The Spectrum

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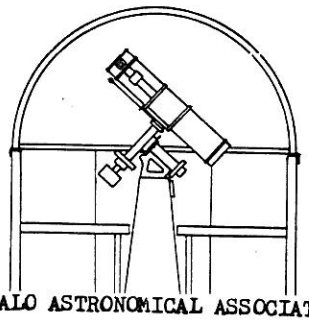
JULY — AUGUST

1985

SUMMER ISSUE



The BUFFALO ASTRONOMICAL ASSOCIATION, Inc.

ASTRONOMER FROM THE PAST

SKINNER, AARON NICHOLS, AN AMERICAN ASTRONOMER, HE WAS BORN IN BOSTON, MASSACHUSETTS ON 10 AUGUST, 1845 AND PASSED AWAY 14 AUGUST, 1919.

HE OBTAINED HIS EDUCATION AT BELOIT COLLEGE IN WISCONSIN AND THE UNIVERSITY OF CHICAGO, WHERE HE WAS ASSISTANT AT THE DEARBORN OBSERVATORY BETWEEN 1867 & 1870; AND WAS ASSISTANT ASTRONOMER AT THE UNITED STATES NAVAL OBSERVATORY IN 1870 TO 1898. AFTER 1898, HIS DUTY WAS PROFESSOR OF MATHEMATICS IN THE UNITED STATES NAVY.

HE WAS RETIRED FROM ACTIVE DUTY WITH THE RANK OF COMMANDER IN 1907. IN HIS CAREER HE DETERMINED THE POSITION OF 8,824 STARS IN THE "ZONE DECLINATION" -14 DEGREES TO -18 DEGREES AS A CONTRIBUTION TO THE GREAT STAR CATALOGUE OF THE "ASTRONOMISCHE GESELLSCHAFT" FROM DECLINATION -23 DEGREES TO +80 DEGREES WHICH WAS PUBLISHED AS (WASHINGTON ZONE OBSERVATIONS) AND TOO AS A (ZONE CATALOGUE). HE ALSO CONDUCTED THE EXPOSITION OF THE NAVAL OBSERVATORY TO SUMATRA TO OBSERVE, STUDY AND RECORD THE TOTAL SOLAR ECLIPSE OF MAY 17, 1901.

DARWIN CHRISTY

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* SUMMER STAR PARTIES *

Observational Summer Star Parties have been a tradition of our astronomy club for over 30 years. I have been organizing them for the club for the past 7 years and I am glad to see that they have consistently improved in qualtiy in many ways. More members with dark sites, less obstructed horizons, bigger and better telescopes and equipment, and more observers of high quality with years of experience.

For those that are at a beginners level, star parties are the best and easiest place to learn about astronomy because of their many hours of unscheduled time. No reports, lecturers, security guards or janitors kicking you out early just as a great conversation starts up, and a chance to get to know the over 100 club members.

For everyone it is a great opportunity to share their astronomical knowledge and helpful hints of learning constellations, tricks for easily locating deep sky objects or observing technics. Those who have equipment can give those who don't a chance to try it out and compare it before they decide on what they want to build or purchase. We can compare different views of celestial objects with different telescopes, eyepieces, filters, finderscopes, mountings, etc. If it is cloudy we can talk, eat, look at different star charts, catalogues, handbooks, slides, photographs; we can swim, sail or fly a kite. We can talk about forming carpools to Stellafane, discuss where we're going this spring to see Halley's Comet and the southern skies or about the first images of Uranus coming in this summer from Voyager Spacecraft.

So bring your telescopes, binoculars, cameras, lawnchaie, warm clothes and your favorite music. Last year some of the star parties included dinner, midnight snacks and even one ended with breakfast at dawn. Some saw for the very first time 5 colors in the Orion Nebula, M-42; the Horsehead Nebula and the spiral arms of galaxies visually. This summer we expect to see Halley's Camoet, detect a multitude of stars in near-by galaxies, see a quasar 10 billion light-years distant in Chepheus, 27 galaxies in an eyepiece field of view, and the central star in the Ring Nebula, M-57. The B.A.A. Summer Star Parties of 1985 are as follows-----with the maps of the various locations elsewhere in the "Spectrum".

JUNE 28th if clear (IF NOT come the next night rain or shine) around sunset to Adrienne and Jerry Morris'. It will be held in the backyard of Adrienne's parents place, the Kaczmarek's at 20 Felber Lane, Cheektowaga, N. Y. The Morrises have a 6 inch deluxe reflector and a 26 inch under construction. If lost or the weather is questionable call 689-0315 or 626-5441.

JULY 6th ONLY rain or shine around sunset to Claudia Bielinski's at 5450 Clinton St. (route 354) Elma, N. Y. She has a 6 inch reflector, fairly dark skies and a very good horizon especially south with only one degree obstruction. If lost or the weather is questionable call 668-2860

JULY 12th if clear, IF NOT come the next night rain or shine around sunset to Lary Carlino's, 7118 Kenne Road, Rapids, N. Y. He has very dark skies, near perfect horizons with the entire south with one degree obstruction, a 22½ inch home made Dobsonian reflector, a C 11, a 5 inch comet

.....Continued on page 5

-- PROFILE --

WILLIAM

THE SMYTHS

CHARLES

by Rowland A. Rupp

Last year I wrote an article entitled "Double Star Colors" for the January-February issue of The Spectrum. In it, I referred to some observations credited to Admiral Smyth and to others credited to Piazzi Smyth. I thought the title and the name might belong to the same person. Shaun Hardy pointed out they were two different people. Indeed they were---they were father and son. With some measure of chagrin, I determined to do penance for this error by finding out something more about these active observers of the nineteenth century. As usual, old issues of Sky and Telescope proved to be a valuable source of information. For anyone interested in the Smyths, I've referenced these sources at the end of this article. For those only moderately curious, I'll summarize here what I read.

The father, William Henry Smyth, was born in England in 1788. His own father came to England from New Jersey as a Loyalist to the Crown during the American Revolution . When fifteen years old, Smyth went to sea, rising to the rank of Captain by the time he was twenty-seven. He commanded a brig during the Napoleanic Wars, carried out hydrographic surveys, helped quell a rebellion in the Greek Islands and conducted diplomatic missions. He met Guiseppe Piazzi, discoverer of the first asteroid (Ceres), during naval duties at Palermo in 1813. Smyth's admiration for the famous Italian astronomer led to his life-long fervor for astronomy and his future son's middle name.

Still a young man, Smyth retired from the Navy in 1824 and established what was declared the best-equipped private observatory in England. His instruments were a transit circle and a 5.9-inch refractor, said to be the first telescope to be driven by clockwork in right ascension. He wrote a compilation of his astronomical work in "Cycle of Celestial Objects", published in 1844. It covered astronomy in general and included many of Smyth's own observations, particularly double stars, nebulae and star clusters. It is regarded as the first treatise specifically intended for amateur astronomers, and was often cited in subsequent observing guides, such as Webb's "Celestial Objects for Common Telescopes" and, more recently, in Burnham's "Celestial Handbook".

Smyth dismantled his observatory in 1839, but remained active in scientific circles. His memoir, "Sidereal Chromatics or the Colours of Multiple Stars", published in 1864, is evidence of his continuing interest in astronomy when in his mid-seventies. He was promoted to Admiral on the retired list in 1863, two years before his death, and is still known by that title.

His reputation as an observer was tarnished when, in 1879, a young graduate, Herbert Sadler, accused Smyth of fallacious double star measurements--in fact, copying the work of other observers. The Royal Astronomical Society took up arms against Sadler; after all, they had awarded Smyth their gold medal in 1845 for his Cycle without having read it. The upshot of the scandal was that Sadler was forced to resign from the R.A.S. and, according to Ashbrook, "Smyth's honesty was entirely vindicated." Having read Ashbrook's account, I'm not sure I share his conclusion. It appears to me that Admiral Smyth fudged his data a bit. You can check these references and decide for yourselves. Ultimately, his double star measurements were regarded with less confidence than before, and his fanciful double star color descriptions are now considered quaint, but little more.

His son, Charles Piazzi Smyth (1819-1900), took up an interest in astronomy early in life and, unlike the Admiral, made it his profession. He started his astronomical career at the age of sixteen, when he became the observing assistant to Thomas Maclear at the Royal Observatory at the Cape of Good Hope in the relatively unexplored southern heavens. In addition to his astronomical duties, Smyth became involved in geodetic survey work, demonstrating a measure of his father's versatility. His astronomical work while in South Africa included meridian observations, an abbreviated study of the Great Comet of 1843 and measurements of the zodiacal light.

During the early part of his stay at the Cape, he saw much of the eminent John Herschel (1792-1871), who was a friend of the elder Smyth. Herschel, along with his other talents, was an early experimenter in photography and stimulated a similar interest in Charles. The latter became a successful photographer in 1844, only five years after Daguerre's great discovery, thanks to Herschel's tutelage and his own industry.

In 1845, Smyth returned home to accept his appointment as Astronomer Royal for Scotland. He evaluated high altitude sites for future large telescopes using his skills as a photographer to document his investigations.

His photographic pursuits led him to some embarrassment in his later life, a sort of parallel to the posthumous criticism directed at his father. Smyth developed miniature cameras, using one of them to photograph the interior of the Great Pyramid of Cheops in 1865. Like some of his counterparts today, he became enamoured of the numerical properties of the pyramids; the mystical relationships that he perceived in these properties damaged his reputation as a scientist and inventor.

As I read about the Smyths, I became aware of how similar they were to the far more famous father and son team of William and John Herschel. Both came from immigrant families, although Smyth's father had come to England before the birth of his son, whereas William Herschel had come as a young man. Smyth and Herschel achieved distinction in other fields (the military and music respectively) before they became renowned amateur astronomers. Their sons became professional astronomers, both traveling to the Cape of Good Hope at about the same time to study the lesser known heavens near the south celestial pole.

I trust I have made amends for my earlier misidentifiction of the Smyths. Their work, if not inspired, was very characteristic of the period in which they lived. Too bad that both father and son had a small cloud pass over their reputations as scientists.

REFERENCES:

"An Eclectic Astronomer" by Keith Sugden. SKY AND TELESCOPE January 1982. Pages 27-29.

"Charles Piazzi Smyth at the Cape of Good Hope" by Brian Warner. SKY AND TELESCOPE January 1980. Pages 4-5.

"The Sadler-Smyth Scandal" by Joseph Ashbrook from "The Astronomical Scrapbook" 1984, Pages 51-56.

"The Heavens" by Amedee Guillemin 1877.

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Bob Mayer

Bob Mayer, our gifted artisan, has served many people by using his remarkable skills to help those who come to him for assistance in solving innumerable mechanical problems. In the May-June 1980 issue of the Spectrum "A Tribute to Robert S. Mayer" appeared, listing some of the projects in which he had been involved. He has continued to make necessary and various types of equipment to improve, correct or create many objects where needed. Being a perfectionist, his expertise is sought after by numerous individuals. When anyone encounters a mechanical problem he is advised to "See Bob Mayer."

Here is a listing of a few of the more recent projects in which this exceptionally talented and creative gentleman has been engaged:

Cooperative effort with Steve Kramer on the reconstruction of the ancient "Antikythera Mechanism" (87 B.C.). They made a display model of the working features of the original, with Bob doing a good share of the mechanical work involving brass plates, aluminum gears, steel arbors, and a mahogany frame.

Available to B.A.A. members

Filar micrometer with two movable cross hairs - illuminated.

Measuring engine to measure 4"x 5" negatives. Lacks microscope.

For John Liptak

Eyepiece projection photo apparatus for 20" Newtonian using $2\frac{1}{4}$ x $2\frac{3}{4}$ film.

For About Time Clock Emporium and Buffalo Clock & Gift Shoppe

Made many clock parts, gears, ratchets, pivots, etc.

For Dave Steinagle

In process of restoring old German music box - eight tunes.

For Buffalo Museum of Science

Display model of pendulum created and donated by Bob as an educational tool in the Gibson Hall of Space.

For Spencer #2 microscope. New base of brass. Cleaned and lacquered.

For Beaver Meadow Observatory, Tom Dessert, Dave Steinagle and Buff State

Made several offset guide scope mounts for photography.

For Steve Noworyta

Made bearing mounted tube for easy tube rotation.

For small group of B.A.A. members

Bob is working with a group that is making a 26" Newtonian Dobsonian which will be portable. He will be involved in making certain parts of the skeleton tube and focusing apparatus.

Through the years Bob has worked on many of the telescopes belonging to our members, increasing the effectiveness of the instruments. This incredibly capable craftsman has given much of his time to many people that they may receive greater enjoyment in their observations of the heavens. We all benefit from Bob's standard of excellence. We salute, as always, this very kind, willing, exceptional human being.

Edith L. Geiger

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SOME COMMENTS ON COMETS

Since early times, comets have been regarded as "omens from heaven" and have been viewed with interest and apprehension. Through the centuries they have been associated with plague, famine, war and disaster.

Thousands of years ago the Chinese redorded comet sightings and considered them "prophets of doom" so they beat on drums and shot off fireworks to ward off these evil spirits. Another time when a comet appeared in the sky (later identified as Halley's Comet) in the year 1456 Pope Calixtus III ordered this prayer to be offered -- "Protect us, O Lord, from Satan, the Turks and the comet." (The Turks were then invading Europe.)

As recently as 1910 when Halley's Comet appeared newspapers printed sensational articles, some predicting a tremendous explosion instantly followed by a deluge of water leaving - "a burnt and drenched earth" with no atmosphere. Other articles blamed the comet for snow which fell in Tennessee in mid-May. They also blamed the comet for the defeat of the New York Baseball Club by the St. Louis Club three times in a row. One viewer wrote this distressing poem.

"If the Comet Hits" it would mean

"No more politicians
No more tariff schemes
No more trust conditions
No more quick-rich dreams
Bang! Annihilation!
Smash! We fly to bits!
There's some consolation
If the comet hits!

There were other interesting side-lights on the comet... one article on a doctor who was selling "Comet Pills" -- "Take one every hour until the comet passes. The doctor is guarding his formula closely and is growing rich fast."

In New York City a Bar offered a comet cocktail -- "A seething concoction made of cracked ice, a snifter of French Vermouth and a jigger of applejack. Six of these, after being well shaken, are guaranteed to make even a blind man see the comet'"

The term "Comet Wine" denotes wine of superior quality. It is believed that grapes grown in "comet years" (ie years in which remarkable comets appear) are better in flavor than those of other years. Vintners, take note - Halley's Comet is due in 1986!!

Olga Lindberg

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SEEING VERY FAINT STARS

Recently as a result of my variable star observations I have come to realize the full capabilities of the telescopes at my disposal.

On many occasions I have found my 6" reflector penetrating to magnitude 14.5, the Beaver Meadow 12.5" to magnitude 16.3, and rarely to magnitude 16.4 with my 13.1" reflector. Thus actual observational results exceed the telescopic limits found in most of the current literature by about 1.0 magnitude.

The most important factors in attaining such faint magnitudes are excellent sky transparency and good seeing conditions, a fairly rare combination here in the northeast. A close second in importance is, once again, observational

experiance, half a magnitude can be gained here alone. One less apparent factor is, surprisingly, the type and brand of eyepiece employed. My Clave Plössl eyepieces, for instance, consistantly out perform my Televue Plössl by 0.3 magnitude. Lastly all extraneous light sources must be absent.

The only fly-in-the-ointment found was actually the aperature of the telescope involved with the observation. Due to their greater seeing induced sensitivities, the larger the telescope the less likely it will be able to attain its full potential. This becomes important soon after one exceeds 16" aperature.

I have tested these observations against other variable star observers and the results are consistant. Put simply, the currently accepted visual limits are too conservative.

All this implies that a 4¼" telescope should just be able to reach an object such as Pluto at its current magnitude of 13.6!

Michael Idem.

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XI URSA MAJORIS

Fun with Stars, Books and Charts

While waiting for Halley's Comet to swing around, do you need something else to do with your telescope? As you can see from the sky or from the monthly chart in Sky & Telescope, Leo is rising in the east and the Big Dipper is climbing high in the sky. This is the signal that Xi Ursa Majoris, one of the sky's most entertaining double stars, is presenting itself for another lap of its sixty year show. It is an easy star to locate and observe: start with the triangle of Leo's hind quarters and run north from Theta and Delta. About a third of the way to the bowl of the Big Dipper you will encounter a pair of stars, the hind paw of the great bear. The northern of this pair is Nu (it looks like a script V on the Sky & Telescope chart), and about a degree south is Xi (looking like a squiggly E -- the Greeks were terrible writers), the object of our discussion.

Xi is a pair of stars, magnitudes about 4.4 & 4.9, with the fainter about directly east of the brighter just now by abour 2" of arc; they are about 26 light-years from the Sun. Doesn't that sound exciting, two bright little dots of light, just separated if you are using one of the fairly common 2.4" refractors? But wait! The two stars of Xi are fairly close to each other, so their period of revolution is relatively short, a modest 60 years. I have been watching them for over a quarter of a century (sounds more impressive that way), and they have moved thru the slower part. They are closing in now and in about 8 years will be separated by less than 0.9", too close for my 4" refractor to split.

This brings up one of the purposes of double star observation, the challange of seeing how close you can come to getting the maximum out of your instrument. Probably the most popular expression for this is Dawes' formula, which says that the maximum observable separation is 4.56"/telescope aperature in inches. But this is for two, G or K type stars of 6th magnitude. If the stars are redder, or if they are not of the same magnitude, or if they are brighter, the separation will be more difficult, and this does not take into account the performance of your own eyes. Obstacles in the optical path, such as the secondary and the spider of a Newtonian telescope, will also cut down the performance by an uncertain amount. All in all, each double, each telescope, each observer combine to make another new test.

As time goes on the stars of Xi will open up again, and at the start of the next century, in2001, they should again lie in an east-west line, but this time with the fainter star <u>west</u> of the brighter. The orbit is nicely shown in Burnham, vol. 3, p. 1962. (this is a great reference work; not sure they still do). Anyway, I expect you all to keep watching Xi Ursa Majoris until the year 2045, when it will have completed one revolution; since I have been at it awhile, my revolution should be completed in 2019.

Now lets talk about a few useful reference works. At the top of the list I'd put Norton's Star Atlas and Reference Handbook, which can be had for about $12 if you can get it direct from Edinburgh. The front 116 pages, the part you will likely only skim thru, provide a good summary of general astronomy, but then comes the great part of the work, set of charts covering the entire celestial sphere on a scale of 48" for the 360° of the equator. This big globe is divided into eight double-page maps which fit nicely into the 10 x 17" space of the opened book. Each map is preceded by a double page of "Interesting Objects", double stars, variable stars, and nebulae and clusters. The entry for each double star give the coordinates, the magnitudes, the position angle, and the separation, plus comments on each pair.

Next I'd rate (we're into apples and oranges here) Burnham. In three sizable volumes it covers the sky, taking up the constellations in alphabetical order. Double stars have sketches of their orbits plus data, variable stars have AAVSO-like charts, and clusters, nebulae, and galaxies have charts and perhaps photos. BEAUTIFUL!

The Webb Society set of five volumes may provide more information but very condensed. Vol. 1 is Double Stars, 2 is Nebulae, 3 is Clusters, and 4 is Galaxies (owners of 4" refractors do not use Vol. 5). Lots of goo data and finder charts are provided, but with this and with Burnham I find it handy to refer to my Norton to locate things.

The Skalnate Pleso charts cover the entire sky in 16 maps, 14 x 20", showing stars down to 7.75 magnitude. Clusters, nebulae, etc. are indicated by color coding, and the set is a pleasure to use. It is large (the equator will stretch 105"), so you need space to use it. To look at Xi Ursa Majoris, for example, over on the left side of the map III; the size of the star image indicates mag. 4. Little dashes touching each side indicate that it is a visual double, but two more little dashes, not touching at the top and bottom, tell more; each "star" is a spectroscopic double. Interesting, but you can't tell it with a 4" refractor!

Kepple's "astro Cards" are stes of 3 x 5" cards, about 100 to a set. Set III, Double Stars, is perhaps the low point of the group, but goes thru the sky, constellation by constellation, giving information on accessable doubles. The other htree sets cover the Messier and finest NGC Objects; each card gives a small scale view of the appropriate area (typically an entire constellation), and then a detailed large scale map showing the desired onject plus the nearest bright star and other fainter stars to permit 'star hopping' to the M or NGC object, NIFTY!

Couteau's recent book, "Observing Visual Double Stars," is a translation from the French. If you want detailed information on calculation of stellar orbits, here you are. Information on equipment and optics is first rate. The final table gives location, separation, and psoition angles for 744 doubles -- that ought to keep you busy. Aitken's "Binary Stars," a Dover reprint, is the word of an old master; data are for the first third of the century and coordinates for 1900, but very useful.

Tirion's "Sky Altsa 2000.0" covers the sky to magnitude 8.1 in twenty-six 12 x 17" charts. Easy coded markings indicate binaries, planetaries, clusters, variables, nebulae, and galaxies. The size is not awkward. You want awkward? Try Becvar's "Atlsa Ecliptalis," which covers the sky from +30° to -30° in thirty-two 18 x 24" charts. It shows stars only, including variables and multiples, to magnitude 10; spectral types are shown by color coding. "Atlas Borealis" covers in the same way to the north pole. Great charts for hunting stars only, but I miss the globulars, nebulae, and galaxies. (I can too spell Eclipticalis)

Donald Botteron

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Welcome new members:-

Dave Williams

Raymond & Emilie Nalewajek

Jack & Gertrude O'Connor

Kate O'Brien

Ellen & Dean Crawford

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catcher, a complete set of nebula filters, etc. He has a newly built home. If lost or if the weather is questionable call 433-3432.

JULY 19-20-21 RAIN OR SHINE at the University of Rochester's Mees Observatory which has a 24 inch Cassegrain at elevation- 2260 feet, 33 miles south of Rochester and one mile west of Bristol Springs, N. Y. In addition there will be a home made 26 inch Dobsonian that is jointly owned by a few B.A.A. members. Skies there are pitch black and it has a perfect eastern horizon. 1,000 feet from the observatory is a dormatory with 4 bedrooms that sleep 10. It is surrounded by 35 acres of lawn for camping or if one wishes, can spend the day and evening there and drive back home at night. During the day there are many things to see and do, both astronomical and not, one is the extensively renovated Strassenburgh Planetarium which reopened on July 1st. It is now able to show 360 degree projection movies for the very first time and for July it will be showing what was filmed from the cargo bay of the Space Shuttle capturing the Solar Maximum satellite. Saturday and Sunday shows are 1, 2, 3, 4, 8 & 9 PM. Only the 4 PM show allows children under 5 years of age. The planetarium is on East Ave. near Goodman Ave. If going or staying at Mees Obs. call 688-7620; if you become lost, call 374-2433 even if it is late at night.

JULY 26th if clear, IF NOT come rain or shine the next night around sunset to Brian Fallon's, 11 E. Windwood Court Cheektowaga, N. Y. If lost or weather questicable call 894-6040.

AUGUST 2nd if clear, IF NOT come the next night rain or shine around sunset or perhaps and our before if you want to swim if the pool at Dan Marcus'. It is at 23 Riverdale Drive, Grand Island. He has a 12 inch reflector and is an excellent astrophotographer. If clear we can give it a try with his helpful assistance. If lost or qeather doesn't look good call 773 5015.

AUGUST 9th ONLY, rain or shine at Dave Bertuca's around sunset at S-4748 Hunters Creek Rd., Wales, N. Y. He has very dark skies, a good horizon, a Mead 8 inch telescope and he teaches photography. If lost, 655 0565.

AUGUST 10th ONLY, rain or shineat Triston & Debbie Dilapo's new geodesic domed home, 8715 Cole Rd. Boston, N. Y. It is on top of a hill at elevation 1630 feet, a ten acre site with a two acre pond and boat. A barbecue will be STARTING at 3 PM. Horizon obstruction is less than 1 degree and the skies are very dark which will be great for viewing the PERSEID Meteors. The panoramic view includes Lake Erie, Buffalo and Niagara Falls. Telescopes of theirs include a 2", 6", 13", home made 18" and 26" Dobsonian and a deluxe binocular finder scope, nebula filters and a 13 mm Nagler eyepiece.

AUGUST 16 or 17 ONLY IF CLEAR beginning near sunset at our club's Beaver Meadow Observatory with its 12" home made reflector, very dark skies and a good horizon. It is good for photography and planetary viewing. If lost or weather is questionable call 4573228. This is also the same weekend of Stellafane, a place where amateur telescope making began over 50 years ago near Springfield, Vermont. 2000 amateurs bring with them 500 telescopes from every state in the U.S. and from Canada. Activities are many, eveing lectures, observing, art, swap table, displays, telescope design competition and the like.

AUGUST 23rd if clear, If NOT come the next night rain or shine around sunset or an hour earlier to swim at Ken Biggie's. He has good horizon at 37 Villa Maria Dr., West Seneca, N. Y. If lost call 675 8932.

AUGUST 30th ONLY rain or shine near sunset at Jack Mack's 1 Hunters Lane, Amherst, N. Y. He has a 5 inch richfield (RFT) refractor. If lost call 632 6210

SEPTEMBER 6th if clear, IF NOT come the next night rain or shine to Nelson Pinochet's, 2802 Oakland Dr, Eden, N. Y. He is a high school exchange student from Santiago, Chile, where Sagittarius passes over it's zenith. If lost call 992 9660

Carl Milazzo

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?!? SPY & TELL ?!?

Bill Owens is making a 4" Schiefspiegler telescope which he plans to have ready for the summer.

Ernst Both will be camping in the Adirondacks for two weeks at the end of July, hunting mushrooms.

Irv Goetz underwent surgery in May and is recovering nicely.

Nelson Pinochet, an exchange student from Santiago, Chile, has joined the BAA as a result of our Mall Exhibit.

Gene Witkowski works for an inventor, doing research and development on bicycle transmissions. He paints houses during the summer to give him a chance to work outdoors.

Former member, Phil Cizdziel, spoke to the Santa Barbara Astronomy Club on "Observatories in Hawaii."

Mike Scroger has finished his first year at UB, majoring in electronics and taking a class in astronomy. He works as stock boy in the dairy department at Tops Market on Broadway in Depew. When he's not on the job, he works or his Blazer.

Jim Russell has been doing some fine astrophotography at our Beaver Meadow Observatory.

Michael Idem is making a 17½" variance of a Dobsonian. He started it in March, and hopes to have it finished in late July.

Walt Whyman,who suffered a stroke in January, is slowly improving. He is able to walk with a cane when assisted, and his balance is good though, so far, his speech has not returned.

John Raymonda has a 12 foot Sea Devil boat for sale. It has a sloop ridge and a reinforced foam hull. He is asking $100 for it. If interested, see John, or call 688-1043.

The museum will be presenting the summer Solar Shows starting July 8th, Monday through Friday, from 11:00 to 1:00. Marilou Bebak will be there to answer questions and assist with observing.

Edith Geiger

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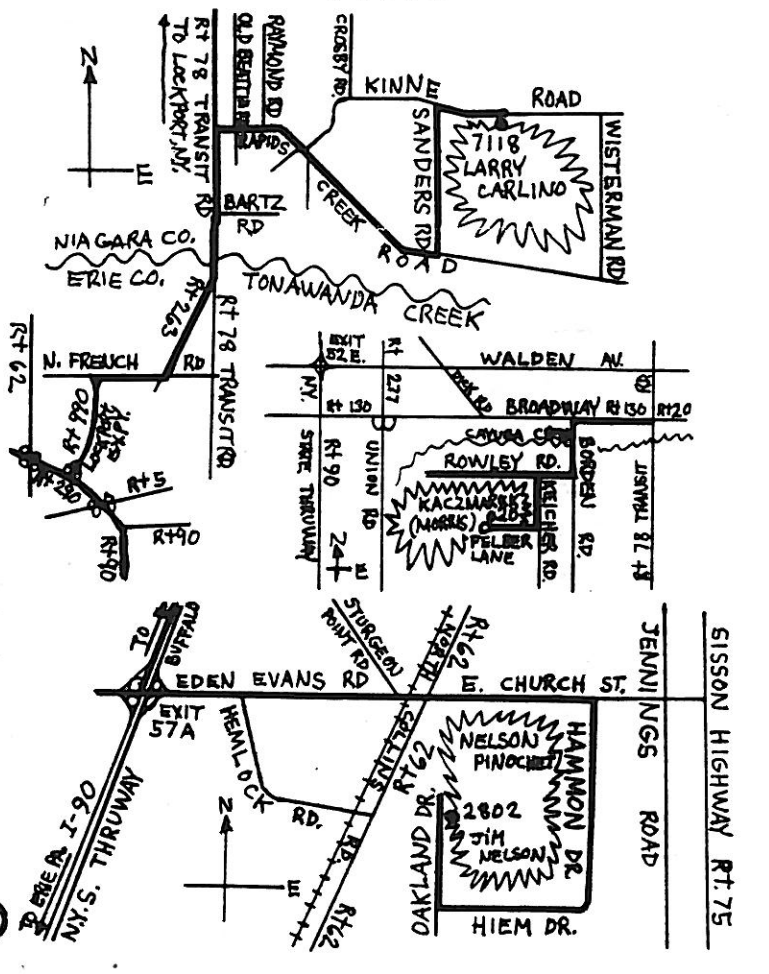

NFCAAA MEETING

The Niagara Frontier Council of Amateur Astronomical Associations (NFCAAA) held its 36th semi-annual meeting at Buffalo State College on Saturday, May 11th. There were 29 delegates attending from 9 area astronimcal societies.

The business meeting featured reports from member societies on activities in their individual clubs during the past year. Ideas were exchanged about the mechanics of Mall Shows, club observatories, club sub sections and other club problems. Several speakers presented short talks. These included Fred Price's short biography of the famous observer Thomas Webb who died just a century ago. Darwin discussed Light Pollution and Ken Brwon gave us a tour of German astronomical Museums. The college's planetarium director de cribed the refurbished planetarium and Darwin showed slides of past NFCAAA meetings.

We adjourned for a buffet lunch prepared by the school's Food Services Group.

An innovation of the meeting was the election of Ev and Esther Jennings of Geneva as members at large of the organization as their home club (which gave us such a fine meeting a few years ago) has disbanded. Our next meeting will be held at Niagara Falls, Ontario in November.

Ed Lindberg

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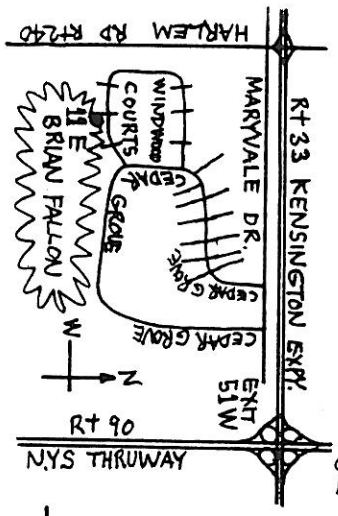
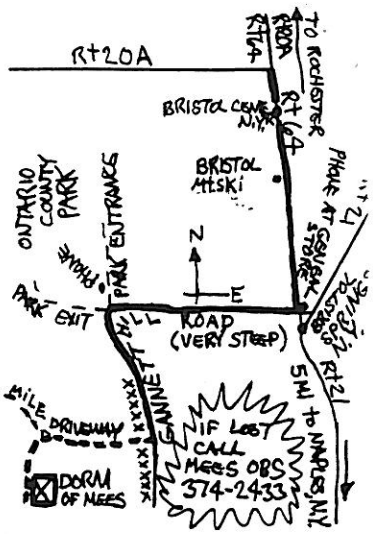
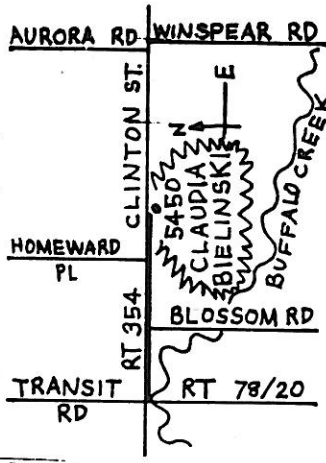
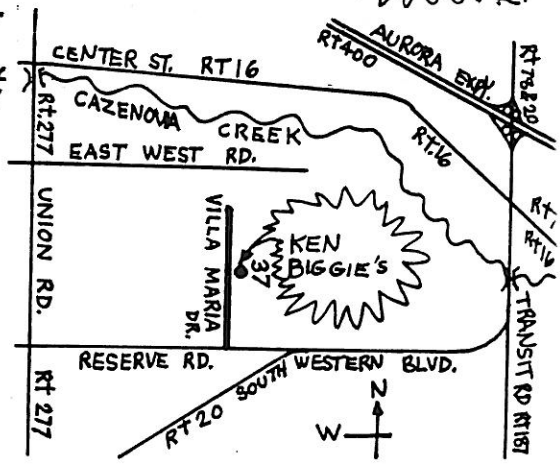
*** OBSERVATORY NOTES ***

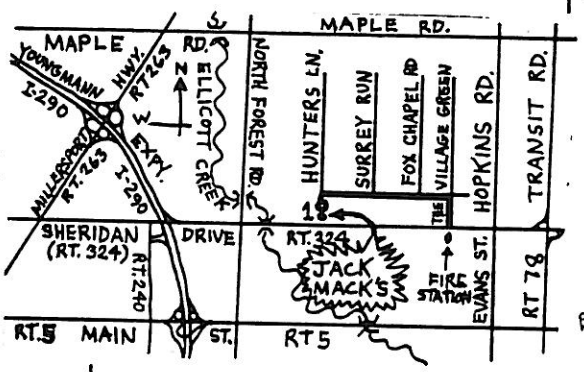
Usage of our club's Beaver Meadow Observatory has been increasing greatly over the past few months by both our members and public. Public turnout has increased from 5 per evening to 25. Besides being advertized in the Gusto section of the Buffalo News, it is now in the W.N.Y. Space News. Also 8½x11 posters are at all of the 52 public libraries in Erie County. It will appear in the July column on astronimy of Terry Dickinson in the Buffalo News. In the near future, I hope to find time

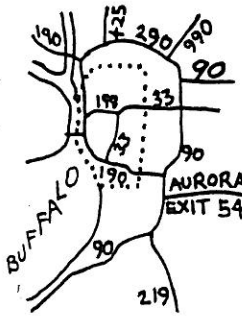


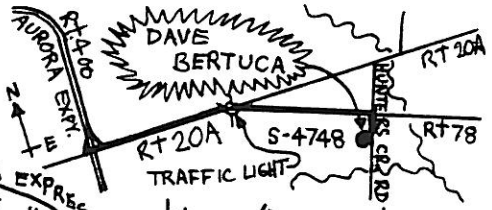


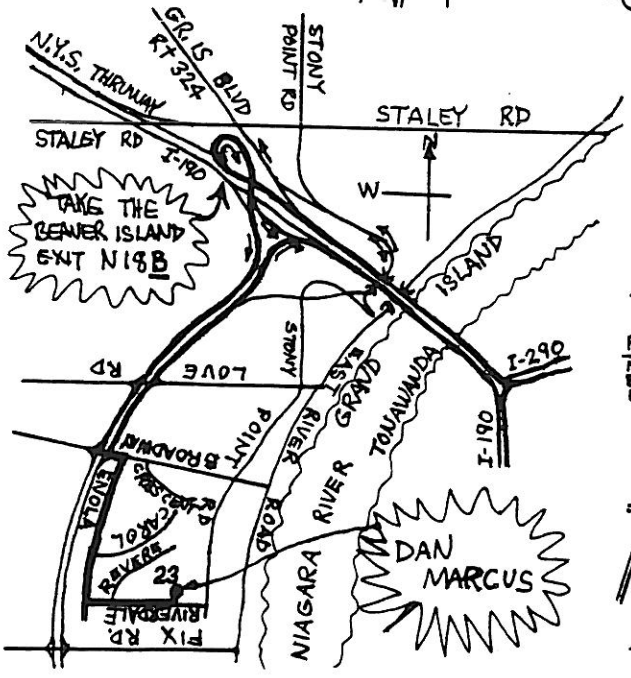


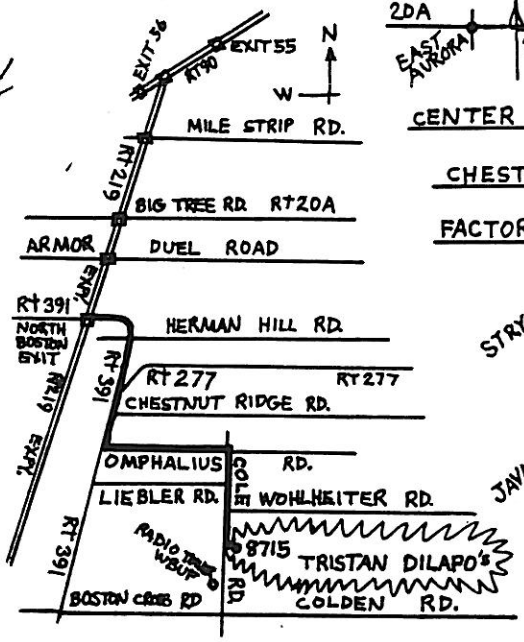


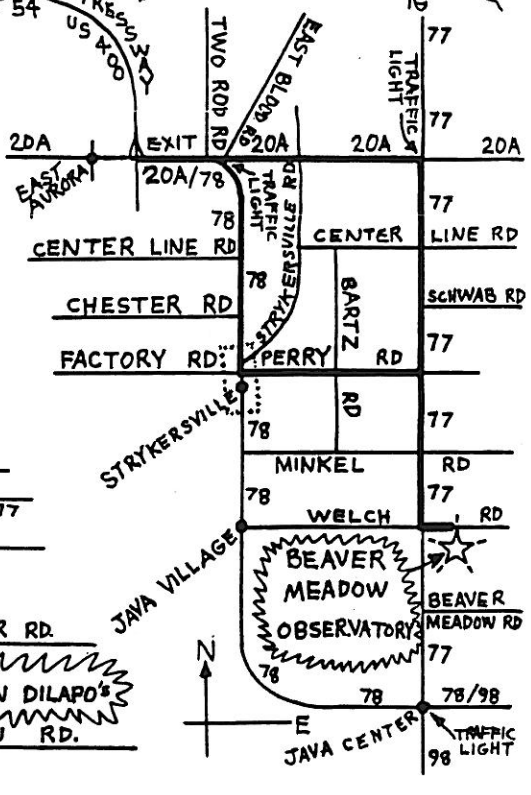












to do even more publicity. Through donations I have collected $ 32.00 and a number of schools have had special tours of our observatory. Our club members are now using our observatory about 10 times a month both visually and photographically. Dan Marcus is willing to help out members with photography with the club's telescope on any clear moonless weekend, but---call him first at 773 5015.

There has been some changes and additions, an observer's handbook has been purchased. The 8 inch telescope is now available all year for taking home as a loaner scope. So far two members have made use of it. Members are now welcome to store their telescopes in the 16 x 16 foot crawl space in the observatory. To get to it, pull the staircase out which reveals a 17½ x 46 inch opening which is big enough for a 10 inch Coulter scope.

Carl Milazzo, director

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DIRECTORY INFORMATION

EACH YEAR THE B.A.A. PUBLISHES A DIRECTORY OF ITS MEMBERS - SUPPLING THEIR NAMES, ADDRESSES AND PHONE NUMBERS. FOR THE NEXT DIRECTORY (FEBRUARY 1986) WE ARE PLANNING TO EXPAND THE INFORMATION PRINTED. ON A VOLUNTARY BASIS MEMBERS MAY HAVE UP TO 80 CHARACTERS (INCLUDING SPACES) OF INFORMATION ABOUT THEIR AREAS OF INTEREST, EQUIPMENT OWNED, SKILLS, BOOKS AVAILABLE FOR LOAN, ETC. PLEASE WRITE DOWN YOUR INFORMATION AND GIVE IT TO EITHER JACK EMPSON (694-3814), DAVID SEPULVEDA (833-4413) OR AL KOLODZIEJCZAK (634-5472) ANYTIME BEFORE FEBRUARY 1986.

** OBSERVATIONS **

All too often amateur astronomers drift away from the essence of their hobby--that is, observing. Fearing I might do just that myself, I have resolved to make at least one observation each year. This year I chose April for my Observation. April 8th to be exact.

My observation was two easily resolve double stars. Cancri and 88 Leonis, with the purpose

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My observation was of two easily resolved double stars. ι Cancri and 88 Leonis, with the purpose of measuring their separations and position angles. I used a measurement method I devised myself, though I'm sure it's been invented before, that calls for a special eyepiece and a series of timing measurements as the double stars drift through the telescope's field of view. I then calculate separation and position angle using a hand calculator (trig functions are required) or a computer.

Here are my results compared to the values given in "Norton's Star Atlas", 15th Edition. For ι Cancri I calculated separation at 29.2 arc seconds and position angle 300 degrees. Norton gave 30.7 seconds and 307 degrees. I did less well for 88 Leonis with separation 20.9 arc seconds and position angle 336 degrees, compared to 15.4 arc seconds and 326 degrees in Norton.

Similar measurements in the past have also resulted in too much separation, I'm not sure what the source of error is, but I think I could do better if my portable telescope could be aligned better with the pole and if I improved the reticle in my eyepiece.

If anyone is interested in this mathod I'll give them a copy of the paper I presented at the April Study Section meeting. (Now you know why I picked April for this year's observation). Also, I can give you a program listing to solve the equations on a VIC-20 or a Commodere 64 computer.

Rowland Rupp

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May 19-20 I observed five extremely faint galaxies in Hercules and Serpentis and in so doing brought my deep-sky total to 2601 objects. This is within a handleful or so of the very limit of my 13.1" Reflector, at least with my present sky conditions. To penetrate still deeper into space will require a superior observing site and/or a larger telescope. The latter factor I am already working on.

Michael Idem

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On June 4th between 02:00 & 04:00 hours, I observed 21 meteors from three different showers. Five were from the Tau Herculids, long and slow, sort of reddish and about 4th magnitude. Seven from the Chi Scorpiids which were about the same magnitude but were fast and long. The third were from the Librids, nine in count, which were very swift in their trajectory and produced a yellowish tint. I was surprised to even have seen them as the near full moon was in the low southern sky. What I really enjoyed was the fact that one could visually see three distinct meteor showers and single them out as to where they were coming from.

In the morning of June 7th, between 02:00 & 04:00 hours, I observed 14 meteors. The Sagittariids of which I saw one, three from the Librids and nine were from either the Chi Scorpiids or Alpha Scorpiids. The latter meteors could have been singled out if I had done a better job at observing them and recording them as I saw where they came from.

Damin Christy

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MALL SHOW A GREAT SUCCESS !

ON APRIL 5TH AND 6TH OUR CLUB SPONSORED A MALL SHOW AT THE EASTERN HILLS MALL.THE SHOW CONSISTED OF SKETCHES, PHOTOS, BOOKS, CHARTS, BINOCULARS, BOTH COMMERICAL AND HOMEMADE SCOPES, AND AN ANTIKYTHERA. MEMBERS SPENT 2 DAYS ANSWERING THE QUESTIONS OF CURIOUS MALL SHOPPERS AND PASTING OUT INFORMATION ABOUT THE BAA. ALSO, DURING QUIET TIMES, THERE WERE OPORTUNITIES TO GET TO KNOW EACH OTHER BETTER. IN ALL,30 MEMBERS OR ONE THIRD OF OUR CLUB MADE SOME CONTRIBUTION TO THE SHOW.

HOPING WE DO NOT FORGET ANYONE, WE WOULD LIKE TO ACKNLEDGE:

TRISTAN DILAPO, GENE WITKOWSKI, DAN MARCUS, BILL SMITH, CARL MILAZZO, BILL KIRST, JOHN RAYMONDA, EDITH & CARROLL GEIGER, KEN KIMBLE, JOHN YERGER, KEN BIGGIE, CLAUDIA BIELINSKI, DORIS & BILL KOESTLER, BOB MAYER, STEV NOWORYTA, DARWIN CHRISTY, STEVE KRAMER, DAVE WILLIAMS, ROLAND RUPP, BRIAN FALLON, BILL & CLAIR OWENS, ADRIENNE & JERRY MORRIS, GARY HERRNREITER, MICHAEL LA BERTA, BOB SCHNIEDER, AND JIM RUSSELL.

CONGRATULATIONS BAA FOR A JOB WELL DONE !

ACKNOWLEDGEMENTS--------

Edith Geiger for the LOGO & Spy & Tell
Carl Milazzo for Summer Star Parties & MAPS
Rowland Rupp for the "Smyths"
Edith Geiger for 'Bob Mayer'
Olga Lindberg for Some Comments on Comets
Michael Idem for Seeing Faint Stars.
Donald Botteron for Xi Ursa Majoris
Claudia Bielinski for New Members
Ed Lindberg for NFCAAA meeting & Instrument Notes
Al Kolodjiejczak for Mall Exhibit & Direcotry
Observations by Rowland Rupp, Michael Idem & darwin Christy
Other items of interest(?) by your editor Darwin Christy

I wish to thank those of you who have contributed to the making of this Newsletter. Without your articles and help, I could not have come up with enough information to make it the success that it is. I will be needing articles and other bits of information for the up and coming "SPECTRUMS" so please feel free to send them to me. Again I wish to thank you all !!!!!!!!

Darwin Christy

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ASTRONOMICAL HAPPENINGS

SOLAR: The Sun will leave CANCER in July and enter into LEO. It will then leave LEO in August and enter VIRGO. On July 5th it will be at Aphelion or farthest from Earth.

LUNAR: What is the 'BLUE MOON'? It is when two Full Moons occur in the same month, the second being known as such. This year two Full Moons happen in July, on the 2nd, is the "Buck" and the 31st is the "Sturgeon". In August the Full Moon is called the "Corn" moon. The other phases are- Last Quarters on July 9th & August 8th; New Moons on July 17th & August 11th; and First Quarters on July 24th & August 22nd.

LUNAR OCCULTATIONS: none

LUNAR CONJUNCTIONS: Mercury - July 19th
Venus - July 14th & August 13th
Jupiter - July 4th & 31st & August 27th
Saturn - July 26th & August 22nd
Uranus - July 27th & August 24th
Neptune - July 1st & 29th & August 25th

PLANETARY & STELLAR CONJUNCTIONS:
Venus & Aldebaran - July 15th
Venus & Pollux - August 23rd

METEORS: Sagittariids - July 6th
Alpha Cygnids - July 14th
Phoenicids - July 14th
Omicron Capricornids - July 16th
Capricornids - July 23rd ***
Alpha-Beta Perseids - July 27th
Delta Aquarids - July 29th *****
Alpha Capricornids - July 30th
Piscis Australids - July 31st
Alpha Capricornids - August 1st
Iota Aquarids - August 6th
Epsilon Pegasids - August 11th
Perseids - August 12th *****
Delta Aquarids (Northern) - August 12th
Upsilon Pegasids (1975) - August 12th
Kappa Cygnids (Fire-balls) - August 20th ***
Iota Aquarids (Northern) - August 20th
Omicron Draconids - August 22nd
Zeta Draconids - August 26th

Darwin Christy

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The SEPTEMBER-OCTOBER Issue of the "SPECTRUM" will be
* * * * * * * AUGUST 27, 1985 * * * * * * * * * * * *

*** ANCIENT & MONTHLY CONSTELLATION ***

ROBUR CAROLINUM, "Charles Oak" is a small extinct constellation which was formally published by Halley in 1679. He so commemorated it to the Royal Oak of his patron, Charles II. It is where the king had lain hidden for twenty four hours after the defeat by Cromwell in the battle of Worchester, on September 3rd, 1651. Halley received his master's degree from Oxford in 1678 for this invention by the king's express command. LaCaille complained that the figure, from some of the finest stars in the Ship, ruined the already complete constellation, and the 'Oak' ceases to flourish after it had been, for over half century, one of the more renown constellations. In an attempt, Bode sought to restore it, and Burritt incorporated it into his maps. Burritt had assigned to it twenty-five stars. Alpha Roburis a second magnitude star, was changed to Beta Argus which is now in Carina.

Darwin Christy

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o INSTRUMENT NOTES o

Our May meeting was a telescope clinic for Norm Nichter' telescope. Norm had made the mirror in one of the Museum's T/M classes about 20 years ago and had finished the mounting by himself. He recently brought it out from storage and decided that it needed refurbishing.

Norm set up the scope in the Museum parking lot and we viewed the first quarter moon. The image was sharp and clear. Norm got suggestions as to which eyepiece to buy to view the particular objects he is interested in. There were also thoughts as how to improve the controls and the stability of the mounting. We hope Norm and his granddaughter will have a lot of fun with the resurrected scope this summer.

This concludes another year of Instrument Section meetings and probably concludes our Section. The demand for our services has dwindled as there are now good commercial instruments available at what is (in these days) considered affordable prices. There are now half a dozen good books on how to make a telescope. There is no dearth of information and so group therapy is no longer needed.. Most observers would rather spend their time studying charts than battling recalcitrant mirrors.

We have a few advanced telescope makers but they get along without the interaction of a group. Maybe they will help stimulate newcomers to tackle the problems and enjoy the satisfaction of driving the gremlins back into their lairs.

Ed Lindberg

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* THE SPECTRUM *

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