Isaac Newton
"Watch your language!" -His mom.

Tip of the month: Leave your binoculars where you can grab them for a one minute observing session.

Lunar feature: Tycho's central peak.
This is one of those features that grabs your attention away from whatever you're doing. Catch it at about first quarter and crank up the magnification. I guarantee that you'll never run out of details.

Planet of the month: Mercury
Now is the best evening apparition of the year. I don't know why, but I feel strangely attracted to the western sky this month.

Messier Monthly: M 98
An edge-on barred spiral in Coma Berenices. Huh? If it's edge on, how can you tell if it's a barred spiral? (Sounds like an upcoming trivia question).

Top 40: Comet Hale-Bopp
Well what else? Remember last summer when it was a marginal naked-eye object?

Deep Sky: M 99
M99 is close to M98 in the sky of Coma Berenices. This one's a face-on spiral. How do they contrast? How do they compare? Even more important, can you get them in the same field?

Challenge: Counting galaxies
How many galaxies can you see in a single eyepiece field? My personal (rather dismal) record is seven in an 8" SCT. Should it be a dozen?, twenty? Find a good dark site and give it a whirl.

Last month's answer: Modern large telescopes are usually very fast, some having f ratios as short as f1. However, the undisputed speed king is still the f28 Hubble at 17,500 mph.

Astro Trivia: Speaking of the Hubble, how many glass lenses are in its highly corrected Ritchey-Chretien optical system?

Currently additional space is being added to house exhibits. There is about \$100 million worth of space artifacts at the museum. The museum offers guided tours, an Omnimax theater, planetarium and space mission simulations. Many space artifacts that would normally be taken to landfills or destroyed have been saved, taken to the museum and refurbished by the museum. The Cosmosphere is the only place where the staff knows how to restore space artifacts.

The museum has exhibits and traveling exhibits which document the American and the Soviet space stories. It is now an international resource for space history and artifacts. Jack stated that a visit to the Cosmosphere is a worthwhile trip. He thanked all for their interest and asked if there were any questions.

BEHLEN OBSERVATORY OPEN NIGHTS

by Martin Gaskell

The comet is here. As a consequence the university will be having not one but TWO spring open nights at Behlen Observatory this year. The dates will be:

Friday April 4, 8:00 p.m. (the Friday after UNL's spring break) and
Friday April 11, 8:00 p.m.

These times are the times we will be announcing to the public. Note that the times are the same clock time, but daylight savings time comes into effect on Sunday April 6, so it will still be bright twilight on the second night. However, the second night will have the moon as a twilight attraction (or detraction, in the case of the comet!).

If you've been before you'll know that public nights usually taper off sometime around 11:00. It should be OK to stay outside with your telescope as long as you want if you want to enjoy the Behlen Observatory sky.

Club members are welcome to set up 'scopes outside the observatory as usual. Probably the best place to go will be on the southwest corner. People from the physics & astronomy department will probably be arriving between 7:00 and 7:30 to get ready, so if you want to arrive early to set up equipment you can do so. If you need power bring a long extension cord and we can run it into the base of the dome. Keep the possibility of earlier arrival times within the club though since we won't be ready for the general public until right at 8:00.

As well as the comet in the west, Mars is only a couple of weeks past opposition, so we will have a late night attraction as well.

The crowd size will vary with the weather. If it's clear and mild (as it was last fall) we could be having over 500 people. This is a great time to recruit new members for the club. Bring some fliers advertising PAC!

We'll certainly be having talks inside as usual and quite likely other comet and Mars related entertainment (computers and movies etc.). The weather might not cooperate, of course. We'll still be having the building open even if it rains or snows.

Hyde Observatory is scheduled for extra open nights in addition to Saturday nights for public observation of Comet Hale-Bopp. Because the comet will be blocked by the building, we can't get a view in the Observatory scopes and we need all the help we can get from PAC members bringing scopes and bodies to control traffic.

In case of cloud cover, the opening is cancelled and you don't need to show up at the Observatory. Just remember to keep watching the sky as it could be cloudy early and open up during the hours announced and then the public will rush to us.

The extra dates are as follows:

- Tue., March 18 from 7-9 p.m.
 - Tue., April 1 from 7-9 p.m.
 - Thur., April 3 from 7-9 p.m.
 - Tue., April 8 from 8-10 p.m.
 - Thur., April 10th from 8-10 p.m.
- Jack Dunn

MORE

At the March meeting, Martin Gaskell will demonstrate mirror testing. If you have a mirror you'd like tested, bring it along (so long as its radius of curvature = 2 * the focal length don't forget!) is smaller than the width of the lecture room!

I should be able to bring along at least one Foucault tester with a longitudinal knife position scale and a test stand that will hold up to a 12 inch mirror. If you have a stand or tester, please bring it along. The more the merrier.

ANNOUNCEMENTS

ASTRONOMY DAY ASTRONOMY DAY ASTRONOMY DAY

The Prairie Astronomy Club, in conjunction with Mueller Planetarium, will be holding its annual Astronomy Day display on Saturday, April 12th, 1997 in the lobby of the planetarium from 10 a.m. to 4 p.m. Initial setup will begin about 8:30 a.m. We need telescopes, binoculars, computers, posters, books, other displays, and most important of all: PEOPLE! If you can help, please sign up at the March meeting, or call the Astronomy Day chairperson David Knisely (402)-223-3968 (e-mail: dk84538@navix.net), or call Jack Dunn at the planetarium. This is one way our club can bring the hobby of amateur astronomy to the general public, so please help if you can.

DIRECTIONS TO BEHLEN OBSERVATORY: Behlen Observatory is located at the University of Nebraska Agriculture R&D Center, a few miles southeast of Mead, Nebraska and is about 35 miles from either Omaha or Lincoln.

From Lincoln: Take highway 77 North to about 1/2 mile past Swedeburg where you turn east on highway 63. Follow highway 63 east for about 7 miles until you reach 10th Street (Spur 78F) where there is a sign to Mead. Turn left and go 1 mile north to H Avenue. Turn right on H and go two miles to 8th Street. Turn left on 8th Street and go north 0.7 miles. The observatory will be on the left.

The Prairie Astronomy Club April 1997

S	M	T	W	T	F	S
What's up this month? You know Comet Hale-Bopp is, unless you live in a cave. Look in the WNW sky for it in the early evening. The best time to see it is during the first week, since comet perihelion occurs on April 1st. The darkest nights for viewing are until April 13th and April 24th-May 13th. Mercury will make its best appearance of the year over the WNW horizon, April 1st-5th. Jupiter ascends in the SE morning sky all month.		1 HYDE OBS. OPEN 7-9 PM FOR COMET VIEWING	2	3 HYDE OBS. OPEN 7-9 PM FOR COMET VIEWING	4 COMET/STAR PARTY AT BEHLEN OBS. OPEN 8 PM	5 STAR PARTY (RAIN DATE) AT ATLAS SITE MOON AT PERIGEE
		6 DAYLIGHT SAVINGS TIME BEGINS	7 NEW MOON 6:02 AM	8 HYDE OBS. OPEN 8-10 PM FOR COMET VIEWING	9	10 HYDE OBS. OPEN 8-10 PM FOR COMET VIEWING
13 COMET H-B 1.5 AU FROM EARTH, 0.94 AU FROM SUN	14 FIRST QTR MOON 12:01 PM	15	16	17 MOON AT APOGEE	18	19 DEADLINE FOR NEWSLETTER SUBMISSIONS!
20	21	22 FULL MOON 3:33 PM	23	24 NSP MEETING AT MAHONEY STATE PARK 7:30 PM	25	26
27	28	29 PAC MEETING AT HYDE OBS. 7:30 PM	30	MORE What's up this month? April 5th at dusk: Mercury greatest elongation, highest in sky all year, low WNW sky April 8th at dusk: Young crescent moon 8 deg. above W horizon (Mercury 8 deg. right of moon) April 9th late evening: Moon very close conjunction with Aldebaran (occultation from west coast) in W sky April 16th at dusk: Mars (magnitude -0.8) in SE sky April 27th at nightfall: Mars in S sky ends retrograde motion close to Sigma Leonis		

"I'm not licensed to perform marriages."

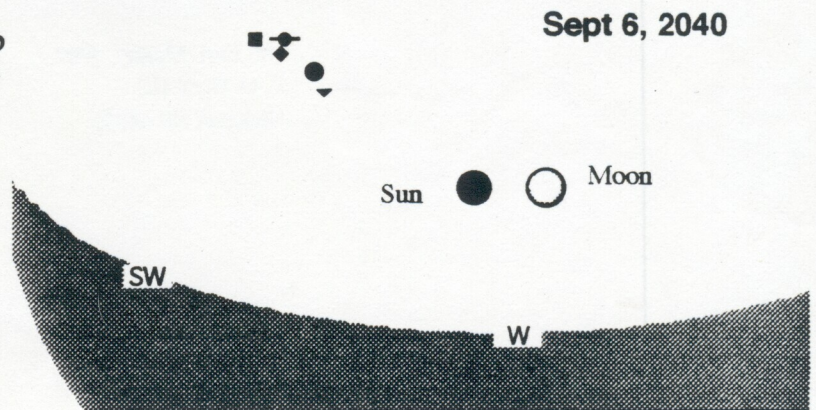
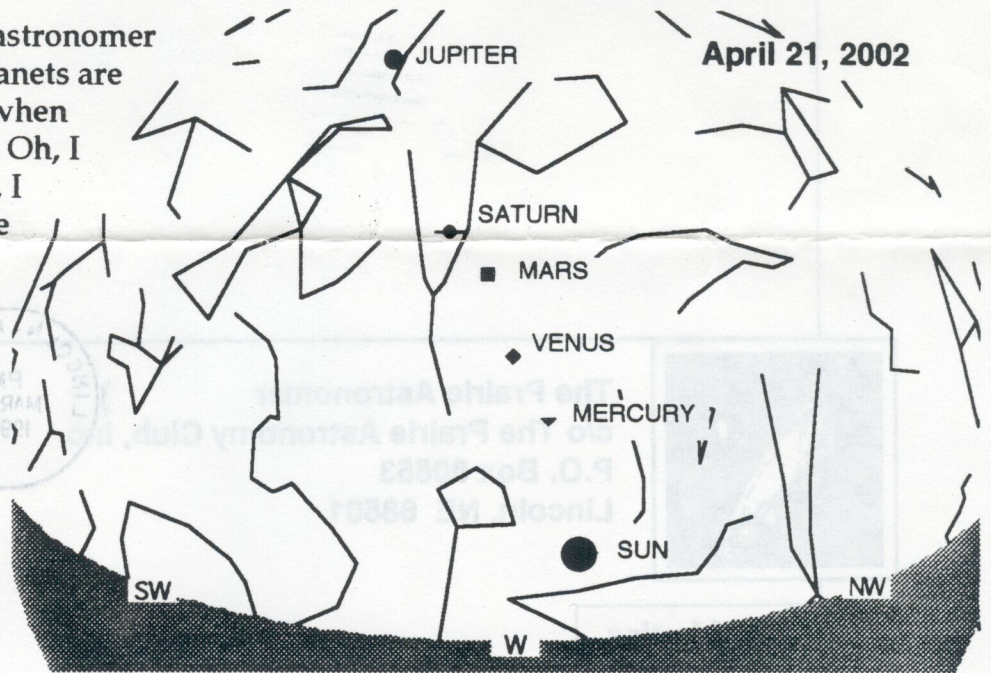
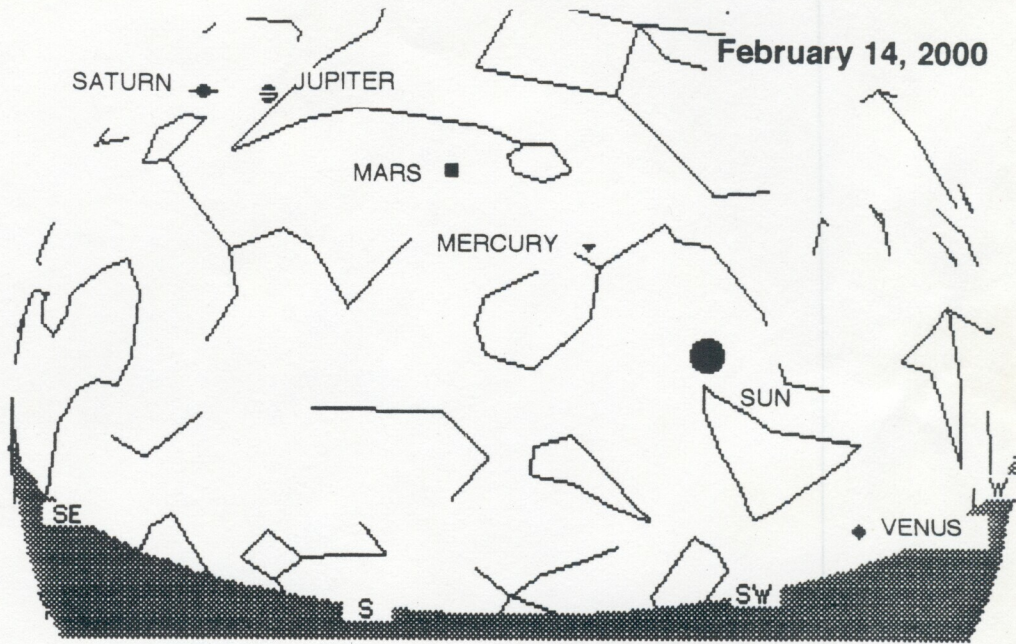
A true story by Mike Maiman,
San Mateo Astronomical Society

... but I can certainly tell you when to get married, can't I? I received a call a few days before Astronomy Day from a guy who saw my number in the newspaper. He wanted to know when the planets were "all lined up." Why? He wanted to get married on that day! Well, sure, I think I can help. Let's try it out on the Voyager program on the Macintosh. We'll see when the five naked-eye planets are seen really close together in the sky because, if you observed them from afar, then the planets and the earth would be "lined up." I told him to reserve his tuxedo for September 6, 2040

(plenty of time to arrange for a bachelor party!). Oh no, said he, the astronomer has misunderstood. Not when the planets are in a tight little group in the sky, but when they are spread in a line across the sky. Oh, I get it now. Back to the Mac. But wait, I asked...is it OK for some planets to be on one side of the sun and some on the other? See 2/14/2000

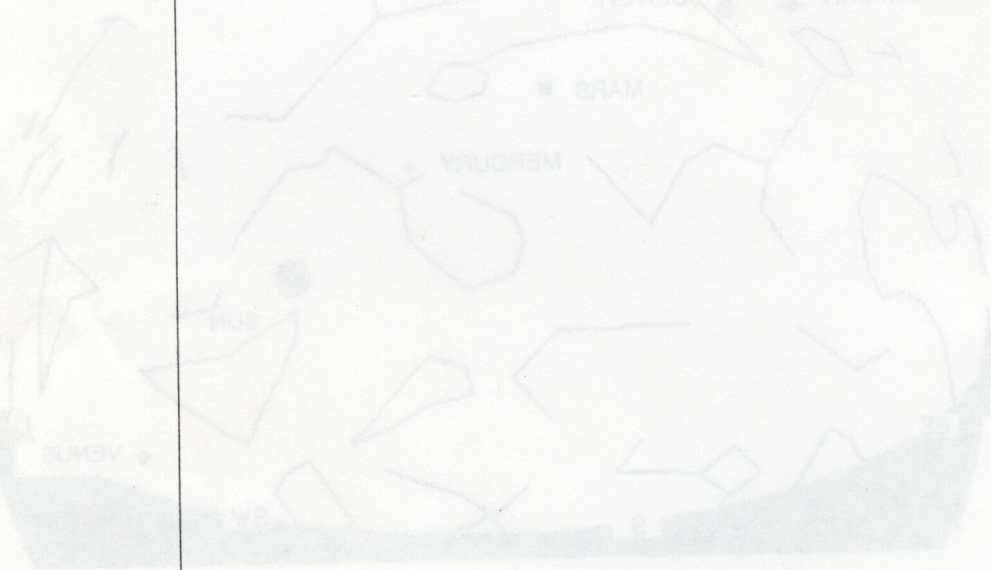
(Valentine's Day!). Four of the big five are nicely arranged just after the sun set, but Venus is on the other side of the sun, seen in the pre-dawn sky. Well then, can I interest you in 4/21/2002? You get the big five right after sunset, a pretty sight. Look, if you want to get married in the next year or two, you might have to settle for three planets, or two

planets and a moon. In fact, even when four or five planets "line up" in the sky, they actually appear to be in kind of an arc, and don't appear to be in a straight line. In fact, they're not really lined up at all in space. Listen, perhaps this is not my field...maybe you'd better consult an astrologer. No, don't even bother coming to Astronomy Day, it won't be very interesting for a cool dude like yourself. Quite dull. Better you stay home and start making your guest list. I mean, think how many people you'll meet in the next 45 years whom you might want to invite to the wedding!



A true story by Mike Mainzer
San Mateo Astronomical Society

February 14, 2000

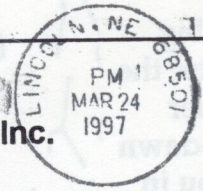


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I asked, is it OK for some planets to be
on one side of the sun and some on
the other? Sure, 2010.

LINE



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P.O. Box 80553
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First Class Mail

Next PAC Meeting
March 25th, 1997

Mr. Earl Moser 9/97
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Hickman NE 68372

3-97