

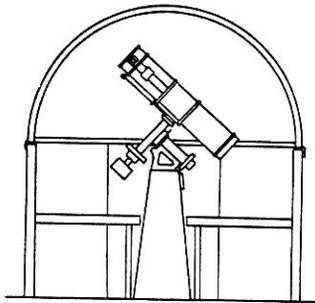
the Spectrum

JANUARY

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FEBRUARY

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BUFFALO ASTRONOMICAL ASSOCIATION, Inc.

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MEETING NOTICES

JANUARY - Friday, January 12, 1990 at 7:30 PM in the New Science Building Auditorium, Buffalo State University.

The new year will feature as our guest speaker, BAA member and Spectrum Editor, Darwin Christy. His topic will be, "The Total Penumbral Eclipse of the Moon - January 20, 1981." We will also have a movie on Aurorae in Alaska. The film is described as High Teck, Real Time, Low Level Light & Full Color. Refreshments will follow.

FEBRUARY - Friday, February 8, 1990 at 7:30 PM in the New Science Building Auditorium, Buffalo State University.

Cosmology is a topic of interest to everyone. "The Big Bang" will be the subject of this month's speaker, BAA member, Dr. Jack Mack, Professor of Astronomy at Buffalo State University. Dr. Mack is also the Buffalo Museum of Science Representative to the BAA Board of Directors. Refreshments will follow.

PRESIDENT'S CORNER

Because of the ongoing construction at the Buffalo Museum of Science, our regular meetings will be held at Buffalo State University through June.

A REMINDER - Membership dues MUST be paid by December 31, 1989 to remain on the membership list and continue to receive the "SPECTRUM."

Many thanks to Joe Provato for setting up the refreshments and to everyone who brought cookies to our Christmas Party.

My thanks to Edith Geiger for the many rolls of film and time spent on her entertaining presentation of members having fun!?!?

There will be a Board Meeting on Tuesday, January 9, 1990 at 7:30 PM at my home.

Update on the New Telescope Project-----

A third meeting was held the last week in October. There have been an average of 12 members in attendance at each meeting. We hope more members will attend the next meeting on Thursday, January 25, 1990 at 7:30 PM in the Conference Room. A new member, Mike Burgio, attended the last meeting and offered many suggestions and use of building equipment. Mike has also submitted to me, drawings for the new additions. Dan Marcu and myself were unable to attend the November meeting with the Audubon Society, however, plans are being made to attend the next meeting in January. We must have their approval before any additions or remodeling can begin. At the regular meeting, Friday, January 12, 1990, I will have a proposal on this project for the general membership to vote on. The telescope committee needs to know how much interest and support will be given by the general membership.

Doris Koestler, Pres.

ED LINDBERG - AN AUTOBIOGRAPHY

When I was told that it was planned to run my story for the third time, I asked for permission to write it myself and feature first-hand experiences. Permission granted - so here goes.

My Swedish immigrant parents settled in Pittsburgh where my father found work in an area steel mill. But he found the climate of the "Smoky City" to be unhealthy so he bought a farm in southwestern New York where my younger brother and I were brought up. Our farm was located near the center of a triangle formed by the three villages of Mayville, Sherman and Chautauqua. Curiously we were about five miles from each.

We lived a mile and a half from our country school. My mother didn't want me to start school until I was nearly eight as it was a rather long and dangerous walk for a young hiker. The narrow road was muddy and rutty in spring and fall and icy in winter with big snow drifts. She started me reading at home from a school reader. Since she was having trouble with English, this was useful for us both. English was our second language. Growing up as a

awkward at times. Sometimes you forget which language you should be speaking. On my first day in school I was trying to tell the teacher that there was a spider on the wall behind her without alarming her by pointing it out. "En spindel på väggen" I said. She smiled and shook her head. I didn't know the word for "spider" in English. If you have never used the word it will not come to you. So I pointed to the spider. When oral language fails, use gestures. This was one in a series of disillusionments I have had through life. If a teacher is going to teach me shouldn't she know more than I? It took me many years to correlate imagination with reality. I'm not sure that I ever did, completely.

Our school was a one room version, something that is now mostly history in this state. The building was about 30 by 40 feet in size, and this was about the dimensions of the single room. There were rows of high windows on three sides and a row of seats on each side facing the dark front. At the center of the room stood a huge black round oak stove which was kept stoked in cold weather by slabs from the woodshed outside. The sanitary facilities were two buildings located about three hundred feet to the rear at the edge of a beech woods. In spring and fall it was agreeable enough but in the winter you needed to bundle up in all the clothes that you brought.

The senior boys brought in wood and tended the fire during recess and lunch periods. They swept the steps and brought in mail from the roadside box. They also brought in a pail of water from a pitcher pump. The pail stood on a shelf with a dipper for all to use, hanging on the wall. The senior girls washed the blackboards, swept, dusted and tidied up in general. One senior girl tended the Victrola which during lunch hour played Sousa's Marches or other approved pieces such as the Rosary and Cara Nome.

The teacher sat behind an oak desk at the left front of the room correcting papers and announcing recitations, "Ready for sixth grade geography", etc. The one or two members of the particular class would come up near the teacher and the recitation would be given in full view and hearing of all the room. In several years you could absorb most of the material. By the time you reached the seventh or eighth grade it was all review. I can't remember the mechanics of the examinations, but I know you could easily take two grades in one year. I finished grade school in five years and others did similarly.

My grade school years were largely a pleasant experience. My eighth grade classmate and I sat at the rear across from each other carrying on chit-chat in the deaf sign language. At noon we would eat our lunch in an old apple tree which we had fixed up with an airplane. The wings were a long board and there were seats for pilot and co-pilot. We didn't know the relative positions so we took turns, keeping the same seats. His mother had said that airplanes steered with a steering wheel but I had heard that they used a stick. We just used two sticks to simplify construction. On stormy days I would pore over the Book of Knowledge. It was there that I learned about magic my first hobby. I tried tricks on the gang and played the patterns of Cat's Cradle with anyone interested. The other kids called me "String." When I learned about electricity, magic was forgotten. Here was the real magic - no subterfuge. It was all above board but it was still mysterious. It has never lost it's appeal.

The year was 1923 and I was in the seventh grade and the subject for lunch time was Radio. None of us had ever seen or heard a radio receiver. I had heard that they sent out weather reports. We received a daily weather map at school but I couldn't understand how that could be sent by radio. One boy said his father declared that "radio would never work." It was an age of skepticism.

My cousin had heard that there was a young man in Sherman who had built a radio. We got down there one evening and found two fellows in a garage crouching over a long bench covered with apparatus. One fellow was making tests with a meter and the other one was carefully adjust-

ing the big calculating dials. From the speaker came a loud hissing noise with occasional strong crashes. "Dumb static" said one, or words to that effect. For about an hour we stayed there but there was only noise. It was disillusioning. "What's with this radio?" It's capricious.

In 1924 I started high school. Of the three village schools I could have attended, I chose Mayville as it was the largest village and it was the county seat. I very seldom minded the five mile walk to and from school. The exercise and fresh air helped make the study sessions more efficient. And I enjoyed the solitary intervals. I would memorize prose and poetry such as the Declaration of Independence, Poe's Raven, The Cremation of Sam McGee and other gems both in English and (some others) in Esperanto, and international language I was then studying. I could also dream about my latest radio experiment at home. That fall a few homes had radios. You could spot them by the antenna wire from the peak of the house to a nearby tree. During the lunch hour at school we often discussed radio. Some of the boys had sets in their homes or even owned them. I still had never heard a radio until one lunch hour in March 1925 when I stopped at the local hardware store where I heard a voice introducing the new president, Calvin Coolidge, who gave his inaugural address. I was amazed, at the clarity of the voice, coming all the way from Washington. I became fired up to build a set of my own. All summer and fall I spent trying in vain to make an operating crystal set. My cousin located a used radio tube and gave it to me for Christmas 1925. From a New York firm I received a radio catalog containing one hundred radio diagrams. I built one but heard nothing except a ringing sound when the tube was tapped. I dismantled the set to get parts for another try. In this way I made about a dozen one tube sets, all complete failures. Then after nearly a year of trying, I built a regenerative circuit from plans in a radio magazine. In November 1926, I went through the usual trial. But this time the set had a live sound. There were clicks and whistles. I settled on a loud one. When the signal was cleared up there was piano music, exquisitely sweet to my ears. Then came an announcement, "This is station WFAV in Lincoln, Nebraska. This was an indescribable thrill after a year and a half of trying with no outside help or instruction.

There were later thrills in radio through the years. They were less spectacular in degree but they were many in number. I went on to build a short wave set and hear the telegraph code for the first time. After learning the code I obtained a government license and began building amateur transmitters. Then came another period of failures until I made a successful version. It took about four months of trial before another station answered my call. This was on an April morning in 1930. My first contact was with a station in Oklahoma. The young man said he was a special delivery messenger for the post office. After his contact I reached other stations. When I began visiting some of the people I met on the air my days of isolation were over. I joined a big radio club in Jamestown and a small group of us had a little club in Chautauqua. I even had a job in radio for a short time. I had obtained a commercial license and got a job with a small station in Jamestown. But it was short lived as the owner sold out to a Rochester firm which had its own operators. It was depression time and I spent several years scrambling for short time jobs.

In 1931 I ran across a camera used by my father as an amateur many years before. There was also a pile of old photographic magazines which I used to teach myself photography. I had been submitting constructional articles to magazines to raise a little money and I thought that illustrations would help sell them. But the sales were almost zero, even with fairly good illustrations. It was hard to bring in even the little money I could have used so well. But as I look back, I must have somehow survived the depression years.

During the early and middle 30's my brother and I slept outdoors through the summer and early fall. We slept in an open wooden truck body set right on the ground. We were on

Geodetic Survey marker to have an altitude of 1652 feet, the highest point in Chautauqua township. At that time my visual acuity was about 20-15. I could see Epsilon Lyrae, the quadruple star, as a naked eye double. The double star used by Indians to test visual acuity, Mizar and Alcor was easy. We slept right under the stars with no roof or canopy. When we were awakened by rain hitting us in the face we would scamper to the house covering our heads with a tarpaulin. But the skies seemed to be mostly clear in those years. When you have sharp eyes and are deeply dark adapted and awaken to see that stars without stirring, the sight is spectacular. There are stars wedged between stars and stars in behind stars. The milky way is a jeweled band sprinkled with talcum powder. Sometimes when I would awaken to the glory I would experience a sensation of fear. I would be right out there in the vast space among all those blazing lights and I would hang on to my spaceship firmly.

My father had a book by Simon Newcomb called, "Astronomy for Everybody" and I found this to be a good introduction to the subject. There was also a set of "Guide to Nature", a nature magazine containing a monthly star map. Although these were some twenty years old the stars had not changed and I got planetary positions from an almanac. In early evening I could pick out most of the constellations before it got real dark, when the fainter ones would be obliterated by the proliferation.

In the middle 30's the Depression was winding down and I began to think of something more permanent than odd jobs. I thought it would be wise to concentrate on one field of activity. But I could never decide between radio and photography so I kept studying both lines. They were both fascinating activities. I decided to visit the nearest metropolitan city. I traveled to Buffalo and at once found a job repairing and delivering radio sets. During the evenings I would go down to the foot of Main Street and listen to the sounders at the Lackawanna depot. This led to a job with the New York Central Railroad where I was assigned to the Bay View Signal Tower, a position that required proficiency in the American Morse telegraph code.

The railroad connection was my first solid job. It got to be fairly routine but there was a little excitement. One night I had to stop the Twentieth Century Limited, that proud train which made no passenger stops between Chicago and New York, stood outside of my tower for a full twenty minutes while a gang repaired a broken rail at the Buffalo Creek Tower some 15 miles nearer Buffalo. And then there was the time when a blizzard stopped all public and private transportation and I was brought out to Bay View on a locomotive, which made an exciting taxi.

During idle periods at the tower, I plugged into various wires on the Western Union switchboard. I found one wire that was sending high speed stock market quotations. Listening in on this wire improved my proficiency and I was assigned to the position of telegrapher at the Central Terminal working the New York Chicago main wire. I handled train make-ups and passing times as well as special messages. After I had acquired the proficiency to make the job a routine one I began to hear murmurs that the Roads were going out of telegraphy and going to telephones and teletype. So I began scouting my field of electronics. Television was just coming to Buffalo and General Electric was making TV picture tubes. I got a job as technician there making test equipment for putting test patterns on tubes being tested. This was a very interesting job, building and maintaining pulse generators, video amplifiers and other devices. I built our first television set at home, and heard Bob Hope's program in Delaware Park on July 4th, 1948.

When I came to Buffalo my years of isolation in the country became a whirlwind of activity. I enrolled in a night school course in electrical engineering at UB. Sandwiched in between night school classes were various club meetings. I joined a hiking club, a radio club, a photographic club and the Telescope Making group. I bought a Chevy coupe for 35 dollars and kept busy going to meet-

ings each 3 hours per day for productive work. The activities were woven into a pattern. Night school lasted for sixteen years but it was in no way drudgery. I took several courses that I liked and I was able to get a bachelor's degree in physics with a minor in electrical engineering. The classes formed a sort of pattern with all the other activities. All the clubs were interesting and I made many friends.

Notable among the clubs was the Telescope Makers club. Here I learned how to grind a mirror and build a telescope. I went on to teach telescope making in the Science Museum's evening classes for about 25 years. In the radio club I went out for field day every spring, also for about 25 years. Here we set up emergency equipment in a tent and competed with other clubs nationwide in piling up a score of stations. One year (1954) we placed first in the country in the 3 transmitter class, contacted in a round the clock 24 hour period. The hiking club had many trips and hikes around the area. The photographic club had interesting field trips and talented speakers. The club decided to have a bulletin board showing members portraits, each made by the particular member. I brought in a print and handed it to the club librarian, who was handling the bulletin board. The print did not appear as it seemed to have been misplaced or maybe it had been rejected as had been many photos by editors. So I made up a different one. This one also could not be found and I managed to find a third different one. It was then that the club librarian and I began to sit together at meetings and she confessed that my pictures were in her purse. The rest is history, as it say somewhere.

In 1957 I went to work for the Sylvania Corporation making devices for the Air Force. I did not like the environment of military work. It was distressing to see carefully constructed equipment ruined by environmental and qualification testing. When I received a telephone call from the Cornell Aeronautical Laboratory asking if I would be interested in a position as assistant physicist I was quick to accept. I was put to work on various optical, photographic and electronic projects. In 1964 I was selected to accompany a team to Thailand on an Air Force contract to test the effect of tropical environment on photographic films and cameras. I built a shutter speed tester and helped install the control systems for the 14 cameras installed in our DC-3 airplanes. Olga (our photo club librarian) and I were allowed to visit her cousins there.

Bangkok is a unique city. It is tropical (11 degrees North Latitude) and is in the Orient, an exotic combination. I made up and installed antennas at the three corners of a triangle 200 miles on a side. I installed three Collins KWM-2 transceivers. One was at our headquarters at Bangkok airport and the others were deep in the jungles of Northern Thailand. The jungle is an exciting place with its fantastically high trees and the continuously scream-cicades. I was kept busy at our headquarters checking communications, testing shutter speeds and doing all the photo finishing for the expedition. Our group was put into quarters used by the Royal Dutch Airline crews. We had excellent Dutch cooking. Olga took advantage of the opportunity to explore the exotic old city.

There wasn't any spare vacation time for the gang. Our usual week consisted of seven 12 hour days. But I did get permission to get up on the airport roof. There I would lie on my back on a January midnight with the temperature at about 70 degrees and watch the parade of planets and the moon coming right overhead. The zodiacal constellations were there too and Orion was gorgeous. The Southern Cross was very pretty. When I got back to our room I awakened Olga to come out to see it. She very graciously tried to be thrilled. Bangkok is exactly half way around the world from Buffalo. I never reset my watch. When the clock in the park in Bangkok reads 11 AM you know that its 11 PM in Buffalo. We had our choice of routes to go home after our 3 months in that wondrous land. We chose to continue east and make a round the world trip out of it.

Our 40 year married life has been an active and happy

countries. We made about 25 trips to Stellafane, each year visiting some historic spots in New England and the other northeastern states. But we have had some bad breaks too. Olga's legs became paralyzed and a growth was discovered on her spine. Fortunately it could be removed safely. And I had a bad fall on my forehead which affected the circulation in the back of my eyes causing my vision to deteriorate so that I can no longer drive. It has been a most difficult adjustment. But we have reasonably good health and need to count our blessings. I can be thankful for partly inheriting my mother's quiet whimsical outlook on life and father's dogged persistence. I am thankful for the caring help we get from our many kindly friends. And my happy home I can attribute to a practical and kindly copilot.

Ed Lindberg

ASTRONOMICAL HAPPENINGS

SOLAR; The Sun will be traveling from Sagittarius into Capricornus until January 20th and then into Aquarius on February 17th, remaining there into March. The Earth will be at perihelion on January 4th at a distance of 91418005 miles. An annular eclipse of the Sun will occur on January 26th, but will not be visible here in our area. It can be seen from South America, New Zealand and the Antarctica.

SOLAR CONJUNCTIONS occurring are with Neptune on January 2nd and with Saturn on the 6th.

LUNAR PHASES; For January and February are- First Quarter on January 4th & February 2nd; Full (WOLF) Moon on January 10th & (SNOW) Moon on February 9th; Last Quarter on January 18th & February 17th; and New Moon on January 26th & February 25th.

LUNAR CONJUNCTIONS in January are: Jupiter on the 9th; Mars on the 23rd; Uranus, Mercury and Neptune on the 24th; and Saturn on the 25th. For February they are: Jupiter on the 5th; Uranus on the 20th; Neptune, Mars, Saturn and Venus on the 21st; and Mercury on the 23rd.

PLANETARY CONJUNCTIONS: Mercury & Neptune on January 13th & 27th; Mercury & Saturn on February 3rd; Mercury & Venus on February 4th; Venus & Saturn on February 7th & 14th; Mars & Uranus on February 9th; Mars & Neptune on February 17th; and Mars & Saturn on February 28th.

PLANETARY EVENTS: Mercury at inferior conjunction on January 8th; Venus at inferior conjunction on January 18th; Mercury stationary on January 19th; Mercury at greatest elongation (25 degrees W.) January 31st; Venus stationary February 7th; Venus at greatest brilliancy February 22nd; Pluto stationary February 22nd; and Jupiter stationary February 24th.

PLUTO was discovered February 18th, 1930.

METEOR SHOWERS; On January 17th we can observe the Coma Bereniceids. They radiate out of 12h 24m Right Ascension, +20 degrees declination. Little is known of this shower although they do occur for a duration of about four days and are related to Comet 1913 I. They are 4th magnitude, reddish in color. They occur at the same time as the Kappa Cygnids, so look carefully that the Kappa Cygnids are not what you may be seeing.

Other showers in January are the Quadrantids on the 4th, the Kappa Cygnids on the 17th and the Delta Cancriids on the 16th.

METEOR SHOWERS in February are the Aurigids on the 9th and the Delta Leonids on the 26th. **GOOD LUCK !!!**

BAA ANNALS

5 YEARS AGO - Our speaker for January 1985 was Dr. Carl Seyfert from the Department of Geophysics at Buffalo State. His topic was "Impact of Meteorite at Cretaceous Tertiary Boundary, Bearing the Continental Drift." In February we had three club members give brief talks. They were:

Dr. Fred Price "Lunar Mysteries"
Larry Carlino "Purchasing of a Telescope"
Rowland Rupp "Hertzprung-Russell Chart"

Carl Milazzo had an article on the range of apparent and absolute magnitudes in the January-February, 1985 SPECTRUM. He included examples of specific objects at each magnitude level. Along similar lines was an article by Leslie Martin on "Planetary Brightness" in which the brightness of the planets as seen from different locations in the solar system was discussed.

10 YEARS AGO - Tom Dessert, our first Beaver Meadow Observatory Director, spoke in January 1980. Tom was an outstanding astrophotographer who had photographed the entire Messier list. His topic, appropriately enough, was entitled "Deep Sky Wonders". UB's Dr. Lyle Borst spoke on "Biological Astronomy" in February. Dr. Borst was a frequent and entertaining speaker at the BAA in years past.

Our refreshment chairman in 1980 was Adrienne Kimble, while Lillian VonGerichten welcomed new members. Darwin Christy had just installed his 12.5 inch telescope at Honeyhouse Observatory. Ask him where that name came from. Tom Dessert had taken a trip to various astronomy magazine publishers. Included were "Astronomy", "Deep Sky Monthly", "Sky and Telescope" and "Astrograph". His pictures appeared in many of those publications thereafter. Tom always donated his royalties to the BAA.

Al Kolodziejczak was the topic of Edith Geiger's "Profile". Fred Price wrote "On the Accuracy of Lunar Maps and Drawings". Fred compares his extensive lunar observations with sketches of formations drawn by other observers; they don't always agree. Carl Milazzo wrote about his project of seeing planets and stars in the daytime.

15 YEARS AGO - In January 1975 our speaker was Ernst Both, and in February it was Dr. Antoinette Mann Paterson. Ernst spoke on "The New Face of Mars", highlighting the recent Mariner 9 studies. Dr. Paterson spoke on Giordano Bruno.

Somehow we had a December-January SPECTRUM followed by a February-March issue that year. Both of them carried articles on our efforts to raise money for our observatory planned for Beaver Meadow. Anyone thinking raising funds for an observatory is easy will benefit from reading these articles.

20 YEARS AGO - The late Dr. Seville Chapman was scheduled to speak on "Celestial Mechanics". He was well qualified to do so: he was Chief Scientist at Cornell Aeronautical Laboratory (now Calspan) at the time. A snow storm caused the meeting to be cancelled and we heard Dr. Chapman in February instead.

An astrophotography exhibit was on permanent display at the museum. Photos were supplied by BAA members and by photographers using the Museum's Kellogg Observatory telescope. Club members who contributed were: David Blake, Ernst Both, Robert Burdick, Dr. Seville Chapman, Orrin Christy, Dale Hankin, Larry Hazel, John Riggs, Walter Semerau, Ian Slepian and Walter Whyman.

25 YEARS AGO - Walt Semerau was our January 1965 speaker. His topic-the construction of an automatic solar observatory. Our February speaker was Dr. Fred Price who talked about "Lunar Ray Systems".

We were working on plans for an observatory. This was to be the Newstead Observatory, the original home of our 12.5 inch telescope. The BAA's College of Fellows, an honorary group made up of members who have made outstanding contributions to the club, was inaugurated. These first members were: Ernst Both, Rudolf Buecking, Ed Lindberg and Walt Semerau.

Rowland A. Rupp

The Spectrum
Darwin Christy, Editor
216 Kohler Street
Tonawanda, N.Y. 14150

Dear Mr. Christy:

This is just to let the members of the B.A.A. about the astronomy group here at SUNY at Stony Brook.

In September, the meetings for the astronomy club at SUNY at Stony Brook started. We changed the name of the group from "The Astronomy Club" to "The Society of Astronomical Sciences and Aerospace Technology (SASAT)."

So far this year we have started a monthly newsletter, discussed the possibility of having guest speakers, and attended an Astronomy Jamboree.

The jamboree that we went to was at the Custer Institute which is in Southold, Long Island. Although the event lasted for three days, SASAT only visited on October 27. We were able to look through the 6 in. Eichner refractor at M13 and Venus. Jupiter was also visible in a 5 in. Alvan Clark refractor. After viewing, a poetry reading and a sing-a-long were started. All in all, it was an interesting visit. I was amazed at how clear the skies were considering how close Long Island is to New York City.

I am enjoying my time down here and I'll try to keep the B.A.A. up to date with SASAT's activities.

Sincerely,

Nancy Adams

Nancy Adams

OBSERVATIONS

At about 7:35 on the morning of December fourth I saw a very unusual phenomenon at sunrise. My observing station was somewhat unsatisfactory; I was driving west down the Youngman Highway and had to make my observation through the rear view mirror.

I saw a brilliant shaft of vivid orange light emerge from the eastern horizon. The sun was not yet visible, although I calculated it should have risen about five minutes earlier. Trees on the horizon must have blocked it. I estimated the beam extended at least ten or fifteen straight up and was a half degree wide, exactly the diameter of the sun. The beam had very sharply defined edges and was slightly tapered. In fact, a bright orange taper is a good description of what I saw.

When the sun peeked above the trees a couple of minutes later the base of the beam extended directly from the sun's disk as I had suspected. The shaft remained bright even as the sun rose, although it was less obvious because of reduced contrast. By then Niagara Falls Boulevard traffic occupied my attention and I forgot about my unusual sunrise.

Rowland A. Rupp

A CORRECTION

A virus of some kind got into the Instrument Notes in our last issue. In the fifth line, "limited magnitude" should have read, "limiting magnitude."

The last sentence was hit by a stronger virus. The last sentence should have read, "If everyone "entitled" to use the club telescope by virtue of having memorized the controls has free access to it, I tremble a little."

Bouquets to Darwin for usually being able to keep the virus at bay.

Ed Lindberg

INSTRUMENT NOTES

At our last instrument meeting we tested a six-inch mirror. The mirror tested as "usable for a finder" which

is one intended use. Using a reflector for a finder is somewhat unusual. The usual practice is to provide a refractor as a finder. This always seems awkward to me as the axes of the two eyepieces are at right angles. After the field has been located in the finder the observer moves over to the other eyepiece.

It has seemed to me that not enough thought is given to observing convenience. If a little reflector is provided as a finder the two eyepieces will be parallel and the two fields will be oriented alike. One concern of mine is that perhaps the six-inch telescope will be somewhat clumsy. I do not know whether or not the finder will also be used as a guide scope.

If the finder is not intended for a guide scope also, then I believe a smaller reflector, say a 4-inch rich field version, would be more convenient. I had one scope in which I mounted a small finder with parallel eyepieces set up at eye distance apart so that both instruments could be viewed at once. As one eye watches the low power field the other eye could be monitoring the field of the main instrument (telescope) and the desired object could be located very rapidly. I don't know whether anyone sells such a mirror. Maybe some ambitious individual will volunteer to make one.

Ed Lindberg

OBSERVATORY REPORT

Hi! Well hope you had better luck observing these last two months than I've had! When it was clear, I couldn't, and when it wasn't, I had plenty of time. The November open house on the 11th and 12th was well attended, all things considered. We had over 100 people stop by for a visit! Dave Junkin sent me a letter thanking the BAA for our renewed efforts in bringing Astronomy to the public. Both Dave and I would like to express our thanks to all those who showed up rain or shine, to at least show the public what the inside of an Observatory looks like. This year during the Beaver Meadow open house on April 21, 22 I would like to hold a Telescope Clinic. Help from all the ATM's in the club would be greatly appreciated. This would be a great opportunity to help prevent some of the frustrated astronomers from getting turned off by their X-mas specials: 1 element eyepieces, extraflex tripods, farout balancing, and 10th wave optics. All kidding aside, most people don't know where to go to get help! The policy of two people to give public nights, rain or shine will still be in effect this 1990 viewing season. There will be a signup sheet, and a listing of all times the Observatory needs helpers at the Membership Desk.

PHOTO SESSIONS: Yes we still have them, snow or shine, come on out, it is not that cold! (besides, I hate freezing by myself) As usual, I will be there on January 20, and February 17 around 8:00pm.

NEW TELESCOPE: As mentioned at the December meeting, we have to get any renovation plans approved by the Audubon Board of Directors. Please note they **OWN** the building. We maintain it in exchange for the privilege of using it free of charge. By the time you read this, we hope to have submitted a preliminary proposal to the Audubon's board. The proposal will be for an extensor to the building to house a bigger scope (20"), a permanent tracking mount housing, and the installation of an underground phone line. The next scheduled meetings will be January 25, and February 22, at 7:00. They will be held in the same room as the Christmas party. Help is also needed in writing proposals to foundations for money. The more help the better, as we are looking for over \$4,000.00!!!!

SOLAR FILTERS: Yes I still have #14 welder's lenses 2"x4" for a \$2.50 donation to the Observatory fund. These are great for naked eye views only. The telescopic view is similar to looking through storm windows.

Just remember it is a fantastic way to keep track of major solar activity, as you can carry it with you at all times.

PHONE: In the last column it was mentioned that the answering machine, and the moneys required to install the phone line were already donated. We now need to decide how to cover the monthly charges of \$15 per month. This is the cost of basic budget, and mileage. A log will have to be kept for all outgoing phone calls. One suggestion would be for all local calls to require a 50¢ donation, and all long distance calls to be 50¢ plus toll charges. This would help shift the burden of payment to those who use it. Of course all Observatory emergency calls would be free. It looks like Spring will be the earliest we can readily install the underground cable.



Daniel R. Marcus

KELLOGG OBSERVATORY REPORT

The Kellogg Observatory is now open to the public for nighttime observing every Friday from 7:00-9:45 pm through May 25th. All BAA members are welcome to stop by for a look through the Museum's 8-inch refractor. Also, photos and/or sketches are needed for the Museum's "Astronomy Current Events" case located in the Gibson Hall of Space. Anyone interested in volunteering to assist with public nights at the Kellogg Observatory or in displaying their work should call Marelou at 896-5200 ext. 214. **New members are especially welcome!**

Interested in taking an astronomy course? BAA members Rowland Rupp, Edith Geiger, and Alphonse Kolodziejzak will teach "Additional Topics in Astronomy" at the Buffalo Museum of Science on Tuesday evenings from 7:30 - 9:30 pm at the Buffalo Museum of Science. You can register by calling the Museum's Education Department at 896-5200 ext. 214.

Many thanks are due all BAA members who helped do astronomy demonstrations during The Big Chill exhibit. We have received numerous compliments on their presentations: Nancy Adams, Ken Biggle, Jack Empson, Doris Koestler, Jack Mack, Dan Marcus, Gene Witkowski.

Save this date! A "learn-to use, clean-up, fix-up your telescope" session will be held for the general public at the Buffalo Museum of Science on Sunday, May 20th from 1:00 - 3:00 pm. Your help is needed! This is your chance to share your expertise, promote astronomy, and the BAA all at once, or you can come and pick up some tips on telescope use.

ML. Bebak



The PLEIADES

The group of sister stars, which mothers love
To show their wondering babes, the gentle seven.
--Bryant

This group was called Pleiades after a Greek name meaning to navigate, because they appeared in May, a month favorable to sailors. The Pleiades are about 490 light-years distant and contain about 300 stars as seen in a moderate telescope. It is also referred to in Messier's catalogue as "M-45", and in Melotte's catalogue as Mel-22. This open cluster appearing in the constellation Taurus, is a little over one and a half degrees. In a time exposure, it reveals nebulosity about the stars within.

The auto makers in Japan named a car after the

Pleiades, called a SUBARU, and if you see one of those cars, you will notice an emblem representing the star cluster on the front grill.

The Pleiades were the seven daughters of Atlas by Pleione, daughter of Oceanus. According to one version, they were changed into stars because their father had tried to read the secrets of the gods; according to another version of their story they committed suicide out of grief for the death of their sisters, the Hyades; but another version makes the fate of their father the impelling cause. And according to a fourth version, they were companions of Artemis, and being pursued by Orion, were saved from him by the gods and translated to the sky. The versions agree in declaring the Pleiades were transformed into stars, where they are all visible save one, Sterope, who hides herself for shame that she alone of the seven married a mortal (she being the "lost Pleiad").

Being the objects of the attention of Orion, they were somewhat frightened at the boisterous wooing of the rather crude and cumbersome giant and ran away from him. To help them, Jupiter changed them into a flock of doves, and they are still flying across the skies with Orion still in pursuit. The attractive names of these stars are: Alcyone (the brightest at 2.96 magnitude), Calaeno, Electra, Taygete, Maia, Sterope (the lost sister) and Merope. With them is Atlas, their father and Pleione, their mother. The Pleiades have been regarded as representing Doves, Jupiter being thought to have changed them into this form enabling them to escape the attention of Orion.

The festivities of All Hallow's Eve, All Saint's Day and the memorial services of the dead held in many lands in the fall of the year, are all associated with this asterism. The culmination of these stars at midnight was the occasion of services of great solemnity among the ancient Peruvians. It is thought that these universal memorial services commemorate a great cataclysm that occurred in ancient times, causing a great loss of life.

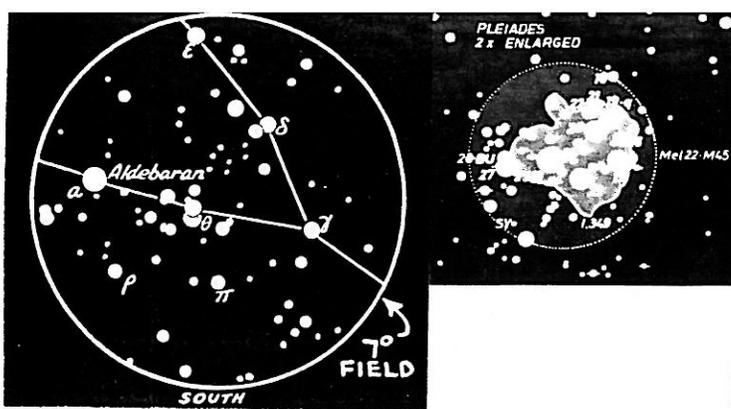
In mythology, the Pleiades were the seven daughters of Atlas and Pleione. It is said that they were placed in the sky because of their 'many fine qualities' but another story relates that they were so honored because of their grief at the task imposed on their father Atlas, of holding up the World on his shoulders.

In Chinese literature, the Pleiades were mentioned well over 2000 years before Christ. The Egyptians, the Aztecs, the Japanese and the Hindus all worshipped these stars. They were universally regarded with wonder and admiration.

In 43 B.C. a coin was struck by P. Clodius Turrinus bearing the Pleiades.

Many volumes have been written about this famous cluster. The Pleiades are mentioned in the Bible. In the King James version of the Bible we find the Pleiades mentioned in three places. In the book of Job, chapter 9 verses 9 & 10 reads, "Which maketh Arcturus, Orion and Pleiades, and the chambers of the south. Which doeth great things past finding out; yea, and wonders without number." Also in the book of Job, chapter 38 verses 31 & 32 reads, "Canst thou bind the sweet influences of Pleiades, or loose the bands of Orion? Canst thou bring forth Mazzaroth in his season? or Canst thou guide Arcturus with his son? And in the book of Amos, chapter 5 verse 8 reads in part, "Seek him that maketh the seven stars and Orion, ---". The seven stars referring to the Pleiades.

In the Douay Bible version or translation, gives the reading in the book of Job, chapter 38 verse 31 as, "Shalt thou be able to join together the shining stars of the Pleiades, or canst thou stop the turning about of Arcturus?" Again in the Douay Bible, we read in the book of Amos, chapter 5 verse 8, whereas 'Khima and Khesil' forsake both the Pleiades and the Hyades, and give these names to Arturus and Orion respectively.



The HYADES

Who bears not the Hyades, sprinkling his forehead o'er?
--Aratos

This "v" of stars is in Melotte's catalogue, Mel-25. No reference is given to Messier, but it is a wide open cluster, perhaps not significant enough for him. The first magnitude star Aldebaran is a part of the "v". The Hyades are much nearer than the Pleiades, being only about 130 light-years distant.

The Hyades (the rainers) were the sisters of Hyas, and their great inclination for hunting was fatal to him, having been killed by a wild boar. They grieved for their brother, Hyas, and shed such copious tears over his death that Jupiter, touched by their grief, changed them into stars. This is, perhaps, the reason for the watery reputation which they have always borne. Also, when they rose with the Sun, they were to the Greeks a sign of approaching rain. This cluster has been associated with the rainy seasons ever since ancient times. Most likely, due to the fact that these stars rise in the fall of the year, the season of inclement weather. They have been called the "Rainy Hyades" by the Greeks and the "Little She Camels" by the Arabs.

In Greek mythology, the Hyades were supposed to have been the daughters of Atlas, King of Mauretania, and Aethra, his wife. Also, they were considered the half sisters of the Pleiades. They lived at Dodona, where they cared for Zues and nursed the infant Bacchus. As a reward they were translated to the stars. Another story relates that the Hyades, being nurses, tended the infant Bacchus; thus, they were rewarded their place among the stars after death because of their faithful service to the infant.

Another tradition makes them sisters of the Pleiades. Their brother Hyas having been killed, they mourned so for him that Zues changed them into stars. Their rising and setting in November and April, respectively, seemed to usher in the rainy season. The Romans translated the name into "Succulae" (little pigs), deriving the word from 'sow'. The Hyades were associated with the fertilizing principle of rain and moisture.

The Hebrews drew in their zodiac, an "A" or 'Aleph', the first letter of their alphabet. Coincidentally, it had been figured as a Bull's face with horns. Some of the Targums assigned it to the tables of Manasseh and Ephraim, from Moses' allusion to their father, Joseph. In the book of Deuteronomy, chapter 33 verse 17, in part, "---And his horns are like the horns of Unicorns;" Translated in the Douay Bible as, "---His horns are the horns of the wild ox;" As mentioned in the article on the Pleiades, in the Douay Bible, 'Khima' was a name for the Pleiades, but in a later part of that bible it was referred to as the Hyades.

 Darwin Christy

SPY AND TELL

Congratulations to Darwin Christy who was honored with a certificate from the National Volunteer Agency for five years of outstanding service to the community as a senior

volunteer on the Retired Senior Volunteer Program (RSVP).

Ernst Both has been giving numerous lectures on mushrooms, including a talk on boletes to a group in Anaheim, California, and an evening lecture at the Rochester Mycological Foray held in Letchworth.

At the time of the sudden quasi-tornado that released its fury on Medina, on October 14th, two of our stalwart members were out on the water, when in the calm, an unexpected severe gust of wind sprang up from nowhere. Ken Biggie was sailing in his boat near Niagara Falls and the boat nearly capsized, but finally righted itself. Ken eventually got control of his craft and made it back to the dock, though he at first missed the dock, straddling between his boat and the dock, almost landing in the drink. It was all very dramatic and hair-raising. Gene Witkowski was also tossing around in the storm in his kayak, and being the able bodied seaman that he is, made it safely back to shore.

Hugh Pettit is finding Jupiter and sunspot activity very interesting as he observes the sky regularly from his apartment balcony.

Marguerite Aiple is a devotee of the cultural arts, attending theater productions, concerts, and lectures throughout the year.

Bob Battista bought binoculars for his five year old daughter. He takes her out with him to look at the stars, after which they come back into the house where Bob gets a book on the sky and shows her what they have seen that night while they talk about their observations. Wonderful!

On page 108 of Astronomy magazine for December, you will find Tristan DiLapo's endorsement of the book, The Universe from Your Backyard.

On November 8th, Carl Milazzo, Conrad Stolarski and Jack Mack attended a lecture at the museum given by Cliff Stoll, the "Spy Catcher." They found the energetic and personable Dr. Stoll to be a stimulating and exciting speaker.

Brian Fallon and his wife went to the Dominican Republic from November 27th to December 4th to celebrate their fifth wedding anniversary.

In the Letters department of the December issue of Sky & Telescope, a brief item, "New Blues Too?" appears from our own Nancy Adams, who is studying astronomy at the State University of New York at Stony Brook. Please check. Maybe you can answer her question.



Edith L. Geiger

THE BEAVER MEADOW OBSERVATORY

In the early 1970's, it became apparent to those BAA members who were active observers that the Newstead observatory, built in 1960, was not adequately serving the needs of the club.

The location of the facility, just off Route 5 (Main Street) in Newstead, once relatively remote from metro Buffalo with fairly dark skies, was becoming a serious problem. Rapid commercial and residential development in that area resulted in increased light pollution and decreased dark skies. The property, owned by Calspan, was no longer used for their research work in high power radar satellite tracking and its upkeep was being neglected. In fact, at that time in the early 1970's, the property was being leased to farmers who turned it into a corn field with stalks growing right up to our observatory dome.

The deteriorated condition of the building was also a serious problem, being so bad that volunteer work crews were no longer able to keep the facility operational. More often than

...when someone would go out to Newstead to use the telescope, they would spend most of their valuable time battling building and equipment failures under jungle like conditions.

Finally, when word was received that Calspan was thinking of selling the Newstead facility property, the idea for a new observatory was turned into action and the wheels started turning. The BAA Board of Directors, at its October 1972 meeting, decided that a new observatory at a new site was the only way to go and the club membership jumped into action.

Members of the Instrument Section discussed moving the 12 1/2" Newstead telescope to a new site far from all the problems associated with Newstead such as to the excellent dark sky site south of Buffalo at Camp Sprucelands where the BAA had held some very successful star parties recently and during the 1960's.

Fortunately, at this time, the Buffalo Audubon Society was planning to develop an extensive nature center on property it was acquiring off Welch Road in Java Center off Route 77 near where it intersects with Route 78. It was called Beaver Meadow pond, and coincidentally, was not far from Camp Sprucelands. With both the Audubon Society and the BAA being affiliates of the Buffalo Museum of Science, mutual interests were shared and, through common contacts by those such as Ernst Both, Curator of Astronomy at the Museum and long time BAA activist, the idea soon developed to include a new astronomical observatory among the buildings to be constructed at the new nature center.

The two clubs would undertake a joint effort to develop the project, raise funds etc. and in December, 1972, the Board of Directors presented plans at the general membership meeting which were accepted unanimously. In March, 1973, the BAA Board established a design committee to start work on the project. Members involved included, among others, Tom Dessert, Bill Deazley, Irv Goetz, Ed Lindberg, Edith Geiger,

warren Stemberg and John Riggs.

Fund raising efforts, legal obligations, program objectives, and other associated matters for the cooperative project between the BAA and BAS continued during 1973 and 1974 along with the actual building design and construction plans being developed by BAA members. The Instrument Section people had decided that this was the ideal opportunity to refurbish the club's 12 1/2" telescope with the objective of making it ideal for astrophotography and generally more reliable and easier to use by club members. Excellent design and construction work on the telescope was made possible through the efforts of members such as Bob Meyer, Tom Dessert, Bill Deazley, and Darwin Christy.

The mount was rebuilt, a new guide scope constructed, a variable RA speed clock drive designed and constructed, and a new output transformer provided. A one RPM Bodine motor provided the main drive and a 1/3 RPM Hurst Gear motor drove the declination axis. Improvements to the manual slow motion drives for RA and Declination slewing were also made.

This article will be continued in the MARCH-APRIL issue of the "SPECTRUM." It was to be entirely published in this issue, but due to the over-load, your editor could not get it in. Please accept my apologies....(dpc)

"SPECTRUM" deadline for the MARCH-APRIL issue is
FEBRUARY 9, 1990

COMPUTER BULLETIN BOARD

RICHARD ZANDER OF THE MUSEUM OF SCIENCE, IN CHARGE OF -TAKACOM- HAS GIVEN THE BAA MEMBERS A SPACE ON THE COMPUTER BULLETIN BOARD. FOR THOSE WHO ARE INTERESTED CALL 896 7833. MORE INFORMATION CAN BE GOTTEN FROM JACK EMPSON - 694 3314

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* THE SPECTRUM *

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