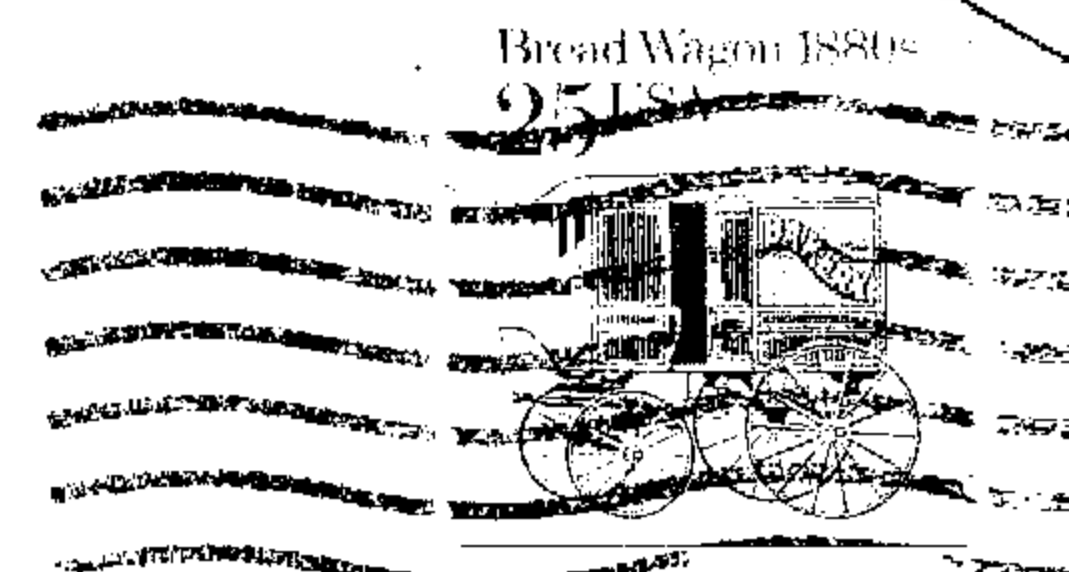


900-A North Golden Springs Road
Diamond Bar, CA 91765

Amateur
astronomers
get better
looking ...



September, 1988

Ray Magdziarz

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nightwatch

The Newsletter of the Pomona Valley Amateur Astronomers

Volume 8, Number 9

nightwatch

September, 1988

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Newsletter	Dave Thompson	(714) 860-1927
Publicity	Billie Darrah	(714) 860-5373
Membership	.....	Harv Pennington	.....	(714) 594-8319
Workshop	.....	Dave Chandler	.....	(714) 946-4814
Historian	.....	Dorothy Woodside	.....	(714) 593-9823

Calendar:

Meeting	.....	7:30 p.m. September 16th, at Galileo Hall
		Guests welcome. Bring a friend.
Program	.....	Occultations—Ray Magdziarz
Star Party	.....	Victorville, September 10th. Dress warm!
Board Meeting	..	7:30pm October 7th, Millikan Hall.
		All members are encouraged to attend.

President's Message

Summer is over already! Where did those long days of kicking back go? They got by me altogether. It is so easy to get too busy—sometimes we need to pause to reflect on those important issues that are so big it is easy to let them drift unattended. Issues like, "where are we going?" and what does the future hold in store for us?"

As a group of people who share an interest in astronomy, we naturally want to foster that interest to nourish it and help it grow in those seeking growth. But, pondering the future always brings me to our young people: They *are* our future. I can't help but have concern for the generation to come that could yield great astronomers because their interest was awakened by someone who showed them a galaxy. How many future scientists are kids right now?

There is another necessary element for a generation to produce great discoveries—in any science—a population interested enough to support scientific work. In legislation, in government (issues such as light pollution), in education, and in funding! If we long to see a future that brings new answers to age-old questions we must cultivate a generation willing to support and fund science. So, again my attention is on today's children.

I consider the education of my own boys above average, and yet the programs involving general science—and yes, astronomy in particular—were appalling sparse. Have you come to similar conclusions about the science programs in our schools? Have you voiced your concern to teachers and administrators?

We—the PVAA—can make a solid contribution to the future: We are working on the writing and production of a number of short astronomy programs for presentation to schools and other community organizations. Each program will consist of a script, 35mm slides, charts, overhead slides and possibly some handout materials. Each program will be prepared for presentation at two levels: elementary/junior high school and high school.

Our first two programs will be on the solar system and galaxies. When we finish the programs, there will be a need for volunteers to present them—someone who will take the programs out to the schools and various community organizations. *You*, dear members, are the key to the resources of the future! Be aware of our urgent need to invest ourselves in a future; to support programs that will ultimately lead us and our children to the stars.

—Billie Darrah

The New Digs

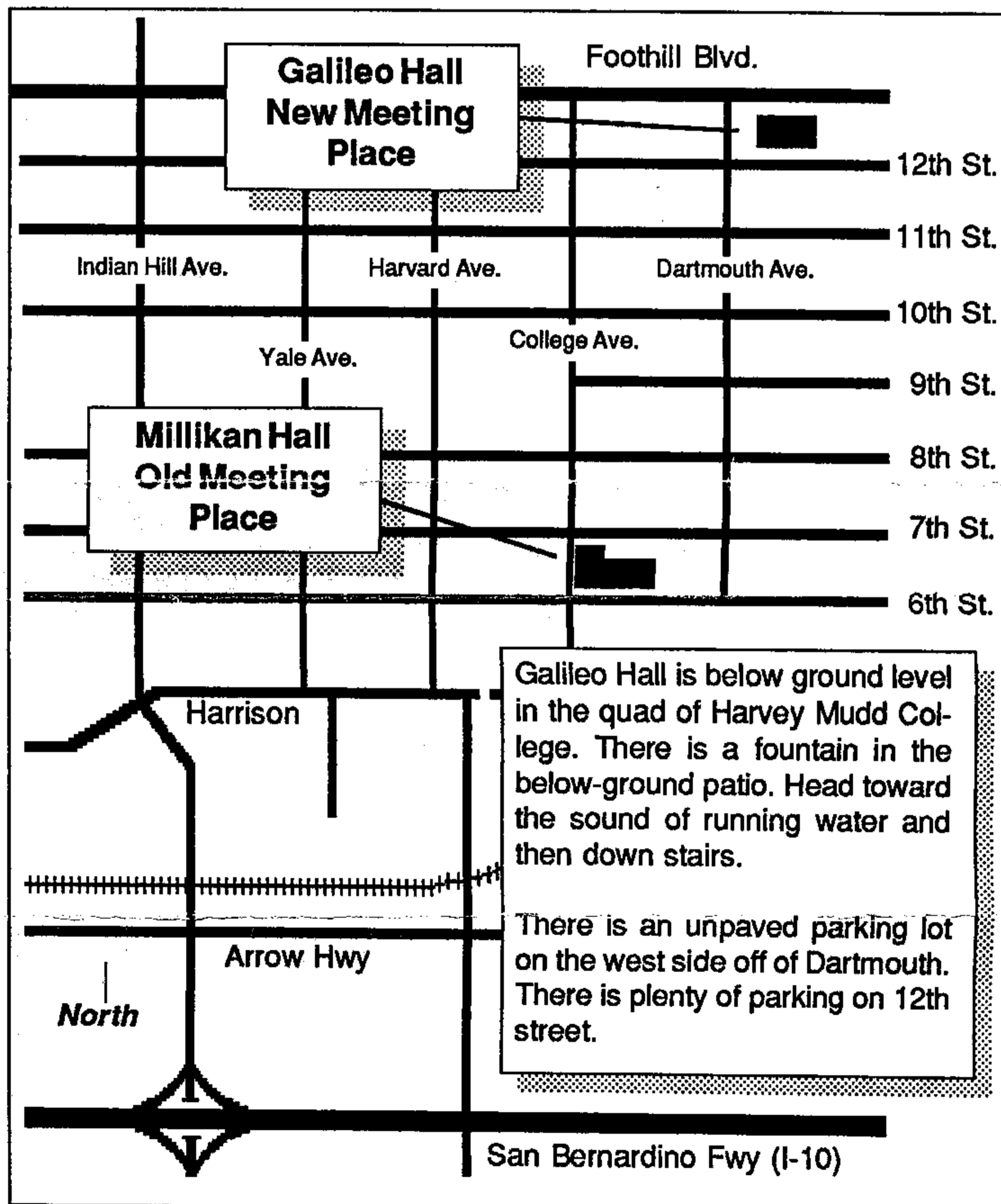
The August meeting was held at our new digs: Galileo Hall located at the western edge of the Harvey Mudd campus of the Pomona Colleges between Foothill Boulevard and 12th Street. Like the rest of the Pomona Colleges complex, Harvey Mudd exudes the serene air of academia—vast lawns, quiet walkways, tree lined boulevards and stately buildings. On 12th Street, just east of Dartmouth, is Kingston Hall, the main business office of Harvey Mudd. On the western side of Kingston Hall is a large quad bordered by multi-storied buildings on three sides. As you approach the quad, you notice a sunken area and hear the sound of running water.

Closer, you can see that the sunken area is a patio, and that the sound of running water is coming from a stately marble fountain at its center. As you descend, into the patio, your attention is drawn to the fountain. The sound of the water falling into the pond below, lends the setting a definite ambience. Next, your attention is pulled to the the entrance; a wide expanse of doors stretching across the huge lobby with a prominent bronze bust of Harvey Mudd set into a niche on the far walnut paneled wall.

Inside the auditorium, far larger than our old meeting place, you are again struck with the size of the underground facility. It easily seats over 300, and with the side walls removed, about 600 in theatre style seats.

It has a large (huge!) rear screen slide projection system, 16mm projection, sound system, and overhead projectors. The screen is electrically controlled—it is lowered and raised with the flick of a switch. The ambient lighting isn't simply switched off—it is controlled with a remote dimmer switch. All the other lights are controlled separately.

The rear screen slide projection system is radio controlled. What is really nice is the fact that when someone in the audience stands up, the light from the projector isn't blocked. Our new meeting facilities are, in a word, *fabulous*. After that glowing description, you are sure to want to attend the next meeting, but cannot find last month's *nightwatch* with the map, so here it is again:



Star Party Report

I awoke to typical L.A. Basin summer-time weather—heat, smog and humidity. My first thought was if it is hot here (Walnut), it is hotter on the desert. I had worked quite late the night before and it was already past noon. Charlie and his station wagon were on vacation in Texas so unless I could find transportation for Shamu, I wouldn't be taking the 17 inch. After lunch I made a half-hearted attempt to find a ride with room for Shamu. It was August, and with most people on vacation, the chances of finding one were somewhere between no chance and absolutely no chance at all. I had loaned my C8 to Dave Thompson for his vacation, so that too was out. That left the C90 and/or the 11 × 80 binoculars.

What to do? First, I made a mental list of the possibilities and options. Then I turned on channel 5 and watched the Three Stooges while I pondered my options. The answers weren't coming. There was only one more thing to do—watch Gilligan's Island. By now my mind was completely blank (according to some, a common condition). I heaved myself from the couch, shed my potato persona, got the binoculars and tripod, and headed for the desert, leaving behind the stove, gas, table, chairs and myriad other accouterments of comfortable and convenient observing.

At the Cajon pass I noticed that the desert had its share of smog and haze too, but it was better than the basin. It was dusk when I arrived. Unpacking and setting up wasn't much of a chore with my abbreviated equipment. The usual sunset breeze sprung up then died off about an hour later. Amazingly, the sky was improving quickly. I had expected the observing conditions to be, at best, only fair. It was already better than fair and getting better. The transparency was quite good although planetary images were unsteady because of the hot air rising off the desert floor.

Mira was absent, I didn't have Shamu and Blen Koch didn't show with his 17, but Mike Hill had his handsome 17-incher in operation as the resident light bucket.

By 9 p.m. there were about 40 star watchers present—an exceptionally good turnout for the doldrums of summertime. Typically August and December's turnouts are low because of the heat or the cold or vacations or holidays. Everyone seemed to have an agenda for the evening. Jack Gardener was busy looking for Messier objects and practicing his location skills, John Tripodo was trying his hand at photography as was another observer just to the south of John's camp. Bob Diaz and family had a tent pitched and were sharing the eyepiece all around. To the north of Bob, Mike Whiteside and Jerry Rosenblatt were busy as beavers hustling and bustling between charts and telescope. Dorothy Woodside, serene as ever, was busy with her agenda. Tom Reynolds had his nifty equatorial Build-Your-Own-Telescope-by-Richard-Berry 6-inch telescope in operation 'till after midnight. Everyone else was equally busy too.

Mars was a red beacon throughout the night. I got several looks through Mike Hill's 17 and Jack Gardener's C8. Quite a bit of detail was discernable, but the image was unsteady. As it gets cooler, and the air becomes more stable at an earlier hour, it will improve. Amazingly, I got excellent steady views of Mars last year from my backyard—something to do with the stable air of the "crud bubble" that hangs over all large metropolitan areas, so I'm told.

Between visiting other members and their telescopes, I did spend some time with the binoculars locating and observing Messier galaxies. It is amazing just how much you can see with binoculars if you have some familiarity with the objects you are observing—an educated eye.

About 3 a.m. the coffee ran out and so did I. As I wandered over the site, I noted that there were only four or five true-blue observers still at their eyepieces, so I beat a hasty retreat to Denny's and breakfast.

—H.C. Pennington

Meeting Report

We had scheduled a presentation of an astronomy laser disk by Tony Cook, but like all the best laid plans of mice and men, alas, it was not to be. Ernie Williams, Dave Chandler, and myself filled-in the inaugural meeting of the new meeting place with a program consisting of a series of shot subjects. Actually it came out quite well in spite of the short preparation time. Dave presented the "Night Sky This Month" segment, and we had the usual show and tell. Pat Thomas had some slides of a very young moon, and Hugh Jackson had some slides of Mars made with his 10-inch Meade.

Ernie Williams shared some of his great photos with us, then presented a series of video images made with the Palomar 60-inch telescope piped to his recording equipment. The background music was written to the beat of a pulsar recording—very fitting. After a brief interlude, Ernie then presented a video record of one of his many observing trips to the high altitude environs of the Sierras.

A disappointed John Sanford and Bob Gill, the president of the OCA, were in the audience, having been attracted by the announcement of the laser disk presentation. John and Bob gave us a brief report on the activities of the OCA, then beat a hasty retreat to the environs of Orange County.

All-in-all it was a convivial evening, although I felt like a cat in a strange house. See you at the September meeting.

—H.C. Pennington

September Program

Member Ray Magdziarz (pronounced, MAGGd-jars) will present a program on occultations. This is a subject that receives a fair amount of attention in the popular astronomy press, but is generally (and unfairly) regarded as "too technical" by most amateurs—it isn't. Occultations have considerable value to scientists, and there is a reporting organization to collate and distribute the data. Ray will tell us about the ins-and-outs of occultations and how you can make valuable contributions to astronomical science.

Wanted: Astro Slides

If you read "The New Digs," above, you know that our new meeting facility has a rear screen projection system. A projection system needs something to project. In keeping with our hobby and general interest, an astronomical background will be kept on the screen during the meeting—what we need to do this are suitable slides; what would be especially nice, are slides made by members. If you have a slide or two to donate to the cause, bring it to the a meeting or contact one of the club's officers listed in the masthead. Make a note on the edge of the slide holder your name and the object.

LATE—LATE—LATE!

Looking for a Few (1) Good Men or Women

For a number of months we have carried the bad news that Dave Thompson can no longer function as the editor of the *nightwatch*, and that a new editor is needed—desperately—to take over the job. (Of course the good news is that he is too busy working on his doctorate in astronomy.)

In the interim I (Harv Pennington) have taken on this job in addition to the job of producing it on my computer—which I have done for the past year as I am fortunate to have at my disposal an IBM PC publishing system with a scanner and laser printer.

Editing and producing the *nightwatch* is a big job; too big for one person. In addition to producing the newsletter I also am also the membership director, and the club's vice president. Between making a living, attending board meetings, club meetings, star parties, writing a couple of articles a month and producing the *nightwatch*, my time is limited. Taking on one more job is not in the cards. I once had a boss who told me that if I couldn't get my work done in 24 hours, I would have to work nights. I am out of available hours and nights.

Unfortunately the press of time has made last month's and this month's *nightwatch* late. Too late. Dave has simply not had the time to put it together and, as a result, I have not had the material at hand to produce it.

Have you ever had the ambition to become an editor, a power in the publishing world, a media magnate? Admittedly, the *nightwatch* is a modest beginning, but, who knows?

If you have a reasonable command of the English language, access to an IBM PC or PC clone and a fair grammarian, you are just the person needed for this job. I will continue to produce the *nightwatch*—unless you have facilities of your own—and I will help you get started.

Now, how can this plea go ignored? How can you read this and not pick up the phone and tell me, "I want to be the editor of the *nightwatch*!" Pick up that phone ...

—H.C. Pennington

New Job Description

For the past few years Steve Simon has served the PVAA as treasurer. Steve did not run for reelection this year. However, not wanting to get out of the cockpit altogether, he has volunteered to fill a new club function: Club Merchant.

A number of commercial enterprises offer discounts to clubs. Keeping up with what is available, the prices and the ordering and receiving of the merchandise is a fair sized job—one that has been downplayed in the past.

All that is over, now. Steve is preparing a listing of items and prices. A "catalogue" will be included in the *nightwatch*, from time-to-time, and distributed at club meetings and star parties.

New Deal

AstroMedia publishing has made their publications, *Astronomy*, *Telescope Making*, *Deep Sky* and *Odyssey*, available to clubs on a group subscription basis. Each magazine is offered at substantial discount rate: *Astronomy*, \$14.00 per year; *Telescope Making*, \$7.00 per year; *Deep Sky*, \$7.00 per year; and *Odyssey*, \$10.00 per year.

However, there are a couple of catches. Catch #1: The subscriptions for *Astronomy* and *Odyssey* run from January to December. Catch #2: There must be at least five subscriptions, per magazine, to initiate the group plan on that magazine, i.e., with five subscriptions to *Astronomy*, the club will receive the group rate for *Astronomy*. With 5 subscriptions to *Telescope Making*, the club receives the group rate to *Telescope Making*, etc. If enough subscriptions to one magazine cannot be obtained, that magazine

will not be offered through the club. Another "however": However, anytime we can secure five subscriptions for a particular magazine, we can start that magazine on the group rate.

If you want to receive Astronomy before the January start date, you can pay a special prorated "per issue" reduced rate for each month between "now" and January.

Although it sounds complicated, a form with a breakdown of the rates has been prepared and is available from Steve Simon, the "Club Merchant"—officially the Merchandising Director. Contact Steve at (714) 593-4458 or ask for a form at the next meeting or star party.

Of Note...

Election Results The results of the election of officers will be announced by President Billie Darrah at the September Meeting to be held at Galileo Hall on the 16th. Last Spring the board of officers approved a new set of bylaws. All members in attendance will receive a copy of the club's bylaws.

New Kid on the Block Dave Chandler will be teaching a non-math introductory astronomy class at Chaffey College (four units) this fall. Call Chaffey College for details. (714) 987-1737

Fine Print Did anyone notice that member John Kerns (also an active member and trustee of OCA) was credited with assisting in the preparation of a computer program and article in Astronomy magazine ("Ready, Compute, Aim," Astronomy, July 1988, page 71)?

New Member Welcome to Jody Ruiz. Jody and his father have attended the last two star parties. Jody is a young man with a mission—he wants to know. Everything. Maybe we have another future professional astronomer.

City Lights Star Show

It's time for our second City Lights Star Show (September 17th). It will be held in the same place as the last one—in the north parking lot of Griswolds in Upland. Our first one was very successful and this one promises to be equally successful. If you didn't participate in the first one, make it to this one. It is an opportunity for the club to enhance the exchequer (we raised nearly \$400.00 at the first City Lights Star Show), and acquired several new members. We had over 60 participating members at the last one, we could use a few more this time. There is power available for those that need it. Parking arrangements and spot assignments will be similar. We also need people without telescopes to sell coffee, planispheres and raffle tickets. Plan to arrive early and be setup before sunset. Sandra Bullock ((714) 962-7354) is coordinating this event.

Deep Sky Objects for September

Autumn comes, the nights get colder, the skies begin to lose their dusty haze. You unpack your thermals and moonboots, and watch for the Pleiades (Mellote 22) to slip over the horizon. Before we move to the Flying Horse and the Queen, however, let's look at a few more summer favorites still high in the sky at dusk.

Serpens the snake is the only constellation split into two parts: *Cauda*, the tail and *Caput*, the head—separated by the great tombstone shape of *Ophiuchus*, who bears the serpent throughout eternity. In the tail of the snake, near the *Shield of Sobieski*, is a glorious cluster of stars that are embedded in dense nebulosity and named the *Star Queen*. Only three degrees north of the *Swan*, M16 is an open cluster embedded in a rich emission nebula. Named by Burnham, and also known as the *Eagle Nebula* or NGC 6611, the *Star Queen* is very beautiful and very complex. Look for the cone, a dark intrusion that marks the throne and the other dark areas that give this object distinction. Half a degree northwest of NGC 6611 is Harvard 19, a small open cluster that makes a nice contrast with its beautiful neighbor.

As we move northeast from the *Star Queen* nebula, we move to another eagle—the constellation of *Aquila*. Marking the head of *Aquila* is *Altair*, one of the brightest stars in the sky and the southernmost member of the *Summer Triangle*. Look to the tail of *Aquila* and find fourth magnitude 12 *Aquilae*. Arcing east off of 12 *Aql.* is a terrific little bow of stars ending in V *Aquilae*—a very red variable star that takes almost a year to go from a dim 8.4 magnitude to a naked-eye brightness of 6.6. Please report the date and time of your observations of V *Aquilae* and I will see that your work is sent to the AAVSO.

Following our bow of stars another 15 minutes of arc will take you to NGC 6751. A small planetary nebula one-fourth the size of M57 in *Lyra*. NGC 6751 is relatively bright and has a central star which should be visible in a six inch telescope. Use averted vision, however, the star must send its photons through a lot of gas before they fall on our retina.

Moving north out of *Aquila* we come to the lovely little constellation of *Sagitta* the arrow. Midway between Gamma and Delta *Sagittae* is M71, a big loose wedge-shaped globular cluster. M71 is curious because it is not given a Shapley and Sawyer classification. On a scale of 1 to 12, with the smaller number indicating a greater concentration towards the nucleus, what rating would you give M71? Less than one-half degree south of M71 is the galactic cluster Harvard 20. H20 has many hundreds of thousands

of stars less than M71, even though they are approximately the same diameter.

Bordering *Sagitta* on the north is the foxy little constellation of *Vulpecula*. Glistening brightly in *Vulpecula* is Broochi's Cluster—Collender 399. Over 400 light years from us, the 40 plus stars of the open cluster that make up Collender 399 resembles nothing so much as a coat hanger. Just off the west end of the coat hanger and seven times further away is NGC 6802, another open cluster that contains about 50 stars. NGC 6802, however, is only one-twentieth the size of Cr. 399. How do you classify the two clusters in terms of concentration, range in brightness, and number of star members?

Picture a square in the sky formed by Alberio, Sadr, Gienah (Beta, Gamma, and Epsilon Cygni, respectively), and a spot in *Vulpecula*. At this spot in the Fox you will find one of the largest and easiest planetary nebulae. Named the *Dumbbell* for its shape and number 27 in Charles Messier's catalogue, you can see it in 7x50 binoculars. In the Horse M27 is amazing. The lobes stand out thick and bright and a nebulous shell fills in all the spaces, giving it a three-dimensional spherical appearance. Slightly off-center is its central star and another is visible through one of its wings. Comparing M27 to NGC 6751 in *Aquila* helps us to understand the diversity of the objects in our universe.

Challenge of the Month: our *Milky Way* is strewn with lanes and streams of stars and darkness between the stars. Near *Eta Aquilae* is *Barnard 340*, large and irregular. I saw it best under a very dark sky with a UHC filter. Good Skies.

—David M. Phelps

Astronomical Events

September 22nd—Mars nearest the Earth

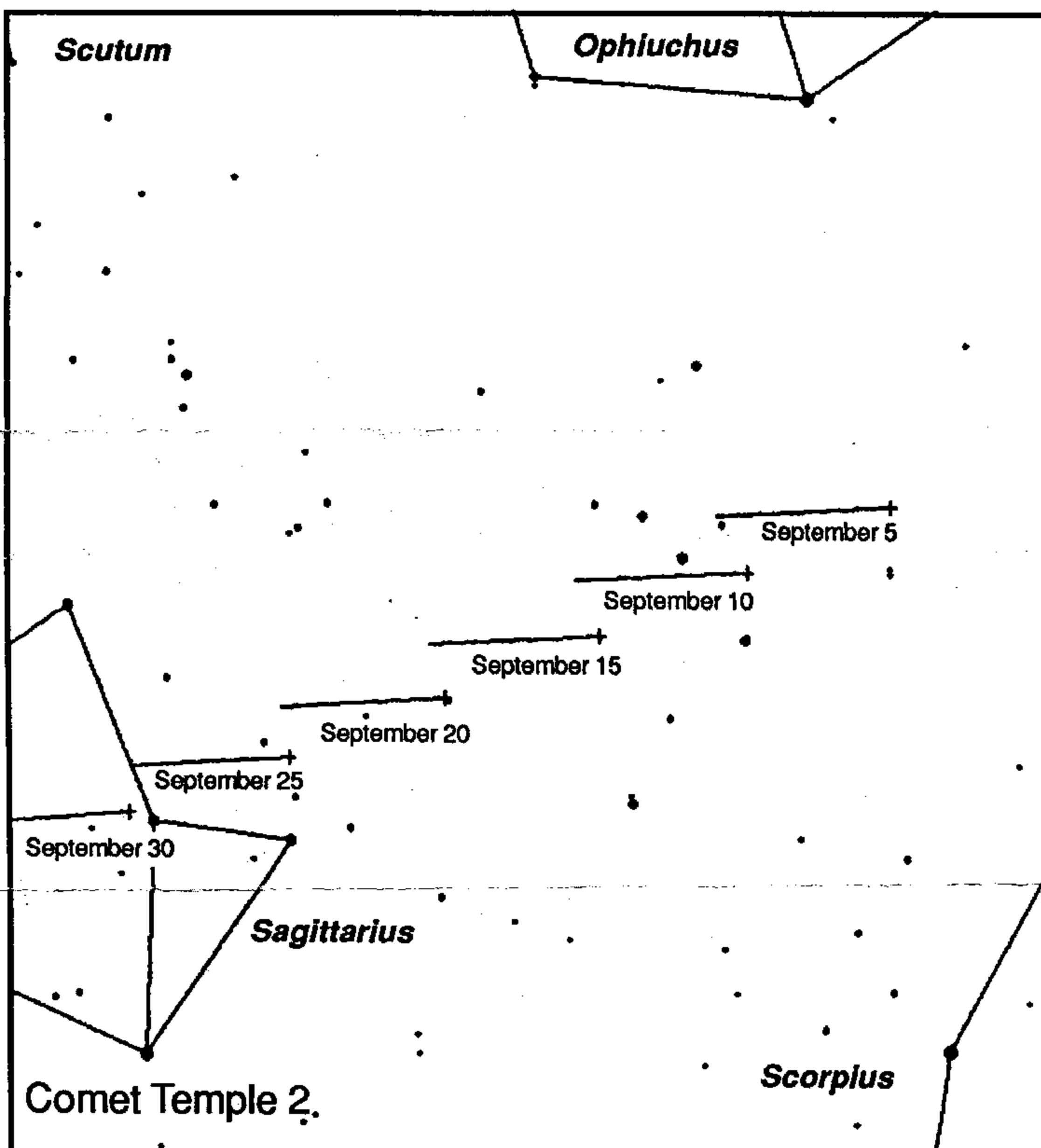
The time that Mars is nearest to the Earth and thus has its largest apparent diameter (23.8 seconds of arc), does not exactly correspond to the time of Mars' opposition. This is principally due to the eccentricity of Mars' orbit. Be sure to get out and see the red planet, as this is the best opportunity until 2003.

September 28th—Mars at Opposition

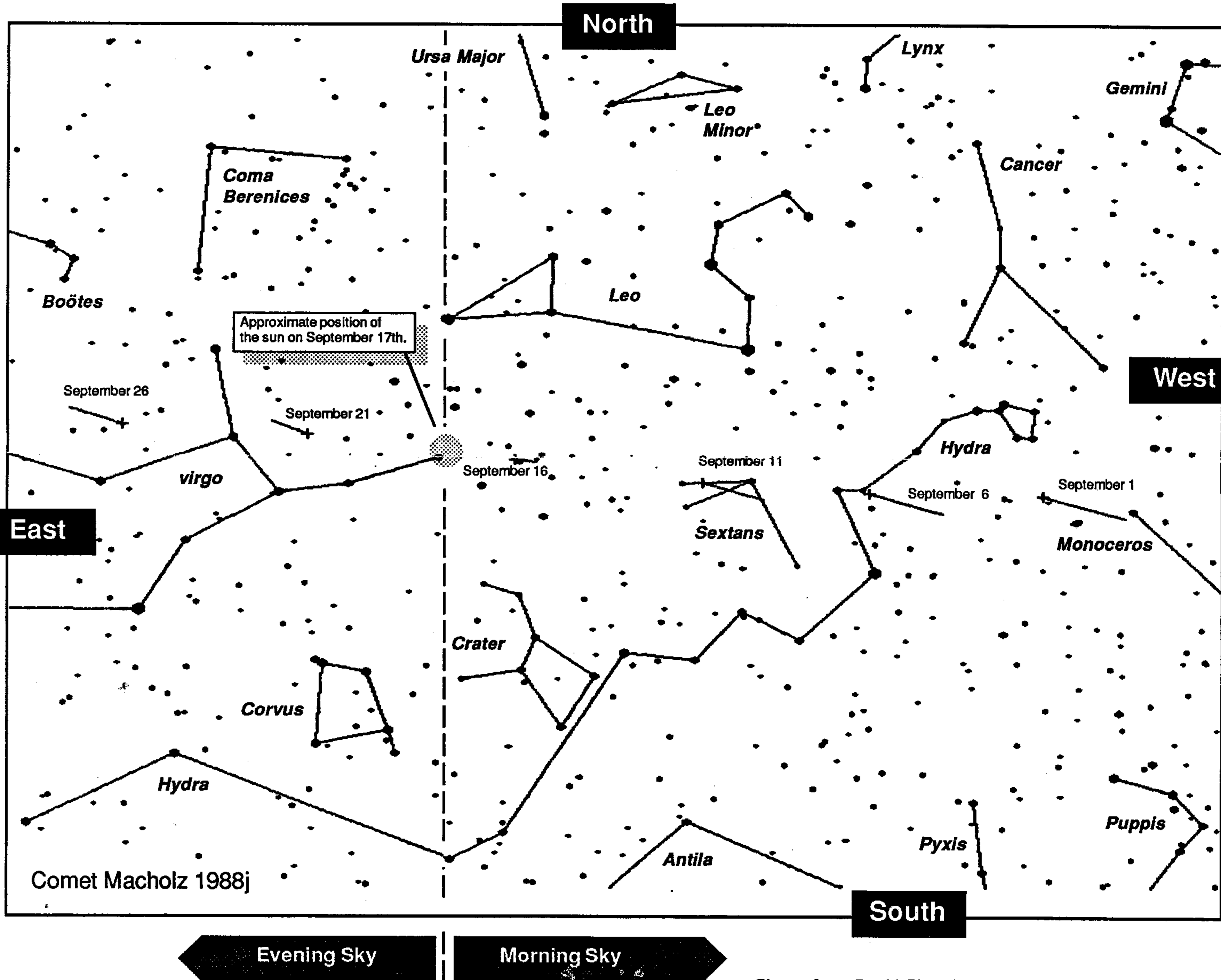
Because Mars is fully lit at opposition, it is at its brightest—magnitude -2.8. This is marginally brighter than on the 22nd when Mars was closest to the Earth but not 100 percent illuminated. The red planet will outshine Jupiter for a bout three weeks, Jupiter being only -2.6 magnitude.

Comet Corner—Comet Temple 2 comes to perihelion this month but remains far enough away from the sun to be easily visible, though it will be low in the south. Temple 2 may brighten enough to be visible in binoculars this month. Look for it as it enters the constellation of Sagittarius.

Date	Temple 2		9:00 p.m. PDT		Mag
	R.A.	Dec	Elong		
September 5	16 57.1	23 41	92.4	9.3	
September 10	17 12.1	25 11	91.1	9.1	
September 15	17 28.0	26 33	89.9	8.9	
September 20	17 44.7	27 35	88.8	8.6	
September 25	18 2.2	28 47	87.7	8.5	
September 30	18 20.3	29 37	86.8	8.6	



Charts from David Chandler's Deep Space Computer Program



Charts from David Chandler's Deep Space Computer Program

Don Macholz has discovered another comet—1988j. This one has potential, folks, so you should definitely get out and see this one. The comet has a perihelion only 0.16 AU from the sun and will swing around our star on September 17th. The orbit and projected magnitudes are preliminary, based on only five observations, but should be reasonably accurate. I saw this comet on August 18th and it was already easily visible in a pair of 9x63 binoculars! Through the telescope, the comet did not show any hint of a tail. It is covering a lot of sky this month, traversing five hours of right ascension while moving from the morning sky into the evening. The comet may even reach naked-eye brightness; try to spot it as soon after perihelion as you can.

Macholz 1988j		9:00 p.m. PDT		
Date	R.A.	Dec	Elong	Mag
September 1	8 33.4	-1 31	33.9	5.2
September 6	9 27.1	-1 14	24.8	4.1
September 11	10 21.3	0 15	15.3	2.4
September 16	11 23.1	1 56	3.7	0.5
September 21	12 30.2	4 1	9.3	2.2
September 26	13 26.5	4 32	19.2	4.3

NOTICE!

The October star party will be held at Joshua Tree National Monument in conjunction with The Andromedia Society. A map will be included in the next issue of the *nightwatch*.

Directions can also be obtained from President Billie Darrah at (714) 860-5373 after 6 p.m.

This is a much darker site than our Victorville site. Plan to attend as this promises to be a stellar evening for all.

Classifieds

Telescope for Sale

A member of the Idyllgazers has a 10-inch f5.6 Dobsonian telescope for sale. It has a rotating tube and a Telrad finder. \$300. John Gossett said he makes frequent trips to Idyllwild and would be willing to pick up the scope. Call Butch at (714) 654-8420.

Military Erfle For Sale

World War II Artillery Sight—large eyepiece (probably a military erfle by its description), double-line lighted crosshair, original leather case. \$150. Call Frank Perry at 624-4190.

Telescope for Sale

Celestron C8 for sale. Tripod and wedge, clock drive, dual axis drive corrector, piggyback mount, five eyepieces, filters and more. Excellence condition. \$850. HURRY! CALL RICK at (714) 592-6707.

Telescope for Sale

Celestron Super C8-Plus with StarBright coating, wedge, adjustable tripod, 8X50 Polaris finder, dewcap, Telrad, Tuthill Star Trap power module, star diagonal, multi-ocular, 6 piece filter set, 2X deluxe barlow, 26mm Plossl, 45mm Plossl, 7mm Ortho, 15mm Plossl, 10.2mm Ortho, 9mm Kellner, 20mm Kellner, 40mm Kellner, richfield adaptor, LPR filter, #58, 61 and 64 green filters, piggyback camera mount, eyepatch, rubber eyecup, audiocassette, instructions, complete manual and 2 foot lockers. Have invested over \$2,400.00, will sell for \$1,500.00 Call Shane: (619) 753-9331

The Moon This Month

