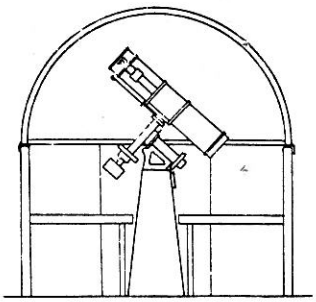
The Spectrum

NOVEMBER - DECEMBER
1982



BUFFALO ASTRONOMICAL ASSOCIATION, Inc.

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NOVEMBER meeting:- The November 12th meeting will be held at 7:30 PM in the auditorium of the New Science Building at Buffalo State College. BAA member Steve Kramer will speak on the RITTENHOUSE ORRERY. Steve, a clock maker, photographer, co-author of Clock Makers of Lancaster County, will give an illustrated talk on a major artifact of our colonial American heritage--the miniature mechanical solar system, or orrery, made by David Rittenhouse in 1770 in Philadelphia. Steve has the only technical data on this 300 year mechanism, which may be the most sophisticated orrery ever made.

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DECEMBER meeting:- The December 10th meeting is the BAA Christmas party. Edith Geiger will present her annual photographic report of club activities. Bob Mayer and Steve Kramer will unveil a detailed model of an ancient Greek astronomical instrument that they have built. Lack Mack will frost the Christmas cookie with a topic not yet announced. Speaking of Christmas cookies--join us for cookies, wine and cheese after the meeting.

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DUES DUES DUES

Dues are due----Claudia Bielinski will gladly accept them at the meetings. Student membership - $5.00
Regular membership - $10.00
Family membership - $15.00
Subscription to the 'SPECTRUM' only - $2.00

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Q U I Z

1) How many degrees difference is there between the Sun's Summer and Winter Solstices?

2) How many degrees difference is there between the Sun's Vernal and Autumnal Equinoxes?

3) Do any of the other planets, besides Earth, have a summer, fall, winter, and spring season?

4) Does the Moon encounter any such season?

5) Which planet endures the hardest winter?

Observatory Notes
for
November - December

Clear public nights at Beaver Meadow this year have been popular, well attended events. The spring public nights, with one exception, were unfortunately clouded out. From July to October however, the weather improved, and the attendance averaged approximately 50 people per night. One of the reasons for this success was the support given by our members who volunteered their time to help run the Observatory. Many kind thanks must go to the following people for their services: Carl Milazzo, and Doris Koestler, Don Dessert, Gretchen Schork, Jerry Morris, Adrienne Kaczmarek and Jerry Foster. Although the Observatory is now closed for public nights until spring, Volunteers in advance are always needed and welcome. If you are not eligible to use the Observatory but would like to participate, it's easy to become qualified - please call John Riggs at 875 7965 to make arrangements.

Quite a few interesting and unusual astronomical objects and events were seen at the Observatory this year by our members. The most heavily attended event was the July Lunar Eclipse. Even though thr sky was slightly hazy, the unobstructed southern horizon allowed us to watch the eclipse right through to dawn. The aurora display on July 13 was another outstanding sight at Beaver Meadow. Most of the Messier objects were collectively seen at one time or another. More remote, but equally interesting, was the viewing of Stephen's Qiuntet with the 12½-inch by Larry Carlino. A large number of variable star observations were also made at the Observatory. Foremost among these was the sighting of TT Bootis undergoing an eruptive outburst in March by Larry Hazel. Other eruptive variables seen this year included SS Cygni in March, June and July, AH Hercules and AB Draconis in July and UU Aquilae in October. In addition, Comet Austin was picked up frequently during August. The Observatory was able to provide the general public with, if not the only view, certainly the best view of the Comet. These are just some of the highlights of the observations made at the Observatory. Let's hope the coming weather will provide us with at least a few good nights to explore the winter skies from Beaver Meadow!

John Riggs

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BID-OFF

A new name for an 'auction' is a 'bid-off'. Walt Whyman has a "Metrogon Lens" - 6" - f:6.3 which will cover to a 9"x 9" film which can be used for astrophotography. He says it has to be assembled and a camera body made for it. They are exceptional lenses and are worth every dollar. Whoever bids highest, within reason, will have a buy and will also be helping the BAA treasury as the proceeds are to be placed in the treasury of the BAA.

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NOVEMBER Constellation

On the zodiac, swimming around the skies are the FISH. PISCES is located on the ecliptic and bourdered by Andromeda and Pegasus on the north; Aquarius and Cetus on the south; and Aries and Triangulum on the east. The Vernal Equinox, which was in Aries has over the years moved into Pisces but is still called 'the First Point of Aries'.

Objects to be observed in Pisces, although it might require a large instrument, are:

Double Stars -	Alpha	- 4.3 & 5.2 M - D 2.1"
	Zeta	- 5.6 & 6.5 M - D 24"
	Phi	- 5.6 & 5.8 M - D 30"
	51	- 5.7 & 9.5 M - D 28"
	35	- 5.9 & 7.6 M - D 148"
	55	- 5.6 & 8.8 M - D 193"
	65	- 6.3 & 6.3 M - D 4.4

Variable Stars - R - 7.1 to 14.8 - 344.1 days
Deep Sky Objects - NGC - 95, 128, 470, 473(M-74), 474, 488, 520, 524, 718, 741, 7641, 7679, 7716, 7782, & 7785. They all can be located on the new "Sky-Atlas" 2000.0.

According to Greek mythology, the beautiful Venus and her son Cupid were walking on the banks of the River Euphrates. They saw the giant Typhon coming so they threw themselves into the river to escape the monster. Thus assumed the forms of fishes. To commemorate the fortunate escape from danger, Minerva placed them in the sky. Astrologically Pisces was considered to be an unlucky group of stars. Fish were considered to be odious in early times throughout Egypt.

It was in this constellation that Harding discovered the asteroid Juno on September 2nd, 1804.

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LOCAL OBSERVATIONS of the GREAT COMET of 1882

Just over a century ago, the "Great September Comet" of 1882 made its appearance in the pre-dawn sky. Described as one of the moetbrilliant comtes in modern times, Comet 1882 II was the first such object to be well-photographed. The September and October issues of Sky & Telescope have described in length the scientific observations made of the comet's visit, but it may be equally interesting to consider the visual description of the apparition made by Western New Yorkers at the time.

The following articles from the Lockport Daily Journal were collected by Niagara County Historian, I. Richard Reed, and chronicle the events in a mixture of laymen's and astronomical language:-

Oct. 5, 1882 - "The big Comet can now be plainly seen in the east between 4 and 5 AM. It is large and brilliant. The nucleus appears to be about 4 inches in diameter while the tail appears to be 50 or 60 feet in length and is curved like a sabre. The Comet can be seen until a few minutes before sunrise and with a strong field glass it can be discerned just as the sun comes up over the horizon."

Oct. 6, 1882 - "The milk men and the policemen are about the only people who take regular observations on the Comet.. One of the farmers says it is a beautiful sight with a "head as big around as that milk can and a tail as long as from here to the fence."

Oct. 6, 1882 - "DON'T MISS THE COMET! Mayor Rogers has authorized on of the night policemen to strike Box #3 on the triangle tomorrow a 5 AM.. so our citizens will be awakened and have an opportunity of seeing this phenomenal early riser in the heavens. The Comet's nucleus shines like a star of the first magnitude. The tail is curved like a sabre, inclines to the south and a faint bifuration is noticed."

Oct. 7, 1882 - "A (large) crowd of people.. arose at the striking of the trinagle this morning. A large field glass distinctly disclosed the division in the tail of the strange visitor.. The brilliancy of the light was a little dimmer towards daylight by a haze.. but it was still very prominent in the heavens for nearly an hour."

Oct. 19, 1882 - "The REPRODUCTIVE COMET -The present comet in the eastern sky.. is certainly the most remarkable one of all the modern comets. Prof. Lewsi Swift of the Rochester Observatory states the comet grazed the sun so closely as to cause great disturbance, so much so that it has divided into no less than 8 separate parts, all of which canbe distintly seen by a good telescope."

The newspaper also reveals another naked-eye comet of the same year: Comet Wells, which might well have been better remembered had it not been so outshined by the appearance of the "Great Comet" four months later. According to the Journal:-

May 23, 1882 - "The Wells Comet, at last, made its appearance to the naked eye. It was observed last night at about 11 PM almost exactly under the Pole Star and about half way between that star and the horizon. Its appearance is that of a nebulous star, nothing as yet striking about it, as we are not in position to see its tail.. It is estimated to be about 25 times brighter than at the time discobered...."

May 30, 1882 - "The tail of the comet can now be seen with a field glass of moderate power in the north-northwest, not far from the polar star."

Shaun Hardy

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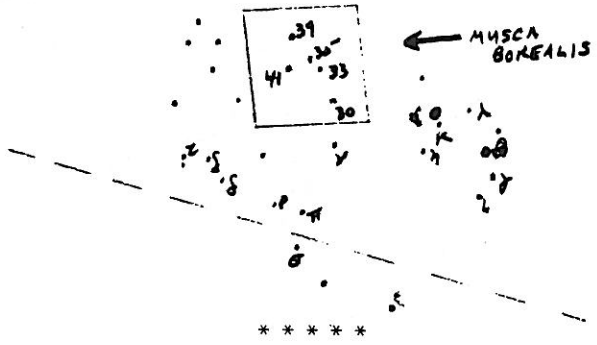
DECEMBER Constellation

First from the east, the Ram conducts the year. The first sign of the zodiac is displayed by ARIES where the vernal equinox used to begin. This constellation contains only three conspicuous stars, Alpha (Hamal), Beta (Sheratan) and Gamma (Mesarthim), forming an obtuse triangle. Its position among the constellations is with Perseus and Triangulum on the north; Pisces on the west; Cetus on the south; and Taurus on the east.

Objects in this constellation include:-

Double Stars -	Gamma	- 4.8 & 4.8 M - 8"	separated
	Lambda	- 4.8 & 7.6 M - 38"	"
	Epsilon	- 5.2 & 5.5 M - 1.5"	"
	30	- 5.5 & 6.5 M - 39"	"
	33	- 5.4 & 9.0 M - 29"	"
Triple Star -	Pi	- 4.9 & 8.4 - 3"	
		4.9 & 10.5 - 25"	
Variable Stars -	R	- 7.5 to 13.7 M - 186.7 days	
	T	- 7.5 to 11.3 M - 319.6 days	
	U	- 6.4 to 15.2 M - 371.4 days	

NGC Objects are - 697, 772, 821, 877, 972, 976 & 1156. They are all included in the new Sky-Atlas 2000.0



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ANCIENT Constellation

MUSCA BOREALIS, The Northern Fly, is a small group over the back of the Ram. It has been called the wasp, the bee and then the fly. It has been retained in some works but in the scientific catalogues has disappeared. The stars within its boundary are those of 33, 35, 39 & 41

in the constellation of Aries. Instead of the Fly, Royer figured it to be the Lily (le Lis or Le Fleur de Lis) in 1679. The figure being that of the Coat of Arms of the French. That too has passed out of the books and maps.

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OBSERVATION REPORTS

Mees Observatory - September 18, 1982 - Ontario Co. Using the observatory's 24" Cassegrain f:13.5 and a 32mm eyepiece, giving a magnification of approximately 260 x the Ring Nebula (M 57) in Lyra, galaxy NGC 7331 and Stephen's Quintet in Pegasus, and the Great Nebula (M 42) in Orion were observed. Although the sky was dark and the 'seeing' excellent, the central star in M 57 was not visible. The Trapezium in M 42 showed 6 members and was very impressive, looking like a bowl in the Big Dipper. Carl Milazzo remarked that the telescope's optics were dirty and needed re-coating; also the restriceted field of view limited many types of observations.

We went on a "Mini Messier Marathon" at Mees using a 13.1" Dobsonian f:4.5, that proved to be a real treat. Observations included:- Lyra - M 57, M 56: Cygnus - M 29, M 39; Sagitta - M 71; Vulpecula - M 27; Hercules - M 13, M 92; Auriga - M36, M 37, M 38; Gemini - M 35; Cancer - M 44; Triangulum - M 33; Orion - M 42, M 43, M 78; Andromeda - M 31, M 32; Pegasus - M 15; Canis Major - M 41; Cassiopeia - M103; and Ursa Major - M 97, M81, M 82. Many NGC objects were also viewed. Late in the evening a beautiful aurora was seen towards the north and the Zodiacl Light was observed before dawn stretching to the Milky Way. Venus concluded the observing session at dawn, showing a small 10" of arc disk (almost full moon). WHAT A GREAT NIGHT.....

Martz Observatory - October 17, 1982 - Jamestown, N. Y. We attended the Jamestown Astronomy Club meeting and observed using their 30" Newtonian-Cassegrain telescope. Set up on a German Equatorial mount and Newtonian focus at f:3.8, we viewed M 2 in Aquarius, M 15 and galaxy NGC 7331 in Pegasus and Stephen's Quintet also in Pegasus. The sky was slightly hazy but the views were impressive. Coma was noted across the field of view at this F-ratio, as expected.

The observatory is a fine tribute to the memory of its builder, Marshall Martz, and worth the trip by anyone who is interested in astronomy.

Thanks to Carl Milazzo for arranging both trips.

Triston DiLapo and
Debbie Lagodna

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August 22th - 14.2 magnitude SS433 was detected in Aquila and is 11,000 ly distant. On August 21st, Comet Austin was magnitude 5.2 in Ursa Major and showed faintly a 2 degree tail.

Simultaneously there was three and six degree halo around the moon which had a red and blue tint on September 3rd. In spite of a nearly full moon on September 5th and light pollution, a bright aurora was visible. It covered most of the sky and contained all sorts of color, shape and motion.

Back in January there was a 6.5 magnitude nove in Aquila, but on September 19th it was only 13.6 magnitude. In additon the dark nebula Barnard 86 was seen silouetted against the Sagttarius milky way. It is located adjacent to the western edge of the open cluster NGC 6520, and is the most prominent dark nebula in the entire sky. At dawn the Zodiacl Light was seen starting in Leo and extending approximately 45 degrees. It was about equal to the brightness of the milky way and is tepered towards the end, high above the horizon.

Carl Milazzo

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JOHN A. YERGER

Born in Buffalo, this unusually gifted man is one of the outstanding artists in the area. After compelting his elementary education at Nardin Academy, he went on to Kensington High School from which he graduated. At fourteen years of age, while a high school student, he also attended the Art Institute of Buffalo where he had the privilege of studying for a brief period with the renown artist, Charles Burchfield, from whom he learned invaluable lessons.

After graduating from high school, he went to Boston to study at the Boston Museum. At that time he was intersted in art restoration, with plans to eventually work at one of the galleries. He, however, became absorbed in the painting style of the 13th and 14th centuries and started to explore the media of the period. He became fascinated with egg tempera, which requires a meticulous technique and gives a third dimensional effect, and this medium became his favorite means of artistic expression.

John received some treasured counsel when he went to Brockport, Massachusetts to paint scenes of coastal fishermen. After rendering what he felt was a worthy representation of a Portuguese fisherman, the fisherman voiced his disapproval as a lack of understanding on John's part of what the life of a fisherman was like, and advised John to 'go home and paint the things you know most about.' John realized the wisdom in those words, which made an indelible impression on him, and he returned home where he has continued through the years to follow that valuable advice.

John has had his work of art in many shows in the area and has been the recipient of several awards for his paintings. His first real exhibit was at the University of Buffalo in a two-man show. He has since exhibited his paintings privately in both indoor and outdoor shows. This fine artist has had his works displayed at Sisters of Charity Hospital, the Niagara Luthern Home and D'Youville College. He created a 60 foot wall mural in the Pediatric Center at Sisters Hospital depicting some of Walt Disney's favorite characters such as Peter Pan, Snow White and Pinnochio.

John has given demonstrations for artist groups, has held art workshops about every other month and has served as a judge for every kind of art show, including the recent well-known Orchard Park Quaker Arts Festival. He has conducted art critiques and been on lecture tours. He taught portrait painting in his studio in Buffalo, but after three years the building burned and he was forced to abandon the studio.

Mr. Lombert, one time owner of the Lakeview Hotel, was a connoisseur of fine arts and a collector of early American art. He carefully selected three artists from the area and exhibited their works at the Lakeview Motel with the idea of becoming an agent to handle one artist's work exclusively. After the exhibit and interview, John's paintings were chosen and Mr. Lombert remained as his agent for five years, selling his paintings in Cleveland, New York and Boston.

John has appeared on TV talk shows where his works and techniques have been discussed. Four years ago, Marie Wright of Channel 2 came to his home to do a fifteen minute segment to air over Channel 2. Articles on his techniques have appeared in both the Buffalo Evening News and the now defunct Courier Express.

Critics have called him a 'romantic realist,' His paintings arouse the senses with their warmth and fine spun communication, making the viewer feel that he may have been there before or experienced a similar condition. John has a great love and appreciation of nature with all its many splendors, and finds immense enjoyment in sketching outdoord and creating landscapes with the soft blending tones offered through the medium of pastels.

He taught a class at Veteran's Hospital where he sat and discussed nature with the patients to help them see things differently. Their successful efforts in painting helped them emptionally to get more out of life. At present he is doing preparation work for a one-man show on historical and picturesque Williamsburg, Virginia, which will be on exhibit in Williamsburg. Along with his art commitments, he works at Sisters Hospital in stock control in the purchasing department.

On a Halloween night, when John was fifteen years old, he was crossing the University of Buffalo on his way home, when suddenly he heard a very loud sound coming from above. Looking up, he saw a bright blue ball with a red flame trailing behind. Thereafter this experience continues to haunt him. He went to the museum to inquire about that which he had seen, and there he met former member, Rudy Buecking. Telling Rudy of the incident, Rudy said it was probably a fireball. After further discussion he told John about telescopes and telescope making, and John, enthusiastically, joined Rudy's class and purchased a telescope kit. He values the hours he spent in Rudy's company, and recalls the time he went to his home and looked thrpugh his refractor at Saturn. This made a great impression on John, and he became very excited about astronomy, spending many hours talking to Rudy about the subject, along with various philosophical ideas. He joined the BAA for two years, twenty-five years ago, and rejoined again in 1981 for the second time.

In the last two years he built a $3\frac{1}{4}$" refractor, purchased a Dynascope RV-6, and bought an 8" mirror from Steve Desmond. John is interested in astrophotography and hopes to do a g eat deal of photographing of the moon and deep-sky objects. He recently read an article on the critical need for further study of asteroids, as there seems to be more than previously thought. He feels that the study would be worthwhile, and plans to investigate means of recording them.

John is very happy to share his knowledge of astronomy with beginning students. This is his second year of teaching astronomy in the Nardin Grammar School. On the last night of the ten weeks' course, John held a public night for the parents. They were so impressed as they looked through the 8" telescope, owned by the school, that it was difficult to get them to go home. John has taught in the adult education course at Griffith Institute, and has written letters to several schools offering his services in astronomy.

He has two sons with whom he has very close ties. Mark, 15, is a student at Frontier Central and is interested in the history of music, plays guitar very well, and does some work in composition. Scott, 11, is endowed with a creative imagination and finds drawing appealing. With John's sons being interested in hockey, their father became a coach for the hockey team in the Hamburg association for about seven years. He also managed the Little League Baseball Team in Hamburg for five years.

John's parents, who met Ed and Olga Lindberg at the museum's camera club, became good friends of the Lindbergs. His parents, with their artistic ability in photography, won several ribbons at Eastman in photographic exhibits. His father is an amazing man. Last year, at the age of 80, he broke the tibia bone in his leg while skiing at Kissing Bridge. He won't be doing downhill skiing anymore, but will continue cross-country. He plays 18 holes of golf twice a week and finds a passionate joy in living a full life.

John is a very philosophical man and likes to delve into the meaning of existance. He feels deeply that science and the arts fit into one cell; all are one. He loves people and continually learns from them as he finds and enjoys a strong relationship with his fellowmen. He is very kind and thoughtful with a willingness to be of service wherever possible. His talent as a sensitive artist has earned for him a fine reputation in the art world, and we look forward to hearing of his further accomplishments. We're very happy that he decided to return to the BAA after being absent for so many years.

Edith Geiger

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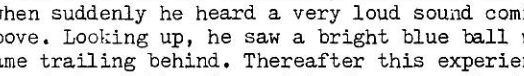

ANSWER TO APPEAR IN THE NEXT "SPECTRUM"

Given these seven figures, what is the next one?????????

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ASTRONOMICAL EVENTS for the MONTHS of
NOVEMBER & DECEMBER

SOLAR--as the Sun proceeds towards the south, our weather darkens in the shadow of longer nights. This is one advantage for astronomers here in the northern hemisphere. Of course, on December 21st @ 11:39PM EST, the first day of winter (WINTER SOLSTICE) begins, then the Sun will start it's journey northward and we will have shorter nights until Summer Solstice nears.

by the way---MERRY CHRISTMAS &
HAPPY NEW YEAR -
from your editor...

A partial eclipse of the Sun will be seen throughtout Europe, Western Asia and Northeastern Africa on the 4th of December. It is to be an Annular Eclipse.

LUNAR--Full Moon - November 1st & 30th & December 30th.
Last Quarter Moon - November 8th & December 7th.
New Moon - November 15th & December 15th.
First Quarter Moon - November 23rd & December 23rd.

A total eclipse of the Moon will occur on December 30th. The phase of totality begins at 5:58 AM EST and ends at 6:59 AM EST, with mideclipse about 6:28 AM EST.

OCCULTATIONS--Neptune by the Moon on November 18th.
Mars by the Moon on November 19th.

CONJUNCTIONS--
by the Moon- Jupiter on November 13th
Saturn on November 13th
Uranus on November 27th
Saturn on December 10th
Jupiter on December 13th
Uranus on December 13th
Mars on December 18th

Mercury & Saturn on November 1st
Mercury & Neptune on December 8th

METEORS-- Southern TAURIDS - November 3rd
CEPHEIDS (new) - November 9th
Northern TAURIDS - November 10th *****
Mu PEGASIDS - November 11th
AREITIDS - November 12th
BEILIDS - November 14th
LEONIDS - November 16th *****
ANDROMEDES - November 28th *****
PHOENICIDS - December 5th
MONOCEROTIDS - December 10th
Northern ORIONIDS - December 10th
Southern ORIONIDS - December 11th
Alpha HYDRIDS - December 11th
GEMINIDS - December 13th *****
URSIDS - December 22nd *****
Delta AREITIDS (new) - December 11th
COMA BERENICIDS (new) - December 30th

Enjoy observations, ED.

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A E FHI K LM N T
BCD GJ OPQRS

ANSWER IN NEXT "SPECTRUM"

Does the next letter go above or below the line??????

SPY and TELL

Former member, Phil Cizdziel, is working with astronomer, Dr. Donald Londma, at C. E. Kenneth Mees Solar Observatory on top of a 1000.28' volcanic mountain on Maui Island. They are obtaining spectra of the Sun.

David Jauch will be leaving on December 15th for a visit with his sister in Arizona. During his stay he will have a good fortune of visiting several observatories in the west, including Mt. Palomar. On his month long trip he will also be purchasing parts for his 10" telescope.

Dave is employed at Goodwin Electric doing house wiring. He also has a temporary job at the Pierce Arrow Restaurant as a barback. Someday he hopes to work with radio and TV.

He has recently been part of a clown group bringing laughter to children's homes, homes for the elderly, and medical centers. This group is available for charity performances.

Jerry Morris, a 1979 U.B. graduate, and Adrienne Kaczmarek, who will be married in May, are trying to reorganize the U.B. Amateur Astronomers and stimulate new interest.

Jerry and Adrienne are planning a wedding trip to include a two day visit to Mees Observatory, and a sojourn to Nantucket.

Orrin Christy is running all over the cointry for Moore Business Forms. He has been to Minnesota and is going to Florida, Massachusetts, and California, with a possible trip to Japan in the offing.

James and Barbara Mower are the proud parents of their first child, Emily, who was born on June 2nd. James is busy trying to finish his 8" telescope sometime this winter.

Esther Goetz is recovering nicely from a successful eye operation.

Darwin Christy gave a well received talk on Meteorics at the RASC Niagara Center meeting on October 14th which, by the way, was the date of Darwin's 400th wedding anniversary and Ruth's 39th. There is an unusual explanation for this strange anniversary dating. Consult Darwin for the reason behind this rather bizarre happening.

Jack Empson is employed at Radio Shack Repair in Tonawanda, and finds that he has a tremendous amount of computer and stereo work to do.

Robert Hughes also works at Radio Shack Central Repair as an electronics technician. He has done some solar projection, and is interested in the interaction between sunspots and radio waves.

Jackie Alberts, who is a senior at Buff State, is finishing her college education doing junior participation in East Aurora High School teaching special classes for children with learning disabilities and those who are emotionally disturbed. She was employed at the Western New York Children's Psychiatric Center, but left her job to finish college. She hopes to return to her position with the Center next year.

Jackie is a member of the Buff State Astronomy Club and was active in their Astronomy Day program last spring.

Stephen Kramer has a special interest in orrery, a mechanism to represent the motion of planets around the sun by means of wheelwork. He found a picture in a book showing an insturment which was created in 87 BC and was carried aboard a ship which was sunk off the Greek island of Antikythera. The instrument was one of the things discovered and brought up by divers. It has Greek engraving and many dials and was broken in pieces and dried out. It has been cleaned, x-rayed, with gears and teeth measured, and men have taken most od the century trying to decipher what its purpose might be. Steve has studied the pictures and schematic diagrams and has streamlined the construction from those designs to make a model which Bob Mayer is reproducing in brass, aluminum, steel and perhaps bronze, to be contained in a wooden frame. Two or three models have been made before, but they have been incomplete. Steve has constructed the first complete model, and has determined that its most probable purpose was that of an eclipse calculator.

Kenneth Burke, has wife, son 7, daughter 11, enjoyed a most interesting trip to the Corning Glass Works recently.

Darwin & Ruth Christy had a wonderfull time in Gettysburg again this year. Darwin has become so interested in the battlefield that he and Ruth have paid an annual visit to this historic site for the last six years. A monument on the battlefield honors Capt. Michael Wiedrich, the grandfather of Irving Goetz, was found by Darwin and photographed it for Irv.

James Machowski has had a back breaking schedule coaching the West Seneca Little Loop Football team for 6 to 9 year olds. They have been practicing from 6 to 8 in the evenings, 5 days a week, with a game every Sunday.

* * * * * Edith Geiger

B A A ANNALS

5Years ago- The November 1977 meeting featured Ralph Dakin speaking on telescopes and observatories. The December meeting was the traditional Christmas Party. Orrin Christy had an illustrated article in the Spectrum on automated mirror making. The month was full of members making good. Dick Zymunt finished a 12½ mile run, two members had books published and a former member, Alan Pattee appeared in a Sky & Telescope article

10 years ago- At the November 1972 meeting, Robert Little spoke to the club on general astrophotography. Mr. Little is very well known for his photos. The December meeting was the Christmas Party. Darwin Christy was the BAA President back then and Irv Goetz was trying to figure out why Quasars appear where they do with the help of Dr. Paul Hodge.

15 Years ago- The November 1967 meeting was the first BAA meeting at the Buff State Science Bldg. Apparently every one made it. James Orgren addressed the group. The December meeting was hosted by Olga Lindberg and Edith Geiger. Walt Semerau's solar observatory was featured on the cover of Sky & Telescope for November '67. Ed & Olga Lindberg were in Detroit for an antique radio convention.

Ken Kimble

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INSTRUMENT NOTES

The last two sessions of the Instrument Section were held in the Museum of Science on the usual schedule. The attendance has been low but those who attend seem to find the evening instructive and interesting and a change from the daily routine.

Among the things that we learned at the September meeting was thet Teflon is a fine low friction bearing surface but that it is also not the lowest priced material that you can find. Steve Noworyta went to a plastics store looking for a piece of Teflon big enough to make a pair of bearings for a Dobsonian telescope mounting. A piece from a scrap barrel seemed big enough. "How much would this cost?" The clerk weighed it. Then we punched his hand calculator. After some clicking he announced results. "That will be $81.06." Steve declined, mumbling something about not knowing the exact dimensions he wanted. "It also comes in 4 by 8 foot sheets", said the clerk, cheerfully. Steve didn't dare ask the price of such a monster. But extrapolation yields a figure of several hundred dollars, a little out of the reach of ordinary ATM's.

Steve did better when he went into a hardware store for a piece of PVC ducting. He asked the price of six inch diameter ducting. The dealer quoted him a price, probably with visions of selling a few 18 foot lengths. "How much do you want?" - "I need a piece 2 inches long" said Steve. This was probably quite a let-down for the dealer, but here he was able to get what he wanted from the scrap barrel.

Conversation at this meeting ranged from the new 17 inch Dobsonian telescope (installed at the North Tonawanda High School by Steve with his buddy Frank Pirrone) to the subject of amateur radio. Frank has a little one that only draws 2 watts (less than the power used by a single cell flashlight bulb). With this he works stations all over the country and even foreign countries.

At the October meeting we were treated to the sight of a most beatiful mirror. Jim Mower brought in his finished 8 inch mirror for testing. This was one that he had brought in several times previously, each time getting suggestions for further correction. This time it was really finished, exhibiting an elegant figure. A neautiful diffraction ring could be seen all around the periphery. This is the sign of a perfect parabola. This is the best figure for practical use as the curve deepens someqhat as the mirror is brought out and cools in the evening air. Jim is going to give us the first look through the telescope when it is finished during the winter or next spring.

Another treat of the evening was a bag of TM "goodies" brought in by Walt Whyman. He offered us a choice of the things in his big bag. There were mirrors, lenses, prisms, filters and all sorts of assemblies. One of the members went home with a rack and pinion mounting for his eyepiece. Another got a finder for his telescope. No one went home from the evening empty either mentally or physically.

Ed Lindberg

* * * * *

"Spectrum contributors"

Roland Rupp

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The instrument section has been flourishing well but we have been having a little difficulty getting members out to the Study Group sessions. Is the time wrong???? Or--is the programming wrong??? Any suggestions you may have please contact the president, Rowland Rupp or secretary, Ken Kimble. For those who would like to further their knowledge in astronomy, this is the place to get a start. When we first started torevive this group we had fairly good turnouts and we all learned from them. It is a very informal group and each one can participate and give their knowledge to someone else. Meetings are the third Fridays at Buff State. Please----lets keep it going!!

Darwin Christy, ED

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A N S W E R S

1) about 46° 54'

2) almost none

3) Yes - Mars, Saturn, Uranus, Neptune & Pluto
The inclination of Mercury, Venus & Jupiter equator to their orbit is so small that seasons would not necessrily be detected.

4) No

5) Uranus which has an orbital inclination of 98°.

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