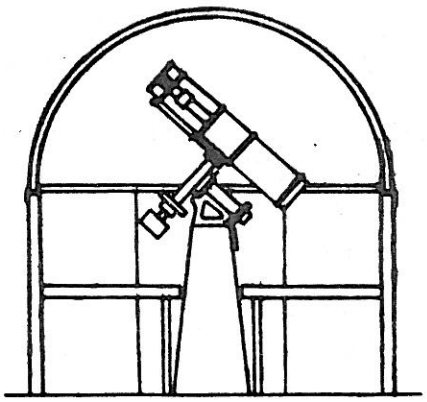

BUFFALO ASTRONOMICAL ASSOCIATION INC.
BUFFALO MUSEUM OF SCIENCE
HUMBOLDT PARKWAY
BUFFALO NEW YORK 14211

THE SPECTRUM

OCTOBER 1970

OCTOBER MEETING: Our second meeting of the new season (October 9, 1970, 8:00 PM) will feature as guest speaker Mr. William H. Ottemiller, member of the Finger Lakes Astronomical Club, Geneva, N.Y. His topic will be "AURORAS"; Mr. Ottemiller is an avid observer and recorder of the Northern Lights and his beautifully illustrated lecture should be highly interesting. It is our pleasure to welcome to Buffalo Mr. WILLIAM H. OTTEMILLER! * * * As an added attraction at this meeting we will raffle-off a brand new book on astronomy, "Introduction to Astronomy" by Cecilia Payne-Gaposchkin and Katherine Haramundanis (retails at $ 14.95), 610 pages, numerous diagrams and photographs. Raffle tickets will be available at the door at 50¢ each (3 for $ 1.00) - soooo, bring your money (and try to pay your dues also), YOU may win.

* * *

FOR SALE: Dale Hankin, 18 Fairhaven Dr., Buffalo, N.Y. 14225 (Phone 632-6993) has a number of real bargains for sale to raise funds for a 16-inch reflector. Items for sale include: a combination lathe/miller/grinder/polisher/drill, regular $ 139.50 for only $ 80.00; an astro camera with a 7" f1, F-2.5 Kodak Aero-Ektar, with film, holders, lens covers, mounted in tubing, only $ 75.00; Edmund spectroscope (list $ 39.95) only $ 5.00; Dallmeyer 8" f1, F-2.9 with iris only $ 25.00; Miranda Fv SLR with 135 mm lens, F-2.8, 5&15 x pop-up focus, like new, $ 80.00 - several other items - for details call Dale Hankin! * * * * Also for sale Zeiss 12X40 binoculars, individual focus, very good condition in carrying case, call Mrs. Barton Hauenstein, evenings 662-8249. . . . . * * * *

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FELLOWS NOMINATED: At a recent meeting of the Board of Managers of the B.A.A. the following members were nominated to the College of Fellows: Ronald Clippinger, for his long, and devoted service to our Association, his work with Newstead Observatory, and his teaching of astronomy in various schools; Walter Whyman, for his work with amateur associations in this area, for his long and distinguished membership in the B.A.A. and his service as a member of the Board of Directors, for his work in satellite observations, and for his often novel, yet simple designs in portable instrumentation; Richard Zygmunt, for his long and distinguished service in various capacities to the B.A.A., for his work with children in astronomy at Camp Sprucelands and at the Museum of Science, and for his continuing contribution to the modernization of the Museum's Kellogg Observatory. We sincerely congratulate these our fellow members for achieving this honor!

*

* DARK STREAK IN THE LUNAR CRATER ARISTILLUS * By Ernst E. Both

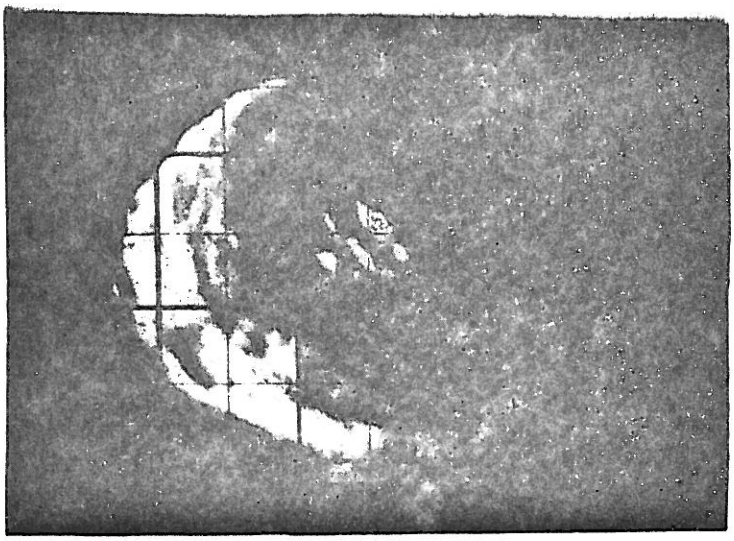
Most lunar observers are familiar with the dark streaks on the walls of the crater Aristarchus. There are a number of craters with similar bands of streaks. In a few cases these are very narrow and difficult to observe, and among these the delicate double streak running up the inner NW wall of Aristillus is one of the most difficult. This crater must rank among the more beautiful and imposing medium-sized objects on the Moon (diameter 34.5 miles = 28" at mean distance) because of its strongly terraced walls, its intricate multiple central mountain, and the complex exterior walls.

In the NW the interior wall is composed of about four, well-developed terraces. Starting from the central mountain one can see a dark, roughly triangular patch which runs to the lowest terrace (the apex of the triangle pointing toward the central mountain) where it becomes a narrow dark streak running up and crossing the wall. On the second terrace this streak (termed "canal" by W. H. Pickering) consits of two, nearly parallel and very thin lines, about 0".5 to 0".8 apart, visible as such only under certain conditions of solar illumination. As it crosses the third terrace, the double streak diverges at an angle of about 10° and beyond the rim of the wall this angle increases sharply. This "double canal" was first studied in detail by W. H. Pickering (1914-16), and then by E. C. Slipher (1916), Jarry-Desloges (1915-18), and M. Maggini (1922). These observers agree in the major details, as follows: the shadows leave the interior of Aristillus around colongitude 27° (see note below) at which time the dark streak becomes visible on the inner slope. Between col. 27° and 30° the double streak gradually becomes noticeable, being most pronounced between col. 35° and 65°. From col. 65° to 110° the space between the double streak becomes quite dark, so that it appears as a single, broadly diffused band. It again appears as a double streak after col. 110° then fades gradually after col. 120° and has disappeared around col. 145°.

All authorities consulted agree that the doubling requires instruments of at least 8 inches in aperture and powers higher than 400X. Yet both R. G. Aitken and E. E. Barnard were unable to observe this doubling with the 36-inch Lick refractor. QUESTION: what is the appearance of the streak in smaller instruments? Similar features can be observed on the walls of Archimedes, Autolycus, Maury, Plato, Pytheas, Seleucus, Werner and others, as well as a number of smaller bright craters. NEEDED: observations of these over many lunations.

NOTE on colongitude: The Sun's selenographic colongitude is equal to the eastern selenographic longitude of the sunrise terminator, reckoned eastward from the central meridian of the lunar disk all the way around the Moon. Thus the colongitude (at mean libration) at first quarter is 0°, at full moon = 90°, at last quarter = 180°, and at new moon = 270°; these values may differ by as much as 7°.75 due to the Moon's libration in longitude. East and west are used here in the old selenographic sense, i.e. the Mare Crisium is west of the central meridian while Grimaldi is near the east limb. This is opposite the astronautical usage. Colongitude increases at a nearly uniform rate of 0°.51 per hour (=0°.50791) and is tabulated in the AMERICAN EPHEMERIS and in the OBSERVER'S HANDBOOK.

REFERENCES: 1) Pickering, W. H. Popular Astronomy 22:295-300/570-578, 1914; 2) Pickering, W. H., Popular Astronomy 24:273-275/574-576, 1916; 3) Slipher, E.C., Popular Astronomy 24:77-80, 1916; 4) Maggini, M., Popular Astronomy 30:140-146, 1922; 5) Jarry-Desloges, Obs. Surf. Planet., V:216-220; 1922; VI:261-264, 1923.



Photograph of Aristillus with the 120-inch Lick reflector, rectangular co-ordinates superimposed. The streak can be followed up the wall and for a considerable distance on the outside, lower left.

Drawings by E. C. Slipher with the 24-inch refractor Lowell Observatory, 1915. Plate I, Popular Astronomy No. 232.

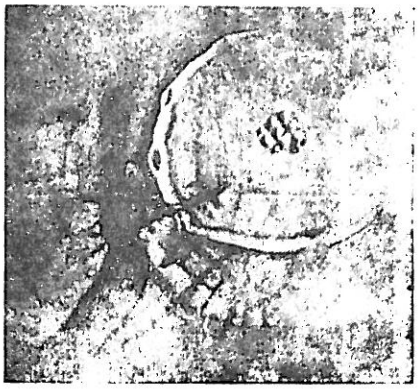


FIG. 4.
May 30, 14^h30^m M.M.T. Colong. 119° E.C.S.

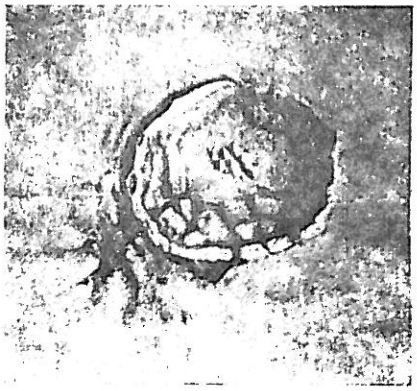


FIG 5.
May 2, 16^h00^m M.M.T. Colong. 139° E.C.S.

Fig. 1
Colong. 145°

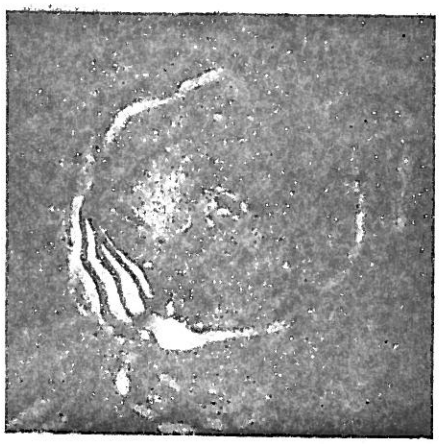


Fig. 2
Colong. 39°

Composite drawings by M. Maggini, 1917-1920, 8.5-inch refractor with powers 320 and 500, and 5-inch refractor at 200 and 300 X. Plate XV, Popular Astronomy No. 293.

* SPY AND TELL * ... Ex Vice-Pres. Orrin Christy graduated from the Air Defense Artillery School with distinction ... Honeyhouse Observatory (the Christy's) sporting new doors and a new solar rate drive; radio telescope has been strengthened and bent into more accurate shape - also, new retractable transmission line was installed ... The Bill Chambers being the very proud parents of a buddingly cute future astronomer (???) .... The Geigers have moved to cleaner air and darker skies; we suppose this is the end of Edith's distinguished career as a lunar observer and the beginning of a deep-sky hunter (!?) .... The startling red-white checkerboard appearance of Newstead Observatory is the handywork of Ed Lindberg, Richard Janas, and Warren Steinberg (we thought perhaps it was an ad for Ralston Purina) ... Richard Janas worked at the Kellogg Observatory during the summer, photographing prominences, giving public demonstrations, and keeping out of trouble .... Dale Hankin acquired a 16-inch blank and is planning the largest reflector in Western New York (you worry about your observatory, I'll worry about mine) .... Walter Semerau has been busy improving his spectroheliograph, has removed most wiggles; he's been busy making things for the Kellogg Observatory (and he worried that he might have nothing to do when he retired!) ..... Larry Hazel built a prominence telescope and from the results we've seen it works quite well .... The Kitty Bank was completely empty after last meeting (how about filling it next time?) ....

* * *

FREE * SIX-INCH SPHERICAL MIRROR * Through the kindness of Dr. Sev Chapman we have available a six-inch spherical mirror (needs to be re-aluminized) and diagonal, free to any serious, young astronomer. Contact E. Both either at the next meeting or by calling the museum, 896-5200, ext. 2; Dr. Chapman would like to see this mirror put to good use .... ***..... (DUES ARE DUE, SEE EDITH GEIGER AT MEETING)

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c/o Buffalo Museum of Science
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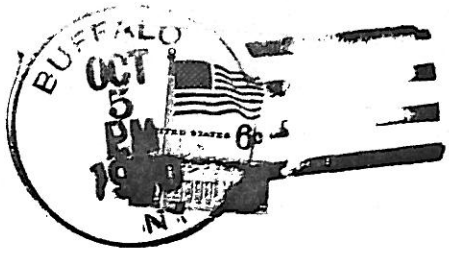

Mr. Walter Whyman
193 Oak St.
Batavia, N. Y.
14020

FIRST CLASS