Desert Skies

JUNE 1990

MEETINGS

ANNUAL TAAA POTLUCK PICNIC - SATURDAY, JUNE 2 at the home of Ed & Pat Vega
see announcement in this newsletter...

GENERAL MEETING - FRIDAY, JULY 6, 7:30 at Flandrau Planetarium
Speaker to be announced...

EXECUTIVE MEETING - THURSDAY, JUNE 7, 7:30 P.M. at Flandrau Planetarium.

STAR PARTIES - SATURDAY, JUNE 16 at Empire Ranch

SATURDAY, JUNE 16 — Star Party at Empire Ranch
if cloudy June 23 alternate.

30" TELESCOPE MEETING - SATURDAY, JUNE 11 at the home of Bob Goff

President	Tim Hunter	299-2972	Chief Observer	Terri Lappin	790-5053
Vice-President	Dean Ketelson	293-2855	Membership Coordinator	Terri Lappin	
Executive Sec.	Dick West	1-762-5831	Past President	Duane Niehaus	299-7328
Recording Sec.	Sharon Niehaus	299-7328	Desert Skies ed.	Dolores Hill	325-9820
Treasurer	Debbie Smith	296-4780	Asst. ed.	Rik Hill	
Member-at-Large	Bob Goff	790-1452			

MEMBERSHIP IN THE TAAA

Individual Membership	$20.00
Family Membership	$25.00
Senior Citizen (over 60)	$18.00

Sky & Telescope subscription (optional) $16.00

Rates for membership in the TAAA are given above. Members can subscribe to Sky & Telescope at the time of membership renewal, saving over 25% off the cost of a regular subscription. The subscription term must match your membership period. Send one check, made payable to Tucson Amateur Astronomy Association, to cover both membership and subscription to: TAAA, P.O.Box 41254, Tucson, AZ 85717. It is best to pay your dues 2-3 months before your membership actuallly expires.

4 EASY STEPS TO MEMBERSHIP RENEWAL

1. Pay your dues 2-3 months early. Your month of membership expiration is listed on your newsletter mailing label.
2. a) Decide if you want Sky & Telescope, then add $16 to your membership rate.
   b) Include Sky & Telescope's renewal notice, if possible.
3. Write one check, payable to TAAA.
4. Send it to TAAA, P.O.Box 41254, Tucson, AZ 85717.

Call the Treasurer if you have any problems.

ANNUAL POTLUCK DINNER AND TELESCOPE DEDICATION -- SATURDAY, JUNE 2ND, 3pm -?

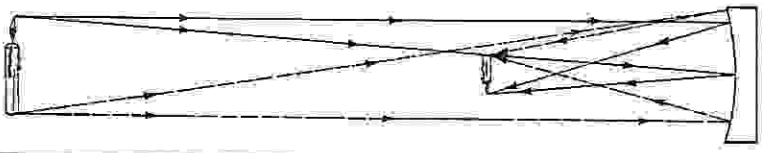
This year's potluck dinner will be held at Ed & Pat Vega's home and observatory outside of Benson. A map to the Vega-Bray Observatory is included in the newsletter. Our potluck dinner has been a tradition for years and it is our opportunity to show off our culinary skills--get out the cookbooks!

The TAAA 16" telescope, which was recently moved to the Vega-Bray observatory, will be dedicated as the "Van Biesbroeck Telescope" shortly before dinner. Van Biesbroeck used the 16" telescope for his work while at the University of Arizona.

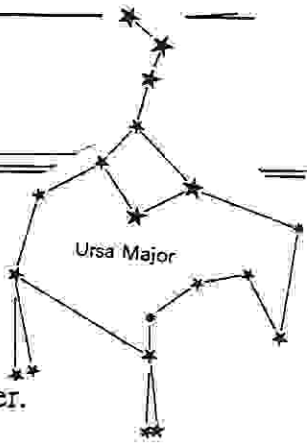
What to Bring: Bring your own meat or main dish, a propane grill is available. Also bring a salad or dessert to share. A microwave oven will be available for warming items. TAAA will provide the drinks (ice, soda, and punch). Bring your own table settings (plates, cups, utensils, serving spoons). If you have a table and chairs, bring them please. If you can fit in your telescope--bring that too. The moon will be about first quarter. The whole family is invited, so come on out!!

30" TELESCOPE MEETING

A meeting regarding the 30" telescope will be held Saturday, June 11 at 1 P.M. at the home of Bob Goff, 5712 E. Cooper. Call Bob for more information...790-1452.



*** Congratulations to David Levy for discovery of yet another comet!! ***



FOR SALE:

Heavy 8" diameter steel column on a triangular steel base with a rising heavy tube by rack & pinion. Min. height 5 ft. and max. height 7 ft. It was a NASA tooling stand.... would be good for a large refractor etc. $500. Will trade 3 1/2" Alvan Clark refractor on tripod mount for Mac II computer. Call Mr. Sevilli at 327-0665 (450 S. Rosemont Ave.,Tucson 85711)

FOR SALE: Cave 6" F/4 Rich-Field Newtonian Reflector with 28mm eyepiece, personally refigured primary mirror, on Edmund Scientific equatorial mount with electric clock drive, 1" R.A. and Dec. shafts, $350.

Call Duane Niehaus 299-7328

OBSERVER'S REPORT

Star Party June 16th Empire Ranch (June 23rd is the cloud/rain date.)

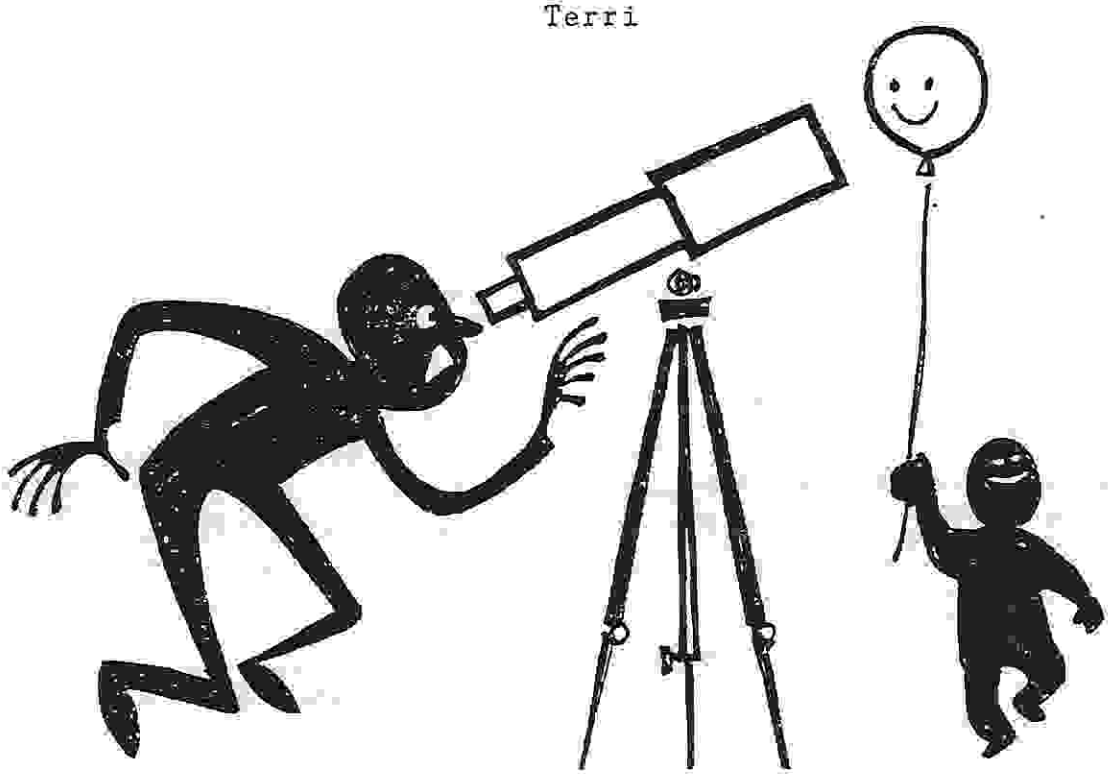
Our June star party will be held at Empire Ranch near Sonoita on the 16th. (If you need a map, talk to me at the June 2nd potluck, I'll have them with me then.) If the 16th is cloudy then we will meet at Empire Ranch the following Saturday night, June 23rd.

The TAAA planetary observers are well represented this month in the literature. The current issue of the Journal of the Lunar and Planetary Observers contains, in addition to Rick Hill's Solar Section Report, several drawings by two of our active planetary observers. Michael Sweetman has two drawings of Saturn from May 1988 showing dark features on Saturn's Equatorial Bands. Another drawing of Michael's appears in the June issue of Astronomy. There are two drawings made by Gary Rosenbaum from the 83-85 Mars apparition also in the Journal of the ALPO. Gary used a violet (#47) filter for one drawing which shows upper-level atmospheric clouds and a red filter (#25) for the other drawing which penetrates the Martian atmosphere and shows surface details like Syrtis Major. Rick Hill's report contains sunspot activity, including the sunspot group which caused the aurora over Tucson last year.

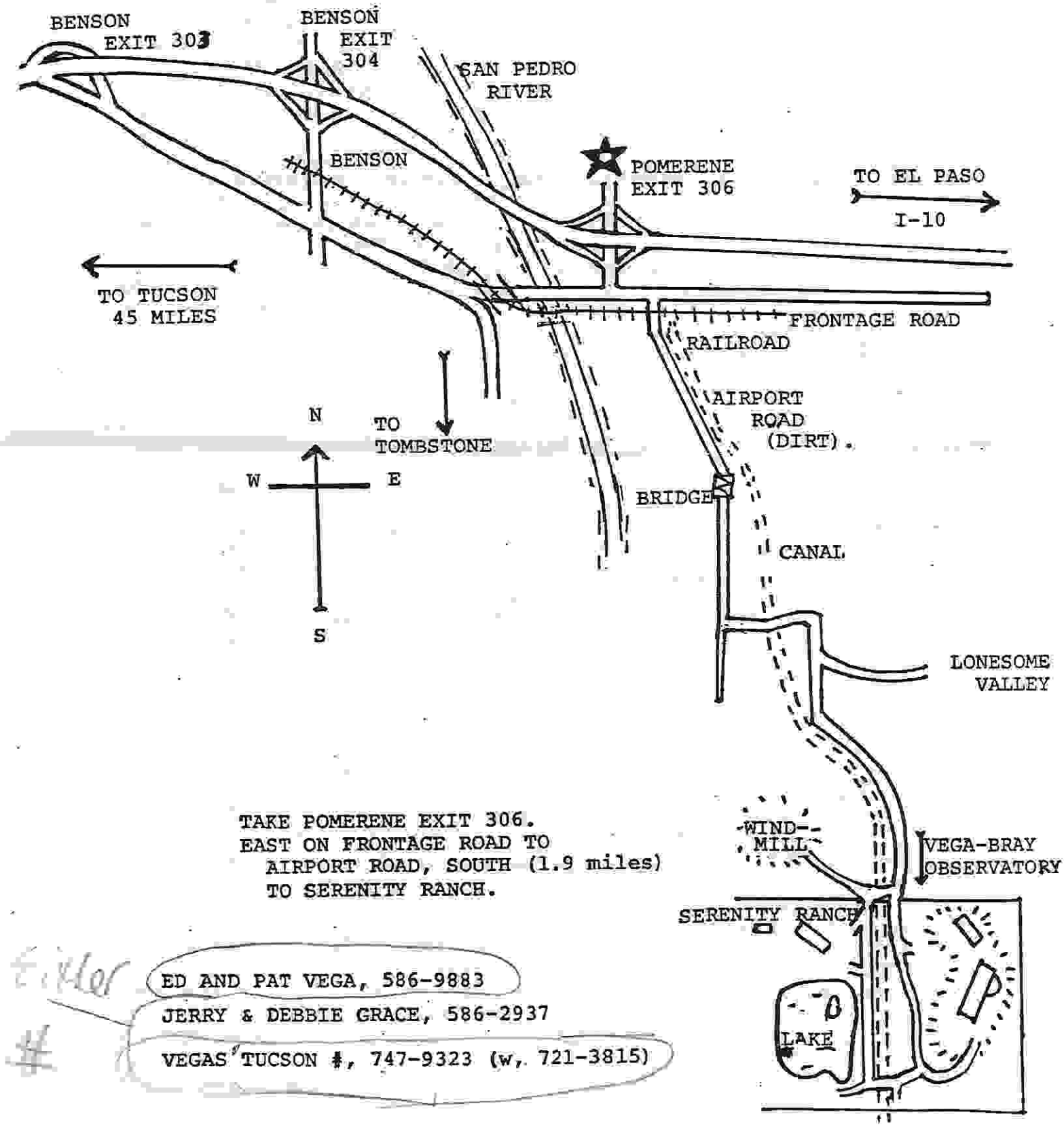
The April 28th public star party at Sabino Canyon was a success with maybe 100 persons in attendence. We had a nice balance of TAAA members with telescopes there and I don't think we had any endless lines to look through the scopes. Rodney Austin (of Comet Austin fame) and his companion Mervyn Thomas attended the star party also. When asked what their favorite norhtern hemisphere objects were, Rodney said the galaxies M 51, M 81, and M 82, and the Ring Nebula. (The Ring is visible from New Zealand, but it is very low.) Mervyn's favorites were the Double Cluster in Perseus (seen on another visit to the northern hemisphere), the Veil Nebula, and M 51. While the southern hemisphere may have some spectacular objects, I guess the northern hemisphere has its own jewels.

See you out under the dark skies of Empire Ranch.

Terri



SERENITY RANCH AND BIOCHEMICALS VEGA-BRAY OBSERVATORY



TAKE POMERENE EXIT 306.
EAST ON FRONTAGE ROAD TO
AIRPORT ROAD, SOUTH (1.9 miles)
TO SERENITY RANCH.

Editor

ED AND PAT VEGA, 586-9883

JERRY & DEBBIE GRACE, 586-2937

#

VEGAS TUCSON #, 747-9323 (w, 721-3815)

LETTER FROM THE PRESIDENT

The new Executive Officers of the TAAA officially assume their positions in June. Two outstanding officers, Dan Knauss and Teresa Lappin, are presently retiring. Dan is a close personal friend and has given me much support and able advice over the years. As you know, he is a very dedicated observer and superb astrophotographer. I am sure he will continue to have active role in the Club.

Teresa has been Treasurer of the TAAA for as long as anyone can remember. After years of splendid service, she has finally had enough of fouled up subscriptions and late membership dues and decided to retire as Treasurer in order to devote more time to her position as Membership Coordinator and Chief Observer. Fortunately, she will still be on the Executive Committee. While she has agreed to continue as Chief Observer, she would like to retire from this position in the near future. If you would be interested in becoming Chief Observer, please let me or Terry know.

I want to personally and officially for the TAAA thank Terry and Dan for their service and friendship. They have helped make the TAAA a vigorous, successful astronomy club. I also want to welcome the new Executive Officers and thank those officers who continue to serve.

My personal goals for the TAAA remain much as I have stated in the past: first and foremost, we should be having fun and enjoying ourselves. If not, then we are not doing things correctly, and you should let me know. Amateur astronomy is fun and exciting. I am all for us having star parties, special guest speakers from out of town, dark sky observing sites, and our own observatory complex. However, these should be secondary to our enjoying ourselves and our hobby. I am available at all times for comments, complaints, suggestions, and even words of praise. You can phone me at home (299-2972) or at work (626-7402). This will be my third year as President. I plan to retire at the end of the year so as to not overstay my welcome.

One of my prime goals for the coming year is to find a permanent dark sky site for our proposed thirty inch telescope and our newly completed sixteen inch telescope. Plans are now being drawn up for a Dobsonian mount for the thirty inch mirror which has been completed thanks to the hard work of Dean Ketelsen and Bob Goff.

Ed Vega recently celebrated the opening of his gorgeous observatory near Benson and has kindly permitted us to set up the sixteen inch telescope temporarily at his site. The thirty inch Dobsonian telescope when finished will also be temporarily housed at his observatory until we establish a permanent site. Dean Ketelsen recently wrote about our acquiring an abandoned gold mine owned by the University. We will keep you informed about it as the situation becomes clearer. It is fair to say it is a wonderful dark sky location that comes at bargain price. However, it suffers from being a long drive (1 1/2 hours +) from Tucson, and the last seven miles of roads to it are horrendous.

I am looking into various fund raising ventures for the TAAA and welcome ideas from members. One source of funding we will be pursuing are grant monies. In this regard, I am preparing a

portfolio for the TAAA to be used for presentation to funding agencies and possible benefactors. Please give me your ideas, notes, pictures, drawings and so forth so they can become part of the portfolio.

In the last few months the meeting room at the Planetarium has become somewhat crowded. We are looking into finding alternative meeting places, such as the Optical Sciences Auditorium or the Auditorium at Steward Observatory. If you have suggestions for other meeting locations, let me know.

The visit of Rodney Austin, the discoverer of Comet Austin, to Tucson was a great success. The TAAA played an important part in the University's celebration of National Science and Technology Week. I want to thank all the members who helped out with the activities and attended the festivities. The Public Star Party at Sabino Canyon was particularly enjoyable and successful and helped bring the TAAA into the public eye. We play a most important role in introducing amateur astronomy to the public. The TAAA can also be a very positive influence in presenting science to school children and encouraging more to pursue careers in science and engineering.

Tim Hunter

Rodney R D. Austin

39B Parsons St
Vogeltown
New Plymouth
New Zealand
Telephone (067) 34-793

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1989e1

9 May 1990

Dr Tim B. Hunter
Diagnostic Radiology
College of Medicine
University of Arizona
Tucson
Arizona 85721
USA

Dear Tim,

This letter is really to formally thank you and the Tucson Amateur Astronomers Association for all your many kindnesses during our stay with you.

We both had a great time, saw just about everything we hoped to, as well as a few things we perhaps had not counted on, such as the Shuttle venting water.

The whole trip confirmed my earlier feelings about Tucson from back in 1979. It is one of my favourite places, and I really love Arizona. One day I hope to be back, and certainly sooner than the 11 years since I was last there.

Regards

Rodney

STOP THAT TELESCOPE

by

Richard Hill

It's a partly cloudy night (like so many this year so far) and you have time to observe. So what can you do with the less than good seeing? You can do a bit of observational physics!

Every amateur astronomer should have a set of aperture stops for their main observing telescope. Their uses are many and varied. They are easy to make out of cardboard or posterboard, and they will last for many years. The most useful stop for owners of reflectors and compound telescopes is one that gives an off axis, unobstructed aperture. Such a stop that reduces a telescopes aperture to half or less of normal can come in handy on those less than perfect nights when seeing is bad, the sky is boiling and you want to observe the moon, planets or double stars. By limiting the aperture (and not the focal length) in this manner, you make a more acute light cone that changes its diameter only slightly as the boiling shifts the focus back and forth. Photographers call this a greater depth of focus. With the reduced resolution of the smaller aperture and the slower defocussing of the flatter light cone, the apparent sharpness and steadiness of the image is increased. You will not sacrifice resolution on such nights since you will reduce your aperture to a point where its resolution matches the bad seeing. On my 14 inch f/11 Schmidt-Cassegrain I use an off axis stop of 7 inches (yes, the secondary takes a bite out of the edge of the field but this has little effect). I see no more detail than I did at full aperture and the image is a bit fainter but the steadier, sharper appearing image was easier to observe for extended periods resulting in much less eye strain and fatigue.

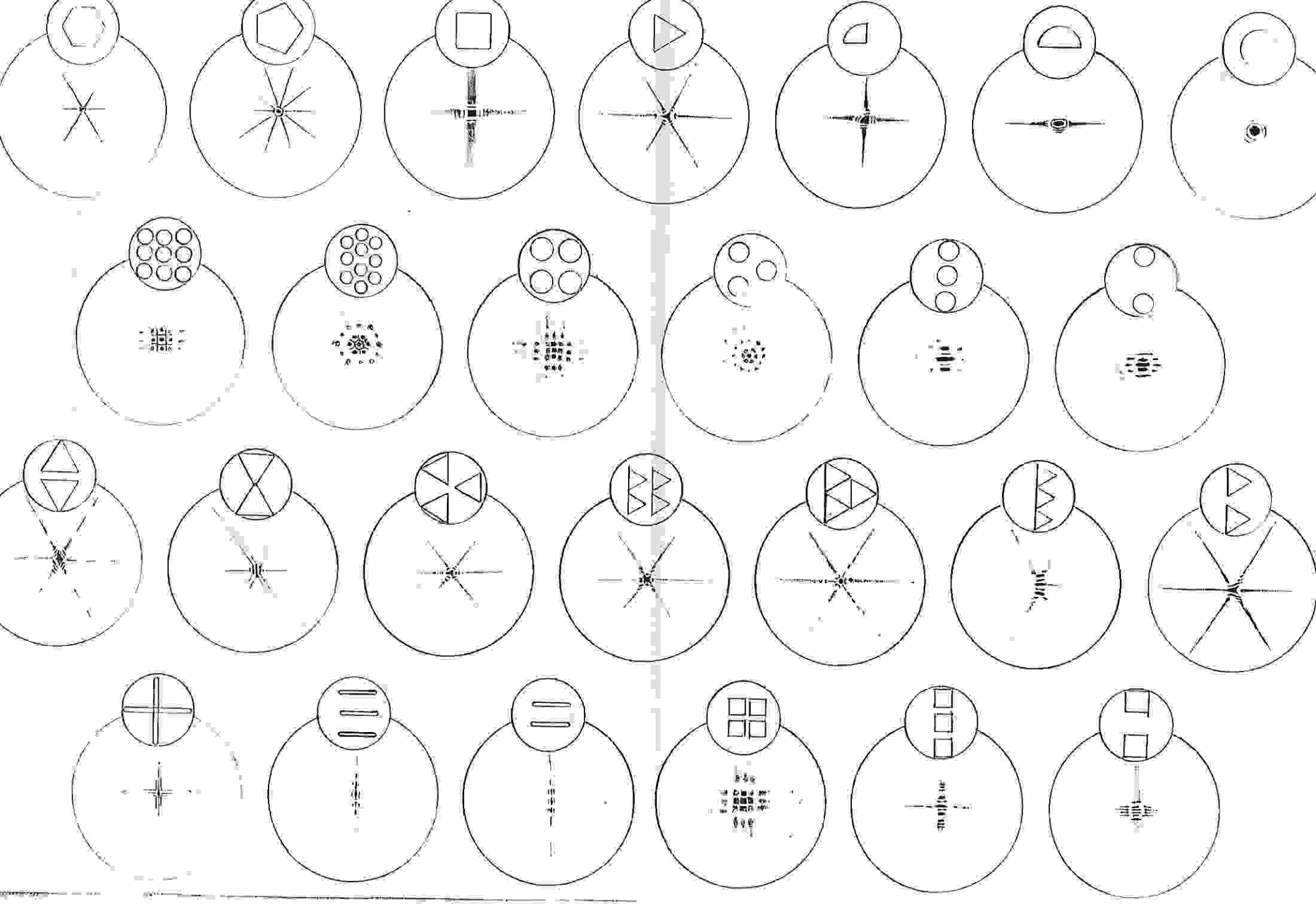
These types of stops have practical value as shown. I find them so useful that besides the one 7 inch stop I also have made a device (out of two pieces of double weight artist cardboard) where I can rotate into position stops of 6, 4.5, 2.4, and 1.6 inches aperture. I often use these to check the appearance of many objects in different apertures. I have used such apertures to observe bright variable stars. By going to smaller apertures one can avoid irradiation and Purkinje effects or limit them. Since the C14 is of long focal length (154 inches) the unobstructed, off axis apertures provide virtually perfect views for their apertures. You will be amazed just how much is visible in small apertures when they are of such good quality.

There is another group of aperture stops I would urge you to make. These are noncircular and multiple apertures. With these we can study diffraction effects and the wave nature of light, seeing things only read about in our high school science and physics books. First you will need an unobstructed aperture of f/20 or greater. Next cut out pieces of paper (construction paper or 60 pound is best) to cover the aperture conveniently. The apertures are cut into these sheets and placed over the reduced aperture of the telescope. Any shapes may be used and multiples of them as well. In my own experiments I used a 4.5 inch aperture (f/34.2). This produced a text book perfect diffraction image formed by the circular aperture. In from of this I placed over 40 different openings of as many non-repetitive shapes as I could devise. I observed either Arcturus or Vega and I recommend Vega with its cold sparkling blue color. A very bright star is a must since some of these reduced the aperture to only an inch or so. At the very long f/ratios and small apertures used seeing will need to be no better than 6 or 7 seconds. On the nights I observed it was only 3 to 4 seconds and appeared as steady as a rock in the tests.

I present here a sample of my observations, the most interesting cases. The observations were made at a magnification of 301x. The smaller circle shows the aperture used against the 4.5 inch opening. The larger circle is the appearance in the center half of the field of view. There is some variation to the scale here, but not much.

One of the most interesting things of this experiment occurred after I had gone through about 80% of the masks. I was getting cocky and thought I had developed an intuitive sense of what to expect. Then I got to the slit apertures and was completely surprised!

I recommend this enjoyable and easy exercise to all. You too will experience many surprises. The dazzling appearance of these patterns, created by the wave nature of light, is worth the little bit of work. So get out and STOP THAT TELESCOPE!



THE GEORGE VAN BIESBROECK TELESCOPE DEDICATION - SATURDAY, JUNE 2, 1990.

During the annual club picnic, the Club's 16-inch telescope will, thanks to recent approval by the Executive, be dedicated to the memory of George Van Biesbroeck. One of the top observers of the twentieth century, Van B., as he was known, spent most of his working life at Yerkes Observatory. He was also a central figure in the development of McDonald Observatory's 82-inch reflector, and he observed there often.

Born in Belgium in 1880, he did join the University of Arizona Staff late in life, and in fact was granted observing time at Steward Observatory's 90-inch on his 90th birthday. His three comet discoveries are almost incidental to his massive observing projects on comets and double stars that continued almost to the time of his death in 1974. One of the telescopes he had was a 16-inch, and its mirror is now the heart of the telescope we will dedicate this afternoon.

David H. Levy

I N M E M O R I U M

This is to report the passing of an astronomer who has had an effect on all of our lives without many of us realizing it. Dr. Nicholas Sanduleak, senior research assistant astronomer with Case Western Reserve University, died suddenly of a heart attack on the morning of Monday, May 7th, at the age of 56.

He received his BS, MS, and PhD in astronomy from Case and then took a position as staff astronomer at Cerro Tololo. While working there he completed a survey of some 1200 supergiant stars in the Large Magellanic Cloud. In this catalog was one star he called attention to as a possible supernova progenator, designated SK-69°202. It is now known as Supernova or SN 1987A. This was the first time in history detailed observations were available for a supernova BEFORE collapse, let alone that this was the first supernova seen in our galaxy since 1604!

Nick was quite modest, had a keen wit and was always enjoyable to work with. When the supernova was suspected of being another star he was relieved and looked forward to stepping out of the limelight. He was quoted as saying, "I might have had to go around the world crossing it [the progenator star] off in the catalogs...tell everybody to never mind!"

Believe it or not, you knew of his work even before the supernova. Back in the late 1960's Dr. Sanduleak and Dr. C.B.Stephenson (also of Case) made a survey of stars having bright hydrogen emission lines. More than a decade later star #433 in that survey was found to be correlated with objects in x-ray and radio. It is now thought by most to be a mass exchanging binary system with one component a neutron star. Out of the poles of this system mass is being ejected at a quarter the speed of light.

Nick was also a founder of the South Shore Skeptics, a Cleveland area chapter of the Committee for the Scientific Investigation of Claims of the Paranormal. Some members of the Tucson Skeptics (TuSks) knew him as well. He was always on the vanguard to debunk myth, superstition, and fraud. In his home he had a whole wall of books on the paranormal and pseudo-science. Clearly he believed the maximum, "Know thine enemy!" Frequently, Nick gave talks to educators, schools and the public in efforts to teach them the difference between science and pseudo-science. The belief that accidents, violence and crime increases at full moon is still virtually part of our culture. Using the homicide records of Cuyahoga County, Nick published a paper showing no correlation between lunar phase and violent crime.

To my knowledge he harbored no ill will toward anyone, including those whose work he debunked. His good humor was enjoyed by all in the Astronomy Department. Nick was an avid television viewer and staff would look forward to his side splitting reenactments of the previous evening's best scenes. My personal regret is that I did not get to work with him more over the last 11 years. He will be missed for a long time.

-Richard Hill, Resident Observer
Warner & Swasey Observatory
Case Western Reserve University

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