



the Spectrum

BUFFALO ASTRONOMICAL ASSOCIATION INC.
BUFFALO MUSEUM OF SCIENCE
HUMBOLDT PARKWAY
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Editor: Ernst E. Both

M A Y - J U N E 1974

MAY MEETING: May 10, 1974, 8:00 p.m. EDT, Club Room, Buffalo Museum of Science. Our guest speaker will be Dr. Martin Green: "Astrophysics and the Amateur Astronomer." Dr. Green is a native of England and works as a physicist at the Westinghouse Electric's Tube Division at Elmira, N.Y. He will concentrate on the types of astrophysical observations the amateur can make. Dr. Green has worked a great deal with image intensifiers and their application in astronomy (see his article "Observations with an Ultrasensitive TV Camera" in the May 1968 issue of Sky and Telescope). This should be a very informative lecture and we are very happy to welcome DR. GREEN! Refreshments as usual after the meeting in the lounge.

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JUNE MEETING: June 14, 1974, same time and place as above. Our last indoor meeting is the annual business meeting which usually features reports from our President and various committee chairmen. In addition we elect officers of our association this June. The following slate has been presented to the membership at the April meeting:

PRESIDENT: for re-election, Darwin Christy;

VICE-PRESIDENT: for re-election, Thomas Dessert;

TREASURER: for a two-year term, Warren Steinberg - Bill Deazley;

SECRETARY: for a two-year term, Marybeth Gauthier.

Warren Steinberg has been appointed to fill the treasurer's position vacated by the death of Bob Kartyas, until the June election, when he will be opposed by Bill Deazley. Carl Kalweit was to oppose Marybeth Gauthier for the position of secretary, but he has withdrawn his name since he expects to be away from Buffalo for several months.

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METEOR SHOWERS FOR MAY AND JUNE by Darwin Christy

The full moon will interfere with the ETA AQUARIDS expected around May 4th. The radiant is near Eta Aquarii (RA 22h 24m, on the celestial equator) and they seem to be related to Halley's comet (1910 II). The meteors are fast with long white trails. The hourly rate is about 20 meteors per single observer, with the maximum lasting about three days. Two lesser known showers are the ZETA HERCULIDS and the ETA PEGASIDS. The ETA PEGASIDS are expected around May 30th, with the radiant at RA 22h 20m, decl. + 28°. The waning gibbous moon should not interfere greatly with the ZETA HERCULIDS (radiant= RA 16h 28m, decl. + 28°). They do have very long trails with a reddish-orange hue, but the hourly rate is only 6 to 7.

The June- DRACONIDS should not be confused with the more famous October- DRACONIDS. The former are remnants of comet Pons-Winnecke while the latter are due to comet Giacobini-Zinner. The June-DRACONIDS will not be interfered by the first quarter moon this year. Their radiant is at RA 15h 12m, decl. + 55°. About 12/hour can be expected although counts have reached as high as 50/hour. Other lesser-known showers for June are the ALPHA SCORPIIDS on the 9th (short, fast) with an hourly

rate of 8, and the OPHIUCHIDS (RA 17h 24m, decl. - 20°) with an hourly rate of about 20, around June 20.

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WHY ARE SOME LUNAR FORMATIONS OBSERVED MORE THAN OTHERS? By Dr. Fred W. Price

Despite the vast amount of telescopic observation and mapping of the Moon's surface that has gone on over the years, there is still much to be done. Patrick Moore maintains that the Moon's surface is not as well known as some authorities would have us believe and that this is not only true of the difficult limb regions but also of the more favorably placed areas. Not many years ago, Moore and others were describing features easily seen in three-inch telescopes that were not to be found recorded on any lunar map. I myself have recently detected a sizeable feature, easily visible in my eight-inch reflector, on the floor of the lunar crater Schickard that to my surprise does not appear on any map or drawing I have yet examined (I hope to write an article on this in a future edition of the Spectrum).

In the post-lunar probe era there is a natural feeling that telescopic observation of the Moon is obsolete. The resolution obtained with close-up lunar Orbiter photography (and Apollo photography) undeniably far surpasses anything possible with Earth-based telescopes. However, lunar observation is not entirely a matter of resolving fine detail. For instance, the lunar rays that are very large scale, diffuse features, can be seen in their entirety only at relatively great distances from the Moon. Vast terrestrial surface features have been discovered in recent years only since the introduction of high-altitude aerial photography; if lunar studies had been entirely restricted to observations carried out by personnel confined to the lunar surface, the ray systems may never have been detected. Distant and close-up observation should be considered complementary to each other but not in competition.

No lunar Orbiter program is planned for the foreseeable future. The recent spectacular missions could not record the aspect of every formation under all possible angles of illumination; neither could they shed much light on the suspected variability, not attributable to variations in illumination or libration effects, of certain parts of the Moon's surface. Detection and study of transient lunar phenomena (TLP) are probably too chancy and difficult to entrust to unmanned probes.

The only representations of many lunar objects are the small-scale and sometimes sketchy delineations of them on the various lunar maps. No detailed studies or drawings of many features seem to exist. During the past few years I have been compiling an index of published drawings and charts of individual lunar features and these have been marked on a lunar map and color coded to indicate whether a given feature has been studied intensively, moderately or slightly. Formations for which I could find no drawings were not so plotted. Assuming that my survey is a representative random sample, an interesting fact emerges. As is well known, the south-south west sector of the Moon's fourth quadrant is unique in that it is the only one of the eight forty-five degree sectors into which the earthward hemisphere of the Moon can be divided (by the four diameters passing through the N-S, E-W, SW-NE, and SE-NW points on the limb) that is virtually devoid of lunabase (marial) material. It is a seeming chaotic jumble of crowded ring plains of all sizes. This same sector is also unique in that it consists almost entirely of poorly studied formations. I do not think that this is a coincidence.

Many of the most intensively studied lunar formations are isolated and often lie on or near lunabase plains and are therefore eye-catching. Examples are Plato, Copernicus, Eratosthenes, Gassendi and Archimedes. (On the averted hemisphere, who has not heard of Tsiolkovsky and Mare Muscoviense, both eye-catching objects? Yet there are far larger and grander formations, almost lost in the general jumble of the averted hemisphere, that are hardly known to the average amateur astronomer). One cannot help wondering whether grandly isolated objects would have had so much intensive study lavished on them had they been buried amidst similar formations in the crowded fourth quadrant and therefore relatively inconspicuous.

Because of their prominence even a beginning lunar observer soon gets to know the names and easily remembers the positions of formations like Plato and Copernicus but I wonder if among experienced lunar observers there are even a few who have heard of or know the location of features such as Abulfeda, Barocius, Clairaut, Heraclitus, Hommel, Licetus, Metius, Mutus, Pontecoulant, Reichenbach or Zagut? All of these and many others are comparable in size and grandeur to Eratosthenes and Copernicus but lie buried among their neighbors in the S-SW sector of the fourth quadrant. (Perhaps I should have mentioned earlier that I am using the cardinal points in the old sense, where Mare Crisium is west and the Oceanus Procellarum is east). If any one of these had instead been situated right in the middle of Mare Imbrium, I don't doubt that it would have been a well-known and much-studied formation.

A notable exception among the generally neglected formations in the S-SW sector is the ring plain Stöfler of which a painstaking study was carried out more than thirty years ago by Dr. H. P. Wilkins of the British Astronomical Association in collaboration with J. Cooke also of the B.A.A. Even though he published a detailed chart summarising fifteen years of work on this formation (Journal of the B.A.A., vol. 52, p. 64, 1942) Wilkins did not consider it to be exhaustive. In the accompanying text he refers to variable features on the crater floor which is traversed by streaks from Tycho and was likened by Fauth to the floor of Archimedes. There are dark variable spots that were compared by Goodacre to those in Alphonsus and there are light spots that seem to come and go in a mysterious fashion. Surely, valuable work can be done in confirming Wilkins' observations in this formation alone - maybe some things have changed since Wilkins finished his work.

Well-known formations such as Plato, Aristarchus and Gassendi have been so thoroughly studied and mapped that they must be regarded as almost "mined out". Surely little remains to be discovered about them? On the other hand, the S-SW sector of the Moon's earthward hemisphere offers a rich field for exploration by owners of moderate telescopes and may result in discovery of hitherto undetected morphological detail and interesting phenomena such as "variability" and "activity". The uncommitted amateur astronomer may well be encouraged to explore these relatively neglected parts of the surface of our nearest celestial neighbor. In these days of light pollution, deep sky enthusiasts especially labor under annoyances and frustrations unknown to previous generations of observers, that compel them to employ even larger - and more expensive - apertures. To the visual observer, however, sky light or even slight haze is of little consequence and six- to eight-inch telescopes should be fully adequate for the work suggested here. Who can tell what is awaiting discovery or what mysteries lie hidden in the depths of some of the myriad little-known craters and ring structures in the S-SW sector of the Moon's fourth quadrant?

NOTE ABOUT THE SPECTRUM: Beginning with the July-August issue we are returning to the customary 6 pages of material. Beginning with this issue we will publish a series on observatories in this area, especially observatories belonging to members of the BAA. New features will include: celestial calendar, constellations, instrument notes etc. Contributions are welcome and are solicited. Let us know what you would like to see in the Spectrum. And please put your thoughts in writing. Act now!!! *****

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NOTES: Bruce Cook has kindly donated a new book by Donald Menzel=ASTRONOMY, which retails for about \$ 15.00. This splendidly illustrated text will be raffled off at the May meeting, so come prepared! Thank you kindly, Bruce, for your generosity. ** At the June meeting we will raffle off "The Universe and Man" by Paul Bergsøe, which belonged to the late Bob Kartyas. ** Orrin Christy has left CALSPAN and is happy at work at American Optical Co.; in the lens polishing department. ** FOR SALE: Back issues of SKY AND TELESCOPE, 1948 thru 1951/1954 thru 1961. All issues are complete and bound. Will sell for reasonable offer. Please call Mr. Eugene Mayer, 896-7019.** Puzzle: What is the real significance of the German sentence: "Bei allen Fixsternen gibt's kennzeichnende Merkmale?" and: who or what is Haremlia? First correct entry to either questions wins a color slide of M 31. Send answers to: E. Both, Buffalo Museum of Science, Buffalo, N.Y. 14211; only BAA members are eligible. **

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NEWSTEAD OBSERVATORY: At a recent meeting of the Board of Directors it was decided to maintain Newstead Observatory alongside the projected new facility at Beaver Meadows. The BAA Instrument Section will be charged with its upkeep. Ultimately the telescope of the late Bob Kartyas will be housed there. Edith Geiger reports that the recent Gershwin concert netted the BAA \$ 296.- which will be earmarked for the new observatory. Our special thanks to Edith for her many hours of work with this event/.

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