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STAR DUST
National Capital Astronomers
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NOTICE TO ALL NCA MEMBERS: Recent changes in the personnel at the Naval Observatory have taken place which must be considered by our members who make use of the Clark 5-inch. Building 52, the closest large building to Building 5 which houses our telescope, is now under Security classification and needless to say is very closely guarded. The following rules have been put into effect by order of the Trustees of NCA. Disregard of these rules may lead to the suspension of NCA's use of the grounds by the Observatory and may endanger a member's membership in the NCA.

1. All rules of the Observatory concerning the Observatory's grounds must be strictly adhered to.
2. No building can be entered except the main building and our building.
3. Use only the direct pathways to the main building and thence to our building, entering and leaving.
4. Each person or group of persons must report to the main building before going to our building, and immediately upon entrance into the grounds, so that Observatory personnel can know the whereabouts of all persons in the grounds at all times.

SOME OF THE MOST INTERESTING REPORTS WE HEARD at the American Astronomical Society meeting in Haverford were those by Dr. W. J. Eckert, Mr. G. M. Clemence, and Dr. Dirk Brouwer on the monumental job done by the IBM Selective Sequence electronic calculator in tracing the orbits of the five outer planets backward to 1653 and forward to 2060 and comparing the new results to older calculations and to observations. These calculations are very important in computing the effects of planets on comets and in predicting the motions of satellites. The machine spent only four weeks handling twelve million operations on fourteen to sixteen digit numbers and came out with extremely accurate results. A by-product of this work is an estimated mass of Pluto as 9/10 that of the earth.

---Harriet Hutzler and Irving Malitsky

Jewell Bolling, Editor, 1717 P St., N. W. (6) NO 9621

3. "EXPLOSIONS OF STARS," Dr. George Gamow, 8:15 p.m. Commerce Department Auditorium.
7. Around sunset. Occultation of Venus by the moon, also of Mars and Jupiter. Washington is just below the line of grazing contact for the Venus occultation. From here the above objects will appear in a most spectacular and exceedingly close conjunction.
14. Observation Night, Naval Observatory, 7:00 p.m. (Passes must be requested in advance.) Also observing at the NCA 5".
17. Discussion Group. "BIOGRAPHIES OF FAMOUS ASTRONOMERS." Commerce Foyer, 8:00 p.m.
21. Observation Night, Naval Observatory.
24. Junior NCA Meeting, Science Service Center.
28. Observing at the NCA 5".

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

PROFESSOR GEORGE GAMOW of George Washington University, theoretical physicist who lectures to NCA this month, has been one of the active participants in the physical revolution of the present century. In 1928 Gamow in Germany and the American and English collaborators, Condon and Gurney, working independently but simultaneously, applied the understanding derived from the new quantum mechanics to solve the mystery of radioactivity. From this work dates the whole modern period of nuclear physics.

NCA - CARL WERNITZ REPORTING

Dr. Gamow's books, which are unusually successful in employing the insights of science to lay open to the view of the common reader a most astonishing universe, include, among others, Biography of the Earth, Atomic Energy in Cosmic and Human Life, and One, Two, Three, Infinity. Dr. Gamow gives this short of his coming lecture: "Each star comes to explosive stage of its evolutionary life when it uses up most of its original hydrogen supply. It probably starts with a series of minor explosions which increase in power, and become rarer and rarer; until finally it bursts in 'all out' way forming a super nova. At the present age of our universe, exploding stars are those with 4 to 5 sun masses. As the universe will grow older, so less and less massive stars will reach explosive stage, and it will be probably reached by our sun in the year A. D. 40,000,000,000."

IN MEMORIAM

The National Capital Astronomers mourn the loss of one of their most beloved fellow members--Leroy Benfer by death on December 22, 1950. Leroy Benfer was a radio operator on Grace Lines in 1936 when a group from the American Museum of Natural History (Dr. Fisher, Dorothy Bennett, and others) traveled on his ship en route to Peru to witness the total eclipse of the sun. He already had a telescope and these contacts awakened his interest in astronomy. He joined and was active in the AAA in New York. In 1941 he moved to Washington and joined the NCA. He ran an optical coating works here and has coated lenses for several NCA members. Many will remember the discussion he led in January 1948 on "The Coating of Lenses," and the open house he held in June 1949 when he demonstrated his aluminizing equipment. He did a very significant piece of work in connection with devising a new type of interference filter for use in solar observing. In NCA affairs he was steadily active, on field trips, conventions, public observations. This summer he was at Wellesley. This fall he was the newly appointed Chairman of the NCA Instrument Section, busily planning a program for the year ahead. The personality of Leroy Benfer and the influence of his activities will always be a part of the NCA.

In the N.C.A. practically all members study astronomy solely because of the satisfaction and pleasure that it brings them and their jobs and professions are in totally different fields. However, a few members either are or are studying to be professional astronomers. Among the latter is Robert Rhynsburger. Bob is a student at Georgetown University where he is taking courses in astrophysics, practical astronomy, and stellar statistics. Incidentally, his professors, Dr. Kiess and Father Heyden, are well known to N.C.A.ers as former lecturers. Besides Bob's class work he is busily working on his master's thesis which is a study of the dark obscuring matter in the Milky Way. Only last week he received from Dr. Robert H. Baker of the University of Illinois a shipment of 100 plates of the Milky Way along its equator north of Scutum. The number and distribution of stars of each magnitude on the plates will be determined accurately; this determination will be used to discover the size, shape, density, and distance of dark nebular material in space. When I spoke to Bob on the phone he told me that there is so much research to be done on the subject that he believes it will furnish material for his doctoral work. The N.C.A. can look forward to an expert discourse on stellar light absorption by Robert Rhynsburger.

---Carl Wernitz

NEW MEMBER

*Bacon, Arthur Roger, 1348 Kearny St., N.W.(17) LA 6-5655

The 85th meeting of the American Astronomical Society will be held in Washington in June.

The March lecturer will be Harlow Shapley speaking on "Problems of the Galaxies."

The Third Astronomy Colloquium was held January 9 at Georgetown University. Miss J. Pamela Anderson of the Army Map Service discussed "The Relation of Occultations to Geodesy and Meteorology."

Dr. Glen H. Draper of the Nautical Almanac Office on January 20 led a group of very interested NCA members in a discussion centered around the theme that the astronomy of an age determines its civilization.