

PRINCE GEORGE'S COUNTY JR. GROUP IS GROWING

The New Members living in Prince George's County are welcomed to meet at the District Heights School (Elementary) on County Road January 15, 7:00 p.m. The Group is ready "to go" on the building of their astro camera. The camera will be a basic tool for some projects planned by the PGC Juniors. Phone John Stott or Ted Noble for further information.

A FUN TRIP TO PHILADELPHIA

Rain, fog, smog and a swinging group added up to make the Philadelphia trip an overwhelming success, socially and financially. Mr. John V. Cockin, Manager of Edmund Scientific at Barrington, New Jersey had arranged for cokes, coffee and buns to be served to the "NCA Special." Many found it hard to stop spending their money long enough to eat and enjoy the demonstration of the famous Spilhaus Space Clock.

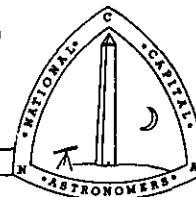
The main event of the day was the Christmas Show at Fels Planetarium. At the Franklin Institute, the group was met by Mr. Ed Bailey, Assistant Director of the Institute. Mrs. Noble enjoyed a conference with Mr. Bailey. Mr. Victor Schrader also met the group, you will remember Mr. Schrader as an NCA speaker on "Making Star Globes."

Thanks to Mr. Leith Holloway's brother NCA members were invited to view the movie "Eclipse of the Quiet Sun" at the Public Library. A full report of the trip will be made by Travis Taylor and the trip committee at the Junior Meeting on January 9.

Would you like to plan a trip to New York or Greenbank?

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★ STAR DUST



January 1965

Vol. XXII No. 5

THE WASHINGTON PLANETARIUM AND SPACE CENTER



Dr. Marjorie Gardner

Dr. Marjorie Gardner of Maryland University who is a member of the Planetarium Committee will bring us up to date on the plans and progress of the Washington Planetarium and Space Center at the January NCA lecture.

Dr. Marjorie Gardner received her B.S. degree from Utah State University, Logan, Utah in 1947. Her career as an educator began the same year with a teaching assignment at her high school alma mater, where she taught chemistry and directed student publication and debate. After teaching in high schools in Utah, Las Vegas, and Nevada, she became a member of the first National Science Foundation Academic Year Institute at the Ohio State University. Following this experience she received her M.A. degree in science education in 1958, and then, along with assuming teaching assignments, as an instructor in both the chemistry and science

education departments of OSU, she continued her graduate study and was awarded the Ph.D. degree in science education in 1960. Dr. Gardner remained on the faculty at OSU until January 1961 when she accepted a position with the Nat'l. Science Teachers Association as Director of the Vistas of Science program. In January, 1962, she became Assistant Executive Secretary of NSTA with responsibility for curriculum and teacher education programs.

Currently, Dr. Gardner is on the faculty at the University of Maryland. In addition to her teaching duties at UM, she has completed a study of the educational potential of planetariums for the Washington Planetarium and Space Center, and is a member of the Earth Science Curriculum Project writing team, which is developing a new science course which includes units on astronomy and space science for junior high schools.

In addition to membership in the National Science Teachers Association, Dr. Gardner is a member of the NEA, The American Association for the Advancement of Science and Fellow AAAS, the education division of the American Chemical Society, and Delta Kappa Gamma (honor society for Women educators).

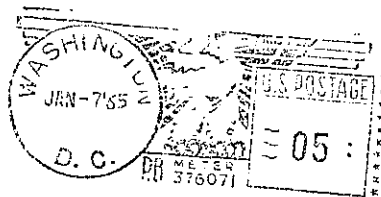
She and her husband, Paul, an Educational Officer at the National Aeronautics and Space Administration, now reside in the Metropolitan Washington D. C. area, along with their two children, Pamela Jean (11) and Mary Elizabeth (9).

CALENDAR

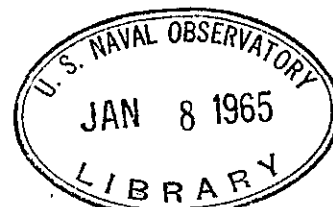
January 9 A Report on the Plans and Progress of the Washington Planetarium and Space Center by Dr. Marjorie Gardner at the Department of Commerce Auditorium. 8:15 p.m. Business meeting following the lecture.

Continued -

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Library,
Naval Observatory
Washington 25, D.C.



CALENDAR - Continued

- January 9 Junior Division General Meeting at 7:00 p.m. in Room 2062 at the Dept. of Commerce.
- 15 Prince Georges' County Juniors Meeting. 7:00 p.m. in the District Heights Elementary School.
- 16 MD-DC Junior's Meeting. 2:00 p.m. in the Silver Spring Library. Leith Holloway will speak on "The Inner Solar System."
- 23 Observing at the Five Inch. On the grounds of the U. S. Naval Observatory with Larry White from 8:00 to 10:00 p.m.
- 5,12,19,26 Telescope Making Class. Chevy Chase Community Center with Hoy Walls. 7:30-10:00 p.m.
- 8,15,22,29 Advanced Telescope Making Class at the Chevy Chase Community Center with Hoy Walls. 7:30-10:00 p.m.

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APPLYING FOR NCA MEMBERSHIP

Ted R. Hudson
5415 Henderson Road
Washington, D. C.

Paul R. Olsen
4205 Mt. Pleasant Drive
McLean, Virginia

James E. Mutter
4619 43rd Place
Washington, D. C., 20016

The above people applied for membership in NCA at the December meeting. If you have any comments about the applicants, please contact a Trustee or NCA Officer before January 9, 1965.

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December 13, 1964.....Executive Board Meeting

The Executive Board of the NCA met at the home of Mrs. Margaret Noble, President of NCA, for the express purpose of deciding on the legal aspect of Junior Group treasuries. The full report of the meeting will appear in the February issue of STARDUST.

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Please NoteConcerning All NCA Members

The Trustees of the NCA wish to remind you....quote "Members may not enter into negotiations or correspondence representing the National Capital Astronomers without the express approval of the Trustees."

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OLD STARDUST COPIES NEEDED

In order to make a complete file of STARDUST for historical purposes, your support is needed. The copies will be bound for future reference. Please look through your own collection and share the following issues:

Any issues prior to 1955. The present file of NCA copies begins with 1955. STARDUST began in 1943, so we are in great need of the early issues.

October 1955 is needed to complete that year.

December 1960 is needed to complete the year.

All of 1961 is needed.

All of 1962 except October, November and December.

1963 - March and December issues are needed.

1964 - January and April are needed.

Bring the copies that you are willing to give to the NCA, to the regular meeting or phone TED Noble (582-6721), do not mail as they may be lost en route. Your cooperation is appreciated in this project.

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1965 KEY PASSES FOR THE FIVE INCH

Mr. Larry White will have the new key passes ready for you to pick up at the January meeting. Have you been taking advantage of the great privilege? If not, be sure to talk to Mr. White about qualifying to use the NCA Alvan Clark five inch refractor telescope at the Naval Observatory. A good way to find out what we are talking about would be to join the Group Observatory Session on January 23. Your membership card will admit you to the observatory that night.

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DECEMBER LECTURE -- LABORATORY SIMULATION OF THE MARTIAN ATMOSPHERE

Father James O'Brien of Georgetown University Observatory brought the society up to date on the nitrogen oxide theory explaining color changes on Mars. Dr. Carl C. Kiese, who proposed this theory, spoke to the NCA in October 1963. (See the November 1963 issue of STARDUST for a summary of his lecture.) Since Dr. Kiese and his associates could detect neither oxygen nor water vapor in the spectrographs taken of Mars from atop 13,000-foot Mauna Loa mountain in Hawaii in 1956, they re-examined these observations and found evidence of oxides of nitrogen instead. Spectral lines of these oxides stand out when spectra of the moon, having no air, are compared with those of Mars.

Georgetown astronomers believe that the Martian polar caps are composed of solid nitrogen tetroxide (N₂O₄) which is white. They think the yellow clouds may be nitrogen dioxide (NO₂) formed during relatively high temperatures on Mars. The blue-green areas may be caused by the blue liquid N₂O₃ which results when nitrogen oxide (NO) mixes with the solid white oxide. Water could not exist in such an atmosphere because it would combine with NO₂ to form the very stable nitric acid. Father O'Brien showed movies of laboratory experiments with these oxides of nitrogen in which the color changes show up markedly.

The atmosphere of Mars is probably about 94% nitrogen, 4% argon, and 2% carbon dioxide. The surface pressure may be as high at 6 cm. of mercury or about 8% of that of the earth.

* * * *

Leith Holloway

WINTER VACATION FOR THE ASTRONOMY CLASS

The regular Monday Night Astronomy Class has just completed a series of lessons in the U. S. Naval Observatory lecture room. Winter vacation takes over now until late February. The next series of classes will be in the form of a Study Group. If you would like to learn more about an astronomical subject or just like to understand the everyday happenings in astronomy, plan to join the group in late February. It would help if you would indicate the day of the week most convenient for you to attend as a class will try to accommodate the majority of people. Phone Mr. John Stolarik (Re 6-4321) and join in the fun. The next topic for study will be the moon.

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CANADIAN HANDBOOKS AND GRAPHIC TIMETABLES

The Treasurer still has available for one dollar (\$1.00) a few copies of the Canadian Handbook.

Graphic Timetables of the Heavens have been ordered for every member of NCA. Your complimentary copy may be picked up at the regular monthly meeting. Ask Mr. Cornelius for your copy; you will enjoy using this excellent publication.

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1965 MEMBERSHIP DIRECTORY

The Directory will be ready for distribution at the January meeting. You may pick up your copy at the meeting or send a 5 cent stamp for mailing to Mr. Fred Cornelius, 115 Chichester Lane, Fairfax, Virginia.

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