THE OFFICIAL NEWSLETTER OF THE ALBUQUERQUE ASTRONOMICAL SOCIETY
P.O. BOX 54072; ALBUQUERQUE, NEW MEXICO 87153
JUNE 1988

IMPORTANT BULLETIN:
The Society now has a post office box for all business to be sent to. The purpose of this is to keep from confusing people by having many addresses that change each year. The NEW ADDRESS is:
P.O. BOX 54072
Alb., NM 87153

UPCOMING EVENTS:
6-11 Saturday: Dark Sky night at Capilla Peak
6-14 Tuesday: New Moon
6-18 Saturday: Monthly meeting of the Society — program of speakers on amateur observations
6-20 Monday: Saturn at opposition
6-21 Tuesday: Summer solstice
6-22 Wednesday: First Quarter Moon
6-24 Friday: Dr. Clyde Tombaugh speaks at UNM's Regener Hall, 7:30 p.m.
6-29 Wednesday: Full Moon
7-6 Wednesday: Last Quarter Moon
7-9 Saturday: Star Party at Shooting Range Park
7-13 Wednesday: New Moon
7-16 Saturday: Family Picnic and Dark Sky Night at Gran Quivira

JUNE MEETING:
The June meeting of the Albuquerque Astronomical Society will be held at 7:30 p.m on June 18 in the Physics & Astronomy building on the UNM campus.

For the June meeting we have a very special program. Cal Currier and Mac Morgan (both fellow members) will give a talk on the details of their special interests.

Cal Currier is our Society's premier planetary observer. Cal will be giving his talk on "Observing Mars." His talk will include a display of the many planetary drawings and techniques used in planetary observing.

Mac Morgan is our resident occultation timing expert. Many members have expressed an interest in making a real contribution to the on-going endeavor to add to the information used by professional astronomers.

Also, at this meeting we will be taking additional orders for "official" tee-shirts. This initial order of tee-shirts will be the only one made without a date on it...truly a "one of a kind" issue!

Tickets to DR. CLYDE TOMBAUGH's talk at Regener Hall will be available at the meeting. You won't want to miss this "once in a life time" chance to meet the only living person who discovered a planet (see article DR. CLYDE TOMBAUGH'S TALK!) See you there.

MAY MEETING:
Our May meeting was filled with announcements. The tickets to see and hear Dr. Tombaugh were distributed and the official club tee-shirt was unveiled.

Several members offered to help sell tickets and took a few extra with them to sell to friends and co-workers. We still have a bunch left.

Our guest speaker was Dr. Alfred Kraus Jr. His talk on elementary particles was well received by the members. His sense of humor and the depth of his knowledge were the primary ingredients of a very interesting talk.

Dr. Kraus will be back at a later date to continue his talk which will extend from elementary particles to the formation of our solar system!
FAMILY PICNIC AND DARK SKY NIGHT:
Saturday July 16, the "First Annual Family Picnic and Dark Sky Night" will be held at Gran Quivira.
For those of you who are regulars at Gran Q., the cabin, heated bathrooms, barbecue grills, picnic
tables, and beautiful ruins are nothing new. For those of you who have never been there, this will be a
golden opportunity.

Come to the next meeting (June 18) and check the next newsletter for more details.

George Pellegrino,
President

OCCULTATION TIMING AFTER JUNE 18TH MEETING:
The larger table published in the May SIDEREAL TIMES shows us the U.T. times for four occultations
of stars on the evening of June 18, the night of the June society meeting. Because these events will take
place at 9:41; 9:47; 10:13 & 10:33 P.M. MDT, arrangements have been made with the University for us to use
the observatory, small telescopes, and/or to set up our own scopes and get some practice timing this type
of event, after the indoors part of the meeting.

While indoors, I will attempt to familiarize society members with the purpose and procedures for
timing such events. If you would like to try your hand at it, it will be useful for you to bring a radio
capable of receiving WWV and a tape-recorder. Even if you don't care to have a go at it but have access to
these items, you could assist some member who WOULD like to try by bringing them to the meeting and lending
them for a while. 'See ya there!

Mac Morgan

AAS-BBS:
Starting June 23rd 1988, AAS-BBS will be running on a new hard disk. This means that the long
awaited files to be transferred will be available. Right now there are about 8 different message sections
and there will be separate file sections for the computers supported. There will also be a basic area of
files that will work on most types of basic. The board is running on a new program that supports ANSI
graphics and DOORS. Further features and programs will continuously be added so keep calling. The first
time you call enter "NEW" as your password. You will be granted access to messages only. Within a few
days you will be able to use all the features! It may be down some nights if I'm working on the
newsletter. Please call during those hours ONLY, it is my residence. Check the back page for parameters
and the number.

Michael Fisk, sysop

FINDING A NEEDLE IN A HAYSTACK--DR. CLYDE TOMBAUGH TO TALK ON
"THE DISCOVERY OF PLANET PLUTO"

Fifty-eight years ago in 1930, Dr. Clyde Tombaugh discovered the elusive ninth planet Pluto at Lowell Observatory in Flagstaff, Arizona. He was awarded the Jackson-Built Medal and Gift of the Royal Astronomical Society of Great Britain in 1931 for this monumental accomplishment.

You have a rare opportunity to hear, first hand from Dr. Tombaugh, "The rest of the story" on Friday, June 24th, 1988 at 7:30 PM at Regener Hall on the University of New Mexico Campus. (See the map below for the location of Regener Hall.)

Tickets are being sold for $5.00 each in advance and $6.00 each at the door (if there are any left)! Proceeds from this event will go to the Tombaugh Scholars Fund. These tax deductible tickets can be purchased at the June 18th meeting, or contact George Pellegrino at B21-8S16 for advanced tickets. Make a check out to the Albuquerque Astronomical Society and send it in along with a self addressed stamped envelope to our new post office box address shown on the front page of this newsletter, if you are unable to make arrangements to pick up your tickets. You do not want to miss your chance to see a living legend!
Texas Star Party '88

During the week of May 8th through the morning of May 15th, several hundred amateur astronomers from across the United States and several countries descended upon the Prude Ranch in the Davis Mountains of West Texas to attend the Texas Star Party, organized and sponsored by the Southwest Region of the Astronomical League. The site of these dark skies and observing pride of Texas is located between the small town of Fort Davis and McDonald Observatory on highway 190.

Astronomers camped in trailers, tents, and campers, or stayed in cabins. Folks cooked their own meals or ate at the dining hall. The afternoons were filled with speakers presenting papers on topics ranging from astrophotography, collimating tools, filters, polar alignment techniques, computers and computer controls, telescope making, to observational record keeping.

The evenings were set aside for observing! All white lights--OUT! People flipped through their star charts to observe or photograph faint and challenging objects in these dark clear skies! The view of the southern globular cluster Messier 42 was the standard Wiffle ball--for the hungry light-polluted and Northern astronomers. Many other beautiful galaxies, nebula, and planets were seen. People had a chance to see a comet between Polaris of Ursa Minor and Ursa Major, and a close occultation of an asteroid with a faint star near the constellation of Leo.

Special guests were John Dobson of the San Francisco Sidewalk Astronomers and the originator of the Dobsonian Telescope, John S. Gallagher III the Director of Lowell Observatory, and Harlen J. Smith the Director of McDonald Observatory. John Dobson discussed the importance of sharing the wonders of the Universe with the public through our eyes and telescopes where ever we go! John Gallagher talked about the Structure and evolution of Galaxies. Harlen Smith presented information about the acquisition of a 300+ inch spectroscopic multi-refracted telescope for McDonald Observatory.

Several vendors brought telescopes, eyepieces, accessories, star charts, and astronomy books and references for sale during the days Friday afternoon was set aside for the TSP Swap Meet where some good buys and trades were made.

Other activities included bus tours to McDonald Observatory, the astrophotography contest, amateur telescope makers displays, and Club Sale-a-thons (where astronomy clubs could hang out their newsletters, club information files, and sell club goodie). There was also horse races, poker, hiking, and swimming at the ranch.

A Group Photograph was taken Saturday afternoon for all interested participants. The evening featured the keynote speaker, John Gallagher, who talked on "Seven Mysteries about Galaxies"--what astronomers would like to know about galaxies but were not afraid to ask. Award presentations were made for which Calvin Courier and Jim Cox of our Society were awarded special observing certificates for their observational prowess and perseverance in the TSP Observing Olympics. Finally, drawings were held for numerous door prizes and the Great Texas Giveaway, a Dobsonian Telescope by Coulter Optics.

The week of comradery, information exchange, and fun came to an end. The group of avid amateur astronomers had to pack up their telescopes and camping equipment to leave for their long trips home, but not forgetting the clear skies and hospitality of West Texas.

The Case of the Dead Dobsonian--by Lee Mesibov

The following story is true. The names are the same. Some lies have been added in an attempt to protect the guilty.

This is the city, Albuquerque, New Mexico, a city of half a million people, all with their lights on. My name is Mesibov, I carry a Dobsonian.

It was the last quarter moon of April. The skies were clear and I was itching to take out my thirteen inch instrument, a big beautiful red tubed Dobsonian. I heard of a relatively dark area just off of I-25, just west of the Sandia Head of the major road. I called my partner, Chris St. John, and we headed out to Canyon Estates in Tijeras Canyon. We stopped and unloaded at the parking lot by the head of the Crest Trail. After we stuck the large cumbersome instrument into the rocker box, we set up to observe M-81/82, two distant and mysterious Messier objects. Within a minute or so, I had my eye on the galaxies when a blinding light hit us in our faces. Our night vision was shattered! The rods of our eyes were saturated with photons and were screaming in agony. I tried to shield my eyes from the two approaching cars, all the while keeping quiet, hoping they were just some kids looking for a secluded spot to engage in close encounters of the intimate kind. The cars stopped. Nothing happened for about half a minute. Then we heard someone get out of the lead car and ask what we were doing here. Still looking away from the cars, I said angrily, "Nothing! until you shut off those damn lights!" He replied back, "We're the police and we got a report that you took a body out of your car!"

We then could see that they really were cops. I said to myself, "Ohh! Hell no, don't go to jail for scopsicle!" Then I replied, "There's no bodies here except our own, and that's stretchin' it. Where would we put a body anyway?--Unless it was in the scope! So if you'll shut off your lights, I'll show you that there's nothin' in there but starlight!" They complied. I told them that, "We're out here in the darkness observing heavenly bodies...errr...stars!"

The younger of the two cops, apparently a rookie, got excited and said he always wanted to look through a big telescope. The other cop just saw this as an opportunity to give his hemorrhoids a breather. I explained to the younger cop the difference between a Dobsonian and an Equatorial Mount. As far as the older cop was concerned, an Equatorial Mount was a horse racing in South America. But the younger cop listened and looked in fascination. They both stuck around for about half an hour. Then they remembered what they were there for and returned to the house where the people made the "dead body" complaint. They informed them that--like Mark Twain once stated--The reports as to the death of my Dobsonian were greatly exaggerated!!!

For Sale!

Celestron C-8 (Scheidt-Cassegrain) Telescope with tripod, equatorial mount, finderscope, 2X Barlow lens, additional eyepiece, solar filter, plus accessories. Asking price of $90.00 or best offer. Seller willing to deal. Call Chip Meyers at 821-4036 (H) or 866-1177 (W).
Roughly halfway between Corona Borealis and the brilliant star Vega lies the distinctive "Keystone." This trapezoid asterism is the heart of the constellation Hercules, a parcel of the celestial sphere identified with the famous hero of Greek mythology. Although Hercules is not one of the brightest constellations, it is deceptively large—the 5th largest in the night sky. The amateur observer will find that many good things in Hercules come in multiples of two or more, including an impressive collection of double stars, a very bright pair of globular clusters and an interesting multiple interacting galaxy system.

Ras Algethi (Alpha Herculis) is both the most prominent variable star and the most famous double star in Hercules. The spectral type M5 primary component is a huge supergiant star in the same class as Betelgeuse and Nu Cephei (the "Garnet Star"). This component is erraticly variable, fluctuating over a range of nearly one magnitude with an average period of 90 days. This behavior was first observed by Sir William Herschel in 1795. At maximum, Ras Algethi will appear as bright as mag. 3.14 Delta Herculis some 10° to the north. At mag. 3.92, Epsilon Herculis (the star marking the SE corner of the "Keystone") is a good match for Ras Algethi near minimum brightness. A small telescope will easily show the mag. 5.4 companion star which lies 4.7" away in position angle 106°. Due to the comfortable separation and vivid orange/blue color contrast of its primary and secondary components, Ras Algethi is widely regarded as one of the premier double stars in the night sky.

Attractive as it is, Ras Algethi is only the "tip of the iceberg" with regard to double stars in Hercules. Kappa Her is a very easy double consisting of mag. 5.3 and mag. 6.5 companions aligned nearly N-S. Rho Her is a closer pair made up of a blue-white star of mag. 4.6 and a mag. 5.6 companion. The southeastern portion of Hercules features two more striking doubles—95 Her with silver and gold components of mag. 5.0 and mag. 5.1, respectively, and 100 Her, a matched pair of mag. 6 stars (spectral type A3). Similar to Kappa Her, the components of 100 Her fall very nearly on a N-S line. The fast moving binary, Zeta Herculis, is a fairly challenging object due to the closeness and substantial magnitude difference (2.9 vs. 5.5) of the two components. Now is the time to view this double star system since it is currently near maximum apparent separation (1.6''). After the turn of the century, the components will close to 0.4''.

When it comes to globular clusters, Hercules occupies a unique position among the northern constellations. No other stellar grouping in this region of the sky offers two objects in the same class as M13 (200.0 Coordinates: R.A. 16 hr. 41.7', Dec. 36° 28'') and M92 (17 hr. 17.2', 43° 08''). Conveniently located between the two western stars of the "Keystone" asterism, mag. 5.9 M13 is by far the most widely observed of the two objects. In terms of absolute physical size, M13 is actually a fairly typical globular cluster; however, M13 lies relatively nearby (22,500 light years). Moreover, M92 passes almost directly overhead for observers in mid-Northern latitudes. Consequently, it is perceived as the brightest and most splendid of its kind in the northern skies. In binoculars or a very small telescope, M13 appears as a bright, round glow. Apertures of 4" or more begin to resolve hundreds of individual stars throughout the cluster. A number of well-known observers (e.g., Walter Scott Houston, John Mallas, Robert Burnham, Jr.) have commented on the appearance of dark lanes at various positions in the cluster. Can you see these features? At magnitude 6.5 and somewhat more compact, M92 is nearly as impressive as its neighbor to the south. How well can you resolve the stars in this object? A third globular cluster, NGC 6229 (16 hr. 47.0', 47° 32') is located 70° northwest of M92. This cluster is situated just east of a wide pair of fairly bright (mag. 8) stars. More distant and substantially fainter (mag. 9.4) than its more famous cousins, NGC 6229 is still worth a look. For a real observing challenge, large scope owners might attempt to track down Palomar 14 (16 hr. 11.1', 14° 57''), an extremely distant and extremely faint (mag. 14.8) fourth globular cluster in Hercules.

Hercules offers a few planetary nebulae for backyard telescopes. NGC 6210 (16 hr. 44.5', 23° 49') is a bright and easy object at magnitude 9.7. This planetary appears as a very blue disk some 14' across. NGC 6058 (16 hr. 44', 40° 41') is a much fainter target at photograpic magnitude 13.3. A third accessible planetary, IC 4593 (16 hr. 12.2', 12° 04'), lies in the SW corner of the constellation. This object glows at photograpic magnitude 10.9.

Hercules is not known as a haven for bright galaxies; however, there are a number of interesting targets for the amateur observer. The mag. 11.6 spiral galaxy NGC 6207 (16 hr. 43.1', 36° 50') has acquired some notoriety due to its apparent proximity to M13. A wide-field instrument can easily show both objects. NGC 6101 (16 hr. 32.3', 19° 50') lies a few degrees southeast of Beta Herculis. This spiral galaxy shines at mag. 11.9. NGC 6574 (18 hr. 11.9', 14° 59') is just as bright at mag. 12.0. If you check the position of NGC 6229 in the Uranometria 2000.0, you are likely to notice an object to the south which is labelled "Zwicky's Triple" (16 hr. 49.5', 45° 30'). Also known as Arp 103, this triple interconected system consists of spiral galaxies with photographic magnitudes of 15.5 (A), 15.1 (B) and 16.5 (C). A long filament-like luminous bridge appears to link galaxies B and C. Unlike some famous galaxy groups such as Stephan's Quintet, Seyfert's Sextet and VW172, the recession velocities determined for Zwicky's Triple are "well-behaved" (i.e., between 9400 and 9450 km/sec for all three galaxies). Large scope owners—can you spot this galaxy group?

Wayne M. Trott