

LUNAR OCCULTATIONS FOR JANUARY

Date	Star	Magnitude	Age of Moon	E.S.T.
9	9 Pisc	6.4	4.9	7:15.1 p. m.
9	Kappa. Pisc	4.9	4.9	7:29.0 p. m.
12	47 B. Arie	6.5	7.9	6:58.8 p. m.
19	o' Cane	5.2	15.0	9:31.9 p. m.
20-21	83 B. Leon	5.9	16.3	5:20.1 a. m.

Note: All stars are occulted on the dark limb.

--- A. L. White

AGE AND SIZE OF THE UNIVERSE ARE DOUBLED by new findings yielded by the Mt. Palomar 200-inch telescope. This was reported in December by Dr. Vannevar Bush to the Carnegie Institution of Washington as the Institution's major scientific development of 1952. This means, for instance, the Andromeda nebula is 1.5 million light years away, instead of only 750,000. The radius of the known universe, previously calculated at 500 million light years now is raised to a billion light years. All distances, including those shown by the red shift, have to be doubled.

Older measurements had been based on data derived from cepheid variables observations. However, very recently a remarkable discovery has been made. This is that the universe contains two populations of stars. Population I consists of bright blue stars, concentrated largely in the arms and between the arms of spirals. Population II consists largely of giant red stars, concentrated in the center of coils. Cepheid variables occur in both populations. However, at the time the earlier measurements of the universe were made, nothing was known of two star populations. It turns out that the cepheids used in these earlier measurements were entirely cepheids of Population I. The new estimates are based on data obtained from both populations I and II.

Howell Boling, Editor 1717 P Street, N.W. North 7-9621

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MEMBERSHIP ROSTER ISSUE

JANUARY CALENDAR

- Jan. 9 "RECENT RESEARCH ON THE MILKY WAY," Dr. Stewart Sharpless, U. S. Naval Observatory. Commerce Auditorium, 8:15 p. m.
- 14 Observing through the 5" at the Naval Observatory and Constellation Study. Come and see Jupiter and the winter constellations. Observing from 8-10 p. m.
- 23 Junior meeting. Commerce Foyer. 7:00 p. m.
- DISCUSSION GROUP. Commerce Foyer. 8:00 p. m. Bob Rhynsburger will show slides taken on his trip to the meeting of the American Astronomical Society in Boulder, Colorado, in September.
- 30 NCA ANNUAL DINNER (fried chicken) will be at the Kenesaw, 16th and Irving Street, N. W., at 7:00 p. m.

Tuesday and Friday, 7-10 p. m. Telescope Making Class, Roosevelt High School, Room 319, 13th and Upshur Sts., N. W. Miss Irene Warthen, Instructor. Telephone LO 5-1237. Miss Warthen is present on Tuesdays.

THE MILKY WAY that we can see arching across the sky on clear, dark nights is not just a beautiful sight. It is the vast galaxy or "island universe" in which our own solar system is situated. In the last two years, astronomers have made exciting discoveries about the Milky Way. Dr. Stewart L. Sharpless of the Naval Observatory will describe these brand-new advances of astronomy including his own research. Dr. Sharpless is especially interested in the enormous vacuum-thin clouds of hydrogen gas that

stretch between the stars. Some of these discoveries are so recent that they have not yet been published in the scientific journals. Dr. Sharpless is an astronomer on the staff of the Naval Observatory. He has done research at the Yerkes Observatory and Mt. Wilson Observatory.

--Benjamin Adelman

RESERVATIONS FOR NCA DINNER, January 30, must be made and paid for by January 26 to Miss Thelma Cressy, Apt. 502, 2127 California Street, N. W., Washington 8, D. C. NO CHECKS IN DECEMBER, PLEASE. The cost will be \$2.40 a person; which includes tax and tip. Come and bring your friends for an evening of fun and wisdom. More about this at the NCA January meeting.

OBSERVATIONAL DATA

Mercury swings east of the sun in January becoming an evening star for the later half of the month. Venus is a morning star and is too near the sun to be well seen. It is in conjunction with Mercury on January 3 at approximately 7:00 A. M. e. s. t. Mars and Saturn both continue to be visible in the morning sky. They will be in conjunction on the 3rd at approximately 2:15 A. M. Jupiter is the brightest object in the evening sky and is still well placed for observation. Uranus will be at opposition on January 11 when its position will be right ascension 7^h 31^m and declination north 22° 16'. This is about 2° east of the star Delta Geminorum.

There will be a total eclipse of the moon on the night of January 18-19. The moon enters the penumbra or partial shadow of the Earth at 6:40 P. M., E.S.T. It enters the umbra or total shadow at 7:50 P. M. Total eclipse begins at 9:17; middle of the eclipse occurs at 9:32; total eclipse ends at 9:50. The moon leaves the umbra at 11:14 and leaves the penumbra at 12:24 A. M. The date of maximum intensity for the QUADRANT 1 D meteor shower is the third of the month. This shower averages 20 meteors per hour and the position of the radiant is alpha, 232°; delta, plus 52°.

--A. L. White

SKY AND TELESCOPE FOR THE NCA

Your Board of Trustees has unanimously decided to present for the vote of the membership the necessary change in the By-Laws to make possible group subscription to Sky and Telescope. The regular subscription rate to the magazine is \$4 per year. The group subscription rate is \$2. More than half our members now subscribe to Sky and Telescope, so it would be to our financial advantage to obtain it at the group rate. When a survey of the membership was conducted in March 1952, the results were overwhelmingly in favor of group subscription. Being able to offer a magazine of this calibre as a privilege of membership is a real selling point in acquiring new members and holding present members.

A condition of the contract with the Sky Publishing Corporation requires that all regular members subscribe. Therefore, the only satisfactory method is for the amount of the group subscription to be added to the membership dues. Thus NCA dues for regular members would become \$3 per year plus \$2 for the Sky and Telescope subscription, or a total of \$5. Special classes of members, such as junior members, honorary members, or life members, may subscribe or not at the group rate as they choose, and at their expense. It will be proposed by the Trustees that group subscription start in September at the beginning of the NCA fiscal year.

Under the group plan, Sky and Telescope will mail copies directly to NCA members. New members will be added to the Sky and Telescope subscription list as they join, just as they are added to our membership list to receive Star Dust. If a member has an individual subscription which has more than a few months to run after next September, Sky and Telescope will refund a prorated amount on the subscription.

-- Grace C. Scholz

The next cold winter's night, when boards snap with frost, look up and see Sirius. The ancients imagined the crisp, sharp barking of a dog in its scintillation. Therefore, they placed it in the mouth of the Great Dog.

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