SJAA EPHEMERIS

VOLUME 3 NUMBER 2 OFFICIAL PUBLICATION OF THE SAN JOSE ASTRONOMICAL ASSOCIATION February 1992

February Speaker Arranged by Bob Garfinkle

What does raisin bread and the Universe have in common? Come to the February 8th general meeting at the Milpitas Library and find out from our guest speaker Dr. David Schramm. Dr. Schramm is the Louis Block Professor of Physical Sciences at the University of Chicago. He is the co-author of the book, "Shadows of Creation". The book is reviewed in the January 1991 issue of Astronomy magazine by our own Bob Garfinkle. In that review Bob states, "Cosmology is the science of how it all began and where it's going. Like many people, I am fascinated by this subject and couldn't put this book down until I finished it."

Dr. Schramm's talk will cover the latest ideas in cosmology, including the continuing controversy of the "Big Bang" vs the "Steady State Universe". His talk will also cover how the universe might end Billions of years from now in either the "Big Chill" or the "Big Crunch". It all depends on the amount of dark matter we think is out there.

Editors Comments

Please take a look at the calendar for this month. We are having Dr. David Schramm speak on Cosmology. And! Next month we will be hearing Shilo Unruh of Lick Observatory. The last time I heard Shilo talk he spoke about the history of Lick. A very interesting talk. Please come to your general [or the board of directors] meeting and display a show of force. We will continue to find good and interesting speakers for you.

Also note, we will try to include interesting discussions which result from the Board meetings. If these are uninteresting to you let your editor know and we'll find something else to disgust you. With out feedback we don't know how we are being received. Jack Z. is always good for feedback. Here is another one - lets bug Bob Fingerhut to start writing his column on space events again. This month Clyde Tombaugh's talk continues. If I obtain permission for reprint from the Wall Street Journal, I'll publish an article written about Einstein. I have always had great difficulty understanding his theories, and now I understand them little better [knock off the snickers]. This month's Astro Ads are as large as the *Starry Messenger.* Hopefully they will be less next month.

February 1: Star Party at Grant Ranch with Halls Valley Group.

February 8: 8:00 PM General Meeting at Milpitas Library. Board of Directors meet at 6:30 PM preceeding the program. Speaker: Dr. David Schramm

February 14: (Friday) Public star party at Branham Lane City Park.

February 15: Beginning Astronomy class. 8:00 PM at Milpitas Library.

February 22: Wheewuuuu!! No activity!!

February 29: Star party at Henry Coe State Park. Twilight, 5:53 PM, 43% moon up at 2:19 AM.

March 7: Star Party at Grant Ranch with Halls Valley Group.

March 14: 8:00 PM General Meeting at Milpitas Library. Board of Directors meet at 6:30 PM PRECEEDING THE PROGRAM. SPEAKER: SHILO UNRUH OF LICK OBSERVATORY.

Star Party Paul Barton

Friday 13 December 1991, at our regular Branham Lane Star party, found us cool with the sky not overcast. However, the sky was thick but fairly stable. The temperature was down to about 40° F. Shelly Mc Aleese was the first to arrive (Bob Madden saw her setting up around 3:00 P.M.) with her 13.1 Dobby and a 60 mm refractor. Others present:

Paul Barton	JMI 18
Jack Peterson	C-11
Jim Van Nuland	8" Newtonian
Rich Neushaefer	6" Starfire
Bill Dellings	Astro Scan
Del Johnson	
Bob Madden	

There were not many customers. I'd say there were less than a dozen. Perhaps it was too cold. I was unable to see M-1 with the 18" reflector. Rich's Starfire showed moon craters like Kodachrome slides! The air was fairly stable. Home, in bed by midnight.

Dr. Clyde Tombaugh's talk to the EAS

1989 March 4

(Continued from last month)

Well, we kept it secret for a few weeks getting ready for the avalanche we knew would come. We wanted to observe it. As we went on observing it for the next few weeks, we saw the way it was slowing down in the fashion that would fit the distance beyond Neptune, whereas the other planets would start slowing down sooner before it got near opposition than Pluto. And so we know it was out there quite a ways. It was announced to the world on the 13th of March. The 13th of March, was, of course, you realize, the 149th anniversary of the discovery of Uranus by Herschel; it was also the 75th anniversary of Percival Lowell. Also, it was discovered with the 13-inch telescope: I've had several people tell me that if you hadn't used a 13-inch telescope you might have discovered TWO planets — 13's unlucky! Well, I said "If that's bothering you let's call it the 33 centimeter." "Never thought about that!"

In the interest of time, let's proceed with the slides (omitting some, since we've already had demonstrations).

I might tell you one story while I'm getting ready: In 1929, an astronomer from a Midwestern observatory (a lot of astronomers stopped to visit Flagstaff on their way to the mecca of Mt. Wilson) ... Dr. Slipher and I took him out to the 13-inch dome to show him the new telescope and what it was being used for. When we came to the administration building the telephone rang for Dr. Slipher, so he went down to his office to take the call. While he was in his office this gentleman leaned over to me ... this middle-aged astronomer, and says "Young man, you know I think you're wasting your time — if there were any more planets to be discovered, they'd have been discovered LONG before this!" Well, I kind of resented that because I said "Well I don't think anybody has ever explored to the faintness I'm going to do with this instrument" — because I soon began to realize that this new instrument had a MARVELOUS DISCOVERY POTENTIAL and who knows what would show up! And so I wasn't going to give up.

*(slide) This is a picture of my 9-inch telescope in Kansas which I made. It has excellent definition; and the base there is the base of a DeLavell cream separator. The polar axis there is off of my Dad's old 1910 Buick, and the parts of a straw spreader, and so on — I had to use the farm junk pile for something of the mounting! And of course the drawings I made of Mars and Jupiter (with this instrument) I sent to Flagstaff launched me into astronomy.

*(slide) A drawing I made of Saturn in 1929: I came home for a short vacation — using my 9-inch there in Kansas and that's what I saw on Saturn that year: the south Pole was dark, with a white collar; most of the southern hemisphere was murky dark with some faint reddish-brown bands; and then the crepe ring at the bottom just inside the ring B; and of course the Cassini Division, and you see the shadow of the ball on the ring.

*(slide) The same old telescope but not the same Clyde Tombaugh: grey hair, white hair — and, a lot wiser having seen the universe, you see! (Of course, in all these photographic plates, always using the original negatives where the star images are black, and after 14 years I covered 2/3 of the entire sky, and so I acquired a negative view of the universe!)

*(slide) Shows one of my first jobs at Flagstaff: we had a dome made rather crudely out of wooden members and covered with chicken wire and canvas ... and when we had snowstorms we had to pull the snow off of it. First, you'd get on top and push it off, stepping on the ribs so as not to step through it — I was very sure-footed — Dr. Lampland was getting a little too old for that, so that was one of my first jobs. I was very nimble, as in high school I was a pole vaulter. Here I am pulling the rest of the snow from the bottom: so that was one of my "snow jobs"!

*(slide) The 13-inch telescope dome, and the instrument you can see through the slit, and the yellow pine forest 7300 feet above sea level.

*(slide) The 13-inch telescope — it's not a terribly impressive instrument. It's only 5-1/2 feet long. It has 3 lenses at the front end to make the corrections of the field and so on, blue-corrected. See, there was one reason for having it blue-corrected, because Percival Lowell thought that his "Planet X" would be bluish like Neptune, so we'd have a blue-corrected instrument! Well, that was a mistake. Pluto is yellowish, so we lost about 2/3 of a magnitude. And the big plates, of course, went at the bottom. And then you see the telescope on top, which is the guide telescope, and so on. This is a very sturdily built mounting, and it's a very fine, very stable instrument to use, and you could do PRECISE GUIDING which did save the observer a lot of effort.

*(slide) This slide shows the plate holder at the back end of the instrument. By the way, one of my first jobs there was to paint the telescope: I had to clean up the iron filings and all that, and Dr. Slipher had a gallon of red paint in the garage, and says "Here you are, young man; paint the telescope!" And that coat stayed on there for over 50 years!

*(slide) This shows me at the eyepiece of the guiding telescope one year after the discovery, taken in 1931.

*(slide) There I am, blinking the plates at the blink comparator, one plate on each side, and so on, and I'm looking through the eyepiece. I sat at the instrument over the 14 years for a total of 7000 hours, and saw individually through the eyepiece 90 million star images. Now I KNOW what 90 million IS! When I think about our national deficit being about $2,000 or more for every one of those star images, it just boggles my mind! I was 32 years old when that was taken in 1938.

*(slide) Pluto discovery images. You already have seen a demonstration of where Pluto is ... and of course I saw the image as black. Now, that area of sky in each one of those cuts represents about one part of 60,000 of the total sky area I blinked in 14 years!

*(slide) Taken on the 19th of February, the first plate made to RETRIEVE the planet after it was detected on the photographic plates on the 18th of February. You know, when I ran onto that, and I saw that in the field, I spied it immediately, and I knew immediately it

Continued on page 3

C. Tombaugh Talk Continued

was beyond the orbit of Neptune, and that was the most INTENSE thrill you could ever imagine! And so then I checked it with a third plate, and so on. (And, of course, that ring on the plate is a spurious ring of halation, a photographic effect. We did not have halation plates in those days for those purposes.) And so that's the position when first retrieved after the discovery. Now, a lot of people seem to think that I found Pluto by looking in the telescope at night. Oh, no! How would you check, watching for two hours to see if one image moved, and you've got hundreds of thousands of star images!!! It's just totally out of the question! They seem very surprised that I discovered in daytime while examining the plates.... So, when I ran onto it I was so overwhelmed with excitement, of course, and I checked and I realized I'd better look at my watch because this could be a historical moment, and they would want to know what had happened. I would say, and make an estimation of uncertainty, it was at 4 o'clock Mountain Standard Time, plus or minus 2 minutes. Well, I've been roundly criticized by ASTROLOGERS because I couldn't tell them the exact minute and second I found it. I had other things on my mind right then.

(to be continued)

Transcribed by Conrad Jung, first published in the Bulletin of the Eastbay Astronomical Society. Reprinted with permission.

December Board Gleanings
Jim Van Nuland/Editor

The Solar Filter Fund has $434.50 [Lets get behind this project. donations are graceously accepted].

Elections will be held 8 Feb. 92. Jim Van Nuland and Paul Mancuso are the nominating committee.

Terms Continuing	Terms Expiring
Steve Greenberg	Bob Madden
Jim Van Nuland	Gene Cisneros
Jack Zeiders	Del Johnson
Paul Mancuso	Jack Peterson
Paul Barton	

December General Meeting

The A.B. Gregory Award was presented to Paul Barton [who was dumbfounded], for the many hours he has given helping people with all maner of astronomical activity. SJAA thanks him very much for his generous assistance. [Dr. Gregory would often, and Paul will, say "Come on over!"]

Ernie Piini Talk

Ernie had traveled to Baja California for the eclipse, as part of a Joel Harris tour. Ernie showed slides and an extensive video tape of the preperations, what little scenery there was, and the goings-on on the eclipse day, including some spectacular photographs. The best were taken using his specialized filters, and there was some darkroom magic as well. Two of the photographs were published in Astronomy magazine. Ernie provided eclipse cake afterward, and took away only the empty box. Yum!

Miscellaneous ramblings of a demented mind

(Planned for publication in Janurary)

Well several things are going on, I did not make it to two of the school star parties this month due to being out of town on business. However I heard that one that was clouded out was in fact a success due to the resourcefullness of Jack Petersen and Bob Ashford in setting up a slide show for the kids on the side of Jack's van. The kids were thinking of department store telescopes and when they saw the hardware the SJAA crew brought out they were impressed. Many of the parents had never seen a real amateur class telescope either. I strongly recommend coming out to one or more of these public events if you can as they are lots of fun. Contact Jim Van Nuland if you wish to volunteer.

The hydrogen Alpha fund is at $434 currently and growing. Just about everyone I talk to agrees it will make a worthwhile addition to the club and our public events. I have been putting a mild hustle on about all of our club members I see to contribute to the fund. I know the economy is in bad shape and times are tough, so I am asking all of our members to contribute $1 a month or $12 a year. Most of us can spare a buck and if all of us kick in our buck a month well have enough to buy a T-Scanner in a year. End of hustle mode.

Last month I was at Fremont Peak observing with the FPOA 30" and happened to have some real steady air. Pat Donnelly and I were able to split the tertiary of Gamma Andromeda, about half of an arc second. Guess the scope is working better. I also heard there is a development in the planning stages to the south east that would harm the nice dark skies. They are talking about some 4500 houses, three golf courses, and a shopping center. I don't have much info yet but I will let you know when I hear more. I don't have any idea where they intend to get water for a community that size down there.

The Introductory Astronomy started again in January for anyone that wants to learn the constellations and where some of the better objects are.

I would like some feedback on what activities you would like to see more of in the coming year. Some have suggested a workshop series covering such topics as telescope collimation, balancing and alignment. It has also been suggested we revive the Messier Marathon, are any of you interested in participating? Don Machholtz led the last one several years ago and no one showed up, needless to say that was the last one we had.

At the Dec. general meeting I passed around a sign-up sheet for a beginners astrophoto group, about 20 people indicated an interest in participation in such a group. I hope to have something put together next spring.

There are many in the club with much enthusiasm and expertise to share, but I do not know what you, the members want. Please Contact me. I am usually at Fremont Peak on new moon weekends, at most of the school star parties or Branham Lane events, you can also catch me at any of the club meetings.

We have changed our meeting place in January due to the closure of the Los Gatos Red Cross building. Currently we will be at the Milpitas Public Library room. The parking lot is finished and

Continued on page 4

Ramblings Continued

there is now plenty of parking. Some of our members have also mentioned the fact that the Red Cross building was too far South, making it difficult or inconvenient to attend meetings there. If you have thoughts on the matter of a new SJAA home or even a potential site, contact any board member.

Well it's 4:30AM and I'm tired, think I'll go to bed. Goodnight. ..... **Jack Z.**

Double, Triple, and Multiple stars

Patrick Donnelly

I am always impressed, or frustrated, by how complicated a physical process or structure becomes by adding a single additional element to it. For example, the two body problem in celestial mechanics can be solved in the closed form, but the three body problem is not possible to solve. A computer can solve the four color map problem, but only in two dimensions. No attempt can be made of a five color scheme for three dimensions.

The same is true for double stars. A two star system is relatively easy to see and to find. There is only one separation and two magnitudes to identify and to define the system.For two stars a truly regular system would consist of two equal magnitude stars at any separation and position angle. Gama Aretis or 61 Cygni would be considered examples of this type. Now consider what would be required to go to a regular triple system. First, the position angles would be a factor, unlike the simple double system. Each star would have to be located at the vertex of an equilateral triangle. Moreover, we now have three stars to match in magnitude. I realize that this sounds like it would be highly unlikely that a system of this type could exist, but there is a pretty triple in the February skies that is a good approximation to a regular triple system.

The system is located in the constellation of Monoceros, the Unicorn. The system is called Sigma-939. This triple system consists of a magnitude 8.3 primary (A) and magnitude 9.6 and 9.7 secondaries (B&C). The angles between the stars at each vertex are A-60, B-61, C-59 degrees, and the separations are AB-30.1", AC-33.7" and BC 39.7". From the primary the position angles are 90 and 30 degrees, respectively.

To find Sigma-939 look for Monoceros. This triple is at declination +5 degrees 18' and 6 hours 35.9' in right ascension. It is located east of the Rosette Nebula and just south of the open cluster NGC 2252. Start by finding NGC 2244, the open cluster in the middle of the Rosette Nebula. Also, while there, explore this cluster. There are several fine doubles in the system. Now with the lowest power eyepiece move the telescope due east. Sigma-939 will end up in the field of view. For my 8" SCT with the 40mm Plossl, Sigma-939 is centered just as NGC 224 is placed out of the field of view. If you do find it please let me know.

As a final note, the Trapezium in M42 is about the best four element regular system, and Theta-2 Orionis, in the same low power field of view, is about the best three element straight line system.

ASTRO ADS

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Coated Triplet Objective Lense f5.6, 40"fl, designed by Dr. James Baker of Harvard Observatory. Dimensioned plans for cell (optional pair of focal length reducer lenses included if you wish an effective back focal length of about 14"). Dr. Baker considered this to be one of his two best color-corrected designs manufactured. Photographic quality and will easily cover a 9" by 9" plate. A few minor scratches on the front element that do not interfere with optical quality. Two minor edge chips (covered by spacer ring) on the rear focal reducer lenses. Best offer around $600. Steve Greenberg 209-239-2154 (home) or 415-423-4899 (work). 11/91

Joe Perry, a former member of the SJAA, announces the availibility of CCD images as shareware. The images are on IBM - formatted 5.25 floppies and 3.5 discs (DD and HD). The files are *.PCX or *.TIF formats and have been squeezed by LHARC. Asking $2 per disc and wants you to write for full inventory of available files. He is also promoting subscription to the CCD News, a periodical, at $6 per year. Joe can be reached at 2610 Belcastro St, Las Vegas, NV, 89117 Tel - 702-368-1884 12/91

C-8, 1974 Stock orange tube model with sand cast fork arms, excellent condition. Visual back, 1-1/4 diagonal, 8X50 finder, special coatings, wedge, tripod with Orion accessory tray, no eyepieces. Other than tray and finder, this scope has not been mutilated by modifications. $1100 Bill Dellings (510) 792-9206 1/92

C-5 Orange Optical Tube assembly on a Tasco-like German Equatorial mount. 6X30 Finder, special coatings, visual back, 1-1/4 diagonal, No eyepieces. Same mount pictured on Orion Telescope Center's "Space Probe 4.5" in their catalog, but w/o motor hook-up linkage. Nice slow motion controls. Ideal

for travel and quick set up gazing sessions. Super RFT when used with Celestron F6.3 reducer/corrector. Tube assembly in near mint condition. $800 Bill Dellings (510) 792-9206 1/92

16" Transparent Celestial Globe depicting the 88 constellations by Spherical Concepts, INC. W/Instruction book by George Lovi, movable Earth and Sun inside. See a picture in Dec '91 Astronomy, P.105 or P.5 in Men, Monsters and the Modern Universe. List $275, will sell for $165. Excellent condition. (Desk Top stand). Bill Dellings (510) 792-9206 1/92

Tele-View 7.4 mm Eyepiece (1-1/4") $50. Bill Dellings (510) 792-9206 1/92

Wanted 5" STARFIRE, W/or/WO 600 Mount and Pier. Bill Dellings (510) 792-9206 1/92

Personal: Traveling companion SWF 30-50 wanted for Spring 92, 3 month sabbitical trip to Europe with photo Prof. Visiting observatories and cultural attractions in Spain, France, Italy, Greece, Hungary, Austria, Czech., Germany, Holland, England. Will pay major expenses. Call, write or fax to John Sandford, (417) 722-7900; 2195 Raleigh Ave. Costa Mesa, CA. 92627 11/91

New and expanded catalog of Astronomy Materials available from the ASP

ASP
Catalog Request Dept.
390 Ashton Ave.
San Francisco, CA 94112

There is some neat video material here.

COSMOCON 91 A unique Astronomy Convention in the San Francisco bay Area !! This is a joint convention hosted by the Astronomical Association of Northern California celebrating the excitement, wonder, and spirit of discovery in Astronomy. Co-hosted by San Jose State University

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Krebs Convention Management Services
Pioneer Square, Suite 200
555 De Haro St.
San Francisco, Ca 94107-2348
(415) 255-1279

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Celestron SPC102 refractor - This 4" refractor comes with a Super Polaris mount, plus a 4" Thousand Oaks Solar filter, dual axis drive corrector and motors, piggy-back bracket, 1.25" right-angle prism. One year old. Orig cost $1500, will sell for $1100, Bill Cooke (408)-295-6560.2/92

Lumicon 1-1/4 enhanced aluminum coating mirror star diagonal; few months old, will sell for $69 firm. Edward Hillyer, 4900 N. HWY 99 SP. 238, Stockton, CA. 95212. Call (209)-931-0486 evenings. 2/92

Brass Refractor. Beautiful instrument. 80mm, f 11, solid brass on equatorial mount w/setting circles, slow motion controls and solid wood tripod. Recently restored. $550, Call Jim (415)-692-5337 2/92

Celestron SC 10", f13, w/Celestron 4" SC, Two erecting diagonals, Eyepieces - 6,10, 16 mm Cave, 12.5, 25, 40 mm Celestron, two ultra-rigid mounts - one portable one fixed. Plus 2 1/ x 3 1/2 cut film Nicon Photographic accesory. Extra film holders. $2,700 - Call Jack Connoly Tele/Fax (415)-592-7236 2/92

For Sale. 15 mm,19 mm Teleview Widefield, 95$ ea. 32 mm, 2" OD, Mead Super Widefield, $130. CAT (Computer Aided Telescope system) for C-11, $495. Astro Master digital setting circles for Super Polaris mount, $240. 30 mm, 1-1/4" OD Orion Ultrascopic, $58. Tuthill Polar Axis finder, $45. C-11 Motodec declination drive motor, $35. Orion Moon filter, $6. All items are in excellent condition. Jim Molinari (408)-255-7030 2/92

IBM PC computer, w/8087 math chip, V-20 cpu, 135 power supply. 20 meg hard disk, two 360k floppy drives. Xebec controller. Monochrome and CGA displays (IBM), APL character set on mono (hardware switch). Two extra 64k memory boards. Memory: 768 main, 1472k EMS 3.1 (comfigurable) Two printer ports, two serial ports, two-stick game port. Software: PC DOS 3.3, w/BASICA, drivers for memory management, SKYGLOBE 2.5, misc utilities. Fast boot software with source. No printer. Origional shipping boxes. $350 takes all, or what have you? Call Jim Van Nuland, (408)-371-1307 11 AM to 11PM. 2/92

Wanted A Xerox copy of a Sky and Tele. article from the August 1975 Issue starting on page 125. Also a correction notice from S and T Nov 1975 page 319. Please Call Bob Madden (408)-264-4488. 2/92

New Celestron Ultima 8 PEC, w/RA and DEC motors, Focos motor and Advanced Master Computer. Complete Astro Photography equipment, inc. OM1 camera. Telescope case, tripod bag and metal photography accessory case included. Too many other items to mention. Must sell, $1900 OBO. Call Reg at: (510)-846-7460 4PM to 8PM. 1/92

National Astronomy Expo at ASP meeting in Madison, Wisconsin, June 20-25, 1992. Talks will be on black holes and warped spacetime, dark matter and the structure of the universe, Hubble Space Telescope, and astronomy for hobbyists (by Alan Dyer). Following the Society's meeting will feature tours of the Yerkes Observatory (and maybe a visit with SJAA's friend John Briggs). Write to:
Meeting Dept.
ASP
390 Ashton Avenue
San Francisco, CA 94112
or call: (415)-337-1100 1/92

Calendar of Comming Events - 1992

7 MARCH - GRANT RANCH STAR PARTY W/HALLS VALLEY GROUP

13 MARCH - BRANHAM LANE STAR PARTY

14 MARCH - GENERAL MEETING. ELECTION OF OFFICERS. MILPITAS LIBRARY SHILO UNRUH TALK. It may be about obtical glass making in France.

21 MARCH - INTRODUCTION TO ASTRONOMY CLASS. MILPITAS LIBRARY

28 MARCH - STAR PARTY AT FREMONT PEAK

4 APRIL - GRANT RANCH STAR PARTY W/HALLS VALLEY GROUP

10 APRIL - BRANHAM LANE STAR PARTY

11 APRIL - GENERAL MEETING. MILPITAS LIBRARY (SPEAKER TO BE ANNOUNCED)

18 APRIL - INTRODUCTION TO ASTRONOMY CLASS. MILPITAS LIBRARY

25 APRIL - HENERY COE STATE PARK STAR PARTY. 36% Moon rise 3:00 AM

26 APRIL to 2 MAY - TEXAS STAR PARTY

MAY 22 to 25 MAY - RIVERSIDE TELESCOPE MAKER'S CONFERENCE

Branham Lane Star Party
10 Janurary 1992
Paul Barton

Quite successful. The sky was fair; perhaps 50 or more visitors and 10 to 12 telescopes. There was about 1/8th moon. the temperature was cool, but pleasant. Present in part were:

Rich Neuschaffer	100mm Takashi
Jim Van Nuland	8" Newtonian
Paul Barton	6" Vega
Shelley McAleese	6 baby mice
Frank Vanslager	3-1/2" Questar
Ed Erbeck	10" Colter
Bob Ashford	8" Celestron
Dave Smith	8" Celestron
Paul Graves	C-8, C-90
Jack Peterson	C-11 Compustar
Jack Zeiders	Supervisor
Greg Brown	Orion 80 mm

And others unidentified. Present and circulating around was Mercury News staff reporter, Robert Klindt.

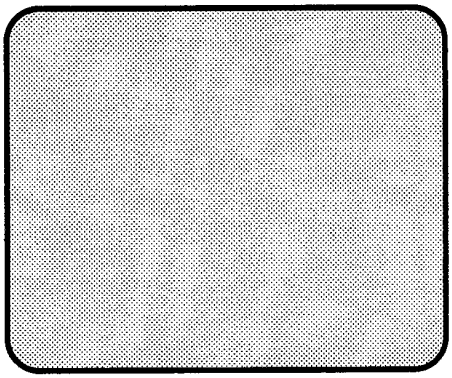
LATE BREAKING NEWS

Our first meeting at the Milpitas Library was a success in your editor's opinion as there was considerable dialog over the proposed observatory. Mr. Ethan Cliffton gave us a very nice talk and description of some of his successful projects. One thing which is apparent is we need your input, opinions and desires. Ideas you might have need to be schetched up and presented to your President or board member. We need schetches of your ideas however!

Steve Greenberg stated the Livermore Lab laser star test is scheduled for late Feb. (this month) and is working hard to find out more. If interested call Jim Van Nuland and give him your name and telephone number.

The Hydrogen Alpha filter fund is now at $577.50.

A school star party is planned for the Empire Garden School on February 11. Call Jack Peterson at (408)-262-1457 if you wish to help. School star parties are a lot of fun.



Comet Comments

Don Machholtz

Two new comets are now moving southward in our evening sky. Meanwhile, Comet Shoemaker-Levy (1991d) remains in our morning sky.

The year 1991 saw 34 designated comets.

-Three were finds of new comets by professionals. Usually these professional discoveries were part of the two different sky surveys taking place in both hemispheres. The Shoemaker-Levy team found seven, McNaught found four.

-Fifteen comets were recovered - although four of them were at first thought to be discoveries - and three of these did not pick up the discoverer's names. Of the remaining recoveries, Seki of Japan recovered five, while Scotti of Kitt peak recovered four.

-Also occurring last year was an outburst of Halley's Comet and a splitting of the nucleus of Periodic Comet Chernykh.

Periodic Comet Tsuchinshan 2 (1991e) : Jim Scotti and D. Rabinowitz recovered this comet on Dec. 3 at magnitude 21. It will remain faint.

Peridotic Comet Kowal 2 (1991f) : M. Ishikawa of Japan photographically discovered this comet - it turns out that this is a returning comet, 45 days early. Then at 14 magnitude, it is slowly fading.

Comet Zanotta-Brewington (1991g) : Mauro Zanotta of Italy discovered this comet on Dec. 23, Howard Brewington of New Mexico picked it up nine hours later. Zanotta was using a home made 6" reflector at 25X to find this. He had also independently found comets 1981a1 and 1990i, but too late to receive credit. Howard Brewington used his 16" reflector at 55X to pick up the ninth magnitude object. He also searched for 228 hours since his previous find earlier in the year. The comet was found in the western evening sky in the northern part of the constellation Delphinus. It is approaching perihelion on Jan. 31 at 0.64 AU. It will be visible to Northern Hemisphere observers through early Feb. then the Southern Hemisphere will be able to view it as it fades over the next few months.

Comet Mueller (1991h) : Jean Muller discovered this comet on Dec. 13 as part of the Palomar Sky Survey II. It was then magnitude 17 and in the morning sky. The orbit will carry the comet to within 0.20 AU of the sun on March 21. Until then it will brighten in our evening sky. Observers are encouraged to observe it at every opportunity to determine if it outbursts or increases in brightness rapidly as it approaches the sun, and if it survives perihelion. It will be too close to the sun for easy observation most of March, but if it survives, it will appear in our April morning sky, moving rapidly northward.

EPHEMERIDES

DATE (UT)	RA (2000)	DEC	ELONG	SKY	MAG
	COMET SHOEMAKER-LEVY (1991d)				
01-24	18h01.8m	+40°51'	69°	M	11.0
01-29	18h18.3m	+40°58'	68°	M	11.0
02-03	18h34.2m	+41°04'	67°	M	11.1
02-08	18h49.3m	+41°09'	67°	M	11.1
02-13	19h03.7m	+41°13'	66°	M	11.1
02-18	19h17.3m	+41°18'	66°	M	11.2
02-23	19h30.2m	+41°23'	65°	M	11.2
02-28	19h42.3m	+41°28'	65°	M	11.3
03-04	19h53.6m	+41°33'	64°	M	11.3
03-09	20h04.2m	+41°40'	64°	M	11.4
	COMET ZANOTTA-BREWINGTON (1991g$_1$)				
01-24	23h04.6m	-03°41'	43°	E	6.6
01-29	23h30.5m	-10°35'	41°	E	6.4
02-03	23h55.5m	-18°07'	41°	E	6.3
02-08	00h19.1m	-25°47'	42°	E	6.4
02-13	00h41.1m	-33°04'	45°	E	6.7
	COMET MUELLER (1991h$_1$)				
02-13	02h38.4m	+18°36'	79°	E	12.3
02-18	02h17.0m	+11°44'	67°	E	11.8
02-23	01h59.4m	+05°47'	56°	E	11.2
02-28	01h43.6m	+00°38'	46°	E	10.4
03-04	01h27.9m	-03°52'	37°	E	9.3
03-09	01h10.0m	-07°48'	28°	E	7.8

Don Machholz (916) 346-8963

A REQUEST

The Astronomical Association of Northern California (AANC) has asked us to supply an SJAA coordinator to them. It seems we haven't participated in several years and should. Therefore we are asking who would step forward and offer to give one evening a month drive to the Lawarnce hall of Science to represent us. This will also require some reporting of activities to the board.

ABOUT SJAA

SJAA is a non-profit 501(c)3 educational organization. We are available to schools and other organizations for observing sessions and classroom activities. For grade-school children, the school grounds is often appropriate; for older students, the county parks provide darker skies and permit observation of dimmer objects.

SJAA members are non-professionals astronomers, numbering about 350 from the greater bay area. Regular activities include lectures, discussions, an informal introductory astronomy course, and observing sessions under dark skies in county and state parks. Our activities are open to all who are interested in celestial science. No fees are charged at any activity. Membership in SJAA is not required, though membership is open to all who are interested. .... [Thought you might wish to know. ED].

THE EYEPIECE

[We have a little problem with space this month, that is, more empty space than we know what to do with! But, leave it to us we'll fill it. It only adds a few pennies to the cost of publication.

What we try to do is fill no more than eight pages and when an extra page is needed it really means two are required - a front and a back. I would be happy if I had more than I could include, but to do that will require more of you to send me articles - so come on send them in!]

I was at the Janurary general meeting to listen to Ethan Cliffton talk. What I garnered from listening was that we need to focus on what we want for an observatory. Each of us has a vision of what our own backyard special observatory would look like. It depends upon many factors, including building restrictions and resources available. It appears that Mr. Cliffton will not only have to be our architech, but also mediate between us to incorporate the best ideas. We need to make his task easier and extract him from being our negotiator. Let us decide what we want and then tell him, or any one else, our desires and needs. If we are not careful we will lose his capable talents. Also we may loose the opportunity for the use of a very nice site. As I see it we are one step away from the Parks Planning Commission and the Park supervision. There seems to be restrictions in the plan which would require us to build an observatory not to our desires or size. Someone has suggested and have written into the plan that the observatory will be ten feet square. Where these ideas came from I have no idea, but many want a larger foot print with a roll off roof.

Del Johnson has been asking in these pages what are the desires and needs. Now that we have seen the architech and heard him, ideas have been expressed and they are diverse. I belive I saw them to be different than the Halls Valley Group. I'm not sure of this, but it seems that way! If we are going to invest in an observatory and operate it for public education, then it should be a facility we, the SJAA, are comfortable in. It shouldn't be configured by someone else's thoughts or we will complain how inadequate it is and drop support. This is a worthwhile project and needs everyone's support. Let's get behind it with up front inputs and ideas. Let's not second guess and criticize when it is over. Sketches of your ideas are needed. I would suggest to bring them to a board meeting and get them placed on the meeting agenda. Be prepared for them to be constructively criticized. Many a good idea came from open dialog.

It may be too late, but I feel we need to review the Parks Commission master plan to see whether we can build a facility we want. To do that we need to have an idea of what we want. Then we need to make sure it is specifically written into the master plan.

It is time for the "rubber to hit the road". Ethan Cliffton pointed that out to us when he asked what it is we exactly want. An important issue will be access to all type of observers. We need to understand what the park desires of us. I'm not sure we know specifically. So far we have had Halls Valley interceeding for us. It is time we become pro-active and do it ourselves. Any takers, or are all of you fishing (star gazing)? .... ED. [nothing personal only inspirational]

CELESTIAL CALENDAR

LunarPhases	Date	Rise	Tran	Set
NM 12:00hr	03-02	0607	1208	1742
FQ 09:15hr	11-02	1106	1822	0140
FM 01:04hr	18-02	1823	0038	0653
LQ 00:56hr	25-02	0147	0628	1106
Nearer Planets				
Mercury	07-02	0702	1144	1623
1.35 AU	17-02	0714	1220	1722
Mag -1.4	27-02	0710	1225	1836
Venus	07-02	0504	0955	1443
1.39 AU	17-02	0510	1005	1456
Mag -3.9	27-02	0514	1015	1413
Mars	07-02	0536	1021	1503
2.22 AU	17-02	0507	1012	1459
Mag +1.3	27-02	0507	1003	1456
Jupiter	07-02	1912	0139	0806
4.44 AU	17-02	1826	0055	0724
Mag -2.5	27-02	1740	0011	0641
Saturn	07-02	0631	1133	1631
10.8 AU	17-02	0555	1058	1557
Mag +0.7	27-02	0519	1023	1524
SOL Star Type		G2V	Mag -	26.72
2109-1542	07-02	0651	1202	1710
2148-1236	17-02	0641	1203	1722
2230-0859	17-02	0630	1204	1735

Astronomical Twilight

JD 2,448,660.5	07-02	0517 -	1843
,670.5	17-02	0508 -	1854
,680.5	27-02	0458 -	1906

Siderial Time

Transit Right	07-02	0000	PST=0859
Ascention at	17-02	0000	PST=0939
Local Midnight	27-02	0000	PST=1018

Darkest	Saturday Night	Feb 29
Sunset		1738
Twilight End		1909
Moon Rise		0421

TIMES AND DATES ARE PACIFIC STANDARD

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