the san jose astronomical association

Bulletin

april 1982

Ephemeris

April 2 Board Meeting. Final planning for the Auction, etc. Bob Fingerhut's, 340 Rio Verde Place, #4, Milpitas. (408) 263-4455.

April 3 Indoor Star Party. On-going telescope making, as usual, and registration of items for the Astronomical Auction. (Bring lists of your items for sale, not the items themselves!) Los Gatos Red Cross. 7:30 pm.

April 10 Indoor Star Party. Planetary party night: we'll be looking at Mars, Jupiter, Saturn—and the Moon. Plus: registration of items for next week's Auction, and the usual mirror-grinding and noshing.

April 17 Second Annual Astronomical Auction. Last-minute item registrations accepted beginning at 6:30; auction starts at 7:30. Bring your wallets! There will be lots of fascinating and useful astronomical equipment, books, souvenirs, etc.

April 24 Star Party at Fremont Peak. Directions: Highway 101 south to San Juan Bautista. Take Highway 156 east for 3 miles; turn right at the flashing yellow light; this will be Road G-1. About a quarter mile after you turn onto G-1, you'll be confronted with a three-part fork in the road; take the middle fork (it's actually a jog left and then straight). The SJAA sets up at Coulter Group Camp.

Also, Gerry Rattley will be leading a caravan to his new dark-sky observing site near Idria. See his article on the site inside.

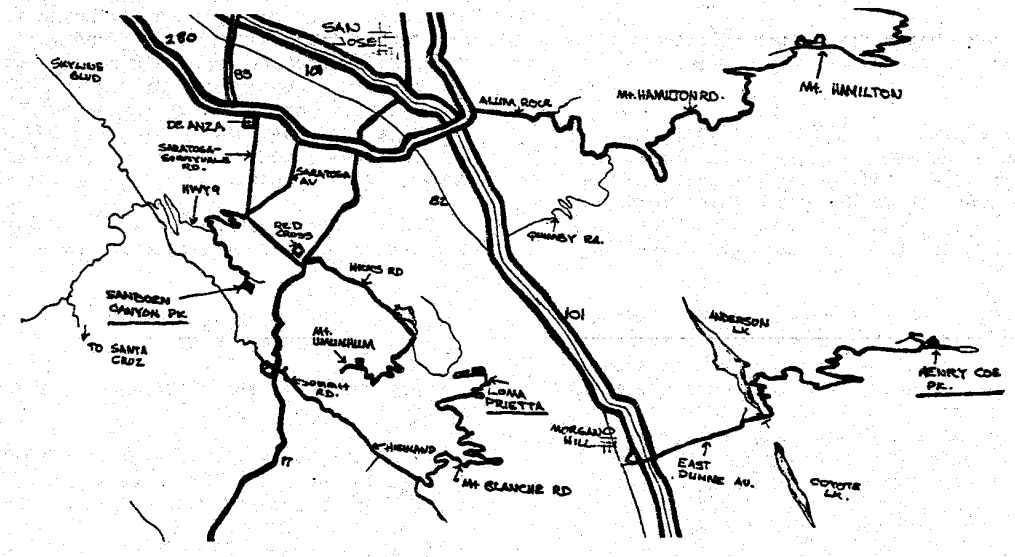
May 1 National Astronomy Day. The SJAA will have public viewing sites at the University of Santa Clara; in front of the Sunnyvale K-Mart; at De Anza College; and on Fremont Peak. See the Observations page for more details.

May 8 General Meeting. Speaker not yet announced. Room S-34, De Anza College. 8 pm.

May 15 Star Party at either Mt. Umunhum or Fremont Peak. To be announced.

May 22 Star Party at either Fremont Peak or Mt. Umunhum. To be announced.

May 28-31 Riverside Telescope Makers' Conference. A registration form was included in last month's Bulletin. Join the SJAA convoy to this convivial annual event.



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Bulletin Editors: Patty Winter and Steve Greenberg, P.O. Box 262, Menlo Park, CA 94025; (415) 326-8614.

BULLETIN DEADLINE IS THE 15TH DAY OF THE MONTH PRECEDING PUBLICATION.

Observations

by Patty Winter and Steve Greenberg

SJAA Second Annual Astronomical Auction—Saturday, April 17th. A profitable time will be had by all! Last call for registering items appears elsewhere in this Bulletin. This is your chance to buy all sorts of astro-goodies at great prices—and help the SJAA, to boot. (A portion of all proceeds goes to the club.) For those of you with empty, forlorn-looking garages, now is the time to fill them. Conversely, if your garage is overflowing [hello, Stephen], now is the time to clean it out. Hundreds of flyers have already been mailed all over the Bay Area, and we expect the turnout to be even better than last year. Our guest ringmaster (er, auctioneer) for the evening will be Kevin Medlock, temporarily rescued from Southern California. Refreshments will be available. Bring your husband/wife/significant other, your wallet, and your pink slip to 18011 Los Gatos-Saratoga Road, on the noisy side of Los Gatos' Telescope Row. Be there! (Or be an equilateral parallelogram!) [PW & SG]

Astronomy Day—May 1st. A great excuse (if you really need one) to show off your hobby to others. As usual, the SJAA will have multiple locations where the general public can view (in many instances, for the first time) some of the grandeur of our solar system. S.G. wants to include solar observing this year; call him ([415] 326-8614) if you prefer daytime star parties. Coordinators for the nighttime sites are:

Bob Fingerhut ([408] 263-4455) for De Anza College
Denni Frerichs ([415] 654-6796) and Frank Dibbell for the University of Santa Clara
Jack Zeiders ([408] 246-6189) for Fremont Peak (a new Astronomy Day site for us)

We still need a coordinator for K-Mart (El Camino/Lawrence Expressway in Sunnyvale); call Denni if you're willing.

If you're interested in helping out at a particular site (either with or without a telescope), please call the coordinator for that site as soon as possible. We need to know who wants to be where when with what, so that the pleasure can be evenly distributed. Ideally, there should be at least three or four telescopes at each site. [SG]

Peninsula School Learning Fair—May 16th. Another call for solar telescopes and accompanying explainers. Each year, this private elementary/junior high school in Menlo Park holds a one-day fun, food, and education festival offering hands-on experience with everything from computers to tigers. For the past two years, PW and SG have set up safe solar viewing for the multitudes. Stuff yourself on great food, watch the belly dancers, and show people how amazing a star looks close-up. Call Steve or Patty ([415] 326-8614) if you're interested. [SG & PW]

SJAA bazaar. Get your official "SJAA Renegades —And Proud of It" t-shirt stencil by bringing a blank t-shirt to Jack Zeiders at any SJAA function. (There will be a nominal charge.) Alternatively (if you qualify), you can choose "I Survived an SJAA Board Meeting". Proudly identify yourself as an SJAA member at Riverside and other get-togethers. (See Denni's President's Corner in the March Bulletin for an explanation of the "renegade" epithet.)

And don't forget about the beautiful black-and-gold SJAA name tags now available. Jack Zeiders is handling the orders; $3.00 each. [SG]

(Herewith an actual copy of a genuine SJAA name tag:)

Go places with ASAP. The American Society of Aerospace Pilots is now offering associate memberships to private pilots and the general public. ASAP is an offshoot of the Air Line Pilots Association; its members are now beginning ground school in preparation for commercial piloting of the space shuttle. Originally, membership was open only to United Air Lines pilots, but other commercial pilots are now eligible for full membership if they meet certain experience requirements. (If you think you might qualify, contact one of us for details.)

Meanwhile, three classes of associate membership have been established for those of us with the left stuff: Associate Pilot (for private pilots, and commercial pilots not meeting the requirements for full membership); Associate General (that's most of us); and Associate Student (for full-time enrollees in high schools, colleges, and technical schools). Dues are $25/year for the first two categories, and $15/year for students. Membership entitles you to the ASAP newsletter, and the opportunity to participate in ASAP activities (such as tours of Kennedy and Johnson Space Centers). Associate members are also entitled to take the shuttle ground school course (a combination of home study, computer study on the PLATO system, local meetings, and regional workshops); if you later become a full member, you can obtain certification for having completed the course.

Stephen and I can answer most of the questions you might have, or you can write for more information to:

ASAP
10700 W. Higgins Road, Suite 200
Rosemont, IL 60018

(Say you heard about ASAP from the San Jose Astronomical Association!)

[P.S. Stephen would like to hear from any British Air pilots who join ASAP; he wants to form a chapter called "The Pilots of Penzance".] [PW]

Club telescopes. George Deiwert's term with the 6" is up; anyone who wants it can call him at (408) 257-6658. Jay Freeman will have the 12" until late April; his number is (415) 592-9776.

See pg. 9

SJAA Astronomical Auction

APRIL 17th, 1982

DON'T MISS IT! THOSE WHO ATTENDED LAST YEAR KNOW WHAT GOOD FUN AND GREAT BARGAINS ARE TO BE FOUND AT THE SJAA AUCTION!!! ASTRONOMICAL GOODIES OF ALL TYPES WILL BE PUT UP FOR BID: TELESCOPES, BOOKS, EYEPIECES, CAMERA EQUIPMENT, CLOCK DRIVES, PARTS & SUPPLIES OF ALL KINDS, etc., etc., etc.

TERMS (Your choice of one)

1. The SJAA will receive 10% of the selling price on all items. You set the minimum bid. If a minimum bid is not received, the item will be returned to you unsold.

2. Total donation to the San Jose Astronomical Association. You set the minimum bid. (The SJAA is a non-profit organization. All monies collected from the auction go to support amateur and public astronomical activities.)

We strongly encourage you to pre-register your items by bringing a list of them to the April 3rd or April 10th Indoor Star Party.

Auction location: Los Gatos Red Cross building, 18011 Los Gatos-Saratoga Road, Los Gatos.

Item pre-registration 6:30-7:30 pm
Auction begins at 7:30 pm

Volunteers are needed to help with the Auction (ahead of time and on April 17th)! Please call Denni Frerichs at (415) 654-6796, or Shea Pratt at (408) 629-2994.

Letters to the Editors

(The following is a letter written by Steve Edberg, president of the Jet Propulsion Laboratory astronomy club, to Western Amateur Astronomers president John Sanford. Steve has allowed us to reprint it in the hope that it will encourage discussion of—and ultimately, improvement in—the state of the WAA.)

Dear John,

Unfortunately, I will not be able to attend [the January 30] WAA board meeting because of a conflict with a friend's wedding. I'd like to share my thoughts on the WAA with you (and anyone else who'll listen). I think the WAA can be a useful organization. [But] it seems to maintain an attitude of business-as-usual when it needs to change.

Looking at successful amateur meetings, one sees that in general: (1) They are topical (Astrophoto, RTMC, Stellafane; AANC and Astronomical League are exceptions); (2) They are short, the longest being on a three-day weekend (except AL again); (3) They are cheap, charging only a nominal ($3-10) fee with an optional dinner and/or meal plan.

The past couple of WAA conventions had expensive registration fees; expensive tours (with inflexible rules: Los Angeles people had to drive to Orange County to go to Mt. Wilson); and expensive housing options. It's not surprising to me that attendance was poor at these events.

I think the successful meetings are telling us how to do things better. The WAA could sponsor one or two meetings a year, one or two days each, dedicated to topics such as double stars; variables; deep sky objects; or planets, asteroids, and meteors. Occasional multi-topic meetings could be scheduled. The site could be anywhere that was inexpensive for a meeting room and accommodations. Free announcements on the radio and in newspapers are important to bring in the public.

The WAA need not sponsor just meetings. It could organize such activities as afternoon or overnight gatherings for simple group sky-looking; workshops on telescope selection and use, with direct comparisons of telescopes and accessories (have manufacturers bring their products to demonstrate); regional meteor watches; and grazing occultation expeditions. Clubs with permanent observing sites could host these gatherings, or they could be held at state or national parks.

The WAA is not using the ASP to announce its events and drum up interest. The ASP, in my view, has walked on the WAA when joint meetings have been held. The relationship between the WAA and the ASP should be improved to the mutual benefit of both.

I hope you find these ideas useful. Let me know what I can do to help.

Warmest regards,

Steve Edberg
M/S T-1166, JPL
4800 Oak Grove
Pasadena, CA 91109

Dear Denni, Steve, and Patty:

Bravo on the latest [February] SJAA Bulletin! I especially enjoyed the poems. Please tell Jay Freeman that his articles are deeply enjoyed and appreciated by me and many others.

Jack Marling
Lumicon
891 Laguna Street
Livermore, CA 94550

Dear SJAA,

In the AAVSO Solar Division program for sunspot counting, a major problem is the eyepiece. In my set-up, I use a six-by-six foot room with a 4-inch

See pg. 9

The Celestial Tourist Speaks

by Jay Reynolds Freeman

Let's talk about the use of finders. These important telescope accessories come in many apertures and magnifications, but are generally restricted to two designs: straight-through, in which you look in the direction the finder is pointed; and right-angle, in which a prism or flat deflects the light through 90 degrees before it reaches the eyepiece.

Straight-through finders require more neck-bending to use, but have several substantial advantages. First, they are cheaper. Second, they give an unreversed field of view, so that the finder field can be compared directly with a star chart without having to mirror-image one or the other mentally. Third, straight-through finders allow the use of a technique for pointing the telescope in the right direction that many observers don't know about.

This technique addresses the question of what you use as a finder for the finder. That is, how do you point the telescope so that the object you want to look at is even in the finder field, much less lined up with the crosshairs? Some people use setting circles. Others squint along the side of the tube, then put an eye to the finder and sweep around until they see something recognizable. There's a better way.

Suppose you are looking for M57, the Ring Nebula in Lyra. Point the telescope toward the general part of the sky where Lyra is, put one eye (I'll assume the right one) to your straight-through finder, and keep both eyes open. What your left eye sees might appear as in Figure 1, with Lyra at the upper left, a pine tree at lower left, and foreshortened perspective views of the telescope and finder tubes at right. What your right eye sees might be as in Figure 2—where the finder field has missed Lyra entirely, and shows a blank field, with crosshairs, surrounded by the deeper darkness of the inside of the eyepiece.

Your brain will be busily trying to fuse these two images into a coherent whole. It will be having trouble, because—in contrast to normal vision with two eyes—the images are very different. Give it as much help as you can, mentally. The combined image is subtle and hard to draw, but it might look as in Figure 3. You will be aware of the whole left-eye view, with a pale circle and crosshairs superimposed on it.

The crosshairs are the key to the technique, for in order to point the finder (and telescope) at a particular place in the sky, you must move the telescope so that the crosshairs are superimposed on that place. That is, since Lyra is above and to the left of the crosshairs in the combined image (Figure 3), you must point the telescope further upward and to the left in order to bring Lyra into the finder field. Keep looking through the finder as you do this, and keep both eyes open, and you will see that as the crosshairs get close to the combined-image position of Lyra, an enlarged image of the constellation pops into the real (right-eye) finder field. You can then use a star chart to set the crosshairs on the precise position of M57.

With this technique, I can usually set any of my telescopes on the right finder field in about thirty seconds, with no fumbling and fussing. If I am using a star chart that shows enough stars, and if the finder has enough aperture to show all the stars on the chart, then I can usually set the crosshairs on a charted object—even if it is not visible through the finder—in another thirty seconds.

You don't have to fuss with the adjustment screws on a finder to get it exactly lined up with the main telescope. Just get a known bright star centered in the field of the main telescope, then look through the finder and see how far away from the crosshairs it lies, and in which direction. Use that position as a mental crosshair location for the rest of the evening.

How large and powerful should a finder be? You need enough aperture to see the faintest stars on the star chart you will be using, and how much that is depends on the sky brightness. In dark skies, I find that a 25mm finder will show stars to the magnitude limit of the Skalnate Pleso or Tirion atlases, while 40mm will suffice for the fainter stars on the AAVSO atlas. But at my home in suburbia, even a 60mm finder is hard-pressed to get to the faint stars on the latter atlas. Too much aperture can be confusing, because it will show more stars than are on your atlas. (In that case, defocus the finder until the faint stars blur out.) Magnification is not critical, except that too much of it results in too narrow a field of view. Five to twelve power is about right.

Thin crosshairs are hard to see without a fancy, expensive illuminator. Thick ones show up well, even on very dark nights, without illumination.

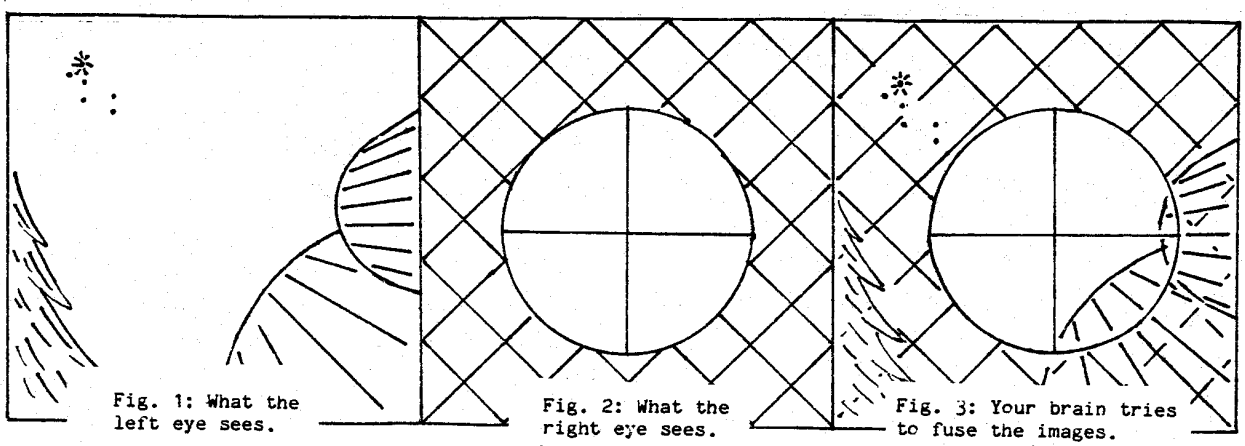


Fig. 1: What the left eye sees.

Fig. 2: What the right eye sees.

Fig. 3: Your brain tries to fuse the images.

Comet Comments

by Don Machholz

There have been no new comets discovered or old ones recovered since we last met, but a recent discovery has now taken on a new identity. Comet Bowell is not as bright as expected, but I'll still enclose some positions for it.

The two Comet Hartleys (1982b; 1982c) I discussed last month have now been identified as the periodic Comet Du Toit (1945II). It underwent an orbit change when it passed near Jupiter some nineteen years ago. And somewhere along the line, perhaps in 1976, the comet split in two. So the two comets reported last month are now known as Periodic Comet Du Toit-Hartley (1982b; 1982c). Officially, we have one comet with two parts. At discovery, 1982b was brighter; but it has now faded, and 1982c—the larger mass—has grown brighter. They will be closest to the sun and earth in late March, visible in Libra, but at the time of this writing (mid-March), I do not have exact figures.

Another amateur astronomer who reports comet news is John Bortle. Besides reading his Comet Digest in Sky & Telescope each month, you can also subscribe to his Comet Circulars. One years costs $6.00. Send your check to:

John Bortle
W.R. Brooks Observatory
Gold Road
Stormville, NY 12582

Great Comets: Comet Arend-Roland (1957III). This was the first of two bright comets observed in 1957. It was discovered by two Belgians on November 9, 1956, as a 10th-magnitude object in Triangulum. Arend-Roland became quite bright, displaying a yellow color as it rounded the sun at Ø.3 A.U. in early April, 1957. By far the most prominent feature was a short "spike" or "anti-tail" which pointed towards the sun. It was visible for a few days in late April as the earth passed through the plane of the comet's orbit. Possibly this was material which had left the comet's coma and spread out along the orbit, but we don't know for sure. Several other comets have shown such "anti-tails".

Comet Bowell (1982b)

Date (UT)	R.A.	Dec.	Est. Mag.
4-01	18:01.9	-22 14'	12.7
4-11	18.09.2	-22 14	
4-21	18:14.6	-22 13	12.5
5-01	18:18.2	-22 13	
5-11	18:19.8	-22 14	12.4
5-21	19:19.7	-22 16	

Don Machholz
(408) 448-7077

"When's the Board meeting in May?" —Shea Pratt
"Pick any meeting, and somebody will be bored."
—Jack Zeiders

Roster

Please make the following changes and additions to the SJAA Roster published in the January Bulletin:

New members

William Aceves, II
P.O. Box 8664
San Jose, CA 95125
(408) 998-7321

Theresa & Ted Channell
34151 Cromwell Place
Fremont, CA 94536 .
(415) 792-1695

John McClelland
464 Jefferson St.
Santa Clara, CA 95050
(408) 241-9688

Bill Cooke
554 Alberta
Sunnyvale, CA 94087
(408) 733-9773

New Bulletin subscribers

Philip & Kristin Zhivago
417 Tasso Street
Palo Alto, CA 94301

Additions and changes—Current members

George Cook
(415) 325-0305

Don van Zandt
(415) 327-3158

John Cincotta
(408) 732-5578

Jay Freeman
P.O. Box AJ
Belmont, CA 94002

Richard Moshier
622 Iroquois Ct.
San Jose, CA 95123
(408) 225-6762

Cynthia Anne Beal
P.O. Box 297
Silverado, CA 92676

Ads

FOR SALE: Celestron 8 Schmidt-Cassegrain telescope. 1974 sand-cast model, tripod, wedge, Kencor worm and wheel drive base, Celestron 10x40 finder 'scope, Teledrive Phase IV AC/DC dual axis drive corrector, electric declination motor, four eyepieces, latitude adjuster, tripod leveling screws, T-adaptor, tele-extender, Pentax T-ring, counterweights, Series #1 LPR filter, Bob Little 8" mylar solar filter, star diagonal. Everything for $1500. Call John P. Gleason; day (408) 241-1058; night (408) 996-5217.

FOR SALE: 6" Newtonian reflector. f/7.6; 1/8-wave mirror. Excellent condition. Edmund equatorial mount on metal tripod; extruded aluminum tube; 26mm, 18mm, and 9mm Meade eyepieces. Constructed by Kevin Medlock. $400 or best offer. Aaron Haws, (408) 378-8222.

TIRION ATLASES: Field and desk editions available from the SJAA at a good discount. Contact Shea Pratt, (408) 629-2994.

Space Program Update

by Bob Fingerhut

Two Soviet Spacecraft Land on Venus. The first, Venera 13, landed on February 26. It transmitted color pictures of Venus for 127 minutes, and took soil samples for analysis. Venera 14 landed on March 5, east of the Phoebe area at a latitude of 13°15'S, and a longitude of 310°9'. The chemical and isotopic composition of the atmosphere, cloud cover structure, and diffused solar radiation were studied. The spacecraft also registered electrical discharges in the atmosphere during its descent. On landing, the descent module deployed a soil-sampling device which drilled into the surface and analyzed samples.

Preliminary results, reported by Valery Barsukov, head of the Soviet Institute of Geochemistry and Analytic Chemistry, is that basalt rock was found. Pictures reveal large, thick boulders of dark grey rock with a surface of cellular texture formed by chemical erosion. The surface between rock outcrops is covered with brownish-black fine-grained material.

Intelsat-IV Launched. The fourth Intelsat V communications satellite was successfully launched March 4 aboard an Atlas-Centaur vehicle, and placed in a geosynchronous transfer orbit.

Shuttle Crews Selected. NASA has announced the launch crews for the fourth, fifth, and sixth space shuttle missions. The first person listed for each crew is the commander; the second is the pilot; and the remaining crew members are mission specialists.

STS-4 (scheduled launch date: July 7, 1982): Thomas K. Mattingly II; Henry W. Hartsfield.
STS-5 (November 1982): Vance D. Brand; Robert F. Overmyer; Joseph P. Allen; William B. Lenoir.
STS-6 (January 1983): Paul J. Weitz; Col. Karol J. Bobko; Donald H. Peterson; Dr. Story Musgrave.

Department of Defense Shuttle Use Increases. The Pentagon has told Congress that current mission planning calls for 12-14 DOD space shuttle flights per year by 1989. NASA now projects an annual shuttle flight schedule of 24 flights per year by 1988. DOD had previously estimate that it would use one-third of the shuttle missions.

The Politics of Centaur. Previous articles have reported the on-again-off-again Centaur upper-stage project. In this continuing saga, this month Congress is considering legislation requiring NASA to proceed with the development of the vehicle.

This comes after a recent Air Force memorandum was disclosed which identifies a need for a shuttle-compatible high-energy upper stage, able to place 10,000 pounds into geosynchronous orbit, and with an Initial Operational Capability in Fiscal Year 1987. The Centaur had previously been dropped for lack of Air Force support. Senator Schmitt, expressing disbelief at the decision to drop Centaur when the Air Force had identified a need for a new stage with a capability almost identical to Centaur, said the action "makes no sense". He added that DOD space planning is in "shambles", and that the Department doesn't even know "how to spell space", much less know how to go there.

NASA Administrator James Beggs estimated that it would cost "well over $1 billion" to develop a new stage from scratch, while the modified Centaur would cost about $350 million, including $125 million for shuttle integration.

Star Party Report

by Jim van Nuland

Henry Coe, February 20-21

The clearing trend leading into Saturday encouraged me to brave the doom-sayers and set out for Henry Coe State Park under a threatening sky. I was accompanied by Bill Cooke and Bruce Swayze. We enjoyed a spectacular sunset, then watched as passing clouds gave way to a mostly clear sky, soon followed by fog in the valleys and a lovely Milky Way!

Don and Nancy McGlauflin arrived, and we all saw the Owl Nebula, M97, looking back at us through Bill's 10-inch. There were definite hints of spiral structure in M51; the bridge to the companion was less likely. M42 . . . the Perseus Double Cluster (which was visible to the naked eye) . . . the Pleiades—all came in for considerable staring and showing to several campers who had wandered up.

The dust lane in the "Combination Galaxy" NGC 4565 (ed. note: that's an SJAA in-joke) was readily detected, even well-seen by those with younger eyes than mine. Bill's 10-inch again provided the needed aperture.

But the star of the show was Saturn!!! At as much magnification as one wanted, it was utterly glorious at 300-500x in the steadiest seeing air we've had for years! Even the crepe ring was distinct both across the planet and in the ansae. Minor ring divisions came and went, but the colors and banding on the planet were especially distinct.

Mars showed a tiny, but distinct, polar cap, although we weren't sure about the melt line.

We finally sacked out around four a.m., the clouds at last beginning to have their way. I woke once to watch a sunrise that rivalled the sunset of the previous evening. Wonderful!! Too bad you missed it!

Jay Freeman: "I have to be obnoxious; it's the only way I have of influencing people."
Jack Zeiders: "It's the only thing you're good at."

Official results of the vote on where to hold the May 15th and 22nd star parties: Fremont Peak - 3; Mt. Umunhum - 3; Abstentions - 2; Obnoxious - 1.

[Ed. note: Due to the unstructured nature of the March 12 board meeting, I cannot guarantee the accuracy of the May star party locations. I think we may be having one at Mt. Fremont, one at Umunhum Peak, one at Loma Obnoxious, and one at Abstentions State Park. SG]

Rattley Rattles

by Gerry Rattley

The Dark Skies of Idria

Last autumn, I took the opportunity to scout out a new dark-sky site which was suggested to the SJAA a couple of years ago by Gene Cisneros. This site is located about 70-mile drive south of Hollister in the mountains east of the Pinnacles. The area I located for my viewing site is about four miles south of a little mining town named Idria in the Clear Creek Recreation Area.

The elevation of this "Idria Site" is 4400 feet. It has very low western and southern horizons, but loses five to ten degrees in the east and north due to trees and Idria Peak (250 feet higher to the northeast). The southern sky goes down so far that last fall I observed Canopus at about a quarter of a degree up! The site is flat and has enough room for everyone who shows up. It's big!

The air is very clear and should prove as steady as anywhere in the California coastal mountains. This site is very dark. As the crow flies, it is 50 miles southeast of Hollister, 25 miles northeast of King City, 25 miles northwest of Coalinga, and 55 miles west of Fresno. The Bay Area lights, though noticeable on the northern horizon, will pose very little problem at all!!!

Here's what observing from a dark-sky site means: From a dark site such as this, you can observe deep-sky objects at their best (from an earthbound point of view). They appear brighter, are easier to observe, and show more and finer detail. It is easier to use higher powers on them. From dark-sky sites, with moderate-sized instruments (6-10 inches), it becomes possible to see well such things as the Horsehead Nebula; the Pleiades nebulosity; spiral arms on M51, M33, M101, M31, and M81 (see drawing); and beautiful mottled structure in M82.

Last fall, I was able to observe all five members of Stephan's Quintet with my 10-inch from the Idria site. I was also able to find nearly all the faint gaseous nebulae plotted on the Tirion atlas in Orion and Monoceros. (Some of the IC nebulae are really only photographically visible!)

Now that the Idria site has received my praise, let me now tell you some of its disadvantages. The worst of these is that the last four miles up to the site from the town of Idria is on a rough dirt road. One part of this road is fairly steep, and if you don't keep moving on it, you'll have to back down and try it again! My six-cylinder van makes it up there, though, so I believe most cars should do okay. (When it rains, the area gets so muddly that even four-wheel-drive vehicles will get stuck, so don't go up there in wet weather!) Other disadvantages include: no facilities, no water, no nearby towns, and it takes three to four hours to get there from San Jose.

If anyone is interested, I will lead a caravan down there on Saturday, April 24. Call me at (408) 732-0202 between 5 and 8 pm if you'd like to come along. See accompanying map for directions.

Dark skies!

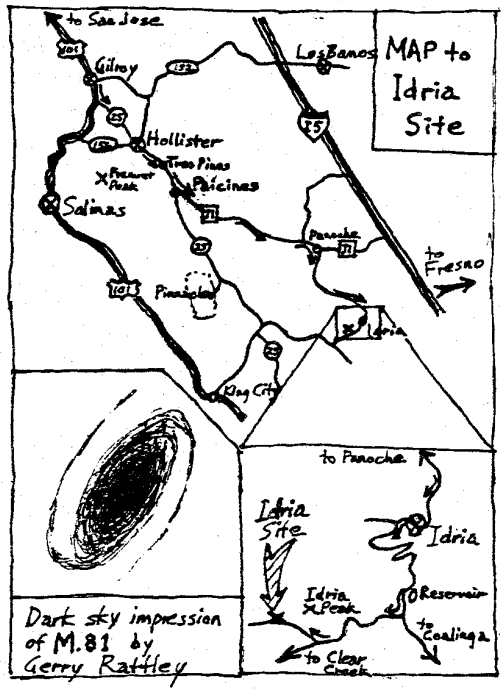
TRANSFORMATION

One physicist theorizes that extremely high temperatures and pressures on Uranus and Neptune might have converted carbon to diamonds. The result could be small diamond flakes drifting through the atmosphere or forming a surface layer.)

By miracle of high compression
Lowly carbon from the sod
Finds new and lovelier expression
In Neptune's glittering facade;

Not by mining or invention
Not by labor, slave or free
Not by human intervention
But strewn with liberality
Like multiplicity of snowflakes
Falling in some prodigal scheme
On a distant unknown landscape
Whose lavish beauty reigns supreme,
Diamonds drift and deepen like snow
To make the jeweled planet glow.

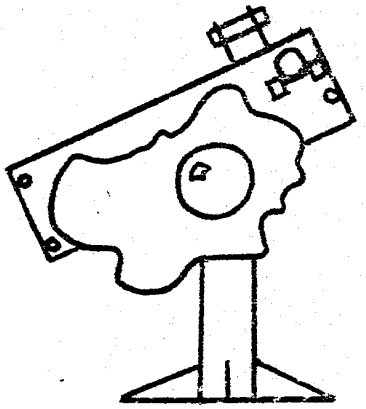
God shakes the snowflakes from the sky
Entrancing to the human eye
And presses carbon from the ground
That shining splendor may abound.



Cosmic Humor

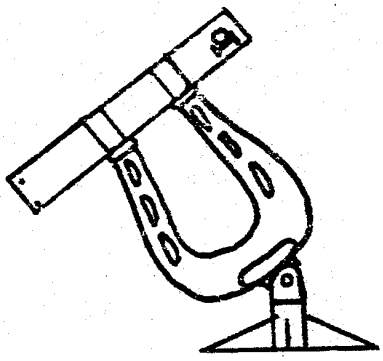
SCHEMINGS FOR ATM'S
by Ken Wilson

One of the biggest decisions the Amateur Telescope Maker must make is that of choosing a mounting for the telescope. There are many conventional mountings to choose from, but the true ATM is never satisfied with the conventional. Our relentless sources (Jack Anderson, eat your heart out!!) have uncovered some sketches for new mounting designs that Edmund Scientific has been trying to keep secret. These mountings are so simple, that the boys down at Edmund are afraid that every ATM will make one at home instead of buying the more expensive Edmund mounts. Remember, you saw them here first!



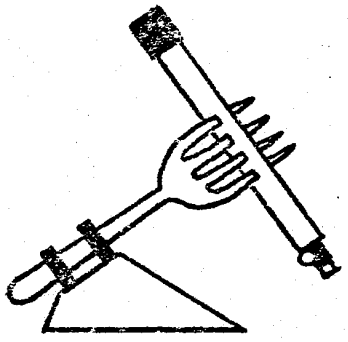
THE YOKE MOUNT

For the observer who likes to "have his mount and eat it, too". We suggest that, if at all possible, you convince someone else to buy the egg for you—that way, the yoke won't be on you.



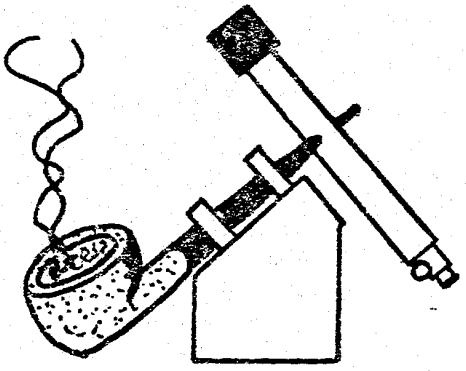
THE HORSESHOE MOUNT

A favorite of many blacksmiths, this mounting will take a lot of horsing around. It has a very good track record, and some varieties perform well in the mud.



THE FORK MOUNT

This is a real "meat and potatoes" mounting. You might have to buy the fork in a set, in which case the spoon will make a fine RFT mirror, and you can hack the knife up into flats and knife edges for Foucault tests.



THE PIPE MOUNT

Once you try this mount, you'll never want to quit. I'm told that "Prince Albert" causes the least problem with convection currents, but contacts in the San Francisco Sidewalk Astronomers claim that some of the Mexican imports produce "far-out sights".

(Thanks to Ken for providing us with a copy of the July 1975 Warren (Michigan) Astronomical Society "WASP", in which this article first appeared.)

Riverside Telescope Makers' Conference—May 29th, 30th, and 31st. Another reminder about this annual event held near beautiful Big Bear Lake. (There actually is a small lake on the conference campgrounds, just the right size for swimming, canoeing, and jogging around.) See the March Bulletin for a registration form, or contact any of the SJAA board members.

Galaxy

—the Bulletin's miscellany department.

RED SPOT EPHEMERIS
by Jim van Nuland

Jupiter's Great Red Spot has been observed only slightly in recent months. The spot remains faded, as reported here last year, so very good seeing and high power are needed to see anything at all.

The apodizing screen described and shown at the February SJAA General Meeting is very useful. After focusing as carefully as possible, watch continuously for the moments of excellent seeing—and the Spot will pop out at you. It is pretty much the same color as its surroundings, separated by a dark band to the north, and a narrower band to the south. During less-than-perfect seeing, the Spot may be detected by looking for a "dent" in the South Temperate Belt where the Spot sort of snuggles into the belt.

Great Red Spot
on Meridian PST

da	mo	d	h	m		da	mo	d	h	m	
Th	4	1	1	14	am	Th	4	22	3	29	am
Sa	4	3	2	51	am	Th	4	22	11	21	pm
Sa	4	3	10	42	pm	Su	4	25	1	1	am
M	4	5	4	26	am	Su	4	25	8	53	pm
Tu	4	6	0	18	am	Tu	4	27	2	40	am
Th	4	8	2	2	am	Tu	4	27	10	27	pm
Th	4	8	9	53	pm	F	4	30	0	3	am
Sa	4	10	3	39	am	Su	5	2	1	48	am
Sa	4	10	11	29	pm	Su	5	2	9	35	pm
Tu	4	13	1	6	am	Tu	5	4	11	13	pm
Th	4	15	2	41	am	F	5	7	0	46	am
Th	4	15	10	37	pm	F	5	7	8	40	pm
Su	4	18	0	11	am	Su	5	9	2	28	am
Tu	4	20	1	54	am	Su	5	9	10	16	pm
Tu	4	20	9	44	pm	Tu	5	11	11	57	pm

From pg. 2

Bulletin renaming contest. All of you who thought this rag was called the "Bulletin", please raise your hands. All who thought it was the "Ephemeris"—your turn. All who have noticed it hasn't had any title for the past few months—go to the head of the class.

There has been some confusion over the Bulletin's name of late. Part of it started because the calendar title—"Ephemeris"—used to be in large print on the front page. Then, when Stephen and I took over as Bulletin editors, I, as chief graphic designer, chose not to use the existing nth-generation headlines. The idea was to have fresh, clean, new ones made; as you can see, we have finally done so. In the meantime, however, people started noticing that the only title on the front page of the Bulletin was "San Jose Astronomical Association". (Actually, those of you who are into fine print will have spotted the notice at the bottom of that page which begins, "The SJAA Bulletin is published monthly...".)

While the Bulletin masthead was among the missing, a few members suggested having a Bulletin-renaming contest. If you have any pet astronomy-newsletter names, send them to us at the address listed on page 1 of the Bulletin (where it says "Bulletin editors"). (Suggestion: Star and Sky is now available.) [PW]

From pg. 3

telescope (size mandatory) which sticks out of the side wall and points to an adjustable flat. The image is formed by projection on a 4-foot rotating white screen (to blur out specks on the screen). The image, in a totally dark room, is 30 inches in diameter.

Unfortunately, the intense heat breaks down the non-reflective coating on my M17 ocular to the point where it gets pebbled and throws a haze over the projected image. This lowers my count number because I miss small spots.

The field lens is located so that its surface is also in focus on the screen, and hence dust on the lens can mimic small sunspots.

What is needed is a special eyepiece design with these features:

1. No coatings.
2. Field lens not in the focal plane.
3. Quick take-down, so that when it becomes dewed it can be taken apart, cleaned, and put back together quickly.

I think a logical candidate is the Huygenian-type ocular invented by Art Leonard. It uses two pc lenses for field lenses (hence, they are not in the focal plane), and a pc eye lens. The system yields definition equal to any Erfle.

It might be useful to design the ocular so it is continually ventilated, perhaps with ventilation slots.

Focal length should be 1 to 1-1/4 inches; field comparable to that of the Erfle system; tube diameter can be any size that is needed. (It would not have to fit standard ocular tube diameters; it's easy to make an adapter.)

Perhaps somebody will find this a challenge!

Walter Scott Houston
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Cambridge, MA 02138

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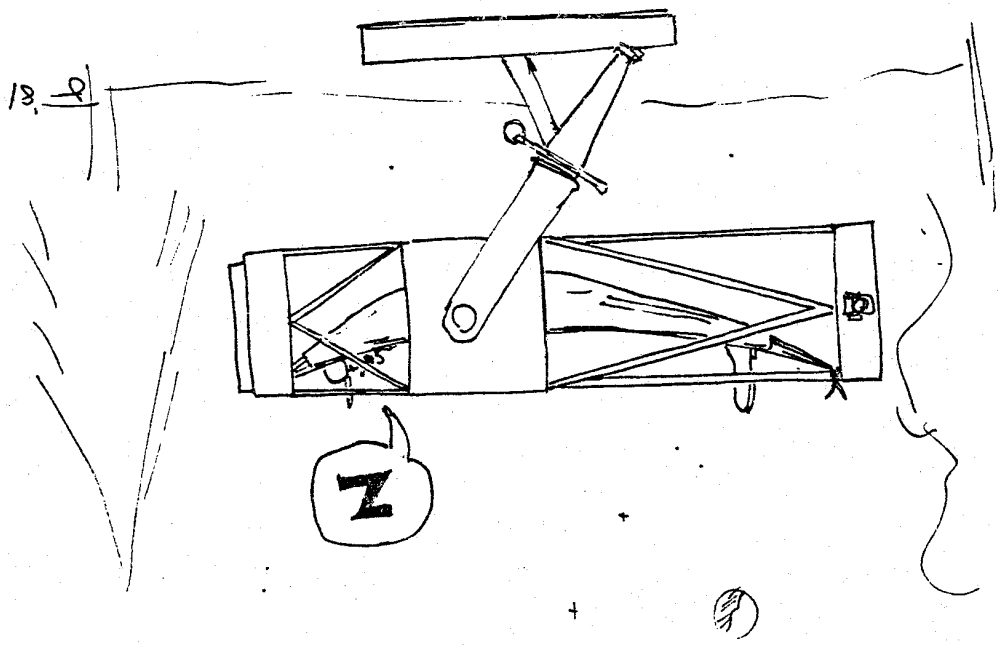

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