

THE

# SPECTRUM

Buffalo Astronomical  
Association, Inc.  
Darwin Christy, Editor

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\*\*\*\*\* JANUARY - FEBRUARY \*\*\*\*\*  
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\*\*\*\*\* 1982 \*\*\*\*\*  
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JANUARY meeting: The January 8th meeting will begin at 7:30 P.M. in the HUMBOLT ROOM at the BUFFALO MUSEUM of SCIENCE. Our speaker will be Philip Cizdziel, a member of our club. His topic will be, "The Mauna Kea Observatory." This observatory is located in Hawaii on an extinct volcano at 13,800 feet. Phil is a graduate student in astronomy at the University of Hawaii.

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? QUIZ ?

- 1) Why was the ancient day (from sunrise to sunset) divided into twelve parts rather than ten parts?
  - 2) Why does the hour have sixty minutes instead of a decimal number?
  - 3) Is there any place where something weighs nothing?
  - 4) Why is the sky blue?
  - 5) Is twilight longer in the temperate or torrid zone?
- Answers to appear elsewhere in the "SPECTRUM".

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A few dots here and a few dots there formed the following constellations in the November-December 'Spectrum'.

PERSEUS                      PEGASUS                      CANIS MINOR

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The nearest star to our Sun is more than 25 million million miles away, but that's only one-billionth of the distance between the Sun and the farthest known star.

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New Members

Please welcome Scott Taperman and Thomas Milley

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For SALE

60mm Equatorial Refractor - fl 900mm - 3 eyepieces - Barlow - Sun & Moon filters - erecting prism - wood case - like new - \$125.00

Rev Herbert G. Englehardt  
1345 Indian Church Rd.  
West Seneca, N. Y. 14224

Parts for sale: 6" mirror already ground for Casse grainian - also 2.5", same style for secondary - two plastic tubes, 7 3/4 x 25 and 8 x 38 inches - focuser rack & pinion (flat base) attaches to back of mirror cell - two aluminum end rings for 7 3/4 tube above - telescope stand, brass & aluminum, 3 legs 36" high for 4, 6 or 8 inch - Unitron spotting scope with turret - eyepiece holder with four oculars - 652 5796

FEBRUARY meeting: The February 12th meeting will begin at 7:30 P.M. in the HUMBOLT ROOM at the BUFFALO MUSEUM of SCIENCE. Our speaker will be Dr. Fred Price, our well known past President. His talk will be, "Mysterious Happenings on the Moon."

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From the President

Another year has passed and the B.A.A. has seen much activity in 1981. I trust that 1982 will be equally as successful. In this article I would like to talk about some of the projects members are planning or dreaming about. But first, I'd like to give you some information.

Who is in charge of \_\_\_\_\_? This is probably the most often asked question I receive from members. So-- I thought I would give you a list of names and phone numbers.

President:- Al Kolodziejczak - 634 5472 - In charge of all problems no one else is in charge of.

Vice President:- Ken Biggie - 675 8932 - Takes over the President's duties when the President is not available.

Secretary:- Ken Kimble - 692 5068 - Minutes, letters, archives, Study Group, lending library.

Treasurer:- Edith Geiger - 649 7965 - Bills, checks, all financial records including the observatory funds.

Membership Chairperson:- Adrienne Kimble - 692 5068 Dues, attendance records, name tags, copies of the By-Laws, directory and membership information.

Observatory Directors:- Allan Mohn - 683 0403 & John Riggs - 875 7965 - Observatory repairs, maintenance improvements and public nights.

Instrument Section:- Ed Lindberg - 633 6725 - News of section activities.

Meeting Refreshments:- Doris Koester - 683 2970 -

"Spectrum" Editor:- Darwin Christy - 692 0305-

Board Members: Al Kolodziejczak

Ken Biggie

Ken Kimble

Edith Geiger

Ed Lindberg

Jack Mack - 632 6210

Robert Mayer - 834 7525

Carl Milazzo - 688 7620

Allan Mohn

John Riggs

Rowland Rupp - 839 1842

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- parts for sale by Klaus Baerwaldt  
11413 Suemarton Court  
Marilla, N. Y. 14102

From the President cont.

Board members set policy, schedule speakers, approve expenditures and schedule summer star parties.

I hope this list makes it easier for you to get in touch with the proper person for a given task.

What lies in the Future? Well, first of all there's talk of sponsoring the 1982 or 1983 Astronomical league's Northeastern Convention. So far 3 members have voiced an interest. With just a few more volunteers, I may jump in myself. Then there's the new improvements at the observatory. If you have ideas for improvements, energy for work parties or interest in running a public night, call Allan or John. The Study Group has big plans for January. They're going to discuss 'relativity'. This could lead to all kinds of directions. Also, the Board continues its efforts to acquire quality speakers. A few 'Big Name' speakers are in the works. If you have an idea, call one of the board members.

And finally-- other projects are in the workings, just waiting for you to organize the effort. I can't wait to join you in your effort!

Al K.

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#### QUIZ-CRYPTS

Each group is individual and not related to the others for decoding. The topic is given for each with a sample of what you will find among them when solved. To solve these crypts, simply substitute the letters to the proper letter of the alphabet. If 'V' stands for 'R' in one word, then it does for the rest in the category with the sample.

1) ASTERISMS	2) CONSTELLATIONS on ECLIPTIC
example: BELT of ORION	example: SAGITTARIUS
CFWGSAP	QTCIU
JAZB VN CAPLC	WSPCPD
JTZBAC	DRUCGTPD
DVRC GVNNFU	UGZTPJZFD
OATCFVUA	GTDJBD
OFBC	MTYCS
PAZ XVP	MBU
UVWPJAWU GWCC	IBNTOT
XSAFZBAC	JSOJBC
RFAW	SCTBD
CFGOSA	SVPSCTPD
CYLZWA VN XAEZCLC	JSGCTJUCOPD

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Answers to the Crypt in last 'Spectrum':-

1) Astronomical Terms	2) Meteor Showers
Aphelion	Quadrantids
Conjunction	Lyrids
Perigee	Eta Aquarids
Eclipse	Draconids
Declination	Orionids
Right Ascension	Taurids
Stationary	Anomelids
Equinox	Leonids
Node	Geminids
Perihelion	Delta Aquarids
Julian Period	Kappa Cygnids
Opposition	Sporadic

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#### OBSERVATORY NOTES

This article is the first of a series of regular bi-monthly reports in The Spectrum on the activities at our observatory at Beaver Meadow.

As announced in the last issue of The Spectrum, the observatory has been closed for public night since November 15. Public nights will resume March 6. The weather generally is so cloudy during winter that public night would not be possible on most weekends. The break will also allow certain minor repairs to be made on the telescope.

In view of the recent theft of our SLR camera from the observatory, the combination will be changed at least once a year. This is a necessary precaution against future losses.

On the brighter side, a work party consisting of Doris Koester, Al K., Carl Milazzo, John Riggs and Gene Witkowski met at the observatory on December 5th and spent the afternoon making some overdo improvements. In between the refreshments and lively conversation we actually got a lot accomplished! Most importantly, a cork lining was added to the inside of the tube. This should help cut down on the dewing of the optics, a major problem in the past. In addition, the main mirror was cleaned and re-installed and a set of shelves was put up for storage of Sky & Telescopes. Many kind thanks go to all who helped in these time consuming jobs!

A new display is being assembled for the warming room and will consist entirely of photographs taken by our members. If you wish to contribute photographs of any astronomical subject, please contact John Riggs at 875 7965. The display will be changed periodically so if you don't have any prints ready by the end of February, submit them later and they may be used to update the display.

Also, any member wishing to take part in public night is strongly encouraged to do so. Please call John Riggs to make arrangements. A bimonthly public night schedule will be published in each issue of The Spectrum and will cover some of the coming events at the observatory.

John Riggs

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#### January Constellation

PHOENICOPTERUS (The Flamingo) is now seldom used. A record of its inventor, or date of its adoption as a constellation name has yet to be found. Chilmaed's 'Treatise' contains this reference to it:- "The Phoenix we may call the Bittour, the old English work for Bittern". The Spaniards call it 'Flamengo'; and it is described with the wings spread abroad, and as it were striking with his bill at the South Fish, in that part where he boweth himself. This Asterisme consisteth of 13 Starres: of which, that of the second magnitude in his head is called, the Phoenix's Eye; and it hath two other Stars also of the same magnitude, one in his backe, and the other in his left wing. And those two which are in the middle of his necke, Paulua Merlua in his first booke of his Cosmography, calleth his Collar or Chaine. The absence of our titles in the foregoing description would show that the Bittern, or Flamingo, was the popular English figuring and title in the early part of the 17th century.

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The Elmira-Corning Club dedicated their 16 inch telescope on November 14, 1970. It was followed by a lecture by a not too well known astronomer at that time, Dr. Carl Sagan.

—\*NOTE—

/MARCH-APRIL "SPECTRUM" DEADLINE - February 19th/

-2- MEETINGS WILL BE AT THE BUFFALO MUSEUM OF SCIENCE 1982

Our very amiable member, Dennis Jewell, was born in the mid-western city of Decatur, Illinois, in the heart of the well-known Illinois corn belt. He received his early education in Grant Elementary School where in seventh and eighth grades he became completely absorbed in science, especially in physics and space travel, spurred on by the advent of Sputnik.

The family moved to Macon, a suburb to the south of Decatur, and with the change of schools and a less stimulating science program, Dennis drifted away from science and became very active in school affairs, playing an important part in the social life of the school. He was a member of the student council, co-captain of the football team, and president of the senior class. Scholastically, he received an award for the highest average in bookkeeping.

After graduating from high school he enrolled in the engineering course at the University of Illinois. He was in a work-study program, and with the development of the inter-state highway system, worked on highway construction.

With the end of the first semester, and the Vietnam war in full swing, he decided to enlist in the Army and applied to Army Intelligence. He was accepted and became a special agent for three years. He was assigned to Buffalo where his clandestine operations were carried out dressed as a plainclothesman, with the use of an unmarked car. While in training for his position with Army Intelligence, he and a Tom Huston were called in for a special, very secret interview to select someone for President Johnson for a position in the White House. Tom Huston was given the appointment, but Dennis does not regret that he wasn't chosen, in view of future events, for the one who interviewed the two men was none other than Howard Hunt of Watergate fame.

After having served his three years with the Army, he was a civilian once more and went to work at Marine Midland as a loan adjuster from January to September of 1969. During his army assignment in Buffalo, he had become familiar with the University of Buffalo and now had a desire to register there as a student, so he entered as a speech communications major while continuing to work part time at the bank. He met Jane Colebert of East Aurora, who had graduated in accounting from U. B., and was working as a revenue agent for IRS. Her father suggested an accounting course for Dennis who, after thinking it over, decided to enroll in the course. With his ability in bookkeeping which he had shown as early as high school, his interest was renewed and he enjoyed the course very much. In an accelerated program, he graduated in September 1972 with a B.A. in business administration and a B.S. in accounting. While a student, he was very active in student government, and was on the executive committee for the student association. He was also a member of the Veteran's Club.

It was in 1970, while he was still in school, that he and Jane were married. After graduation, Dennis went to work part-time for Guercio and Noonan, public accountants located in the Rand Building, and finally became employed there full-time. The Jewell's moved to Orchard Park. Dennis passed his CPA exam and became a partner in Guercio and Noonan in 1977. The firm now bears the name of Guercio, Noonan and Jewell.

Always having scientific interests, Dennis signed up for an evening Introduction to Astronomy class at Erie Community College South. In 1979, he registered for a stimulating course at the Buffalo Museum of Science conducted by Dr. Lestinge from Buff State. The class was devoted to a critical analysis of such subjects as pyramids, U.F.O.'s and other intriguing topics. After a few inquiries, he found out about the museum's public nights, the B.A.A., and Beaver Meadow. In November of

1979, he and Jane became members of the B.A.A.

At the national conference in Dallas in 1980, Dennis attended a technical lecture on the use of filters for light pollution, which he found to be both enlightening and worthwhile. He is curious about all aspects of astronomy, but is particularly drawn to cosmology in his search for the how and why of existence.

Besides astronomy, he likes woodworking; making simple cabinets, bookcases and such. He also delights in collecting coins, and gardening. One of his special interests is rock music. He finds the music of the Rolling Stones, Wille Nile, Tom Petty, and his very favorite, Beatles, to be electrifying. The Jewell's have recently purchased a piano to assist their children, Darrin 9, Kevin 7, and Denise 2, in a musical education. Dennis is fascinated by the instrument and sits down occasionally to "plunk" on the keys.

Dennis is highly active in the community life of Orchard Park. He has a great concern for the people and enjoys working with them. He was chairman of the outstanding Quaker Arts Festival in 1977, and this year he was elected president of the Orchard Park Chamber of Commerce where he is mobilizing the organization to help small businesses.

The family likes to travel and has journeyed to Mexico; Albuquerque; Dallas; Colorado, with a drive up Pike's Peak, and a visit to Rocky Mountain National Park; New England; Eastern Shore Beach at Ocean City, Maryland; the Great Smoky Mountains; Nova Scotia; Toronto, and many trips to the home of Dennis' parents in Illinois. The Jewells hope that the day will come when they can go "down under" for a sojourn to the dramatic and colorful continent of Australia.

Dennis is a fine, very intelligent gentleman with great personal charm. He is a natural leader, and is deeply respected by his many friends and associates. The B.A.A. is indeed fortunate to have Dennis and Jane as members.

Edith Geiger

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#### February Constellation

But IO! afar another constellation  
They call it Hydra. Like a living creature  
'Tis long drawnout. His head moves on below  
The midst of the Crab. his length below the  
Lion;  
His tail hangs o'er the Centaur's self

—Aratos

"HYDRA" - The longest of the constellations is also known as the 'Water Snake'.... It covers the sky from the 8th hour of right ascension, starting from Canis Minor and Monoceros, ending at the 15th hour of right ascension with its tail touching the scales of Libra. Many constellations border it, starting with Canis Minor and Monoceros on the west; on the south by Puppis, Pyxis, Antlia and Centaurus; on the east by Lupus and Libra; also on the north by Libra, Virgo, Corvus, Crater, Sextans, Leo and Cancer. That is a total of fourteen constellations.

Although Hydra is NOT particularly rich in stars, the area is not uninteresting for sweeping with a low-power binocular. Alpha Hydrae is a 2nd magnitude star, red in colour and is located in the heart of the creature. Sometimes it has been known as "Cor Hydrae".

Other objects in Hydra are: M-48 (NGC 2548), RA 08h 11m dec. -5° 38". It is considered an open cluster but perhaps it was a comet mistaken by Messier although it remains in the charts as a Messier Object. M-68 (NGC 4590) RA 12h 36m dec. -26° 29" is a globular cluster about 1/10th the size of M-13 in Hercules only because of its distance compared to M-13. M-83 (NGC 5235) RA 13° dec.



-29° 37" is an external galaxy. PN 3242 (NGC 3242) is a planetary nebula with an inner ring and has a fainter outer disc, 35" x 40" of arc and lies about two degrees south of the star Mu Hydrae.

'N' Hydrae at RA 11h 30m dec.-29° is a double of which both have the same proper motion and are separated by 9" of arc.

'R' Hydrae at RA 13h 27m dec. -23° is a long period variable. 387 days ranging from 3.6 to 10.9 magnitude. It is noted for its deep red colour.

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#### Observations

An aurora was seen at Beaver Meadow on October 24 around 11:00 PM which had green rays that extended as high as Polaris. Low to the horizon was a more yellow glow that moved slowly, and a curtain shape could be faintly seen just above the tree tops. Later that night the observatory floor flashed white from a meteor of magnitude -7. John Riggs saw it by direct means in the constellation Eridanus with a 20 degree path coming from Orion. It lasted for two seconds and ended with a burst. An open cluster shaped like a Christmas tree was seen in Monoceros and named NGC 2264. It contains many bright stars and nebulosity like the Pleiades, and is nearly as large as the moon. On November 29th at 3:15 PM, Venus was seen by the unaided eye on the meridian with a four day old crescent moon, two degrees north of it.

Carl Milazzo

On the morning of November 10th and November 12th, I went out around 5 AM to observe Mercury, Jupiter and Saturn. I have never seen Mercury and was impressed at its brightness. Since I live close to the airport, I quickly glanced past this bright object thinking it was an incoming airplane. The trees being bare of leaves made Mercury an easy object to find. My observation was made with binoculars and naked eye. It was worth the effort to go out in the early morning to observe the triangular arrangement of Jupiter, Saturn and Spica, with Mercury at the lower left and Mars to the upper right of Saturn.

Again on November 29th, a friend from the U.B. club and I did some observing in her backyard. Sky conditions were excellent. We both have a 6 inch reflector, but different focal lengths. It was interesting to observe the same objects through different telescopes. Objects we observed were M-45, M-37 (Auriga), M-35 (Gemini), the Double cluster in Perseus, M-31 (Andromeda), Gamma Andromeda, M-42 (Orion), NGC 1981 & 1977 (Orion), M-57 (Lyra). My thanks to Adrienne Kaczmarek for her help and a very enjoyable evening

Doris Koester

For October and November:- 3 photos of the moon were successful; During the night of November 2nd & 3rd I viewed five meteors ranging in brightness from -4 to +1 magnitude, most lasting for more than 3 seconds. They were out of the areas of Pegasus, Taurus and Perseus. November 3rd I observed low on the horizon, M-1; November 25th I observed M-57, M-45, M-27, M-71 with a new telescope. On the 28th I observed the Double Cluster with great clarity as well as NGC 205.

Steven Desmond

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There are 22 constellations that start with the letter "C", but none with the letters, J, K, Q, W, X, Y or Z.

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Adrienne Kimble will still be accepting your dues at the January meeting for the 1981-1982 season. DUES are past due to keep you on the mailing list.....

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In case of inclement weather, listen to WBEN Radio 930

Solar - A partial eclipse will occur on January 25th. It will NOT be seen from the United States. It can be seen in Antarctica and New Zealand, however.

Lunar - Full Moon - January 9th

Last Quarter Moon - January 16th

New Moon - January 24th

First Quarter Moon - February 1st

Full Moon - February 8th

Last Quarter Moon - February 15th

New Moon - February 23rd

First Quarter Moon - March 2nd

Occultations by the Moon- Neptune on January 21st.

#### Conjunctions:-

January 8 - Saturn and Spica

January 9 - Mercury and Venus

January 15 - Moon and Mars

January 16 - Moon and Saturn

January 17 - Moon and Jupiter

January 19 - Moon and Uranus

January 21 - Moon and Neptune

February 12 - Moon and Mars

February 16 - Moon and Saturn

February 18 - Moon and Uranus

February 20 - Moon and Neptune

February 21 - Moon and Venus

February 21 - Moon and Mercury

February 25 - Saturn and Spica

Meteors - January 17 - Kappa Cygnids (fireballs)

January 17 - Coma Berenices

February 9 - Aurigids

March 11 - Zeta Bootes

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#### The Fall 1981 Meeting of the NFCAAA

The Astronomy Section of the Rochester Academy of Science hosted the Fall meeting of the Niagara Frontier Council of Amateur Astronomical Associations, on Saturday, November 7. Approximately 50 members from 9 affiliated clubs attended the proceedings, at Monroe Community College.

The business portion of the meeting was, as always, very informative -- an excellent opportunity to learn about the activities of other clubs. If one dominant theme was stressed by many delegates, it is that good publicity is the key to increased membership and successful public-oriented activities. A member of the London Centre has a weekly program on cable TV dealing with amateur astronomy while a Niagara Centre member writes a regular astronomy column for the newspaper. The Elmira-Corning club reported several new members owing to meeting notices in the local newspaper and on radio. Similarly, the Lockport Astronomy Association attributed the success of last summer's Public Nights to regular advertising -- an average of 45 people visited the Remick Observatory each clear Wednesday night, the highest in the 18 year history of the club. Hamilton Centre's public star nights have been so popular that visitors are asked to make reservations in advance, to avoid overcrowding.

In the field of astronomy education, the NFCAAA clubs are making a fine showing: the Syracuse Astronomical Society taught a 6-week astronomy course at Beaver Lake Nature Center, and a Niagara Centre member teaches classes in Niagara Falls and Thorold, Ontario. The Kenan Center in Lockport has sponsored introductory courses taught by L.A.A. members for the past 5 years and, of course, B.A.A.-taught classes have enriched the education programs at the Museum of Science and the University of Buffalo. The Rochester club has for years participated in Science Exploration Day at St. John Fisher College, during which students are bussed in from as far away as Syracuse to see the various exhibits and attend lectures.

Seven short talks were presented in the afternoon. Tom

Dey (Rochester) gave a slide presentation on his home-built 18-inch Dobsonian, its binocular "Super-Finder", and his new domed observatory. Darwin Christy demonstrated his invention for measuring angular distances in the sky. Others showed slides of their travels over the summer, including: Kitt Peak, University of Arizona Optics Lab., Hawaii, Stellafane, Kutztown Astronomical League Convention, Dudley Observatory's 100-ft radio telescope, Holleford Meteor Crater, and Helen and Ralph Dakin's home in Maine.

The main speaker for the evening was Dr. David Meisel, of the State College at Geneseo, who is director of the American Meteor Society. The curious title of his talk was, "Moon, Meteors and Mosquitoes." Anyone who has ever tried to observe a meteor shower knows of the 'deadly' effects of bright moonlight on all but the brightest meteors -- but, try as we might, no one could figure out the connection with mosquitoes prior to the talk. As it turns out, Dr. Meisel first gave this lecture a few years ago to an amateur group in Florida where, as one can well imagine, combatting mosquitoes is an essential part of any observing session, so he thought it would be appropriate to do a little 'homework' on the subject and report his findings. The terrifying statistics: ----- MOSQUITOTES can....

- 'smell' human beings from 20 miles away downwind, over water.
- see well enough to navigate in 1/10 the light cast by the stars.
- lay eggs just 5 hours after they hatch.
- travel up to 40 miles from their birthplaces.

Further, they are so hardy that in northern Canada, where they have been frozen solid in ice over the winter, they have been known to revive during the spring thaws.

The more astronomical parts of the talk dealt with the work of the American Meteor Society, from its early (1910's and 1920's) visual work concerned with determining radiant points and meteor heights, to today's radio-scattering studies of shower rates. Dr. Meisel played a tape recording of the metallic-sounding 'pings' created by scattering of an AM modulated morse signal by meteor events (ie. the ionized gas trails). Radio study of meteors is a very powerful tool, as it is independent of moonlight, weather, and can be done even during the day. Dr. Meisel also showed slides of thin-sections from the Allende Meteorite (carbonaceous chondrite), and pointed out mineral inclusions dated to be 12 billion years old -- twice the age of our solar system. Presumably, they originated in another star system and were later incorporated into the presolar nebula.

One left the meeting with satisfaction that the amateur community is alive and active in WNY and southern Ontario. More contact between clubs would be desirable, though, and the exchange of club newsletters was stressed. The Spring 1982 NFCAA meeting will take place in early May, in Hamilton, Ontario, Canada. Shaun Hardy

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#### Spy and Tell

John Riggs who has a tremendous knowledge of the sky, has observed around 1100 deep-sky objects. To this phenomenal record he has added the study of variable stars on which he has been working about a year and a half.

Our master craftsman, Bob Mayer, is his usual busy self, refurbishing a Spencer #2 microscope for the museum, and making clock parts for the Buffalo Clock Shop. He is working on a couple of mounts which he will soon put up for sale. Here is a great opportunity for some lucky person. If interested, contact Bob. He also has 135 Sky & Telescope issues from the years 1961-76. If you would like to purchase all or specific issues, give Bob a call.

Some of our hard working B.A.A. members, John Riggs, -5-

Carl Milazzo, Al Kolodziejczak, Gene Witkowski and Doris Koester went out to Beaver Meadow on December 5th and did some necessary work on the telescope. They cleaned the primary mirror and secondary mirror, and lined the inside of the tube with cork to prevent dew. We understand that Gene looked rather strange, holding his breath as he squeezed his way into the tube. The group also put up bookshelves in the warm-up room.

On November 27th, Shaun Hardy, Carl Milazzo and Doris Koester went to the NFCAA banquet in the Skylon in Niagara Falls, Ontario. The speaker was Dr. Holiday, a professional scientist who works at the National Research Center of Canada in Ottawa. He gave an excellent speech on meteors.

Al Mohn and Al K. are having a race to see who can be the first to observe the entire Messier list. They have been at it for about a year. Might be a good idea if we all joined in a Messier race.

Doris Koestler and a friend, Adrienne Kaczmarek, a U.B. graduate, compare their 6" telescopes on star-gazing nights. The focal lengths are f5 and f6.8 respectively.

Gerrold Foster has a rather unusual and enjoyable hobby. He has collected around 2500 comic books over a ten year period.

The Fosters have a very talkative two and a half year old blue parakeet with a vocabulary of 100 words. This amazing bird also has excellent hearing as he can detect an airplane as it approaches before human ears are aware of it, and signifies its proximity by chirping. Because of this specialty he is aptly named, "RADAR".

Our jovial editor, Darwin Christy, retired, as you know, from Niagara Mohawk after 28 years of service. At his retirement party a review of his duties and qualifications were given, among which one finds such strange things as: "Without supervision to perform such duties as: Co-ordinate all departmental limburger parties. To feed and train extensive ant colony and other assorted wildlife. To be able to observe and evaluate all major astronomical occurrences that may affect Niagara Mohawk Power & Distribution. Qualifications: Must have for 5 years satisfactorily operated a kitchen and dining facility without being shut down by the health dept. Must be able to stage a thrill-filled aerial act periodically in the transportation garage while bucket truck testing." He was also given a certificate in redognition of attendance and apticipation in a training course on Repair and Maintenance of High Wire Apparatus. It was appropriately awarded by Ringling Bros. Best wishes for a happy and active retirement.

Edith L. Geiger

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#### A HAT FOR ALL SEASONS

There's a man in our midst  
On the loose with a hat,  
Now, what you ask,  
Is so strange about that?  
Well, its not a sombrero,  
Royal Stetson, or such,  
It's just unmistakably  
PA. Dutch.  
This straw headgear  
Is uniquely made  
By craftsmen who seem  
To enjoy their trade.  
It challenges wind,  
Snow and rain  
As versatile as this man's brain.  
It's not a hat to lightly doff,  
I hope he never takes it off.  
But how will he explain it  
To Jupiter and Mars,..the other planets and hatless stars?  
Esther L. Goetz 11/81

Steven D. Desmond  
6717 Cole Rd.  
Orchard Park, N. Y. 14127  
662 3675

If you want black & white pictures or color slides developed, Steven will be glad to help you out. It seems he wishes to become a photographer of sorts. Good luck!

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#### Instrument Section

The instrument section meets on the fourth Friday of each month, except December, July or August. If you have problems with telescope making or operating, any of those who are experienced will surely help you out per Ed Lindberg.....

#### Study Group

The study group meets on the third Friday of each month except July and August. The January meeting will consist of talking and discussing 'relativity'. The February 19, 1982 meeting will include a 30 minute color movie narrated by astronomer Bart Bok which will be followed by a general discussion. The movie is entitled, "Stars, Galaxies and the Southern Skies." It deals with some of the most spectacular objects seen from the Cerro Tololo Observatory. Meetings start at 8:00 in the New Science Building at Buff State.

#### Beaver Meadow Observatory

Some of our club members have the impression that our club's old Newstead observatory was used much more often than our new one at Beaver Meadow. But if one were to look at the observatory log book, one would see that observations with the telescope at Beaver Meadow were much more common.

In 1960 construction began with the Newstead Observatory and was completed in 1963, but the telescope was not completed until 1966. How often the Newstead Observatory was used in the early years is unknown because of poor record keeping in the log. In its last six years of usage, it varied from 8 to 25 times a year.

In 1975 the condition of the observatory and skys deteriorated to the point that it was time to move. A new site was chosen, Beaver Meadow. Construction of the Observatory started in July 1975 and was completed in late December, along with renovation of the telescope. In the past six years, usage has varied from 78 to 105 times annually. When one takes in the fact of full moon nights and how cloudy it is in this area, it would be difficult to be any more active.

Carl Milazzo.

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PEOPLE WHO THINK THEY KNOW EVERYTHING, ARE PARTICULARLY AGGRAVATING TO THOSE OF WHO DO !

Ed.

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#### Answers to QUIZ!

1) A relic of the sexagesimal system of the Babylonians. Twelve is a multiple of six and a division of sixty which let itself readily to their calculations and was considered as useful as ten is today. It was probable that the divisions of the day into twelve parts was as natural to them as our decimal system is to us. Before man developed his present means of measuring time accurately, the hour was flexible. Each day, from sunrise to sunset, consisted of twelve hours. The hours of summer were longer than the hours of winter because the light endured longer on summer days than those of winter.

2) The Babylonians of 3,000 years ago used the sexagesimal system of numbering. This was based on a multiplication of 6 instead of the decimal system which we use today. They divided the circle into 60 x 6 parts (360). -6-

Those being degrees. Each degree was then divided into 60 parts and each of these were also divided into 60 parts. Thus, the first 60 parts were given the name 'minute' and the 60 parts of each minute were called 'seconds.'

When man began to divide the hours, the face of the clock (being round) led him to use those divisions of the circle, and the first small parts were again called 'minutes' and the secondary divisions were called 'seconds.' The part of the 'second' was instituted to the present form of the decimal system and were given in tenths, or ten parts of a 'second.'

3) If a body could be placed at the center of the Earth, the gravitational forces acting upon it would also be at a balance, and a body in this position would also be weightless. Since the law of gravity, or parts thereof, says the gravitational force of any body diminishes as the square of the distance from that body, there must be regions in space where one body would be far enough from all more massive bodies so that the total effects of their gravitational forces would be in balance and the body in question would weigh NOTHING.

4) The sky is blue because of the effect of our atmosphere upon the light of the sun. The atmosphere itself, together with dust particles and tiny water droplets, scatters, diffracts and reflects the Sun's light turning it into a blue haze that we call the sky, but which really hides the sky from us. The less dust and water vapor there is in the air, the darker blue the sky becomes. Above the atmosphere, the sky is black and the stars are visible even in the daytime.

5) Twilight officially lasts until the Sun has reached a point 18° below its setting horizon at night. Morning twilight begins when the Sun reaches a point 18° below its rising horizon. The angle at which the Sun approaches the horizon in the torrid zone is always much nearer to 90° than it is in the temperate zones. Hence, its motion to and from 18° below its horizon is more direct and shorter. For that reason, twilight is always shorter in the torrid zone than in the temperate zones.....

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#### GEMINI - The Twins

The word Gemini has a two-fold meaning today -- it is the name given the space ship in which the astronauts White and McDivitt made their successful dual flight into space and it is also the name of one of the ancient constellations in the sky which astronomers are still studying with great interest. A better name could not have been chosen for the space ship because the word "Gemini" has always been synonymous with victory and success.

In ancient times when shepherds studied the stars while tending their sheep, they were aware of the two brilliant stars, apparently close together in the sky, which they named "The Brothers". As early as 6300 BC the Egyptians represented these stars in a painting of the Zodiac as twins, although later in Egypt they were also represented as sprouting plants, and a pair of kids. The Assyrians and Babylonians also regarded them as twins.

In Peru they were pictured on an early star map as a pile of bricks, because they believed the twins were the first builders of cities, perhaps the originals of the Remus and Romulus legend, the brothers who were supposed to have built the city of Rome.

The Australian Bushmen called these stars the Two camp Men, and the Eskimos thought of them as the two door stones of an igloo. In India they were called "The Cocks". So in nearly every age and country these stars have been associated as a pair, and it was the Romans who gave the constellation the Latin name "Gemini" meaning Twins.

The constellation Gemini is an oblong figure composed of two almost parallel lines of stars, the two brightest, Castor and Pollux, at the head.



To locate this constellation extend a straight line from the star where the handle is attached to the Great Dipper diagonally through the front bottom star and this will meet the constellation Gemini. Both Castor and Pollux are first magnitude stars (among the brightest in the sky). Castor is white with a greenish hue and is about 32 light years away. Viewed from the Earth, they appear to be close together in the sky.

Since scientists have been sweeping the sky with telescopes it has been established that these two are multiple stars. As early as 1803 William Herschel, the British astronomer, discovered Castor was really two stars and that they were revolving around each other. It is said this discovery inspired the English children's poet, Jane Taylor to write the poem:-

"Twinkle, twinkle, little star

How I wonder what you are..."

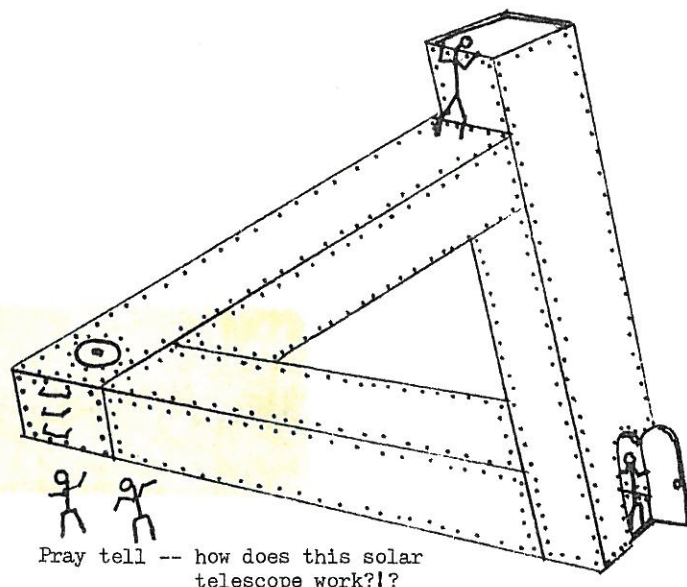
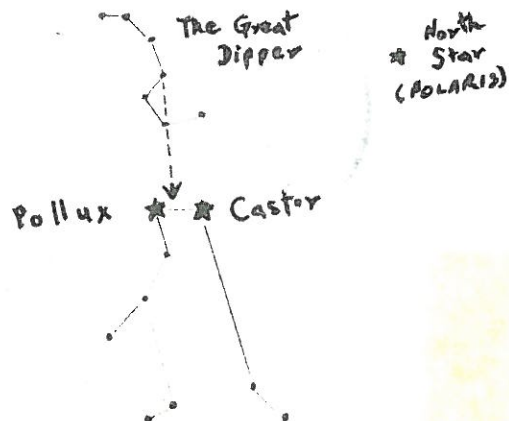
It has since been discovered that Pollux is also a multiple star, and astronomers are studying these stars today.

In ancient times the constellation Gemini was pictured on star maps as two brothers with arms entwined. The Greeks gave them the mythological names Castor and Pollux, the sons of Jupiter and Leda. They were the two brothers who accompanied Jason on the ship Argo when he sailed in search of the golden fleece. While in this journey a great storm arose, and when a brilliant light shone about the heads of the two brothers and the storm subsided, they were credited with having saved the ship from disaster. Ever since, they have been regarded as the guardians of sailors, and today, sailors still say when both stars are shining there will be good weather, but when only one the weather will be stormy.

The twins were also the sign, or figurehead of the ship on which St. Paul sailed from Malta to Syracuse as told in the Acts of the Apostles XXVIII ii. In 269 BC the twins were represented on Roman coins as two young men on horseback. This coin was the "pence" referred to in the story of the Good Samaritan in the Bible.

Down through the years the word Gemini has been associated with good fortune. The Romans used to seal a vow by saying 'By Gemini', and today when you say 'By Jiminy' you are invoking the good will of the twin stars Castor and Pollux.

Olga Lindberg



Some dots here and a few dots there.....

-8-

Can you determine the constellation? It has been split  
because of the length of it.....

The answer will be printed in the next 'Spectrum'.

The Buffalo Astronomical Association, Inc.

"The SPECTRUM"

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