

TELESCOPE FOR ROMNEY -Cont'd. from Page 3.

has had it re-aluminized, in fact, Mr. Walls has made it like new. Now after many in-between happenings, the telescope is ready for a new home. Acting on the suggestion of Mrs. Walls, the School for the Deaf in Romney was contacted and they are most happy to receive this fine instrument. It is certainly fitting that students and young astronomers in Mr. Cilley's home town will have this memorial of him. Perhaps in your travels you will want to stop at Romney, W.Va. and visit this School for the Deaf and inquire about the use of the telescope.

- Margaret Noble

TELESCOPE MAKING CLASS NEEDS HELP

For many years Mr. William Isherwood has been conducting a Telescope Making Class in Prince Georges County, although this class is primarily for Prince Georges County students, others are admitted when space is available. This year Mr. Isherwood finds that he will be unable to continue with the class as his work takes him out of town frequently. This class is a valuable public service and helps many young people to experience the joy of making and owning a telescope. Surely there is an NCA member who is able to take over this class. The return on your investment of time with young people is always great. If you can help with this class regularly or occasionally, please call Mr. Isherwood at Ap 7-9419.

NCA is proud of the work done by all of our Telescope Making Instructors and we offer our thanks to Mr. Isherwood.

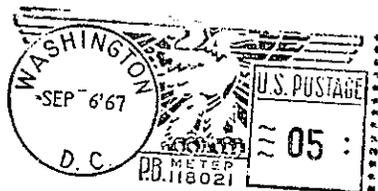
MEMBER RETIRING

Mr. Jackson Carle, an Executive Officer for Congressman Sisk, will soon be retiring from congressional work and returning to his home in Fresno, Calif. and his twelve inch reflector. For many years Mr. Carle has been actively associated with the Chevy Chase Telescope Making Class. The loss of his valuable experience and advice will be deeply felt. NCA wishes him every happiness in his retirement.

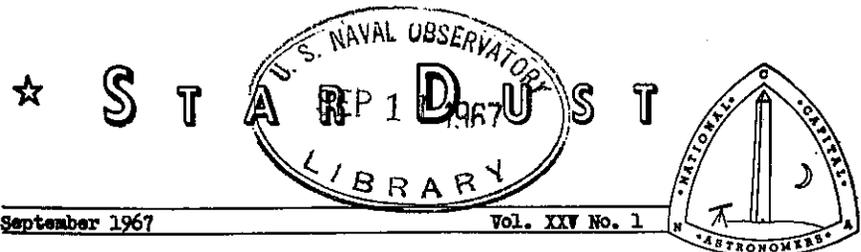
STARDUST DEADLINE — All activity notices, reports, and other information for Stardust should be sent to Mrs. John Stolarik, 7805 Canyon Drive, Washington, D.C. 20027 before the 15th of the month.

Published monthly except August by and for members of the NATIONAL CAPITAL ASTRONOMICAL SOCIETY, INC., 8005 Connecticut Avenue, N.W., Washington, D.C. 20014. President, Mr. John D. Stolarik, 336-4321. Vice President, Sterling Anderson, CI 6-9391; Secretary, Mrs. Gertrude Dallery; Treasurer, Margaret K. Noble, Robert H. Mc Craeken, Mrs. Jean Stolarik & Roy J. Wallis; Editor, Mrs. John Stolarik; Kysiat, Mrs. Anna Lee Tucker; Photography and Production, Mr. Michael Jewell.

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September 1967

Vol. XXV No. 1

GRAZING OCCULTATIONS

It is refreshing to reflect, in our age of cybernetics, cryogenics, and cyclotrons, that occasionally one finds an experiment in physics which can be performed with relatively crude materials and technique, and yet which rests on a principle so insensitive to error that great precision may result when it is carried out. Examples of this in the past have been the Cavendish "ice pail" experiment, which easily established very tight bounds around the exponent of -2 in Coulomb's Law, and the Foucault test, which (given a razor blade, a lamp, a pinhole made in tin foil, and some stout supports) can establish the goodness of a concave sphere on an optical surface to less than one hundredth of a wavelength of the light used for illumination. We have a similar case of this in astronomy, in observing grazing occultations of a star by the moon.

This event consists of a sequence of disappearances of the star behind mountains along the lunar limb, and reappearances of the star, whenever the moon's motion carries a valley into the line of sight of the observer. Usually, several seconds pass between flashes, although sometimes the structure of the lunar surface is sufficiently detailed to cause rapid fluctuation in brightness. - Continued on Page 2.

CALENDAR

- SEPTEMBER 9 GRAZING OCCULTATIONS by members of the Naval Observatory Staff 8:15 P.M. at the Department of Interior Auditorium, C Street between 18th & 19th N.W. Business meeting after the lecture.
- 9 DINNER WITH THE SPEAKER at 6:30 P.M. at Rich's Restaurant, 500 19th St., N.W. For reservations, call: Jerry Hudson at 948-2809 before noon Saturday.
- 16 MD-DC JUNIORS MEETING at 2:00 P.M. at the Chevy Chase Library, 8005 Connecticut Avenue. Program to be announced. For further information, call: Leith Holloway, 362-1961
- 16 DISCUSSION GROUP will meet in Room 1062 at the Department of Commerce Building on 14th St. The topic will be "Grazing Occultations". Mr. Peter Espenschied of the Naval Observatory Staff will be there to answer questions.
- 17 PRINCE GEORGES JUNIORS MEETING at 2:00 P.M. at the home of Ted Noble. For further information, call 301-721-2225.
- 29 OBSERVING AT THE FIVE INCH on the grounds of the U. S. Naval Observatory from 8:30 to 10:30 with Larry White.
- 15, 22, 29 TELESCOPE MAKING CLASS at the Chevy Chase Community Center at 7:30 P.M. with Hoy Walls and Jerry Schnell.
- 7, 22 TELESCOPE MAKING CLASS at McLean High School, McLean, Va. from 8:30 to 10:00 P.M. with Grady Whitney.
- 30 EXPLORING THE SKY in cooperation with the National Park Service opposite the Nature Center in Rock Creek Park at Military and Glover Road at 8:30 P.M. with Robert McCraeken.

GRAZING OCCULTATIONS - Cont'd. from Page 1.

Now, if other observers could be positioned so that the event could be seen by them to take place at different lines along the limb, so that some may see the star miss the moon entirely, others may see a "solid" occultation (the star blinks off, and is not seen at all until it emerges at the other side), and still others varying degrees of blinking, it stands to reason that a fairly detailed profile of the lunar limb could be drawn, based on careful timings of the blinks.

What is critical here is not so much extreme accuracy in timing (1/10 second will do) as knowing just where (latitude and longitude) the observers stood, and having the best possible position for the star which was occulted. Even a casual reflection tells us that, provided we conduct enough observations, we are doing some pretty fancy lunar mapping. Less obvious, but perhaps more significant, is the fact that we have a sensitive measure of the position of the moon and orientation of the limb when the event took place.

The path along which a "graze" can be seen is quite narrow (500 to 2500 meters). As with a solar eclipse, astronomers must pack their instruments up and travel to the most favorable location. The need for a great bulk of data in order to glean anything from grazing occultations precludes making the elaborate preparations invested in solar expeditions, however. Small telescopes must be used, and volunteers recruited to keep the cost within reasonable proportions.

This is clearly a call to duty for the amateur's telescope, and a case in which visual observations can directly benefit the science of astronomy. Unlike many other visual programs, observation of grazing occultations is not likely to be replaced by discoveries made in space exploration. The technique calls for a good, stable platform of known position: terra firma fills that requirement nicely.

David Dunham, currently working on his doctorate in astronomy at Princeton, will be giving the presentation. He has been working on problems of predicting, observing, and analyzing grazes since 1964. In this task, he has been assisting Mr. Peter Espenschied, who will be on hand for our discussion group session on the same topic on Sept. 16 (8:15 P.M., upstairs room, Dept. of Commerce Building).

**Please note that we will be continuing one more month at the Dept. of the Interior auditorium for our Saturday Sept. 9 meeting; the Dept. of Commerce Auditorium is not due to be completed until our Oct. meeting.

PRESIDENT'S INTRODUCTORY MESSAGE FOR 1967-1968 YEAR

We were fortunate to have had a number of good speakers in past years covering many different interesting aspects of astronomy, e.g., the sun, moon, planets, galaxies, color photography of the heavens, double stars, and variable stars to name a few. I believe that the future meetings will be even more interesting in view of our past experience and the effort that has already been put forth in preparation of the 1967-1968 program.

Our organization is fortunate to have had not one but three telescope making groups all under very capable leadership.

The fine enthusiasm of the juniors is undoubtedly due in no small part to the efforts of Mr. Leith Holloway. - Continued on Page

PRESIDENT'S INTRODUCTORY MESSAGE FOR 1967-1968 YEAR - Cont'd.

Amateur astronomy is a most fascinating subject because of the puzzling questions that are being answered and mostly the new questions that continue to arise. The quesars may be super galleries at the edge of knowable space or they may be incredible nearby objects.

The T Tauri stars appear to be newly formed stars. If so, we should be able to observe, over the next 20 years, knots of milky way material change into stars.

Our hobby has values of many kinds: telescope making, observing astronomical phenomena, study and reading for pleasure, lectures by amateurs and professionals, discussion of the subject and the value of a significant contemplation of the universe in which we are a part.

All this is made possible by the combined efforts of a great many people including the part played by each member of the NGA.

- Sterling Anderson
President

REFLECTIONS ON THE NATIONAL ASTRONOMICAL LEAGUE CONVENTION

From July 1 through 4, Washington was host to the Astronomical League for the annual convention of that body. With of course a special thanks to our own Bob Wright and the staff of the Georgetown University, we can certainly say it was a worthwhile and enjoyable four days.

Washington's weather remained on reasonably good behavior; at least it did not rain on would-be observers at the Georgetown Observatory. The downpour instead was reserved for latecomers to the A.L. Banquet. Those who joined in the Naval Observatory tour were glad to report fairly clear skies.

Many of the papers were quite good. To call to mind some that seemed particularly interesting, I might mention one by Dr. David Musto on early American observatories; one by Mr. Thomas Wainco on a Wright-Schmidt telescope; and another on "Whistlers" by C. H. Hossfield. By far the most effective presentations were those representing observations or instrument building done by the amateur. Perhaps amateurs would do well to steer clear of cosmological topics; for in order to do justice to this field one must have considerable professional training.

I wish I could enumerate all the people who helped make the convention a success, but I am sure that they will draw ample reward from the latest issue of the Reflector, which is heartily enthusiastic on that score. It is a source of pride for N.G.A. and we can be proud of our "go-getting" members for their efforts. - Jerry Hudson, Vice President

A TELESCOPE FOR ROMNEY

Members of National Capital Astronomers have fond memories of Mr. Morgan Gilley and his interest and work in NCA. Before he came to the U.S. Naval Observatory to work he was an Episcopal Rector at the St. Stephens Church in Romney, West Virginia. Mr. Gilley had an interesting career and was always sharing his accomplishments, especially with young astronomers and children. After Mr. Gilley's death, several years ago, Mrs. Gilley gave his telescope to Mr. Hoy Walls. Since then Mr. Walls has spent many days working on it. He has repaired the drive, repolished the mirror and

- Continued on Page

ASTRONOMICAL LEAGUE CONVENTION "Who's In Charge Here?"

