

METEORITES AT THE NATIONAL MUSEUM - Conclusion

The toughness of a meteorite was demonstrated by a piece about seven inches long and from three and a half to five inches wide which I saw being sliced from an iron meteorite. The blade began work Thursday morning and had not cut through by Saturday night.

"Meteorites and Their Metallic Constituents" by E. P. Henderson and Stuart H. Perry aptly concludes, "The study of meteorites is only just beginning, and the system of classification is still in the formative stage. It is unfortunate that the interest of many persons in these objects is merely that of the collector in possessing something extremely rare, when so many interesting problems await the attention of ambitious students." ---Editor

THE STARS AS GUIDES - I
Lt. (j.g.) V. Withington, USNR

The stars signify a variety of things to different classes and professions of men. From very early times the stars have been guides to the traveler over trackless portions of the earth--to the Arabs in the desert, to the Pacific Islanders who sailed their small vessels over hundreds of miles of ocean. Those who live and sleep outdoors soon observe a pattern in the heavens repeated from night to night and year to year. They begin to recognize and name the groupings of the stars from the legends they love, and see in the bright stars the last resting place of racial heroes. It is known that the first long distance ocean travelers--the islanders--observed that certain stars passed over fixed points on the earth's surface in their passage from east to west. They set their courses along the paths of stars which they knew to pass over their destinations and eventually reached their goals.

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STAR DUST

National Capital
Amateur Astronomers Association
Washington, D.C.

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Pres., Dr. Edgar W. Woolard, 1232 30th St. N.W. (7)
V.P., Major U. S. Lyons, 4315 Chesapeake St. N.W.
Treas., Mr. Geo. L. Skirm, 4304 Brandywine St. N.W.
Sec., Mrs. Wm. P. Harris, Jr., 4315 Chesapeake St. N.W.

PICNIC-OBSERVATION Saturday, June 2nd, 7 p.m. at grove 17, Rock Creek Park. Take: 1. Northbound Conn. Ave. bus L2, L4, or L6 to McKinely Street. Transfer to eastbound crosstown bus M2. Get off at Ridge Road, also known as Glover Road. Walk south uphill 1/4 mile, just beyond ridge. Picnic grove on the right (west side at edge of wooded area. 2. 14th Street car 54 to terminal at Colorado Ave. Transfer to westbound crosstown bus M2. Get off at Ridge Road and proceed as above.

Fireplace is available and Entertainment Committee will furnish coffee. Bring food and telescopes. According to rules, we must leave at 10 p.m.

THIS YEAR FOR THE FIRST TIME the National Capital Parks are including two star study outings in their program of nature study. These outings are scheduled for Sunday nights, June 17 and September 16, from 8:30 to 10 p.m. "at Barnard Hill Park, adjacent to 26th and Randolph Street N.E. Meet in open place at top of hill. If the sky is cloudy, the event will be canceled." Mr. Lyons will lead the star gazing.

SOLAR ECLIPSE AT WASHINGTON July 9th will be over 50% total; will begin at 7:05 a.m., middle 7:59, and end 8:58 EWT.

AT THE LAST LECTURE OF THE SEASON, our president added another enjoyable talk to the many he has delivered before the Association. Dr. Woolard's subject was "The Discovery of the Satellites of Mars."

The two satellites of that planet are faint and so close to Mars that they are difficult to distinguish because of the glare of the planet. The closer of the two, Phobos, estimated to be 9-10 miles in diameter, is only 3700 miles above the surface of Mars, and the radius of its orbit is less than three times the radius of the planet. The more distant satellite, Deimos, estimated to be about 5 miles in diameter, is at a distance of 14,600 miles from the center of Mars.

The length of a day on Mars is very little longer than on the earth--24 hours 37 minutes. Phobos completes a circuit of its orbit in 7 hours 39 minutes. Consequently it rises in the west and sets in the east twice in a Martian day. This is the only known satellite that revolves around its primary faster than the primary rotates.

The period of revolution of the outer satellite, Deimos, is 30 hours 18 minutes. Since it travels eastward only a little faster than the diurnal motion moves westward, the satellite takes $5\frac{1}{2}$ days to make a complete circuit.

In spite of the proximity of the moons of Mars to its surface, they are much less spectacular when viewed from that planet than the moon is from the earth. When in the zenith, Phobos is only one-third the diameter of the full moon and one-twenty-fifth as bright. Deimos appears from the surface of Mars much as Venus does to us. On the other hand, Mars viewed from Phobos has a diameter of 42° .

It can be said that the existence of the satellites of Mars had been anticipated for more than two and one-half centuries before they were discovered in 1877 by

Asaph Hall at the Naval Observatory, using the 26-inch refracting telescope. In 1610 Kepler stated his belief that Mars had two satellites. Picking up Kepler's speculations, Jonathan Swift in "Gulliver's Travels" and Voltaire both introduced this concept into their fiction. Even textbooks published before 1877 arrived at the same conclusion by analogy, although Herschel had searched for them and in 1783 concluded there were none.

But in August 1877 Asaph Hall, taking advantage of a favorable opposition of the planet, began his observations. On the eleventh, he discovered the outer moon and nearly a week later, on the seventeenth, found the inner one. At first he thought that the inner moon was not one but several because of its rapid revolution.

The names that Hall chose for the satellites were those that had already been made famous in the "Iliad" as the names of the horses that drew the chariot of Mars. The outer he called Deimos, meaning fear, and the inner, Phobos, meaning flight.

---Grace C. Scholz

OFFICERS ELECTED for the next season: President, Leo Scott. Vice President, Major Ray K. Windham. Treasurer, Eugene S. Henning. Secretary, Mrs. Wm. P. Harris, Jr. Trustee, Clarence deW. Herreshoff. Committees will be announced in September.

MR. HENRY A. SCHMIDT, 5959 Brooks Road S.E., passed away March 18th. Mr. Schmidt was a charter member of NCAAA and will be sorely missed by his many friends.

NEW BOOKS AT THE LIBRARY

Amateur Telescope Making, Advanced, 1944 edition. A collection of contributions. Munn publishers.

Elements of Astronomy, Edward A. Fath. 4th edition.

Astronomical Air Navigation, Squadron-Leader Ronald Hadingham. 143 pages, illustrated, maps, diagrams.