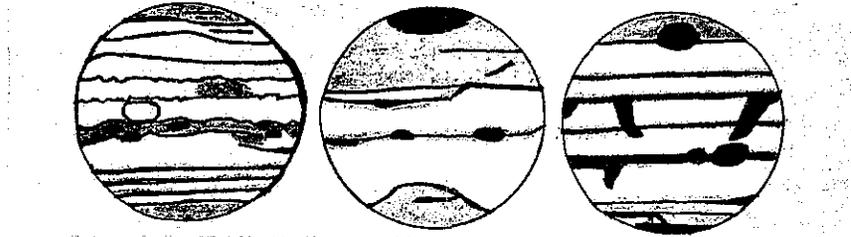


JUNIOR DIVISION

From the end of March 1958 until the end of August, the active section of the NCA juniors carried on a project dealing with the planet Jupiter. In brief, the work consisted of drawing upon a prepared Jupiter disk (one which has the proper elliptical shape) all detail that could be seen through the various instruments used. These disks were filled in with the regulation information and the observer's comments, and then cataloged by the project head.

Besides the many instruments already available to us, we received the use of other large telescopes. They ranged in size from three-inch reflectors to those of five and eight inches and even a 26-inch refractor. With the help of these excellent telescopes our proficiency in charting the planetary detail increased. The drawings below are samples of the better work.

Especially interesting were the many colors and shadings seen and the odd markings which had not been seen previously by us. The belts were greatly detailed this year. From the observations taken, it was evident that this was a very active year on Jupiter. Michael Mattingly, Project Leader



Examples of drawings sent to BAA. All markings have been darkened a great deal for reproduction. Left, by Michael Mattingly with the 26-inch refractor at Naval Observatory; middle, by Samuel Friedman with an 8-inch refractor; right, by Stephen Klingelhofer with a 3 1/4-inch refractor.

TWO CAMERAS, formerly parts of British aerial cameras have been transferred to NCA on indefinite loan by the Bureau of Standards. Each camera has an aperture of 6 inches and a focal length of 3 feet. One has been attached to the mounting which belonged to the late Mr. Cilley. Mr. Walls finds that it gives sharp, distinct star images. The second is in Mr. McCracken's custody.

GYROSCOPES, said Mr. Leonard E. A. Batz in November, were invented by Jean Foucault, the French physicist, over a hundred years ago. In World War I, the Germans used them to navigate their U-boats. As airplanes became more common, Gyros were installed in those also. Our Earth is a good example of a gyroscope, as are balls, hoops, tops, etc., when in motion. When force is applied to a gyro, it will always turn 90 degrees from the direction of that force. Mr. Batz explained how the principles of this instrument are applied to guiding and stabilizing rockets and missiles. (From notes by Morton Schiff.)

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★ STARDUST

DECEMBER 1958

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DECEMBER CALENDAR

- 1, 8, 15, 22, 29 TELESCOPE MAKING 7:30-10, Chevy Chase Community Center, Conn. Ave. and McKinley St., carpenter shop in basement. Hoy Walls, instructor, and assistants.
- 5, 12, 19 ASTRONOMY CLASS 8 p.m., Guy Mason Community Center, Calvert Street, a bit east of Wisconsin Ave. U. S. Lyons, Inst.
- 6 "ASTEROIDS", Mr. Joseph L. Gossner, Astronomer, U. S. Naval Observatory. Lecture, 8:15 p.m., Commerce Auditorium.
- 13 JUNIOR DIVISION, 2 p.m. Chevy Chase Community Center, lounge. Topic, "Mars". Leith Holloway, leader.
- 13 OBSERVATION at the 5-inch, Naval Observatory grounds, 7:30 pm Mars in particular. William L. Isherwood, Chief Observer.
- 20 DISCUSSION GROUP. New books on astronomy, and periodicals. 8 p.m. Commerce foyer. C. L. Andrews, moderator.
- 26 ASTRONOMICAL LEAGUE-SECTION D of AAAS, 2 p.m. South American Room, Statler Hotel. Mrs. Grace Scholz Spitz presiding.

MOONWATCH PINS awarded to team members who did heaviest work. Picture taken by Sam Feild of presentation at Mr. Dellar's station November 10. Starting with back row, Dick Shoemaker, Bob Dellar*, Leith Holloway*, Roger Smith*, Everett Neville*, Alvin Kurtz*, Curtis Johnson*, Lyle Johnson*, Bill Lipscomb*, Mrs. Dellar, Salome Betts*, Mrs. Neville Mrs. Lipscomb, Mrs. Kurtz. Asterisks indicate those present who received the pin; in addition, Bob McCracken, Sam Feild, and Roger Harvey were honored. Larry White, Leader of, and the only NCA on the team at Fort Belvoir, received a pin. Emblems for the team at Bob Wright's station had not arrived at press time. Convair Corporation donated the pins for presentation on behalf of the Smithsonian Astrophysical Observatory.



ASTEROIDS, their nature, the use made of them, observations of asteroids including the photographic method, and special asteroids will be discussed by Mr. Joseph L. Gossner, December 6th. Mr. Gossner is an astronomer in the Astronomy and Astrophysics Division of the Naval Observatory, where he has been on the staff since 1950.

BRING BOOKS on astronomy published in 1957 or 1958, and current articles pertaining to the subject, for group discussion.

SECTION D (Astronomy) of the American Association for the Advancement of Science, and the Astronomical League are sponsoring that part of the AAAS convention program at 2 o'clock December 26 at the Statler Hotel. The session will be open to adults interested in astronomy. Sorry, Juniors. Mrs. Grace Scholz Spitz is program chairman and presiding officer. Dr. Gant will speak on "Achievements of Amateurs in Astronomy"; Bob McCracken's paper deals with "The Non-Astronomical Achievements of Amateur Astronomers"; and Armand Spitz will point out "Opportunities and Obligations of the Amateur in Science". The session will be concluded with an address by Chester B. Watts. NCA is expected to furnish an exhibit of amateur astronomy.

OBSERVING DATA FOR DECEMBER

Mercury reaches inferior conjunction on the 9th. The planet is at greatest western elongation on the 29th and may be seen at this time low in the southeast before sunrise.

Venus can be seen as an evening star toward end of the month.

Mars has moved from Taurus to Aries and resumes eastward motion among the stars on the 20th.

Jupiter can be seen now low in the southeast shortly before sunrise.

Saturn is too close to the sun for observation, conjunction being on the 20th.

Meteor showers	Date	Moon	Radiant	Rate per hour
Geminids	12/13	New	113° + 32°	40
Ursids	12/22	1st Q.	217° + 76°	15

Lunar Occultations

December	Star	Mag.	Phase	Age	Time	P
3-4	p4 Leo	5.7	R	23.1	4:48.2 AM	276°
13	Beta Cap	3.2	D	3.2	5:45.4 PM	3
13	Beta Cap	3.2	R	3.2	6:13.3 PM	317
15	128 B. Aqr	6.6	D	5.3	8:20.1 PM	31
19	Zeta Psc	5.6	D	9.3	6:40.5 PM	8
19	BD + 6° 175	6.5	D	9.3	6:41.6 PM	8
20	34 B. Ari	6.8	D	10.3	8:16.6 PM	59
26-27	Lambda Gem	3.6	D	16.6	1:55.1 AM	175
26-27	Lambda Gem	3.6	R	16.6	2:23.1 AM	213
27-28	30 B. Cnc	6.1	R	17.5	2:01.2 AM	281
28	Alpha Cnc	4.3	D	18.4	9:24.3 PM	140
28	Alpha Cnc	4.3	R	18.4	10:14.5 PM	243

A. L. White, Astronomy Editor

GRAPHIC TIME TABLE OF THE HEAVENS goes to you as one of the benefits of membership in NCA. After reading the instructions and coming events, keep it where you can use it often.

NCA PRIVILEGES at the Naval Observatory are restricted by rules that have been in effect for several years. Violation of the courtesy extended to the Association, by even just one person is a serious offense and may result in closing the grounds to all members and removing the 5-inch telescope. The Observatory is a naval post and rules are military orders.

Amateur astronomers who are on the approved list to use the scope are required to go directly from the gate to the Administration Building for the key, or to the 5" building, and to leave in reverse order quietly. Certain members have caused such disturbance that part of the staff could not work, and the offenders were reported to the official in charge. By sheer luck the NCA was not ousted, but the incident is a blight on the record.

BARGAIN DURING DECEMBER: 10-inch and 12½-inch mirror kits priced at \$30 and \$54, will be offered at the telescope making class at 10% discount. Supply is very limited and when it is exhausted this special offer will expire. Regular price after January 1. Also on hand, reports Mr. Walls, are kits in these sizes 4½-inch, \$7; 6-inch, \$12; 8-inch, \$18.

NEWS OF PAST EVENTS: National Capital Astronomers were invited to hear Dr. Leo Goldberg, Director of the Observatory of the University of Michigan, deliver the James Arthur lecture Oct. 23. His subject, "Astronomy from Artificial Satellites"---Observation at the 5" was clouded out in October, but one person appeared and qualified for access to the telescope.---Public observation at Fort Reno Park likewise was overcast that month and partially so in November. In addition to slides, Mr. McCracken explained to the crowd of more than a hundred, how we can tell that the stars are moving, and what they are made of. Only two scopes were on hand to accommodate 107 visitors.---Astronomy class attendance has ranged from 13 to 25, about half of whom are NCA's.---Approximately 20 made the trip to Nelson Grigg's November 8th and enjoyed the host's hospitality, but the weather was not on good behavior.

OUTSIDE GROUPS frequently call upon NCA for talks and observations, and several members have obliged. Leo Scott spoke to the fifth-graders at Garrett Park School and a pack of Cub Scouts the same week. Bob McCracken alone or with Mrs. McC., Leith Holloway, or Hoy Walls managed an observation for more than 200 ninth-graders from Alice Deal Junior High, a Girl Scout troop at Westmoreland Recreation Center, 160 at Hart Junior High, 50 high school students at Quantico, and a sunspot session for 20 more from Alice Deal. Bob Brown met with a science club at Swanson High School. The slide collection has been used so many times we need a new assortment. If you can take a group occasionally or lead juniors in Virginia, please notify Bob McCracken, OL 4-3321.

MOONWATCH TEAM under Bob Dellar observed the last of Sputnik III, delta 1, October 24, 23 H 3 min. 4 sec. U.T. The object approached the moon's limb within 1/5° and was brighter than first magnitude as it tumbled. Bob Wright, Bob McCracken, Dave Rotbart and Myran Myranian were set up to photograph and record Pioneer II if it had been successful, and did receive signals from it.