



The Spectrum

Buffalo Astronomical
Association, Inc.

Darwin Christy, Editor

SEPTEMBER - OCTOBER 1(*) 1980

SEPTEMBER meeting:---- The September 12th meeting will begin at 8:00 PM in the New Science Building Auditorium at Buffalo State on Elmwood Ave. Our gueast speaker will be John Paris from the Rochester Academy of Science. His topic for the evening will be, "Visual Allusions". Let's welcome Mr. Paris.

??????????? PLANETARY QUIZ ???????????

- 1) What is the SIDEREAL PERIOD?
- 2) What is the ANOMALISTIC PERIOD?
- 3) What is the SYNODIC PERIOD?

Answers on the last page.....

OCTOBER meeting:--- The October 10th meeting of the BAA will begin at 8:00 PM in the New Science Building Auditorium at Buffalo State on Elmwood Ave. The evening speaker will be our own Dr. Jack Mack. His subject will be, "The Temperature of Space - The Cosmic Microwave Radiation Background." Let's welcome Dr. Mack...

---DUES ARE DUE---

Just a reminder that dues are due for the 1980 - 1981 fiscal year. Dues are :- \$ 5.00 for students and senior members - \$ 10.00 for individual members - \$ 15.00 for family membership. Please pay our membership chairperson, Edith Geiger, as soon as possible.

-----BOARD MEMBER NEEDED-----

Because Al Kolodziejczak was elected President, we are short one Board Member at Large. Members interested in running for the position should contact the President before the October general meeting. The term for this position is fro one year.

----From the President----

As your new President I would like to welcome you all to the 1980-81 season for the BAA. I have much information to report to you, generated from an active astronomical summer.

The June meeting was a great success, not only did we hear a fine review of the years activities, but we also elected two new officers and saw an excellent slide show of Miro Catipovic's and Tom Dessert's trip to Riverside, Calif. The new officers are:- Al Kolodziejczak, President and Ken Kimble, Secretary. Ken Biggie and Joe Provato are continuing as Vice President and Treasurer respectively.

Our club owes a great debt of gratitude to Dr. Price for his excellent service to the BAA as President. Fred has been President from 1966-68 and 1976-80. His dedicated service during these three terms is well known to all of us. He has scheduled and chaired board meetings, chaired general meetings each month, served as a speaker at our general meetings and was instrumental in getting the study section off to a smooth and successful start. Fred has been a Fellow of the BAA since 1977 and is an avid observer. It was Fred's distinguished and professional mannerisms at conducting meetings that convinced me to join the BAA after just one meeting. We are indeed most fortunate to have such a fine productive member and I'm sure we can all look forward to his continued active participation in our various activities. I hope

each of you will personally thank Dr. Price for his lasting contributions to the BAA. Thank you Fred.

Tom Dessert has offered his resignation as observatory director and it is with much regret that I have accepted it. Tom has served as director since 1975. Besides helping plan and build the observatory, he has faithfully maintained and made improvements to the building and equipment. He also taught classes at the observatory as well as manning the public nights for five years. Surely he has earned a rest from this demanding job. We can all look forward to Tom's enthusiastic participations in new areas of BAA activities. Thank you Tom.....

This summer's star parties have been a great success. I have personally enjoyed each one I have attended and at this writing I have both Darwin's and Edith's to look forward to. Thanks are in order for Tom Dessert, Ken Biggie, David and Albert Brink, Joe Provato, Eugene Witkowski, Darwin Christy, and Edith Geiger.

Other news includes:.....

Because of my election to the Presidency, one Board of Directors position is vacant. Please give me nominations before the October meeting. Nominations will also be accepted from the floor at both the September and October Meetings. The position is for one (1) year, the unexpired term.

A new director of the observatory will most likely be announced at the September meeting.

Dr. Brink will speak at our November meeting. This should be a very special presentation...

I have asked Ken Kimble, the new secretary to be the archives and manager of all BAA property. His first task will be to make a complete inventory and publish it in the SPECTRUM. It is hoped that Ken will be able to inform all members of the club's various materials and equipment so that they can best be utilized. Any member who has in their possession (or knows the whereabouts of) any BAA materials please contact Ken.....

Phil Cizdziel, now in a Masters-Doctorate program in astronomy at the University of Hawaii, has donated two scholarly papers to the club:- Resonant Perturbations and the Rings of Uranus and Wolf-Rayet Stars. Anyone interested in reading these papers (authored by Phil while a student at UB) should contact Ken Kimble.

Two introductory astronomy courses are being offered by BAA members this fall. One at UB for alumni, faculty and students which will be taught by Ken Kimble, Larry Carlino and myself. The other will be taught in Amherst's continuing education program by Edith Geiger, Ken Kimble, Roland Rupp and myself.

I look forward to another season of productive activities for the BAA and wish you all a successful year.

Al K.....

****FOR SALE****

Bill DiBaso has a 12.5 inch Cassegrain telescope for sale. It is 6 years old, make unknown, purchased for \$ 2,100, excellent condition, willing to talk any price. Anyone interested----please call 873 1478_____

BAA ANNALS

5 YEARS AGO - Ray Manners spoke in September 1975, but his topic was not given in The Spectrum. Ray had addressed the BAA many times over the years on a variety of subjects. This occasion, I believe, was his last. U. B.'s Dr. Lyle Borst was our October speaker; his subject was "Problems with the Expanding Universe."

Nova Cygni and Comet Kobayaski-Berger-Milon (1975h) were surprise attractions in August. Details of their apparitions appeared in the September-October Spectrum.

10 YEARS AGO - Ray Manners was our speaker five years earlier as well. This time the title of his talk was given--"Pulsars, Quasars and Gravitational Collapse." "Auroras" was the subject of William Ottemiller's talk at the October meeting.

The Board nominated three people for membership in the College of Fellows. They were Ron Clippinger, Walt Whyman, and Dick Zygmunt. This brought the total

number of members of this distinguished group to seven.

15 YEARS AGO - Two BAA members spoke in September and October 1965. Ron Clippinger led off with "Trepidation of Fixed Stars." The next month we heard from Larry Hazel on "The Amateur Astronomer and Variable Stars."

The dome of the Newstead Observatory was being built at this time and volunteers were sought to help complete the job. The first optical tests of the newly installed telescope were carried out on September 25th. Ed Lindberg had figured the mirror which is still used today at Beaver Meadow Observatory.

New club by-laws expanded the Board in 1965. Marge Meyer, Margaret Rabe and Ed Stoklosa were elected to the new positions.

25 YEARS AGO - In those days the year's first meeting was held in October, but each month there was an observing night two weeks later--a forerunner of the Instrument Section? Walt Semerau spoke on "The Spectrograph for the Amateur" at the first meeting for the 1955-1956 season.

Roland Rupp

???SPY and TELL???

Our congratulations and best wishes to Al Kolodziejczak and his bride who were married on July 14th.

In the Saturday, June 28th Buffalo News, a picture of Orrin Christy appeared showing him in his kayak preparing for 'the world's longest canoe race' along the Barge Canal to benefit the 16 chapters of the American Heart Association's New York State Division.

Anita Kirst spent the summer working in the family business of Kirst and Sons in Hamburg.

Marty Dessert attended the Sharon Audubon Center Festival in Sharon, Connecticut the weekend of July 25-27.

Olga and Ed Lindberg were pictured on the cover of the UB Alumni News for June showing Olga and the special diploma from the Alumni Association honoring her 50th graduation anniversary on May 14th.

On the last week in June, Phil Cizdziel took Ken Kimble and Al K. on a guided tour through the UB observatory and the Science and Engineering Library. They also had the opportunity of visiting with Dr. Brink and seeing his laser lab.

Carroll Geiger conducted a symphonic band concert at Beaver Island and another at Cheektowaga Town Park this summer. He also played in several orchestra and band concerts.

Al K., our art connoisseur, had an exhilarating experience visiting the Metropolitan Museum of Art and the striking Guggenheim Museum. The high point of his trip to New York was the outstanding Picasso exhibit which was arranged from the artist's "Realism Period" through the "Blue Period," "Pink Period," "Cubist Period" back to realism.

Tom Dessert and sons spent a month's vacation in Mexico, Canada and western United States. Tom's trip included rides in planes, helicopters and quite naturally visits to observatories.

Walt and Gertrude Whyman are traveling to parts of Pennsylvania and Ohio in September as Walt continues his systematic survey of covered bridges. Walt has given illustrated talks to a number of groups on this fascinating hobby.

Carroll & Edith Geiger and daughter, Karen, went on a Rocky Mountain trip which took them by "rent a car" to Glacier National Park in Montana, and Waterton Lakes, Keetenay, Yoho, Banff and Jasper National Parks in the Canadian Rockies. Karen a professional naturalist, and her mother climbed mountain trails to photograph and enjoy the abundant alpine flowers, and view the glorious scenery from the heights.

The following members had perfect attendance at our 1979-1980 meetings:- Darwin Christy, Gary Herrnreiter, Adrienne and Ken Kimble, Anita Kirst, William Kirst, Carl Milazzo, Roland Rupp, and Walt Whyman.

Edith Geiger

-----NFCAAA advance notice-----

The Niagara Frontier Council of Amateur Astronomy Associations will be hosted by the Niagara Falls, Canada club on November 8, 1980. Information can be obtained from Ed Lindberg or myself, hopefully at the October meeting. These meetings are not just for the representatives of the member clubs, but are open to all members of all the represented clubs. The meetings are very informal and many short and informative talks are given.

Darwin Christy

* SEPTEMBER CONSTELLATION *

In dreams it seemed to me I saw suspended
An eagle in the sky, with plumes of gold,
With wings wide open, and intent to stoop,
And this, it seemed to me, was where had been
by Ganymede his kith and kin abandoned,
When to the high consistory he was rapt.

Dante's "Purgatorio"

ANTINOUS lies in the Milky Way, directly south from the star Altair; the head of the figure at 'eta' and 'rho', the rest of the outline being marked by 'theta', 'iota', 'kappa', 'lambda' and 'delta', all now in Aquila. Flamsteed omitted 'rho' and 'nu' from his catalogue, but added 'iota'.

The constellation is said to have been introduced into the sky, in the year 132, by the Emperor Hadrian, in honor of his young Bithynian favorite, whose soul his courtiers had shown him shining in its 'lucida' after the youth's self-sacrifice by drowning in the Nile from his belief that his master's life might thus be prolonged. This was because the oracle at Beza had asserted that only by the latter be averted. The new asterism, however, was little known among early astronomers; and although Ptolemy alluded to it, he did so but slightly in calling half a dozen of the 'amorphotoi' of Aquila - 'antinous'.

After his day it seems unnoticed till Mercator put it on his celestial globe of 1551 with six components; Bayer following him in illustrating it with Aquila, although with no distinct list of its stars. Tycho also utilized it; but it first separately appeared in print on a plate in Kepler's 'Stella Nova' of 1606, and in his 'Rudolphine Tables'. Longomontanus (Christian Longberg of Denmark) had it in his 'Astronomica Danica' of 1640; Hevelius included it in the 'Prodromus', but added a Bow & Arrow, the ancient Sagitta; Flamsteed mentioned it in the 'Aquila cum Antinoo' and the Hungarian Jesuit Abbe Maximilian Hell had it in constant use in his 'Ephemerides Astronomicae' of 1769 and 1770. Flamsteed also had it in 'Historia Coelestis' as Aquila Antinous and 'Aquila vel Antinous'. Bode also distinctly catalogued and illustrated it; but Argelander omitted its title from his 'Uranometria Nova' of 1843, although he showed it as a part of Aquila. It is now hardly recognized, its stars being included with those of the latter constellation, Aquila.

* OCTOBER CONSTELLATION *

TELESCOPIUM HERSCHELII formed by the Abbe Hell in 1781, in honor of Sir William Herschel, was first published by Bode in 1800. It lay between the Lynx and Gemini and appears on Burritt's 'Atlas'; but since his day has passed away from the maps and catalogues.

The star 'pi' of Gemini marks its former location, the western end having been among the 'psi' stars of Auriga, not far from the latter 'beta'.

-----JUST A REMINDER-----

IN CASE OF INCLEMENT WEATHER, THE BUFFALO ASTRONOMICAL ASSOCIATION WILL ANNOUNCE MEETING CANCELLATIONS ON RADIO STATION (WBEN) - 930 ON THE AM BAND.....

Well wishes from your officers:- Al Kolodziejczak, President - Ken Biggæ, Vice President - Ken Kimble, Secretary - Joe Provato, Treasurer - and Members of the Board: Dr. Jack Mack, Ed Lindberg, Bob Mayer and Darwin Christy.....

Dr. Gilbert O. Brink

Born in sunny California in the city of Los Angeles, Gil went on to graduate from elementary and high school on Stockton, California. In high school his participation in scouting led his being awarded scouting's highest honor, that of Eagle Scout. He became assistant scout master in his senior year.

He was very active in science at an early age and became a radio amateur. With his busy schedule, he found time to play trumpet in the high school band, with his musical talents extending to playing the banjo. At graduation he was honored by receiving the Bausch & Lomb Science Award.

With a desire to further his education, he enrolled in the College of the Pacific at Stockton where he majored in chemistry. Then it was on to graduate school at the University of California at Berkeley to earn his Ph. D. His doctoral thesis was entitled, "Measurement of the Nuclear Spins of Thallium 197, 198M, 199 and 204."

It was when Gil was a grad student that he met Lois Fredstrom, a lovely student nurse, and they were married in March of 1957, a few months before their graduations.

Lois became a head nurse at a hospital in Oakland, California, and Gil taught from 1957 to 1959 as an assistant professor of physics at the University of California at Berkeley. In 1959 he worked at the Lawrence Livermore Lab, in the same state, as a research physicist. The Brinks moved into our area in 1963 and Gil became a principal physicist at Cornell Lab in Cheektowaga where he was employed until 1968 when he became a professor of physics at SUNY where he continues to teach. His research is in the area of lasers.

Lois furthered her education by enrolling at Daemen College to earn a B. A. in psychology. She has been employed recently as a social worker.

As a respected scientist, Gil has presented papers at the International Conference on Atomic Collisions, in Leningrad in 1968, Belgrade in 1973 and in Amsterdam in 1975. He has given numerous papers at meetings in the United States. In 1975 he took his sabbatical, spending the summer portion at Columbia and the fall semester at Princeton.

Gil is a member of the American Physical Society, the New York Academy of Science, and Sigma Xi, a National Scientific Research Society.

His travels have taken him to Europe, the northeastern United States, Washington D. C., and Quebec. His hobbies include ham radio and astronomy. He and his son have built a 10" Newtonian with both axis being motor driven. They use a 3" refractor as a guide scope for deep-sky photography and do their own developing and printing of the objects they have photographed. Their observatory boasts an 'open-up' roof, also of their own construction.

Lois and Gil have two children: Janet, a senior majoring in biology at SUNY, and Davaid, who spent his freshman year at the University of Rochester and is continuing his studies at SUNY.

Gil, who is a gifted scientist, devoted family man and an all-round fine gentleman, is a great asset to the B. A. A., and we're very proud to have him and his family as members.

Edith Geiger.

-LAST PAGE-

Answers to the quiz:-

- 1) The sidereal period of a planet is the time taken by the planet to make one complete circuit around the star sphere, as seen from the Sun.
- 2) The Anomalistic period of a planet is the time interval between successive passages of the planet through perihelion (or aphelion, or any other definable point in its orbit such as the nodes; it is practically the same as the planet's sidereal period).
- 3) The synodic period of a planet is the time interval between successive oppositions (or conjunctions) with the Sun, as seen from the Earth and is the average interval between successive apparitions of the planet.....

Soon after the publication of the close-up photographs of the lunar surface made with the cameras aboard the Lunar probes and Orbiter craft, there arose the feeling in astronomical circles that earth-based amateur observation of the moon could no longer be expected to yield data of permanent scientific value. Three times during the history of lunar studies, amateur lunar observers have been discouraged by, paradoxically, major advances in the field. First, there was the publication in 1837 of the 'Mappa Selenographica' (Map of the Moon) of Beer and Mädler and the accompanying book 'Der Mond' (The Moon). Although the telescope with which this work was accomplished was quite small (a Fraunhofer 3 3/4" refractor), the thoroughness and accuracy with which the mapping was done led astronomers to consider Beer and Mädler's work the 'last word' in selenography. Moreover, Beer and Mädler asserted that the Moon was a dead and changeless world. All of this had the effect of making further telescopic study of the moon and lunar mapping seem pointless for some years after.

In 1866, Julius Schmidt announced an apparent physical change in the lunar crater Linne. Previous observers had seen this as a deep crater about six miles in diameter, and so had Schmidt, until his failure to find the crater when it should have been visible. In its place was a whitish spot, in the center of which was a tiny hillock. Further reports by others of seeming changes on the moon's surface and the discovery of discrepancies between Beer and Mädler's map and charts just as carefully constructed by observers using larger telescopes made it clear that the moon may not be a changeless world and that Beer and Mädler may not have had the last word after all. The result of this was a renewed interest in the moon.

The second circumstance that temporarily discouraged amateur lunar observation was the appearance of the photographs of the moon's surface made with the 100" Mt. Wilson telescope. Again, it seemed futile for observers using much smaller telescopes to attempt to contribute to our knowledge of the moon when such photographs became available. However, as is now well known, visual observers using moderate telescopes can perceive fine lunar detail in moments of excellent seeing that do not appear in photographs taken with even the largest telescopes. Moreover, the photographs do not cover every lunar feature under every possible condition of illumination and libration, so that not long after the publication of the Mount Wilson photographs, amateur lunar observers got going again. Observers used the photographs to prepare outlines of lunar formations on which they would insert the details seen in their visual observations that were not visible in the photographs.

Most recently and possibly most discouraging for the amateur was the publication of the highly detailed close-up photographs of the lunar surfaces made with the camera aboard the lunar probes and orbiter craft. Prior to the launching of the first lunar probes in 1959, the best maps of the moon were the work of amateurs and amateur lunar observation was concerned largely with charting in the moon's surface. Professional astronomers have now become interested in the moon and have constructed accurate detailed maps of almost the entire lunar surface using the close-up photographs as a basis.

However, this does not mean that the Earth-based amateur now has nothing to do or that his efforts are futile. All that has happened is that his emphasis has shifted from primarily topographic studies into other areas and the amateur has become something of a specialist.

Amateur lunar observation of the future may expect the following areas of research to prove potentially fruitful:

1. Topography. Although the resolution obtained with lunar close-up photography is much greater than that possible with any Earth-bound telescope, the fact still remains that no Orbiter mission has covered the entire lunar surface under every possible condition of solar illuminations and no further lunar missions are planned for the foreseeable future. Furthermore, they have sometimes not shown features with very gentle slopes, especially the so-called 'domes'. Although many domes have been accurately charted, probably many more remain to be discovered. Here, there is useful work for the amateur lunar observer. Also, the libration regions of the moon

near the limb are still imperfectly charted in some of the latest photographic atlases and much work remains to be done by the dedicated amateur.

2. Variable Dark Spots. These are dark markings and patches on the moon's surface suspected of 'variability' unrelated to phase or libration. The best known are the dark spots in the craters Alphonsus, Grimaldi, Atlas and Eratosthenes. No satisfactory explanation has ever been put forward for these phenomena and no doubt many other examples of variable dark spots have yet to be discovered. Only persistent observation of these features over many lunations or even years can establish whether the variability is genuine and they are visible only under moderate to high angles of solar illumination. Observation under such conditions is trying on the eyes because of the glare and poor contrast and for these reasons most amateurs have shied away from this type of work. Observer's handbooks tend to discourage observation of the full moon for these very reasons but perseverance and patience in this difficult line of research should yield results. More data on Variable dark spots than we have are needed so that plausible theoretical models can be devised to explain their curious behaviour.

3. Transient Lunar Phenomena. (TLP) Many observers of the moon have reliably reported sightings of temporary localized reddish glows and patches within certain lunar craters, especially Cassendi, Aristarchus and Alphonsus. These are called Transient Lunar Phenomena or TLP for short. Possibly they are events of a volcanic nature. The best established example was the 'outbreak' in Alphonsus reported and photographed by N. A. Kozyrev in 1958. TLP are best seen in a 'moon blink' device which consists of a red and blue optical filter mounted in a rotating disc placed just in front of the telescope eyepiece. When searching for TLP the disc is rapidly rotated and the red and blue filters pass in front of the eyepiece in succession. If a 'red event' is present, it will look pale through the red filter but will appear dark through the blue. Thus, because of the persistence of vision effect in the eye, the TLP will show up as a flickering spot against an unchanging background. Since a moon blink device is quite easy to construct, the search for TLP can be a worthwhile line of research for the amateur. However, telescopes with apertures of no less than 8" are recommended and reflectors are preferred because of the absence of chromatic effects in the primary image.

It goes without saying that long-term surveillance by Orbiter craft to study variable dark spots or to look out for TLP is not feasible.

4. The Lunar Rays. The best known and most extensive system of whitish streaks or 'rays' on the moon's surface are those associated with the craters Tycho and Copernicus. There are many other systems, some quite small compared with those of Tycho and Copernicus and there are even isolated rays on various parts of the lunar globe. No really accurate map of the lunar rays exists. These features are best observed from the Earth because they are so diffuse and - in some cases - elusive and of such enormous extent that it is doubtful whether close-up lunar photography can yield anything useful, at least from a cartographic point of view. Here again, the patient amateur can do useful charting work, noting also the peculiar manner in which the visibility of rays varies with solar illumination angle. No satisfactory explanation of their origin or nature has yet been advanced and only the accumulation of observational data can be the basis for devising physical models to explain the behavior of the rays with respect to illumination angle.

These four areas of research, if systematically carried out by the diligent amateur, can be expected to yield results of real scientific value and it is to be hoped that Earth-based lunar observation will experience a resurgence as it has done before in the face of seeming discouragement. In addition, we should not forget that the study of our satellite is in itself a fascinating and rewarding pursuit, the rewards being intangible aesthetic pleasure and the satisfaction it brings to the scientifically curious mind. This in itself makes amateur lunar observation worthwhile, and is worth considering these days when there is so much necessarily always give material results to tangible scientific value.

DEADLINE FOR THE NOVEMBER DECEMBER SPECTRUM IS OCTOBER @%th
I NEED NEWS & ARTICLES If I do not get these bits and pieces, the SPECTRUM could
be nothing more than a couple of pages noting the meetings.....

As I mentioned in the first SPECTRUM which I edited, only a few article were available
from the ever writing members. I do not want to call names for the articles but I may
just do that.

-----NEEDED-----

A VOLUNTEER typist for typing the stencils for the SPECTRUM is neede. YOURS
TRULY typed this issue and there are MANY mistakes - SORRY.....
Anyone who can and will be a typist please let me know at the September or October
meeting or call me at 692 0305. THANK YOU whoever you are.

-----SEEN-----

Who stayed up and saw the penumbral eclipse of the Moon on August 25-26?????????
I for one did and I know that Carl Milazzo did, at least he said he was going to.
It is not the spectacular eclipse when total but then it was a different phenomena.
The north limb of the moon did show a darking as did my recorder show a dip in
brilliance.

METEORS

September:- Epsilon Perseids on the 11th

Alpha Aurigids on the 22nd

October:- Quadrantids on the 2nd

Draconids on the 9th

Epsilon Areitids on the 17th

Orionids on the 21st

Leo Minorids on the 24th

(LUNAR PHASES)

First Quarter - Sept. 17th - Oct. 16th - Nov. 15th

Full Moon Sept. 24th - Oct. 23rd - Nov. 22nd

Last Quarter - Sept. 30th - Oct. 30th - Nov. 29th

New Moon - Oct. 8th - Nov. 7th Dec. 7th

Autumnal Equinox - September 22 at 4:09 P. M. EST.

The Buffalo Astronomical Assn., Inc.
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FIRST CLASS