

METEOR COUNTING

On December 10th and again December 12th when the Geminid meteor shower was at its maximum, the National Capital Astronomers sent two members to Sterling, Va., to assist the Bureau of Standards in correlating visually observed meteors with meteor tracks picked up by its radar equipment.

The group was headed by Mr. Alan Shapley of the Bureau of Standards, and three assistants, along with David Rotbart and Leo Scott of the NCA Friday night, and Dorothy Lamore and the writer on Sunday. Four observers, each covering one quadrant of the sky, observed about a half-mile from the radar control building. A fifth person acted as recorder and took down details such as position, magnitude, and whether the meteor was part of a shower or a wanderer. The sixth acted as a relief and members rotated their positions.

When a meteor was sighted by an observer, he pressed an electric contact button that signaled the radar section in the control room, giving the exact time of the meteor's appearance. The recorder's sheet was turned in when observations were completed, to ascertain all information on each meteor.

The radar picked up many meteors that were not visible to the eye. Maximum concentration by radar was about 400 an hour, while maximum visual count was about 68 an hour. Some meteors were seen by observers that were not picked up by radar due to such factors as area of sky covered by radar antenna and meteor target area. Meteors that are too far away or strike the atmosphere almost head on, offer too small a target for radar. However, the percentage of coincidence between visual and radar pick-up was about 35% Friday night and about 60% Sunday. Visibility Saturday was too poor for observation.

--F. P. Wells

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STAR DUST
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Jan. TO START THE YEAR--

- 1 Happy New Year!
- 6 Open house, Rotbart Observatory, 4410 River Road N.W. 8 to 10 p.m. Thursday.
- 7 "Eclipse Across the Pacific," Fr. Francis J. Heyden. National Geographic Society lecture. 8:15 p.m. Constitution Hall.
- 8 "International Astronomy," Dr. Charlotte Sitterly. 8:15 p.m. Saturday, Commerce Auditorium.
- 14 Variable star discussion, Mr. Gilley in charge. Meet in Naval Observatory lobby 8 p.m. Friday.
- 15 Discussion group, "How the Days Were Named," Mrs. Elanora Davis and Mabel Sterns. 8 p.m. Saturday, foyer of Commerce Auditorium.
- 20 Rotbart Observatory 8 to 10, Thursday.
- 21 Junior night at the 5-inch; 8 p.m. Friday. Alternate, Friday, January 28. John Lankford.
- 26 Regular members' observation, 8 p.m. Wednesday at the NCA telescope. Alternate, January 27, Thursday. Carl Werntz.
- 29 Instruction night at the 5-inch Alvan Clark. 8 p.m. Saturday.

Sundays and Thursdays, telescope-making class 8-10 p.m.
305 Morse Street N.E. Miss Warthen, Shepard 9451.

"INTERNATIONAL ASTRONOMY" will deal with reasons why astronomy is naturally an international subject. Eclipses, for example, occur in widely scattered locations on the globe. The international aspects of solar problems led to the formation of the International Astronomical Union. Some future work of this Union, dealing especially with solar and stellar projects, viewed internationally, was outlined at the meeting in Zurich, August 11-18, 1948.

Dr. Charlotte M. Sitterly, Spectroscopy Section, National Bureau of Standards, has engaged in research in the fields of astrophysics, astronomy, and spectrum analysis at Princeton University, and in the solar spectrum, sunspot spectrum, and especially in the infra-red solar spectrum at Mt. Wilson Observatory. Her chief work has been to provide astronomers with all available laboratory material on atomic spectra that they need to interpret the spectra of the stars. ---Grace C. Scholz

ROTBART OBSERVATORY OPEN TO NCA MEMBERS. Mr. and Mrs. David Rotbart announce that their observatory will be open to NCAs the first and third Thursdays, if clear, from 8 to 10 at 4410 River Road N.W. Kindly call in advance, Emerson 0119.

INSTRUCTION NIGHT. As a result of the fine work from the instruction night held in November, we have had requests to hold another. For those wishing instruction in the use of our 5-inch Alvan Clark refractor and the care of the Naval Observatory property, mark the calendar for Saturday, January 29. Carl Werntz will instruct. ---Bob Wright

OLD ASTRONOMY BOOKS. A few of the many rare books on astronomy owned by the Naval Observatory, are on display in the lobby of the Administration Building. Mrs. Savage, Librarian, has agreed to leave them there until about January 10 so that NCA members may have a chance to see them. ---Bob Wright

SOLAR WORK IN CHILE

The Smithsonian Solar Station, located in northern Chile, is in the unique position of an observatory without a telescope. Exclusively devoted to the study of the sun, the observers measure the daily variations in radiation by means of several instruments which were invented specifically for the purpose.

The chief instrument employed in this work is the spectro-bolometer which yields extremely accurate measurements of the sun's heat at various wavelengths. Another instrument, the pyrliometer, measures total radiation received. Also used is a pyranometer which gauges radiation received from the sky immediately surrounding the sun, but excludes that of the sun itself. By combining data obtained from these instruments, a daily value of solar radiation is computed.

Since these observations require that the air contain as little moisture and dust as possible, the stations are located at high altitude and often in desert areas. Mt. Montezuma, 9300 feet above sea level and in the heart of the Atacama Desert, fulfills these requirements. During the 28 years of the station's existence, observations have been made on an average of 280 days per year. It must be realized that these days are practically cloudless. Weather in Washington, for instance, might provide as many as three such days during a year.

Mt. Montezuma afforded an excellent spot for looking at and photographing the two brilliant comets which were discovered during the last two years. The first, 1947-N, was in the night sky during early December 1947. It remained visible to the naked eye for only about a week. However, it was possible to follow the progress of the second from the time it was first noticed at the station, November 6, 1948, until the end of that month. It was a truly splendid object in the early morning sky.

---W. P. Harris

PROPOSED AMENDMENTS TO BY-LAWS

Article I, Section 1(a). Junior membership - Annual dues, \$1.50, maximum age, 18 years. Junior members shall have all the privileges of membership except the rights to vote, to hold office, and those rights specifically reserved for full members.

Proposed to read: Junior membership--annual dues \$1.50, maximum age 18 years. Junior members shall have all the privileges of membership except the right to hold office and those rights specifically reserved for full members. Junior members shall have the right to vote on all issues, and each vote cast by a junior member shall be counted as one-half the vote of a regular member.

Article I, Section (b)(2). Life membership - \$25 paid at one time.

Proposed to read: Life membership--\$50 paid at one time.

Article I, Section 2. Applications for membership shall be in written form, properly endorsed by one full member and accompanied by the dues for one year, and shall be submitted to the Membership Committee by the sponsor. If approved by the Membership Committee, the application shall be brought before the corporation at a duly assembled meeting. A majority vote by secret ballot shall constitute an election to membership.

Proposed to read: Applications for membership shall be in written form, properly endorsed by one full member and accompanied by the dues for one year, and shall be submitted to the Membership Committee by the applicant in person. If approved by the Membership Committee, the application shall be brought before the corporation at a duly assembled meeting. Unless there is objection from the floor, a voice vote shall be taken and a majority vote shall constitute election to membership. If objection from the floor is voiced, a majority vote by secret ballot shall be required for election to membership.

"ECLIPSE ACROSS THE PACIFIC," by Fr. Francis J. Hayden of Georgetown Observatory, will be the National Geographic Society lecture January 7 at Constitution Hall. Members of NCA will be put on a preferred list to obtain tickets which may be returned to the ticket office. Call the Society Tuesday the 4th or Wednesday the 5th for available tickets, being sure to identify yourself as an NCA. Only tax will be charged. First come, first served.

MR. MORGAN CILLEY MADE HONORARY LIFE MEMBER. "Your never-failing spirit of cooperation and your labors in assisting us to a better understanding of astronomy by teaching us both techniques of observing and the manipulation of astronomical devices are things for which we are all in your debt. Your career, too, is an inspiration to anyone pursuing astronomical interests. In middle life, you changed from another profession to that of astronomy, thereby proving that it is never too late to begin in a new field, and you have brought to this career of your 'second forty years' notable success and the ardor and tireless zeal for your work usually reserved for youth." ---Jewell Boling

THE CUTING AT PINECREST COTTAGE December 11th was enjoyed by 45 NCAs and a few guests including Mr. and Mrs. Wm. P. Harris who had just returned from his assignment to the observatory on Mt. Montezuma, Chile. Food was of first importance, followed by other diversions. Miss Warthen showed her pictures taken on recent trips, highlighted by a dozen or so observatories. A special treat was the preview of "The Story of Palomar" projected by Mr. Windham. Telescopes of Mrs. Rotbart, Leroy Benfer, Lyle Johnson, Janet Perkins, Bob Wright, Dr. Wells, E. H. Jones, and Irene Warthen drew most of the astronomers out for a view of the moon, but frosty air soon drove them in again. Time was too short to enjoy all the fun Mrs. Rotbart had in store for the party.

NEW MEMBERS

Cox, James M., 2227 20th St. N.W. Adams 7477
 Fielding, Mrs. Maude Lee, 2634 Myrtle Ave. N.E. (18)
 Michigan 6658
 Genatt, Sol, 1607 Drexel Street, Takoma Park, Md.
 Lane, Hadd S., 5555 River Road (16) Wisconsin 3875
 Roith, Mrs. Mary Lee, 2008 Evarts St. N.E. (18) NO-6311

IN MEMORIUM

The National Capital Astronomers mourn the loss of an understanding friend; an outstanding citizen, and an ardent fellow astronomer, with the death of the Hon. Samuel R. Young on December 11, 1948. His enthusiasm for astronomy, his keen interest in the National Capital Astronomers, and his warm personality will always be remembered by his friends and fellow astronomers. May he rest in peace under the stars he loved.

---Berthe and David Rotbart

DR. RUSSELL W. PORTER'S RESPONSE to our birthday greeting: "I find it hard to express my feelings on receiving your gracious remembrance of my seventy-seventh birthday. Will you kindly convey to the members of your group my appreciation of this friendly gesture from the members of your fraternity. Incidentally, I was quite overcome on learning that there was such a large number of amateur astronomers in Washington. Still, there's no telling where this movement will end. I get constant reminders of its growth from all over the United States, as well as from Europe. My work on the two hundred inch telescope is now about over. Technically I am retired, but they still keep throwing work at me, and I'm still quite active over my drawing board. With warmest greetings to you all, and a Merry Christmas."

"HOW THE DAYS WERE NAMED" as we know them, should evoke considerable discussion at the round table January 15th. What do other people call them? Why does a week have seven days? Has that always been true?

THE STORY OF PALOMAR

Thank goodness it rained Thursday, December 16. If it hadn't, we would have needed more than two public showings to handle the crowds who wanted to see "The Story of Palomar." Our publicity program was extremely effective. Fourteen hundred people witnessed the presentation that night. More than 600 other adults saw the picture at other showings.

In the schools the film was an even greater success. The initial plans called for its showing in eight junior and senior high schools in the District during the 4-day period it was available to us, but word of its educational value and its excellent production resulted in eight more schools' requesting to see the picture. Carnegie Institution permitted us to keep the film through December 17, and during the week it was shown to 12,000 District school children.

We extend special thanks to those NCA'ers who did so much to make the showings a success--to Bob Wright without whose help at every turn the presentations would, to say the least, have been decidedly less effective; to Mrs. Elanora Davis whose contacts with school authorities enabled us to make school showings possible; to Janet Perkins for her help in getting out the voluminous publicity; to Lt. Col. R. K. Windham for introducing the film at the public showings; to Joy French and Judy Wubnig for distributing programs; to Carl Werntz for introducing the film at Coolidge High; and to Irene Warthen, C. A. Peterson, Leroy Benfer, and Lyle Johnson for displaying their telescopes at the public showing.

Thanks are also extended to Carnegie Institution's Publicity Director Fassett through whose efforts the film was provided to the NCA free of charge; to Mr. Keith Johnson, Supervisor of Science classes in the white schools for the effort he devoted to publicizing the film in the school system and arranging for its presentation in so many schools; and to Mr. Rayford who holds a parallel position in the Negro schools for showing the film in those schools. ---Grace C. Scholz