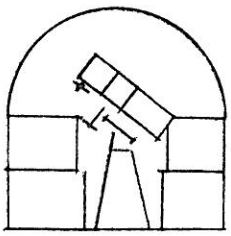

The Spectrum

BUFFALO ASTRONOMICAL
ASSOCIATION, Inc.

Darwin Christy, Editor

MAY - JUNE
1981

MAY meeting:- The May 8th meeting will begin at 8:00 PM at the Buffalo Museum of Science on Humbolt Pkwy. The guest speaker will be Dr. Stewart Sharpless from the University of Rochester. His topic will be, "Digital Analysis of Astronomical Photographs." Dr. Sharpless is famous for his work on the Milky Way.

????? QUIZ ?????

1) What is Spica's spanker?

2) Who is responsible for the use of Greek letters for star designations?

3) How many degrees is the plane of the galaxy tilted from the ecliptic?

4) What is the surface temperature range of visible stars?

5) Where will you find the greatest concentration of stars in the sky?

6) What is the difference between 'heliocentric' and 'ecliptic' longitudes?

Answers are elsewhere in the "Spectrum."

? QUESTIONS BY MEMBERS ?

1) Are the so called 'Blue Globular Clusters' of our satellite galaxy, the large and small Magellanic Clouds really blue in color? If so what is their integrated spectral type and absolute magnitude?

2) It is said that Quasars produce more energy than is possible by the nueclear process. If so, how many times more and is this also true with other active objects like N-Galaxies, Seyferts and BL Lacerta Galaxies?

Anyone having the answers to these questions, please come forth with those answers.....

* NEW MEMBERS *

GERROLD FOSTER
LIESE NESS
CHRISTOPHER STOKES
PATRICIA WARNER
JOHN YERGER WELCOME
WELCOME BACK - JOHN DLUGOSZ

SUMMER STAR PARTIES

The first Star Party will be held at Tom Dessert's on June 26th. It is a one day only, rain or shine.....
13 652-5530

DEADLINE FOR THE SUMMER ISSUE (JULY-AUGUST) "SPECTRUM"
MAY 29th

JUNE meeting:- The June 12th meeting will begin at 8:00 PM at the Museum of Science on Humbolt Pkwy. This is the annual business meeting. We will hear reports from the President, Treasurer, Secretary, and Membership Chairperson. We will also elect three (3) members-at-large to the Board of Directors. In addition to the business part of the meeting, we will hear from Dr. Robert Rein from the Roswell Park Memorial Institute. His topic will be, "The Question of the Origin of Life." Dr. Rein has been working on research on the topic for NASA.

NEEDED NEEDED

1) Members willing to serve on a financial audit committee. Contact Al Kolodziejczak, 634 5472 OR Irene Rupp, 839 1842

2) Members willing to serve as member-at-large on the Board of Directors for the next two year term. Contact Ken Kimble, 692 5068

3) Members willing to have star parties at their homes or favorite observing site. Contact Carl Milazzo, 688 7620

4) Members interested in having articles published in the Buffalo Science Museum's magazine Collections. Deadlines are:- Fall issue, April 24th - Winter issue, November 2nd, and Spring/Summer (1982) issue, February 15, 1982. Contact Al Kolodzeijczak 634 5472.

$ WANTED ¢

TIM HACKBARTH (668 5706) is looking for a 6 inch telescope. Will 'dicker.'

TOM DEY, 612 Clay Rd., Rochester, N. Y. 14623 (ph 716 338 5706 days or 716 334 0920 at home evenings) wants a 17.5 inch Dobsonian Mirror. Will pay $700 for kit or $100 to switch with anyone having one on order from Coulter's. He accepts uncoated or damaged mirrors.....

$ FOR SALE ¢

CHET RUTKOWSKI, 92 Bridlepath, Amherst, N. Y. (ph 634 9297) has a 60mm refractor with tripod and clock-drive for $150 or 'dickering.'

S. DeJOSEPH (627 9591) has a 6 inch reflecting telescope with motor drive and extention cord for $450 or best offer.....

NOTHING HAS MORE LIVES THAN AN ERROR YOU REFUSE TO CORRECT.

Do not forget that we are the HOST for the NFCAAA on May 16th.

(LUNAR PHASES)

New Moon - May 3rd, June 2nd, July 1st
First Quarter Moon - May 10th, June 9th
Full Moon - May 18th, June17th
Last Quarter Moon - May 26th, June 24th

* SOLAR *

The Sun is heading north until June 21st when it will reach Summer Solstice. After that it will again move south until winter.

-: METEORS :-

O Cetids - May 15th - One might be able to observe daytime bolides.
Zeta Herculids - May 17th
Eta Pegasids - May 30th.
Areitids - June 8th
Zeta Perseids - June 9th
Alpha Scorpiids - June 9th
Lyrids - June 15th *****
Ophiuchids - June 20th
Draconids - June 28th ****
Beta Taurids - June 30th
Sagittarids - July 6th
Alpha Cygnids - July 14th

"SPECTRUM" SURVEY REPORT

The "Spectrum' survey brought only 16 returns. This is by far a very low persentage of members responding. Of this number there were 60.7% 'like best,' 35.9% 'like,' and but 3.4% 'dislike.' To me, this means that the general membership does approve of the "Spectrum" AS IS. There were a few comments about additions which were not noted such as:- daily moon rises, more observations by members to be printed in the "Spectrum", also Beaver Meadow Observational reports, more members 'spied' upon for Spy & Tell who never seem to appear in that column; also more down to earth basic astronomical articles newer and younger members can understand and learn from, and finally a centerfold of our celestial playmate of the month - in color of course.....

From the questionaire:- the number of individually owned telescopes was surprising. They ranged from 2.6 inch refractors to 17 inch reflectors. Not including the Museum's telescope and the Beaver Meadow telescopes, there were eighteen owned by members. Accessories were limited to a few cameras, electronic drives and various oculars. Observatories exist among our members from domes to roll-off roofs to tubed-in solar types.

Activities were varied:- there were lunar observers. deep sky observing, planetary watching, and just general observing. There were a couple meteor shower observers also. Those interested in photographing were few but did show interest in deep-sky, constellations, lunar, planetary, and of course - solar.

If anything--- this should show that we do have some interested members and maybe this could spark interest for others. These members who do observations and photo work should come forth and show their wares so as to spark that interest I mention.....

There has been NO responce to call-out yet...

? SPY & TELL !

It's Spring! Al K. has been flying his powerful kites which almost lift him off the ground.

Larry Carlino has his new 17.5" Dobsonian reflector in operation and reports that its performance is excellent.

Former member, Phil Cizdziel, who has been a student in Hawaii for the last year, will be home for the summer. He has done a lot of sightseeing, and has enjoyed viewing Alpha and Beta Centauri and the Southern Cross.

Roland Rupp has been busy trimming his grape vines, including his choice Foch and Leon Millot vines. in anticipation of the coming season.

Ernst Both now has 700 piano concerto recordings in his superb record collection.

Early in April, Orrin Christy was seen in his kayak paddling his way through the ice in the Niagara River. He was in England for a week in mid-April for his employer, Moore Business Forms. During his visit he entered the canoe race down the Thames in a kayak provided for him by his British friends.

David Brink is contemplating going to Alfred University next year to study electronics. He has been a student at the University of Rochester and also at the University of Buffalo in the past two years.

Carl Milazzo has been looking for a telescope for a number of years, and at last he has been successful, He purchased a Rich-field 5" f4.2 refractor from Ralph Dakin. He observed Comet Panther, 1980u through the scope on March 27th and declared that it was a beautiful sight. Ralph Dakin, our friend from the Astronomy Section of the Academy of Science in Rochester, and an occassional speaker at our meetings, is going to retire soon from Bausch and Lomb, and he and his lovely wife, Helen, are moving to Maine. The Dakins will be greatly missed.

Congratulations to Steven Desmond who won the Kiwanis Club of Kensington Gold Medal for his exhibit, "Advanced Stellar Astrophotography", and the U. S. Navy Gold Medal for the best sebior exhibit for 11th and 12th grades held at the Western N. Y. Science Congress on April11th in the Museum of Science.

Edith Geiger

* MARS *

MARS has traditionally inspired the imaginations of mankind from the ancient civilizations who associated the 'red planet' with the God of War to our more contemporary science fiction authors who visualized Mars as the home of advanced civilizations. The swiftness of the transit of Mars through the constellations and it's firey red appearance were all that the ancients had to marvel at, however the science fiction writers prior to the Mariner and Viking Spacecrafts had the more tantalizing telescopic views of growing and shrinking polar ice caps, apparent seasonal changes in the light and dark areas along the equator, and the alleged canals.

At first glance, Mars is amazingly similar to the Earth. It's rotational period is 24 hours, 37.5 minutes it's axial tilt is 24° 16', it possesses polar ice caps and it shows seasonal changes that mimic summer and winter. Closer examinations may reveal wispd of clouds and patchy ground fog formed from traces of water vapor in the Martian atmosphere.

Getting closer to reality, Mars is more harsh and inhospitable than the most severe environment on the Earth. With an atmosphere 96% carbon dioxide and temperatures as low as 125°K, frozen carbon dioxide would form in the polar ice caps with water ice. At present the planet's surface is devoid of liquid water and surface pressure averages a low 7.4×10^{-3} atmospheres.

Surface features include cratered terrain, volcanic plains, mountains, canyons, eroded faults and sedimentary modifications. Four exceptionally large

volcanoes are located in the Tharsis volcanic province, the largest of which is Olympus Mons which has a diameter of 600 Km at its base and towers 26 Km above the surrounding terrain. A canyon 4000Km long, 120 Km wide and 6 Km deep, Dubbed Vallis Marineris, would dwarf any of its counterparts on the Earth. The principal agent of erosion is wind action which at times can whip up planet wide dust storms.

Mars has a mean distance from the Sun of 1.53 AUs, a sidereal period of 687 days, and a synodic period of 780 days. It contains .107x the Earth's mass in .15 of the Earth's volume. It's surface gravity is .38x Earth's which is almost exactly the same as the smaller and densed planet Mercury.

The distance between Earth and Mars at opposition varies according to their respective positions on the two orbital ellipses and close approaches occur at 15 year intervals. Mars is due for it's next close approach on September 28, 1988, when the distance will be reduced to 58.4×10^6 Km.

Mars has an equatorial diameter of 6794 Km which can be resolved into a disc 17.9 arc seconds in diameter. It's 0.16 albedo contributes to its 1.98 magnitude.

Mars has two satellites. Phobos orbits Mars at an altitude of 9350 Km in 7.7 hours and is 16 x 23 Km in size. Diemos orbits at 23490 Km in 30.3 hours and is 13 x 19 Km in size.

James A. Machowski

\+ SUNDIALS +

Continued from the March-April "Spectrum"

Reading a Horizontal Sundial

Telling clocktime by a sundial entails a little work; the dial is laid out to show the passage of the sun, not the standard time of our clocks.

A brief examination of the kinds of time will help in understanding why a conversion is necessary. The time read directly from the sundial is local apparent time. For example, when the sun is at it's highest point on your local meridian, the local apparent time is noon. When the sun passes through an arc of 15°, an hour has elapsed. The problem is the length of an hour of local apparent time changes during the year due to the shape of the earth's orbit. The sun's apparent speed differs with each hour of local apparent time remaining proportional to the sun's movement through an arc of 15 degrees.

A second kind of time, called local mean time, assumes that an imaginary sun moves at a uniform rate of speed during the course of a year and therefore the length of an hour is the same, as on our clocks.

The difference between these two systems is called the equation of time. During two periods of the year, the sun is said to be slow because its' time lags behind local mean time; the two other periods, fast, because the sun is ahead of its' imaginary counterpart. To convert the time read on the dial in theslow period into local mean time, add the equation of time for that particular day to the local apparent time from the dial. In fast periods, suntract. This procedure requires either a table, as in Figure 1 or a diagram inscribed right on the sundial as in Figure 2. For example if on February 25, the sundial reads 1 PM, (local apparent time) add 13 minutes, making it 1:13 local mean time.

This, however is still not clocktime; the time on the clock is standard time. The world is divided into twenty-four 15° time zones where, regardless of the longitude of the clock, each time piece keeps the local mean time of the standard meridian. Locally, 75° W is our standard meridian, with the time in the zone known as Eastern Standard Time. The conversion from local mean time (1:13PM) to standard time can be made by determining the difference in longitude and direction between the sundial and the standard meridian. For example, in Buffalo at 78° W, we are 3° West, or 12 minutes in time. (1° in longitude = 4 minutes in time). If the standard meridian lies to the west, subtract the correction; if to the east add. 1:13 + 12 = 1:25 PM. So, at this time of year, our sundial looks inaccurate according to the clock. Let's try October 22.

Local apprent time (sundial)	1:00 PM
Equation of time for Oct. 22	-15 min.
Local mean time	12:45 PM
Correction for standard time	+12 min.
Standard time (clock)	12:57 PM

Here, our sundial looks fairly accurate.
If daylight saving time, add an hour.

The correction for standard time can be built into the dial design by moving the hour lines over 3° (in the case of Buffalo, 78°) and then the only correction necessary would be for the equation of time. Then, as can be seen from the table, the sundial will only be "off" no more than a quarter of any hour at any time, except daylight saving time.

Paul A Young

note:- figures 1 & 2 are separate copies at the sign in table with Edith.

-----Membership Lists-----

Those who are interested in their membership list, please ask Edith. She has them with the sign in sheet.

*****CONSTELLATIONS*****

MAY

FREDERICI HONORES (Frederick's Glory) was formed by Bode in 1787, and in 1790 it was published in the 'JAHRBUCK' in honor of the great Frederick II of Prussia, who died in 1786.

The constellation was made up from 34 stars in the space between Cepheus, Andromeda, Cassiopiea and Cygnus. This is the space where Royer had attempted to replace the constellation, Lacerta of Hevelius, by his Sceptre and Hand of Justice in 1679. He borrowed for for his new constellation from the northern hand of Andromeda, which he moved to a more easterly position, entirely indifferent to the fact that it had been stretched out there for 3000 years. Bode's figure was thus described:- "Below a Nimbus, the sign of royal dignity, hang, wreathed with the imperishable Laurel of Fame, a Sword, Pen and an Olive Branch, to distinguish this ever to be remembered monarch, as hero, sage and peacemaker."

It is seldom mentioned, and has been discarded from the charts. Lacerta maintains its position in this much occupied spot.

JUNE

From down under in the southern hemisphers is the small but most impressive constellation, "CRUX". It is located in the Centaurus region which borders it on the east, south and west; Musca borders it on the north. Producing the cross are the first magnitude stars, Alpha and Beta, the second magnitude star Gamma and the third magnitude star Delta. Its width is but one hour of right ascension and its declination is but 10°. It lies in the Milky Way at the edge of the 'coal sack'.

For those who have had the opportunity of having seen this sight should long remember it. Not too far away is what is known as the 'false cross' made up of Epsilon, Iota and Delta Carinae and the star Kappa Velorum. The false cross covers more area of the sky than does the Southern Cross (CRUX).

Noteable objects in Crux are Gamma, a yellow-orange star with a 7th magnitude companion at a distance

of 100". Mu, a double star of magnitude 4.5 and 5.5 separated by 35", and Kappa which is a beautiful, bright cluster just visable to the unaided eye. It is known as the 'Jewel Box'. There are two Cepheid variable stars. "T" and "R" not more than 1.5° apart from each other.

Anyone ever traveling throuhg the south, below the equator, must NOT forget to look up and observe this most spectacular constellation...

???? PUZZLE ????

Lost among the Stars

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A T K N O I T U L O V E R M
Y N O I T A L L E T S N O C
R E S S A T U R N O M O S L
U P L A N E T E U M N T U I
C T J I B K C P A A A U N T
R U U N J L D P P R E L E T
E N P R I M L I S S T C K L
M E I P T U O D N S A H E E
P K T R T U H G D P N R Y D
P I E O N R H I S N S A E I
C I R A Y S O B M R W U N P
P K C H A R T S E Y N M I P
O S U N E V I T K N G J H E
P K M T H G A L A X I E S R
O M S B U R I S C I E N C E
O A N U C M S E A S O N S J
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Word List:- asteroids - big dipper - charts - constellation - crater - earth - ecliptic - galaxies - jupiter - little dipper - mars - mercury - milky way - moon - neptune - planet - pluto - rays - revolution - saturn - science - seasons - shine - space - stars - sun - venus--------

- Dr. John W. Raymonda -

In the little mining town of Wickenburg, northwest of Phoenix, Arizona, Jonh, the son of a field accountant for a mining company, was born. A year after his birth, the family headed east to settle in Utica, N. Y., where he was to spend his early years. He was an outstanding student at Proctor High School where he graduated as class salutatorian. In the New York State Science Congress Competition, he received honorable mention for his project on colloid chemistry; was a winner of a Regent's Scholarship, and a scholarship to Cornell University where he earned his B. A. in chemistry in 1961.

While an undergraduate at Cornell, he was chosen to do honor's research. His research paper on "Rotational Motion of Single Molecules" was published in collaboration with two other students and professor A. C. Albrecht. Dr. Albrecht knew Dr. William Simpson of the University of Washington in Seattle so, as a result, John was encouraged to go to the University of Washington where he earned his Ph. D. in physical chemistry, specializing inspectroscopy. His doctoral thesis was entitled, :Electronic Spectra of Saturated Hydrocarbons in the Vacuum Ultraviolet." While working on his Ph. D., he also attended the University of Oregon for some of his gradute work.

Always an outdoor man, John, as a high school student, had enjoyed hunting, fishing, ice-skating and hockey. His days in the northwest provided him with new experiences and adventures in the high country with skiing, mountain climbing and back-packing, savoring the excitement of the wilderness. Before graduating from the University of Washington, he climbed up into majestic Olympic National Park and trekked his way through the Olympic forests down to the shores of the sparkling Pacific, a sojourn he found to be most exhilerating.

John was married in June of 1963, and John Jr. was born in January of 1966 while his father was still in grad school. John wanted to teach in a university so, as a prerequisite he took a post doctorate at Harvard from December 1966 to August 1968. Here, he worked on radio frequency spectroscopy. One of the molecules on which he worked had an astrophyisical interest as an interstellar molecule, that being silicon monoxide. While in Cambridge, a second child, James, was born in 1968. It was also at Harvard that John first became interested in astronomy while taking advantage of the availability of Harvard Observatory.

His first position after leaving Harvard was as a teacher in the chemistry department at the University of Arizona, from September 1968 to January 1972. Though he didn't have a telescope, the beautifulm clear skies af Arizona further stirred his interest in astronomy. He jokes about an unusual incident at Kitt Peak Observatory when he called to find out the time for an evening show, and was somehow tied into the line connecting him with the well-known astronomer, Bart Bok. There is nothing like distrubing astronomical big-wigs at work to ask mundane questions about show-time. At least John can say he has spoken with Bart Bok.

While in the southwest, he traveled to Mexico on the Gulf of California to visit the Siri village on the west coast of Mexico, and was attracted to their type of wood sculpture which consists of stylized animals. birds, and fish. John had, at one time, carved a fish of soapstone, so with his visit to the Siris he was inspired to work in wood sculpture in a like fashion.

In early 1972, John spent five months at the National Research Council of Canada, in Ottawa, working in spectroscopy. During that time, an outing on the Gaspe Peninusula rewarded him with a spectacular display of northern lights, with the addition of a very large meteorite which burst with a brilliant explosion. He was becoming more and more excited by the wonders of the heavnes. His next position was with Cornell Lab working on chemical laser research and development, until Marck 1976 when he went to Bell Aerospace where he continues to work in the same field.

With his talents in wood sculpture, he became a member of the Buffalo Craftsmen and now also enamels on copper. After moving to our area he became interested in antiques, especially in their refinishing and restoration. John has also become engrossed in radio control model airplanes, and he and his sons, now 15 and 13 years old, spend many hours together flying these models. In addition, he builds and flies rubber powered indoor and outdoor planes.

His enthusiasm for astronomy was rekindled by his tounger son, James. Together they attended Ed Lindberg instrument making class in the fall of 1979, and are making 6" and 8" telescopes which they hope to finish in time to take to Stellafane this summer. In the meantime, they are using a $4\frac{1}{2}$" telescope purchased from B.A.A. member, Terrance Farrell. John likes all aspects of astronomy and appreciates the help given to him by our members. Of special importance to him as stellar evolution and the creation of the elements, plus the structure of galaxies, with emphasis on the role of quasars, and/or black holes in galactic cores.

Along with his many other interests, he enjoys reading stories of adventure, science fiction, military history, astronomy, and the literature connected with his work. Music is an important part of his life. He

likes to play "old time" string band music on a five string banjo, and also plays guitar and mandolin. He has a fine record collection of classical music, with works of Beethoven and Shostakvich being his favorites.

John is a multi-gifted man with soaring visions in many areas. With the freedom of spirit he enjoys in the great outdoors, the discipline he knows as an outstanding scientist, the artistry he displays in his crafts, and the joy he finds in music and astronomy, he is indeed an extraordinary gentleman.

Edith Geiger

NFCAAA

Niagara Frountier Council of Amateur Astronomical Associations.....

The Spring meeting will be hosted by the Buffalo Astronomical Association on May 16, 1981 beginning at 12:00 EDST. at the State University College at Buffalo 1300 Elmwood Ave., Buffalo, N. Y.

The business meeting starts at 1:00 PM usually for about an hour followed by short papers from the various club members, about 15 to 20 minutes in length. This brings about the changes and additions to the speakers list one of the foremats.

Dr. James Orgren of the College will present a planetarium show entitled "Springtime of the Universe"

A buffet dinner will be held in Moot Hall. Our featured dinner speaker will be Dr. Jack Mack of the College, presenting, "Echo of Creation - The Discovery of the 3 Degree Microwave Radiation Background." Jack says, "Amusing and Confusing" about it.

Registration fee is $10.00.....

BAA Annals

5 Year Ago - The May 1976 meeting was a big event for the BAA. The club met at the Fred T. Hall Bldg. at Beaver Meadow to dedicate the new Observatory there. Fred Price and Tom Dessert handled the speaking chores that night.

At the business meeting in June, Darwin Christy, the outgoing President, gave the annual report and handed Presidential chores over to Fred Price.

10 Years Ago - The May meeting in 1971 was originally planned for the Strassenburg Planetarium in Rochester, the arrangements could not be made so the meeting was held at the Science Museum and consisted of observational reports by members.

The June business meeting featured the annual report by President Dick Zygmunt and a lecture demonstration by Bill Chambers on Image Intensifiers.

15 Years Ago - The May 1966 meeting was addressed by Al. Gee who described his work on the Solar telescope and the Heliostat being installed at the Science Museum We still owe Mr. Gee a debt of thanks today for the privilege of having this fine equipment.

The June meeting was the annaul business meeting again featuring a report by President Ron Clippinger. The Spectrum that month announced that Larry Hazel had joined the U. S. Navy and wished him farewell.

Ken Kimble

+++++STUDY GROUP+++++

The March meeting of the study group was addressed by Al. K. on the subject of Star Clusters. Poor Al had been prepared for this meeting for a full year but he finally got the chance to make use of his research. After the meeting we were treated to a little impromptu music session by John Raymonda and Bob Schneider who both brought their banjo's.

The April meeting ended up just being a show and tell session although it was scheduled to be about the outer three planets. I guess not having our Pluto expert Carl Milazzo put a damper on the subject. Jim Russell and Alan Mohn showed some of their latest slides and Roland Rupp brought his file of astro-photographs, so it wasn't at all a wasted night.

The study group will NOT meet al all in May as we have promised to assist with public nights at the museum.

Ken Kimble

??????ANSWERS TO QUIZ??????

1) Corvus

2) Johann Bayer (1572-1625) in his star chart and catalogue, 'Uranomerria', published in 1603.

3) About 61°

4) From 3000°F (coolest) to 80000°F (hottest)

5) In the upper part of Cygnus in the Milky Way.

6) The heliocentric longitude is seen as from the Sun, whereas the ecliptic longitude is seen from the Earth.

BUILDING THE BEAVER MEADOW OBSERVATORY:
Some reflections and reminisces (Part 1)
by Ken Biggie

We are now into the sixth year of use of our beautiful observatory out in North Java located on the site of the Buffalo Audubon Society's Environmental and Education Center. The observatory has been a very successful addition to the many facilities located there attracting hundreds and even thousands of starry-eyed visitors each and every year. One could hardly imagine a nature center being complete without an astronomical observatory to provide an open window to the wonders of the universe.

The Beaver Meadow Observatory is however more than just one of many visitor facilities located at the naturecenter. It is the official Buffalo Astronomical Association Observatory, and it is available for use, at any time, by any member of our club. That is providing they have been checked out on how to operate the telescope - after all it is a precision instrument and must be treated with care. Since the observatory is primarily a BAA member facility and since the BAA has so many new members since the time it was constructed I thought it would be a good idea to provide a little bit of history with some reflections and reminisces on how it came to be. Hopefully new members will find this informative and the older members will find this somewhat interesting and maybe all will be a little more appreciative of this fine facility.

For several years prior to 1975 the BAA Observatory was located in a small section of open field just off Main St. (Rte 5) in the Town of Newstead. (The site was near where currently you can find that huge flea market) The BAA was able to lease the use of the site from the Calspan Corp. which also operated some kind of communication or radar facility there. This observatory had served the needs of the BAA membership for many years, but by the early 1970's several problems had developed which resulted in the decision to close the facility.

The building itself had become very deteriorated. Organizing volunteer repair crews for the Newstead Observatory was an annual event which attracted many members, but the problem was that by 1974/75 it was in such a deteriorated state that a little paint and polish just wouldn't do the trick anymore. The dome was especially bad and observing during the winter months was dangerous because you would have to climb up a ladder outside to knock off ice and snow to

remove the dome slot cover.

The condition of the building itself was enough reason to warrant a new facility, but another serious problem developed which required not only the construction of a new structure but also the relocating of the facility to a new site. Light pollution, as Carl Milazzo will verify, was by 1974 also at intollerable levels. Street lights on route 5 and newly installed lights at a nearby used car lot were a real headache. Also, the Newstead site was not very far east of the metropolitan area and new subdivisions and shopping center developments in Amherst and Clarence during the 1960's gradually took away the dark skies.

There was also a minor problem with the property lease the BAA had with Calspn Corp. Since we did not pay any compensation for using the site and since Calspn itself had ceased using their own facility, the property was not generating any direct or indirect revenues for the Corporation, so they decided to allow some local farmer the right to plant a corn crop there. I can remember the last few times I was at Newstead that the corn stalks were over 7 feet high and completely surrounded the observatory building.

Since the need for a new observatory at a new site did not crop up overnight many ideas had been tossed around by the membership and by the Board of Directors for sometime. Tom Dessert, Ernie Both and John Riggs after much discussion had come up with the idea of locating a new observatory out in N. Java at the location of the Buffalo Audubon's wildlife sanctuary which was being converted into a multifacility nature center. The idea was excellent since this site was far away from the dity and would not involve any land purchase or property tax payments. The BAA and the BAS agreed upon the idea and at least one problem had been solved.

Many BAA members had also been active at this time in raising funds to pay for a new observatory building. The new building was originally conceived as a domed facility, but to avoid the problems experienced at Newstead which had a crudely constructed dome, the new dome would be purchased from a professional manufacturer. If anyone who was invloved in the original design and construction of the Newstead dome is reading this please do NOT take offense with my reference to the dome as being crudely constructed. I only want to indicate that to avoid the same problems of manual operation and constant repair of deteriorting materials experienced with the old dome, the new one could only be superior if purchased from a professional. Anyway, as I was saying funds were being sought for thenew observatory and there was considerable success - thanks to several key contributions by club members, especially Mrs. Octavia Black from Camp Sprucelands, who I believe came up with about $1500. The Buffalo Foundation and the Buffalo Audubon Society each came up with about a thousand dollars. Many BAA members made substancial contributions and there were several fund raising activities as well, such as I remember a P.D.Q Bach concert at Kleinhan's Music Hall, a horse show at Camp Sprucelands, and it seemed like at every monthly meeting, astronomy books or astrophotographs or some other objects were raffled off to raise funds.

However, altough a site had been selected, funds were being raised, and everything looked as though we were well on our way to that great observatoryin the sky, other new problems began to develop. First - when inquiries were made about the cost of a professionally constructed dome we were all shocked by how expensive they were. I believe that the size and type of dome which was being considered would have cost us more than what was budgeted for the entire observatory which at that time was around five thousand dollars. The idea of a domed observatory was killed mainly because of the cost of purchasing what we wanted and also because no one wanted to attempt another home-made domed building.

The second problem encountered was in a sense the result of the solution to the first problem, and developed in this manner.- Since the dome concept was out as an alternative design had to be considered. Tom Dessert finally drew up some plans for a building which would have a standard gable roof over a rectangular substructure, but in this case the whole roof would slide away on rails to enable observation of the sky. This design solved the problem of having to spend thousands of dollars for a factory built dome, but it is one thing to draw up plans on paper and another thing to transfer those plans through construction into an actual onsite building.

Originally the construction of the new observatory was going to be an entirely voluntary project, except for the dome which was to be purchased. All work would be done by BAA members during evenings and weekends. However, with the change in design to a sliding roof type building, and with such a lot of money (over five thousand dollars) being invested, this approach was deemed to be impractical. The building, with a sliding roof, was to be a rather sophisticated structure. For example, the roof could not have a very steep pitch for if it were too high it would itself block off much of the observer's sky. However, Beaver Meadow gets a lot of snow and a flatter roof would allow too much snow (heavy weight) to build up. The roof would therefore have to be specially designed to withstand great stress but also be able to be easily slid off on a set of rails at the same time. A roof of this design would itself be heavy and therefore the walls upon which it would rest would also have to be specially designed. Anyway, the point of this example is to show that this building, although it may resemble a standard 2 car garage which any weekend-handyman might spend a year or two of summer weekends doing, and its construction would require persons with special skills and experiences beyond those of the typical amateur weekend handyman. With volunteer workers, could, or would, the observatory ever be completed properly within a reasonable time? That was a question, and it was also perceived that the scheduling of work and amount of labor available at anyone time under a volunteer labor system would vary so much that reasonable progress and adequate quality control could not be insured.

It seemed the only other approach would be to hire a professioaal contractor to do the construction, but that would maybe double or triple the cost of the project and would mean a delay of possibly several years until extra funds could be raised. If construction of the new observatory were to be substantially delayed that meant that if the club wanted to have an operating observatory, the Newstead building would have to eb rebuilt, and that would eat up a lot of the existing funds. Also, with that corn field of stalks and light pollution no one wanted to return to Newstead anymore. We were all excited about the promise of great dark night skies at Beaver Meadow.

A solution to the construction dilemma was provided at the time in 1975 by a relatively new member to th BAA (me - Ken Biggie)(1973) who also happened to be in the construction and remodeling business with his brother, Tim. It was presented to the BAA Board of Directors that I had propsoed to Tom Dessert the BAA contract with Biggie Construction for construction of the observatory for a nominal fee that would allow for beginning the project immediately and finishing it that summer all within the available budget. The Board accepted Tom's proposal and the project was on its way. I was a member of the BAA and brother Tim had been in the

housing construction and remodeling business for several years and his experience and carpentry skills were just what was neede to insure quality control. And, as for myself, well what can you say? There just has to be a boss(?) and since brother Tim would be busy trying to make sense out of Tom Dessert's design drawings, somebody would have to be there to make sure things got done right.

This approach to the construction of the Beaver Meadow Observatory worked out well since it was agreed that volunteer help would also be allowed to do some of the work and assist my brother and I with the construction. Once the foundation was in and the basic structure (floors, walls, and roof) was up most of the finish and detail work was in fact completed by volunteer members.....

See the next edition of the 'SPECTRUM' for part 2 - The continuing story of the construction of the Beaver Meadow Observatory.

PREVIEW

Its about flies, the Buffalo Beaver and 8 ft tall BAA members. DON'T MISS IT !!!

GOING SOMEWHERE??

Why not try one of the NFCAAA member clubs meetings.

1) Broome County Astronomical Society
Joe Statkevicus
14 Sunset Terr.
Appalachin, N. Y. 13732
(607) 625 3646

2) Elmira-Corning Astronomical Association
Dr. Martin Green
RD 1
Elmira, N. Y. 14903
(607) 562 3033

3) Finger Lakes Astronomy Club
William H. Ottemiller
137 Cayuga St.
Seneca Falls, N. Y. 13148
(315) 568 8271

4) Hamilton Center (RASC)
Bob Speck
448 East 13th St.
Hamilton, Ontario, Canada
(416) 388 0782

5) Lockport Astronomy Association
Carl Milazzo
1955 Hopkins Rd.
Getzville, N. Y. 14068
(716) 688 7620

6) London Centre (RASC)
Peter Jedicke
Apt. 1507, 205 Oxford St.
East London, Ontario, Canada
N6A 5G5
(519) 433 2992

7) Nigara Centre (RASC)
Hugh MacLean
655 Vine St.
St. Catherines, Ontario, Canada
L2M 3V8
(416) 934 6269

8) Rochester Academy of Science, Astronomy Section
Ralph Dakin
720 Pittsford-Victor Rd.
Pittsford, N. Y. 14534
(716) 248 5261

9) Syracuse Astronomical Society
Dr. Donald Botteron
829 Maryland Ave.
Syracuse, N. Y. 13210
(315) 474 8849

For information when their meetings are held and where write or call any of the above members.

Giovanni Virginio Schiaparelli

Born in Saviglianom Italy on March 14, 1835 was Giovanni V. Schiaparaelli who was to become an astronomer. He studied under Johann Franz Encke and in 1854 graduated from the University of Turin in Berlin. Later he studied under Fredrich Georg Wilhelm von Struve at Pulkovo, Russia. Upon his return to Italy in 1860 he became assistant observer at the Brera Observatory in Milan. In 1900 he retired as the director of Brera. Ten years later he passed away on July 4, 1910.

Some of his astronomical feats were the discovery of the asteroid Hesperia in 1861 and he showed the relation between meteor swarms and cometary orbits. He showed that there was a relation between the comet Tuttle of 1862 and the present day Perseids. Later on Temple's comet of 1866 moved in a coincidental orbit as do the Leonid meteorshower. The latter is what prompted his discovery in these relationships; mainly the Great Leonid meteor shower of 1833.

In 1877 the first accounts he published of his observations of what he called "Canali" (channels) on Mars. This name he used was misinterpretted to be 'Canals' by other astronomers but they both mean nearly the same.

He wrote several works on various phases in astronomy:

Le stelle cadenti (1873)

Norme per le osservazioni delle stelle cadenti dei bolidi (1896)

L'astronomia nell' antrio Testamesta (1903)

Elementi di astronomia sferica (1912)

Beside these books he wrote many papers dealing with orbits of planets, comets and meteors. The above dates in parenthesis are publishing dates and not the dates he wrote them.

(OBSERVATIONS)

There were NONE reported. Didn't anyone do any observing in the past two months??????????????????????????????????

"People who think they know everything are particularly aggravating to those of us who do."

-:CONTRIBUTUIONS:-

Edith Geiger
Ken Kimble
Ken Biggie
James Machowski
Paul Young
& Yours truly - DC

THANK YOU---THANK YOU---THANK YOU----------

SUN—EPHEMERIS AND CORRECTION TO SUN-DIAL

Date	Apparent R.A. 0h E.T.	Apparent Dec. 0h E.T.	Corr. to Sun-dial 12h E.T.	Date	Apparent R.A. 0h E.T.	Apparent Dec. 0h E.T.	Corr. to Sun-dial 12h E.T.
	h m s	° ′	m s		h m s	° ′	m s
Jan. 1	18 43 14	−23 04.2	+ 3 22	July 3	6 45 33	+23 01.7	+ 4 03
4	18 56 28	−22 48.4	+ 4 45	6	6 57 56	+22 46.4	+ 4 35
7	19 09 38	−22 28.6	+ 6 06	9	7 10 15	+22 27.5	+ 5 05
10	19 22 45	−22 04.8	+ 7 22	12	7 22 31	+22 05.2	+ 5 30
13	19 35 46	−21 37.1	+ 8 33	15	7 34 43	+21 39.5	+ 5 51
16	19 48 42	−21 05.6	+ 9 38	18	7 46 50	+21 10.4	+ 6 08
19	20 01 32	−20 30.5	+10 37	21	7 58 52	+20 38.1	+ 6 20
22	20 14 15	−19 51.9	+11 30	24	8 10 49	+20 02.7	+ 6 26
25	20 26 52	−19 10.0	+12 15	27	8 22 41	+19 24.3	+ 6 28
28	20 39 21	−18 24.9	+12 53	30	8 34 27	+18 43.0	+ 6 24
31	20 51 42	−17 36.9	+13 24				
Feb. 3	21 03 57	−16 46.0	+13 48	Aug. 2	8 46 09	+17 58.9	+ 6 14
6	21 16 04	−15 52.4	+14 05	5	8 57 45	+17 12.1	+ 6 00
9	21 28 05	−14 56.4	+14 14	8	9 09 16	+16 22.9	+ 5 40
12	21 39 58	−13 58.1	+14 16	11	9 20 41	+15 31.3	+ 5 15
15	21 51 44	−12 57.8	+14 12	14	9 32 01	+14 37.4	+ 4 44
18	22 03 24	−11 55.6	+14 01	17	9 43 16	+13 41.5	+ 4 09
21	22 14 57	−10 51.7	+13 43	20	9 54 26	+12 43.6	+ 3 29
24	22 26 24	− 9 46.2	+13 20	23	10 05 32	+11 43.9	+ 2 44
27	22 37 46	− 8 39.5	+12 51	26	10 16 34	+10 42.6	+ 1 56
				29	10 27 32	+ 9 39.7	+ 1 04
Mar. 2	22 49 02	− 7 31.6	+12 17	Sept. 1	10 38 27	+ 8 35.4	+ 0 09
5	23 00 15	− 6 22.7	+11 39	4	10 49 20	+ 7 29.8	− 0 49
8	23 11 23	− 5 13.0	+10 57	7	11 00 10	+ 6 23.2	− 1 49
11	23 22 28	− 4 02.6	+10 11	10	11 10 58	+ 5 15.6	− 2 50
14	23 33 30	− 2 51.8	+ 9 23	13	11 21 45	+ 4 07.2	− 3 53
17	23 44 29	− 1 40.8	+ 8 33	16	11 32 31	+ 2 58.2	− 4 57
20	23 55 27	− 0 29.6	+ 7 40	19	11 43 16	+ 1 48.7	− 6 02
23	0 06 23	+ 0 41.5	+ 6 47	22	11 54 02	+ 0 38.9	− 7 06
26	0 17 18	+ 1 52.4	+ 5 52	25	12 04 48	− 0 31.2	− 8 09
29	0 28 13	+ 3 02.9	+ 4 57	28	12 15 36	− 1 41.3	9 10
Apr. 1	0 39 08	+ 4 12.8	+ 4 03	Oct. 1	12 26 26	2 51.4	10 09
4	0 50 04	+ 5 22.1	+ 3 09	4	12 37 18	4 01.1	11 06
7	1 01 02	+ 6 30.6	+ 2 18	7	12 48 14	5 10.5	12 00
10	1 12 01	+ 7 38.0	+ 1 28	10	12 59 13	6 19.3	12 50
13	1 23 03	+ 8 44.3	+ 0 41	13	13 10 16	7 27.3	13 36
16	1 34 08	+ 9 49.3	− 0 04	16	13 21 23	− 8 34.3	14 18
19	1 45 15	+10 52.8	− 0 45	19	13 32 35	9 40.3	− 14 54
22	1 56 27	+11 54.7	− 1 23	22	13 43 53	−10 45.0	−15 25
25	2 07 42	+12 54.8	− 1 57	25	13 55 16	−11 48.3	−15 50
28	2 19 01	+13 53.0	− 2 27	28	14 06 47	−12 50.0	−16 08
				31	14 18 24	−13 49.9	−16 20
May 1	2 30 24	+14 49.1	− 2 52	Nov. 3	14 30 08	−14 47.8	−16 24
4	2 41 53	+15 43.1	− 3 12	6	14 41 59	−15 43.6	−16 21
7	2 53 27	+16 34.7	− 3 27	9	14 53 58	−16 37.0	−16 11
10	3 05 06	+17 23.9	− 3 37	12	15 06 05	−17 27.8	−15 53
13	3 16 50	+18 10.4	− 3 42	15	15 18 18	−18 16.0	−15 27
16	3 28 39	+18 54.2	− 3 41	18	15 30 40	−19 01.3	−14 54
19	3 40 33	+19 35.1	− 3 36	21	15 43 09	−19 43.5	−14 14
22	3 52 32	+20 13.0	− 3 26	24	15 55 45	−20 22.5	−13 26
25	4 04 36	+20 47.7	− 3 11	27	16 08 28	−20 58.1	−12 32
28	4 16 44	+21 19.3	− 2 52	30	16 21 18	−21 30.2	−11 30
31	4 28 57	+21 47.6	− 2 28				
June 3	4 41 13	+22 12.4	− 2 01	Dec. 3	16 34 15	−21 58.7	−10 22
6	4 53 33	+22 33.8	− 1 30	6	16 47 17	−22 23.3	− 9 09
9	5 05 56	+22 51.6	− 0 56	9	17 00 23	−22 44.0	− 7 51
12	5 18 22	+23 05.8	− 0 20	12	17 13 34	−23 00.7	− 6 30
15	5 30 49	+23 16.3	+ 0 18	15	17 26 48	−23 13.3	− 5 05
18	5 43 17	+23 23.1	+ 0 56	18	17 40 05	−23 21.7	− 3 38
21	5 55 46	+23 26.3	+ 1 35	21	17 53 23	−23 25.9	− 2 09
24	6 08 14	+23 25.7	+ 2 14	24	18 06 42	−23 25.9	− 0 39
27	6 20 42	+23 21.4	+ 2 52	27	18 20 01	−23 21.7	+ 0 50
30	6 33 08	+23 13.4	+ 3 28	30	18 33 19	−23 13.2	+ 2 18

Figure 1

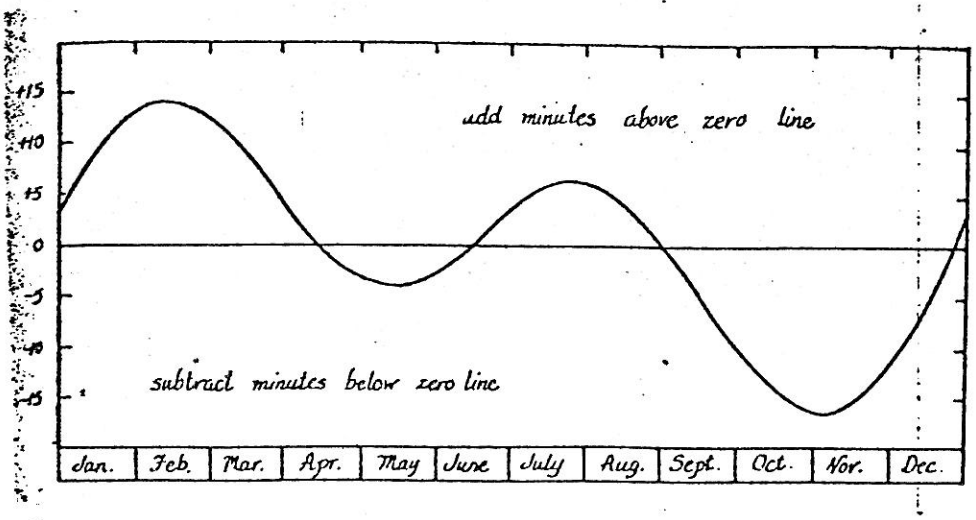

Figure 2