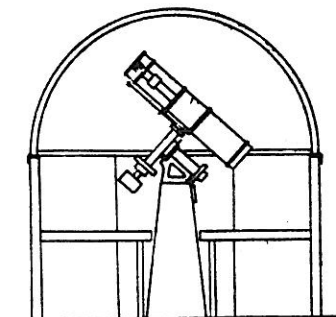




THE



SPECTRUM

MAY JUNE
1983

BUFFALO ASTRONOMICAL ASSOC. INC.

The MAY and JUNE meetings will be held at the BUFFALO MUSEUM of SCIENCE. The meeting room has been altered since we met there last, SO--ask the guard for directions.

MAY--Dr. David D. Meisel, of the State University College at Geneseo, will speak at our May 13th meeting on "Asteroids". Dr. Meisel is Associate Professor of Physics and Astronomy at the college and he is an Associate at Mees Observatory. He is a Director of the American Meteor Society and a Research Associate at the Buffalo Museum of Science. His publications are diverse, but many deal with solar system phenomena, particularly meteors and comets. We look forward to hearing from Dr. Meisel.

JUNE--Al Kolodziejczak will be our speaker on June 10th. His topic, "Quasars", is one in which Al has taken a keen interest in the last several years. He is a past President of the B.A.A. and is an active observer, specializing in deep-sky objects. He teaches social studies at Sweet Home High School, where he also offers a class in science fiction and guides student projects in science. We are always glad to have one of our own members speak to us.

Rowland Rupp, President

Need teflon bearings for your Dobsonian????
Save yourself the hassle of trying to find teflon locally at a reasonable price; order it from Coulter Optical. Bearings come 1/8th inch thick in sets of nine pieces.

10" scope.....\$7.95 per set.

13.1" scope...\$10.95 per set

17.5" scope...\$16.95 per set.

These prices include shipping by U.P.S.

!!! STOLEN !!!

Marvin Scott, Observer's Group Chairman of the Niagara Center RASC, has had his 8" Cave Telescope stolen. Should anyone approach you with a suspected instrument notify the police with description of suspect and instrument. The mirror has his name etched on its back side. -OR- CALL 416-935-3227 (CHAS FASSEL) or 416-934-6269 (HUGH McLEAN)

JULY (SUMMER) AUGUST

'SPECTRUM' deadline is June 10th

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President, Rowland Rupp
Vice President, Ken Biggie
Secretary, Ken Kimble
Treasurer, Edith Geiger
Editor, Darwin Christy

Nominations
for
Board of Directors
1983-1984

The Nominating Committee wishes to announce the names of those who have consented to be nominated to run as a member of the Board of Directors. They are: Doris Koestler, Carl Milazzo, John Raymondo, Steve Kramer, Al Kolodziejczak, and Art Gielow. Nominations from the members will be asked at the May 13th meeting.

Fred Price
Miro Catipovic

??? QUIZ ???

- 1) What was the year oxygen was discovered, (1776) (1801) or (1774)?
- 2) What is the Sun's diameter, (800000 miles) (1000000 miles) or (880000 miles)?
- 3) Earth equals one (1) mass, what is Jupiter's mass, (297) (318) or (412)?
- 4) What is the speed of light in kilometers, (186000) (299792500) or (93000000)?
- 5) The original list of Messier objects, (45) (105) or (77)?
- 6) How many light years distant is Arcturus, (36) (45) or (32)?

Answers are elsewhere in the "Spectrum".

It is with deep regret that we note the passing of Bruce Cook who for many years was a steadfast member of the B.A.A. and editor of the Spectrum. His winning ways and cheerful smile made it a pleasure to be in his company.

We extend to the family our sincere and heartfelt sympathy.

ASTRONOMICAL HAPPENINGS

for May, June, & July

SOLAR:- The SUN will pass from Taurus to Gemini in May; from Gemini to Cancer in June; from Cancer to Leo in July. On June 11th a total eclipse of the Sun will be seen below the equator through the Indian and Pacific Ocean area. On June 21st is Summer Solstice, marking the time when the Sun reaches maximum northern latitude and starts its journey southward.

LUNAR:- The MOON will be partially eclipsed on the 25th of June but will not be seen from our observation sites in the northeastern parts of North America.

New Moon - May 12th; June 10th; July 10th

First Quarter Moon - May 19th; June 17th; July 16th

Full Moon - May 26th (Flower); June 25th (Strawberry); July 24th (Buck)

Last Quarter Moon - June 3rd; July 3rd

LUNAR OCCULTATIONS:- May 26th - Jupiter (visible in Europe and Asia); June 9th - Mercury (visible in North America); June 22nd - Jupiter (visible in Arctica only).

LUNAR CONJUNCTIONS:-

May 16th - Venus

May 23rd - Saturn

May 26th - Uranus

May 28th - Neptune

June 14th - Venus

June 20th - Saturn

June 22nd - Uranus

June 24th - Neptune

July 13th - Venus

PLANETARY CONJUNCTIONS:-

May 6th - Jupiter & Antares

May 16th - Jupiter & Uranus

June 31st - Venus & Pollux

July 9th - Venus & Regulus

EARTH will approach Aphelion on July 6th.

METEORS:-

May 4th - Eta Aquarids *****

May 15th - O Cetiids (daytime)

May 17th - Zeta Herculis

May 30th - Eta Pegasids

June 3rd - Tau Herculis

June 8th - Arietids (daytime)

June 9th - Zeta Perseids (daytime)

June 9th - Alpha Scorpiids

June 15th - Lyrids (not to be confused with April 21st)

June - Ophiuchids

June 28th - Draconids *****

June 30th - Beta Taurids (daytime)

July 6th - Sagittariids

July 14th - Alpha Cygnids

OBSERVATION ARTICLES:- The above list should bring in a few observation reports for the next issue of the "Spectrum".....

Spy and Tell

John Riggs, who often observes the heavens from sunset to sunrise, has from June '80 to the present, recorded around 1700 variable stars.

Adrienne Kimble is busy filling orders for her elegant cakes, which she makes for all occasions. They are gems of artistry and are cleverly and beautifully decorated.

Peter Michael Goetz, son of Irv and Esther Goetz, is appearing on Broadway, as the father, in Neil Simon's "Brighton Beach Memoirs," hailed as Simon's best play yet. Peter has received excellent reviews, and a wonder-

ful letter of praise and appreciation from Neil Simon.

John Dlugosz is a member of the geology class at the museum, and goes on summer trips to various sites in search of fossils.

John has been very busy making sturdy custom-built wood burning stoves which he has been very successful in selling. He is also making wood burning add-ons for regular furnaces.

In addition, he makes inserts for fireplaces to improve their performance. Something to keep in mind when planning for next winter.

David Yauch and three or four other clowns presented a show on roller skates at the Roller Works Skating Rink on April 8 from 7 p.m. to 1 a.m. for the benefit of the March of Dimes. It was seen on Channel 2 the same night.

On Saturday April 9, David gave a single clown performance at the Orchard Park Skating Rink which was also for the benefit of the March of Dimes.

Dave's 10" reflector, which he has been working on for two years, is now finished and waiting for some clear skies.

Lorne Moore, who works at Sears, Eastern Hills Mall, in the sewing machine and vacuum cleaner department, is also busy at home with a big project; repairing a porch and painting the house.

Judith Buehlmann took a recent trip to New York for Marine Midland, the bank in Buffalo where she is employed.

Larry Carlino continues to make progress on his 29" scope.

Edith L. Geiger

Observing with Nebula Filters

"Observe deep-sky objects from the city!" "Defeat light pollution with technological magic!" - Such is the cry of advertisers extolling the virtues of their so-called nebula or "light pollution rejection" filters. But how effective an observing aid are these latest high tech wonders? Do they work on all objects and with all telescopes? Are they worth the "price of admission?"

In theory, the operation of a nebula is simple: a small piece of optical glass (sometimes two) is coated with multiple layers of material that set up the constructive and destructive interference of light waves. Undesirable wavelengths of light are reflected in mirror like fashion while only the wanted nebular lines are transmitted to the observer's eye. The perfect filter would transmit 100 percent of the light from the deep-sky object under scrutiny and totally eliminate man-made light pollution sources and naturally occurring airglow. Such a filter is, unfortunately, well beyond the scope of current technology; compromises are invariably involved.

Three distinct types of filters are currently available to the amateur astronomer, each filter having its own advantages and weaknesses.

The first-generation 3-channel nebula filter is the most common. The Daystar 300 and 500, Meade, University Optics, Edmund, and Celestron photovisual are all of this type. These filters maximize transmission of Hydrogen-Beta at a wavelength of 4861 angstroms (blue-green), Hydrogen-Alpha (6563 A in the red), and most importantly, the closely spaced twin lines of doubly-ionized oxygen 4959A and 5007A in green (the classic "forbidden lines"

Visually, close to 90 percent of the light emitted by the majority of planetary and diffuse nebulae is radiated in the O III bands, with H Beta providing most of the remainder. Strangely, the rose-colored H Alpha that is so prominent in long exposure color photographs is almost invisible to the red-insensitive human eye. It is therefore easy to see that the O III transmission percentage is the critical factor in visual nebula filter performance. Photographically, however, the H-Alpha and H-Beta lines become very important, and an equal balance of the three lines should be sought if color photography is to be attempted.

The blocking of man-made and natural light pollution is also a critical factor in filter performance. Almost all commercially available filters remove a high percentage of the light from the common blue-white mercury vapor streetlamps that plague amateur astronomers in most communities. Emission lines at 4358 Å (blue) and 5461 and 5790 Å (yellow) are neatly cut out as is the major natural oxygen airglow source at 5577 Å. Unfortunately, starlight found in these wavelengths is also severely attenuated making for a noticeable loss of brightness in star clusters and a negligible improvement in the visibility of galaxies and reflection nebulae.

Lumicon, Inc., a company based in Livermore, California, does offer an alternative. Their so-called "Deep-sky" filter has an extended blue transmission that provides improved contrast on galaxies and clusters while giving up some blocking of short wavelength light pollution. Such a filter is excellent for the observer of all classes of deep-sky objects who perhaps wishes to attempt color astrophotography and is not cursed with severe neighborhood light pollution.

Recently, a third type filter has become available, also from Lumicon. The narrow bandpass "spike" or ultra-high-contrast filter blocks virtually all wavelengths but the narrow transmission band centered around 5000 Å and encompassing the strong O III nebular emission lines which are transmitted at about 90% efficiency. The UHC filter is useless for color astrophotography (although it is effective in black & white work) and for visual observation of star cluster and galaxies. It is unmatched however, in its ability to render diffuse and planetary nebulae strikingly apparent. It provides a nearly black sky background that closely simulates a dark country location even from a heavily light-polluted site. Because the UHC filter effectively blocks the yellow-orange-red end of the spectrum, it is a powerful countermeasure to the ugly pink high pressure sodium streetlamps that seem to be popping up everywhere. The sodium bulb's continuous emission in these wavelengths encroaches upon the hydrogen alpha line and therefore reduces the effectiveness

of the other filters that allow transmission in this area (see fig. 1)

Being fortunate enough to have used all three types of filters with a variety of telescopes, I can perhaps provide some idea as to their comparative performance. My severely light-polluted observing location allows a naked eye limiting magnitude of no better than 4.5; mercury vapor street lamps, two nearby malls, and "security-minded" neighbors conspire to produce a dull grey-green night sky. Yet, each type of nebula filter helps subtract some of the damage.

The Lumicon deep-sky filter is my particular favorite for galaxies. It roughly doubles the contrast over the unfiltered view on objects such as M-51 and the edge-on galaxy NGC 4565, making it possible to discern faint structure (spiral configuration and dust lane respectively) not otherwise visible from the city with my 18-inch Dobsonian. The difference could not be termed spectacular but it is certainly noticeable, especially to one who is not expecting a "miracle". Bright diffuse nebulae such as M-42 and M-17 are considerably enhanced with color and any reflection nebulosity showing well.

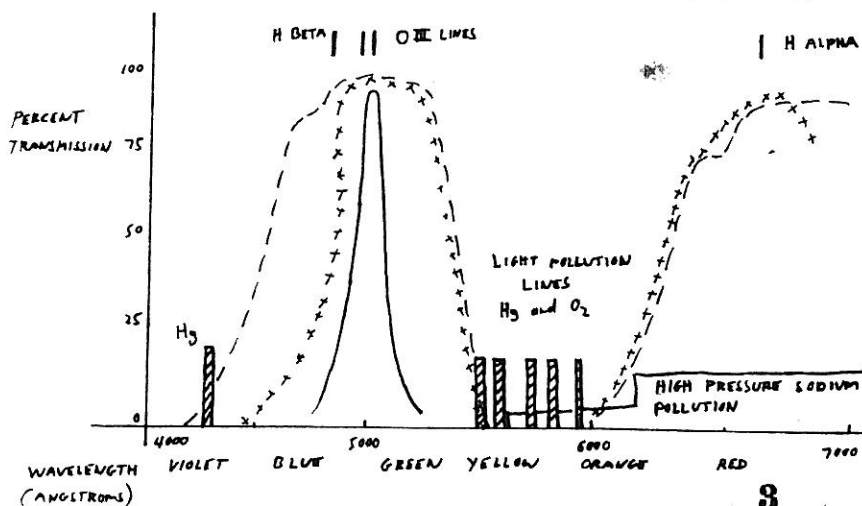
The three-channel filter provides a slightly darker sky background, making it possible to see the Western Veil Nebula in Cygnus (NGC 6960) as well as some exceedingly faint, low-contrast planetaries. Such objects are a virtual impossibility without the filter. M-42 is just short of incredible.

My true favorite, though, is the Lumicon UHC. It actually permits the observation of detail within the Veil and renders quite easy the faint outlying portions of the Orion Nebula normally visible only on long exposure photographs. Because of its narrow bandpass, the UHC filter throws a greenish cast over all objects, but the effect is not unpleasant and is even considered aesthetically pleasing by some. The UHC has been a tremendous aid in the observation of some extremely faint, low-contrast planetary nebulae (some as faint as 15th magnitude) that I would have previously attempted only from a very dark country observing site. Even such remarkable sights as the complete oval of M-27 (the Dumbbell) are not beyond reach. (see fig. 2, 3 & 4)

FIG. 2
M 27 VULPECULA
7/8" 18" DOBSONIAN, 100X



FIG 1
TYPICAL NEBULA FILTER TRANSMISSION
AND LIGHT POLLUTION LINES



WITHOUT FILTRATION

With apertures smaller than that of the 18-inch, the filters do seem to work equally well, but a low magnification is generally desirable in order to provide the highest light intensity possible. Even an RFT or larger aperture binoculars can use the filters to good advantage if the observer is willing to trade some light loss for increased contrast. Larger diffuse nebulae such as M-8 (the Lagoon) and the Orion Nebula show well when framed by a dark sky background. Naturally, a few observation techniques are essential when the filters are employed. Thorough dark adaptation and shielding from external lights will enhance the view considerably as will clean and dew-free optics. Anything less will invariably bring disappointment.

In summary, I can say without reservation that nebula filters are well worth their price if one

NGC 6960, CYGNUS (WESTERN VEIL NEBULA)

2 1/2" 18" 100X MILKY WAY JUST VISIBLE WITHOUT OPTICAL AID



UHC FILTER

NEBULA ONLY "SUSPECTED" WITHOUT FILTRATION

FIG 4

PLANETARY NEBULA NGC 2392 GEMINI

CELESTRON 11, 180X, 2 1/2"

WITHOUT FILTER

WITH UHC FILTER

does a significant amount of deep-sky observing in or near a metropolitan area; and even a country sky viewer will find a striking improvement on very low contrast targets.

For the observer who has little money to invest, one of the less expensive 3-channel filters seems the best choice. Most of them give decent blocking of unwanted light and adequate transmission of nebular lines. They generally employ a two-piece sandwich construction, but the small ghost images created are objectionable only around bright stars. Various diameters are available so that 1 1/4-inch and 2-inch oculars and various photographic threads can be accommodated. Of this group (Meade, Daystar, Edmund, University Optics and Celestron), the Celestron visual filter is the best choice for heavily light-polluted locations as it allows transmission of only the H-Beta and O III lines, a definite plus if those hideous high pressure sodium streetlamps are nearby.

The Lumicon Deep-sky filter is a better choice if astrophotography, galaxy observing, and an occasional trip to the country are one's observing pattern. Lumicon's filters utilize only a single piece of electron-beam-coated glass, and no ghost images are created.

Still, the "big gun" is really the Lumicon UHC filter. It is expensive (currently \$79.50), but it does provide genuinely country-like views from the city. I use it more often than any of the others.

Qualitywise, most of these precision optics are excellent, but a poor one might slip through quality control on occasion. My original UHC filter was seriously defective, but it was cheerfully and rapidly replaced by a good unit when I informed Lumicon of the problem. A suspected defect or poor performance is best evaluated by someone who knows what to expect (and what

not to expect) from a nebula filter.

It seems, on balance, that any of the well-known nebula filters is a worthwhile purchase. Turning out the streetlights for little more than the cost of a good ocular is almost (but not quite) magic.

Larry Carlino

CONSTELLATION for MAY

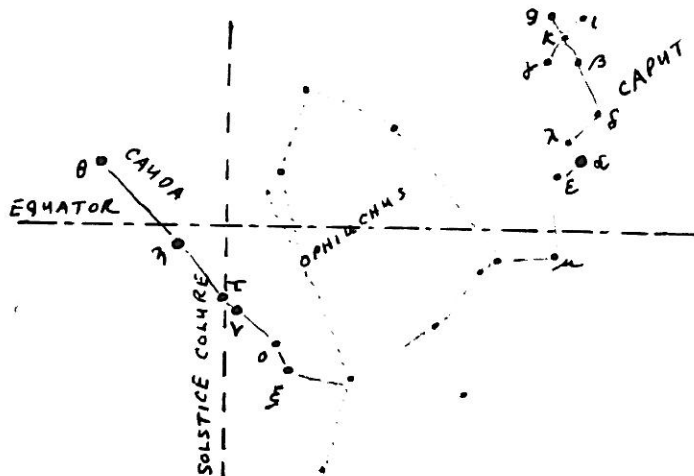
SERPENS CAPUT, the Serpent's Head, lies west of Hercules out of the left hand of Ophiuchus; north of Libra; east of Virgo and Bootes; south of Corona Borealis.

Objects of interest in this constellation include one Messier, M-5 (NGC 5904); NGC's 5921, 5936, 5962, 5970, 5984, 6027, 6070, 6118; one nova - CT-1948; variable stars include 17(tau-4), R, U, Y, CD, Z, S, and 20(chi). There are double stars - Delta, Beta, Struve 1931 and 5. The objects listed are taken from the New Skyatlas 2000.0 which is a part of the Beaver Meadow Observatory's library.

CONSTELLATION for JUNE

SERPENS CAUDA, the Serpent's Tail, lies out of the right hand of Ophiuchus which is west of that constellation; north of Sagittarius; west of Scutum and Aquila.

Objects of interest throughout this constellation are M-16 (NGC 6611); NGC's 6539 and 6535 which are Globular Clusters; Open Clusters H-19 and I, 4756; variable star 59; double stars Nu, Theta and Struve 2342; also Nova FH-1970 and DZ-1960. These are also referred to in the Atlas 2000.0.



Claudia R. Bielinski

Our very affable Membership Chairman is a highly active person, and finds exhilaration in the wonders she finds about her. Claudia was born in Buffalo and received her elementary education at School 69 where she was a member of the track team, and a winner of the D.A.R. medal. At South Park High School she received sports letters for volleyball, baseball and basketball. She was a science-language major, taking biology, chemistry, and three years of Latin, and graduated with honors.

Between elementary and high school she met Robert Bielinski, who would later become her husband. They went together all through high school, and three months after graduation, Claudia (nee Spaeth) and Robert were married.

In January 1962, Bob was drafted and sent to Kentucky for one year. In 1967, the Bielinskis bought their present home in Elma, and at that time, Claudia took some day courses in yoga at Maryvale High School, and a sewing course at night where she learned to make custom-made drapes, which she made for her friends, but never got around to make for herself. She worked part-time in department stores, and part-time for the IRS which she found very interesting.

Bob, an indoor truck repairman at Chevrolet, was working nights, so in 1972, Claudia decided to attend the Human Dimension Institute at what was then Rosary Hill College, since renamed, Daemon College, and took a course in astrology. She found the classes so fascinating that she went from taking one course to four courses a week in a period of a year. She took astrology courses at both Frontier Central High School and Angola High School. The teacher, Sally Patterson, also has classes in her home; the Aquarius School of Astrology. Fifty of the students formed a group; the Western New York Astrology Guild in which Claudia became a board member. From 1972 to 1978 the group was very active, but because of various involvements of its members, the group was disbanded.

In 1975, Claudia started to work in both the Good Earth Book Store and the Great Earth Book Store. At one time the stores were one store, but split, and were owned separately. From 1975 to 1980 she taught astrology professionally in the two stores and gave readings in her home. She continues to give readings at home to many people, including TV personalities, doctors, lawyers, and clinical psychologists.

In 1977, Claudia and Bob and two other couples decided to build the Pyramid Meditation Center, locating it at 3840 Sheldon Road in Orchard Park near Rich Stadium at Southwestern Boulevard and Abbott Road. The Center is in the shape of a pyramid and is the largest pyramid shape, built by hand, east of the Mississippi. It is 40' high and was built by four gentlemen in one year. It is to the exact scale of the Great Pyramid in Egypt reared above the tomb of Cheops.

For the grand opening of the Center, the speaker was internationally known psychic and author, Irene Hughes, whom you may have seen on Beyond Reason, a TV program from Canada. The Center is used as an open forum on any subject. Speakers have included Pat Flanagan, author on pyramid powers, and Dusty Bunker, author of the most modern books on numerology. Interesting work on Kirlian photography has been done at the Center, along with holistic classes, and nutrition classes headed by herbologists. Research is being conducted on the pyramid shape using special sensor and electronic equipment. Plants are also being grown using the pyramid shape to see if there is a resulting pyramid effect.

Claudia teaches at the Center to classes of about ten people. The present director is in New York on a year's leave of absence, so Bob is the interim director. About 200 people are members of the Pyramid Meditation Center, and visitors are welcome.

In 1978 and 1979, Claudia taught astrology at Medaille College to a class of 45 students. 5

She goes to many astrological conventions, both national and international. Concerning astrology, she says, "It is very beneficial, as one finally understands one's self and others."

Claudia has been interested in astronomy for about 25 years, using her binoculars to enjoy the heavens. She attended an astronomy class at the museum in 1981, and joined the B.A.A. shortly thereafter. She recently acquired a 6" Edmund reflector and is very excited about it. She is intensely interested in the moon, planets, and comets.

Another very important pursuit is geology which she has studied diligently. She has enrolled in museum classes for four years, and has gone on many trips to various areas to hunt for fossils. With Buffalo Creek bordering her backyard, she has an excellent place to work at her very gratifying hobby. Her home is fast becoming a veritable museum where her collections of fossils, rocks, meteorite fragments, and semiprecious stones are neatly displayed.

Another of Claudia's fascinating hobbies is spelunking, and she has explored caves in Kentucky, Tennessee, Virginia and New York. She is especially impressed with Mammoth Cave, in Kentucky, which covers some 300 miles. And Egyptology, with all its antiquities, holds an absorbing drawing power for her, and she has had the good fortune of seeing the awesome King Tutankhamen exhibit, which transfixed her with wonder.

Claudia loves to travel, and makes each trip educational as well as recreational by researching points of interest before starting out on a journey. She has flown to conventions in the west, but her other travels have been by car in states east of the Mississippi. She especially enjoys the New England states, particularly Maine where she and Bob go to Kennebunkport to relax. Fishing is a great sport for Bob, and he goes on many fishing jaunts.

Gettysburg holds a special attraction for Claudia, as does Mariner's Museum at Virginia Beach. She finds the Space Center in Florida another great place to visit. In New Hampshire, Mystery Hill, the Stonehenge of the east, is a remarkable site where archaeologists have found relics dating back to the Phoenicians. Archaeologists were busy working when the Bielinskis, and a couple who are friends of theirs were visiting this spot. A rather humorous incident occurred. Claudia, knowing that an eclipse was to take place the following day, asked the guide if there were any plans being made at the site for the event. He replied, "What are you, a witch?" Of course, Bob and her friends, unequivocally, assured him that she was.

Her other hobbies include shell collecting, which she enjoys on her frequent trips to Florida. Though she is not an antique collector, she appreciates special, very old pieces that she runs across from time to time. She is an avid reader of non-fiction books, especially in the fields of science, including archaeology. She subscribes to various science magazines, along with those on astronomy.

Four years ago she was given a piano which inspired her to take lessons. She was a fine sight reader and progressed rapidly. At

the end of two years she could play the simplified version of the first movement, "Adagio sostenuto," of Beethoven's Sonata quasi una Fantasia ("Moonlight Sonata"), and also his Für Elise. She has not been able to find time to pursue her pianistic ability further, as her impossible schedule does not permit it. Claudia has recordings of many of the instrumental classics, with her favorite composers being Beethoven and Tchaikowsky. She thrills to the sounds of his 1812 Overture, and especially enjoys a concert where real cannons are used in the finale.

Claudia loves to fly and she has a strong desire to obtain a pilot's license so she can soar through the skies. She did pilot a plane for a short distance, much to her great delight.

Claudia is an incredible person with an astounding array of seriously studied interests. She has a deep appreciation of all the wonders of the earth and heavens, and has an insatiable curiosity about the boundless facets of life in its many forms, and is constantly impressed by the amazing discoveries that are made in every field every day by scientists throughout the world. She has a very pleasant, friendly and amiable personality with a ready smile for all, and a bubbling, delightful sense of humor, all of which endears her to our membership.

Edith L. Geiger

AN ODE TO DARWIN CHRISTY
EDITOR OF THE BAA SPECTRUM

Here is a scribe
who watches over his tribe
in a Spectrum that has
no limit,
he ferrets out those
who write star-studded prose,
and is proud of each line
that goes in it.
If he loses some pages,
well, so did the sages
all down through the ages
and that's what's so
charming about him,
I get a bit misty
when I write of
our Christy
for what would we do without him ?

Esther L. Goetz

Esther L. Goetz

REMICK OBSERVATORY 1982

The Lockport Astronomical Association reports that its public nights at the Remick Memorial Observatory which they operate, had 637 visitors, which doesn't take into account 120 for the July Lunar Eclipse nor special tour groups. It is about one hundred more than last year and the second highest turn-out since records have been taken starting in 1966. Of the Wednesday nights, 25% were cloudy; 46% were clear; and 75% were sueable, so the facts ate that the clouds are usually not in the sky but in the minds of some people.

Carl Milazzo

OBSERVATIONS

Shaun Hardy report on February 12, two members of the Lockport Astronomy Association (Mark Dohring and Mark Andrasik) and he joined Carl Milazzo and Doris Koestler for observing at Beaver Meadow. Skies were slightly hazy, with the air temperature falling to 2°f by midnight. In addition to the usual favorites (M-42, M-1, Double Cluster,...) they observed the planetary nebula IC 418 in Lepus. It is bright, but extremely small even at moderate powers. Its disc is only about 12" in diameter. An 11th magnitude central star could be seen. The open cluster M-46 and M-47 in Puppis were also observed-- they lie only 1½ degrees apart. The latter is coarser, with brighter members. However, M-46 has an 'added attraction': a planetary nebula (NGC 2438) near its north edge. The nebula was easily seen at 125X. The cluster and nebula are not physically related, though, as shown by their great difference in radial velocity. Beta Monocerotis-- called the 'Wonder Star' by Herschel-- is the most beautiful true triple star in the sky (at least Shaun thinks so!). Its components are all white, all roughly 5th magnitude, and are comfortably spaced by 7" and 3". Beta is in an empty part of the sky, but is easy to find. It forms the north corner of a nearly equilateral triangle with Sirius and Kappa Orionis (the SE corner of the body of Orion). Finally, Carl located NGC 2419 for us, in the constellation Lynx. It's the Milky Way's most remote globular cluster-- 180,000LY from the Sun. It appeared as an 11th magnitude fuzzy cloud, in a straight line with two eighth magnitude field stars.

Michael Idem reports on the night of February 9-10, during early morning hours, he observed the excellent rich galaxy cluster Abell 1367. Alternating between the 120 & 142X oculars, often a dozen galaxies were visible within a single field diameter. Although all its members are faint to very faint, in terms of sheer numbers, its quite a sight! He estimates the brightest member to be of magnitude 13.2 with many more to as faint as 14.7. None, though, exceed one arc minute in extent. About five dozen galaxies are visible in an area just over one square degree with a few straggling further eastward. This galaxy field is easily found by offsetting the telescope ¼ degree south, and 2° west of the wide double star 93 Leonis ---Later the same night he observed the far easier galaxy M-99. In the 142X ocular, this galaxy's spiral arms were amazingly prominent. The arms are quite delicate compared to the bright nuclear region but they do form a near perfect reverse figure 'S'.

---On February 13-14, among the several dozen galaxies observed this night, He viewed the bright edge-on galaxy NGC 4096. In the 74X ocular it looks to be a fine 1'x6' streak. With its bright middle region, made it to be an easy magnitude 11.5. Also spotted was galaxy NGC 3521. Again at 74X, it presents itself as a large oval of 4'x7' extent. Although its surface brightness is generally low, it does look rather like a miniature Andromeda galaxy minus its attendant dwarf companions.

---On February 18-19 with the observation of the Ursa Major galaxy NGC 3665, brought his total of deep-sky objects to 1460. With the Coma and Virgo clusters just now coming into view it may just be possible to attain his goal of 1500 deep-sky objects observed within a three year period of time?!!

Another by Michael Idem---March 25-26, after having recently read Dr. Price's article on the central feature within the lunar crater 'Nasmyth', I decided to observe this object for myself. Fortunately seeing conditions this night were much above average. By 2:30AM the floor of Nasmyth had just come into the sunlight. Sure enough, Dr. Price's description is quite accurate. This strongly reflecting central hump was seen under high power to be of a thick crescent shape, slightly concaved to the sun. Since this object cast no shadow even under this extremely low sun angle, it is probably a rather shallow depression. Strangely, though, this craterlet's pit was undetected against the surrounding plain. Just as a theory,

perhaps, sunlight being reflected sunward off this illuminated craterlet wall (the hump / crescent?) is projecting just enough light onto the floor so as to render this otherwise dark pit invisible due to almost no contrast existing between it and the, as yet, weakly illuminated surrounding plain? The floor of the adjacent crater, Phocylides, still lay completely in darkness, only its incircling ramparts were, as yet, illuminated.

---April 1-2, exactly three years ago tonight I began an intensive program of observing deep-sky objects from my suburban site. During this period of time 1682 objects were observed. One can only imagine just how much greater a number of objects could be perceived by a determined group of observers under the far darker sky of Beaver Meadows!

Carl Milazzo's observations;- A reddish variable star was seen near it's maximum named 'R' Leonis which is located 5° west of Regulus. It appeared to be 6.4 magnitude on March 16th with my 5-inch f4.2 refractor at 21X from our club's Beaver Meadow Observatory. It is the Mira type which is a pulsating red giant, which will drop to magnitude 10 by the middle of August.

---Later that night 9 galaxies were seen within the field of view of the 32mm ocular of our club's 12-inch telescope, all at the same instant. At the center is the 10.5 magnitude elliptical galaxy M-86 which is at the densest region of the Virgo Cluster.

---A rich 5th magnitude open cluster was seen that same night, only 9° above the horizon when crossing the meridian. It is NGC 2477 in Puppis which has 300 stars in an area of 20 arc minutes, resembling a globular, and has a blue 4th magnitude star just to its southern edge.

---On March 13 at exactly 9:00PM, a very slow 1st magnitude yellow meteor was seen heading west across Eridanus. From Beaver Meadow it took 3 seconds to cross 25 degrees before burning up.

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ABSENTEE VOTING PROCEDURE

Any qualified member may send in their write-in vote, from the choices of candidates along with their signature. This must be mailed to the B.A.A. Secretary, Ken Kimble - 6 Eden Ave., Tonawanda, N. Y. 14150 and received before the election takes place on May 13, 1983.

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An Open Letter to Ken Kimble and His Study Group-----

They tell us that the Universe was born with a 'Big Bang' about 15 billion years ago, and that Quasars have been discovered that are as much as 12 billion light years distant, and we are seeing them where they were 12 billion years ago shortly after the explosion.

Can you come out from behind the intricate mathematical equations and abstract curved space theories and give some simple, common sense answers to a few questions?

First, if we are seeing the Quasars at a location close to where they were born, why are they not seen from the same direction. Secondly, since they are not in the same direction from us, suppose we see one to east of us and one to the west. They are both at the extreme edge of the observable universe. How did they get 24 billion light years apart in the 3 billion years after the 'Bang'?

They must have been traveling faster than the speed of light.

Tongin B. Cheek

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SPACE FAIR

The 3rd annual 'Space Fair' will be held at the Buffalo Museum of Science on July 4 & 5 from 5P.M.. The B.A.A. is planning to have a public exhibit of telescopes, astro-photographs, drawings, paintings, mirror grinding and polishing, etc. It will be similar to the display we

put on last year at Buffalo State. Space Fair usually attracts about 3000 people, and this year the crowds should be even higher because there will be moon rocks from NASA which can be examined under a microscope. If you can contribute something to the exhibit or help man it, contact Ken Biggie, Doris Koestler, Al Kolodziejczak, or Carl Milazzo.

Some other events happening at Space Fair besides our astronomy club exhibits are the following:- a display from Moog Corporation, which has made devices for the Space Shuttle, and Spar Aerospace from Toronto which made the crane in the shuttle's cargo bay; 14 hours of NASA video tapes, movies, slides, speakers, laser demonstration, computers and space art by five local artists; Solar telescope viewing by Ernst Both; displays of solar energy stellite dish communication; civil air patrol; scouting; space models; launching of model rockets; and touring of the Museum's new hall of 'Space'.

Carl Milazzo

* * * * *

Public nights

Ernst Both who is curator of Astronomy, would like some of our club members to help out on public nights on the roof of the Science Museum. If you would like to help him out with the large crowds with your telescopes, they can be brought up on the freight elevator instead of the narrow spiral staircase. Ernst could use your help, starting at dusk, on May 13, 20, and 27th; if you don't have a scope, your assistance in pointing out objects in the sky would be greatly appreciated and from this, the B.A.A. could gain some new members.

Carl Milazzo

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STUDY GROUP

The April meeting of the group had as its topic, celestial navigation. I was the discussion leader myself this time, along with some assistance by Steve Kramer. I brought in a student sextant and showed it along with a work sheet such as a navigator might use to find his position at sea.

This is a relatively new field of endeavor for me so I was not able to cover the subject completely. Steve was able to fill in the rest of the meeting time by displaying and explaining his astrolabe, so we were able to learn about some navigation methods of long ago also.

At the May study group meeting we are going to discuss the uses of calculators and computers in astronomy. Just from little tidbits of conversation I've been able to pick up, it should be a very informative meeting. If you are at all interested in the astronomical uses of calculators or computers plan to attend. You don't have to contribute, just come.

KEN KIMBLE

B.A.A. ANNALS

5 YEARS AGO- The May 1978 meeting was one which was and still is a favorite among many club members. It was one in which a panel of 6 experts in various fields answered questions from the general membership. The June meeting was the regular business meeting with election of officers.

It was a bad year for Buffalo because Al Ricciti and his stone house were just gaining notoriety. It was a good year for

Kenmore because Ken Biggie was moving to West Seneca.

10 YEARS AGO- Even though it was a short time ago, as I looked over the old Spectrums I found only 3 names that I recognized. They were Edith Geiger, Darwin Christy and John Riggs. Things could not have changed that much in 10 years could they?

The speaker at the May 1973 meeting was Ed Banaszak. He spoke on "Yesterday, Today and Tomorrow". June was again time for the annual business meeting. There were no speakers at the June meetings back then.

It was also back around that time that observing was moving from Newstead to Beaver Meadow.

20 YEARS AGO- The May meeting of the B.A.A. was held in the newly opened Niagara Falls Planetarium. Everybody met at the U.B. parking lot on Baily Ave. and car pooled to the Planetarium. Edith Geiger was involved in the arrangements for the meeting so maybe she could tell us a little of what happened.

The June meeting was the regular business meeting with one exception. The fellow who I mentioned as the speaker at the May 1973 meeting, Ed Banaszak, distributed to members, a printed copy of an address that was given by Edith Geiger at the Jan. 1973 meeting. Nice gesture on Mr. Banaszaks part. He must have been a real asset to the club. By the way, I don't think I have a copy of that address. If anyone has one I'm sure a lot of us would enjoy reading it.

Ken Kimble

Observatory Notes

Public Nights at Beaver Meadow Observatory are now underway. The general schedule is the first and third Saturday nights of the month, weather permitting, now through June. During July and August, every clear Saturday night will be set aside for Public Night. To volunteer or to make arrangements for special group visit please call 875-7965. If you are ever in doubt about times or dates check the Friday evening Buffalo News, "Gusto" section under Beaver Meadow for details and a general listing of objects that will be on view that Saturday night. On very clear moonless nights a person who stays for the entire evening may expect to be shown as many as 15 or more different objects. So please bring

BUFFALO ASTRONOMICAL ASSOCIATION, Inc.

Darwin Christy, Editor
216 Kohler St.
Tonawanda, N. Y. 14150

8 family and friends to the best astronomy show in western New York - all at our Observatory at Beaver Meadow!

Observatory users have much to be grateful for thanks to Miro Catipovic's recent work re-aluminizing the Beaver Meadow 12½ inch mirror. Miro spent a good part of the week end of March 11-13 working on the mirror for our benefit. A real frustration to him was the stubborn old coat which took over a day's soaking in acid to completely remove. Miro persevered, and on Sunday afternoon the main mirror and diagonal were aluminized. By early evening, the mirror was back inside the telescope and was immediately put to use by members of the U.B. Astronomy club including Adrienne Kaczmarek, Dr. Gilbert Brink and Carl Milazzo. The telescope was back in operation after a short hiatus of just two days. Miro's generous contribution also saved us the great expense it would have cost to have the mirror re-aluminized commercially.

For Observatory users who have less opportunity to go to Beaver Meadow, there is now a general operating procedure sheet and a common problems sheet posted in the warming room. Next time you visit the Observatory please read these sheets over to refresh your memory. Especially important is proper closing and the list of things to check before leaving the Observatory. On two occasions over the winter people have forgotten to turn off some lights.

Rowland Rupp's set of dew resistors is now at the Observatory. They have been used already on several dewy nights and have performed perfectly. They are stored in a separate box kept in the map stand. Before using the resistor unit you must read the instruction sheet enclosed with them. If they get damaged it will break Rowland's heart - and cut down on everyone's potential observing time!

John Riggs

Contributors:-

Rowland Rupp

Edith Geiger

Larry Carlino

Esther Goetz

Carl Milazzo

Shaun Hardy

Michael Idem

Ken Kimble

Tongin B. Cheek

Your Editor

John Riggs

Answers to quiz will be in next issue with an Article by Dr. Fred Price; a puzzle by Ed Lindberg and other goodies!



Mr. & Mrs. Rowland Rupp
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