

Woolard led us to a cast of the Rosetta Stone which gave the first key to decipherment of Egyptian hieroglyphics.

HOBBY NOOK

As the result of an interest in timepieces, I have acquired an old Longines watch, key wound; a Jules Jergenson; a very nice, one-minute repeater by Touchone, Swiss; and an old chronometer escape-ment watch.

This hobby led to a collection of clocks which includes: an old Pennsylvania Dutch grandfather clock with cherry case, brass trimmed, moon faced, calendar, etc., maker not known but built between 1790 and 1830. An English clock of the same period, about 7 feet tall, hand painted dial, calendar, etc. A French pedestal clock, Empire period, mahogany case, striking, about 7 feet tall. A Scotch grandfather made by William Roy of Dumfermline, Scotland, about 1776. It is small, quarter-sawed oak, with calendar. The dial is silvered on brass and engraved. One old mahogany banjo clock, perfectly plain without painted glass, brass works, made about 1850. A large, seconds pendulum clock made by E. Howard of Boston, about 1850, 5 feet tall, rosewood finish, fine timekeeper. Another Howard wall clock, mahogany case, probably Civil War period.

The choicest is a Dutch hangup, or Zaandam, clock made about 1660. It has a rosewood panel with grapevine columns, weights, a face made of velvet with brass dial ring and spandrels, and a large bell above that strikes the hours. A smaller bell over that strikes the half-hour with the same number of strokes as the hour. All of this is surmounted by Atlas bearing the world on his shoulders.

---O. F. Baker
1228 I Street N.W.

Dorothy F. Harris, Sec.
1621 T Street, N. W.

Mabel Sterns, Editor
District 9422

STAR DUST

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"THE EVOLUTION OF SCIENTIFIC IDEAS" will be the subject of Paul R. Heyl's lecture on February 5th, 8 p.m. at the National Museum. All the different sciences have, in their historical development, passed through the same evolutionary pattern. In some of the sciences this development has been more rapid and completed earlier than in others, but the same pattern can be traced in all and many of its characteristics are well illustrated by astronomy.

Dr. Heyl has done important work in industrial and applied physics and his technical investigations in pure physics have won him international recognition. Of particular interest in astronomy are his experimental investigations of gravitation. He has twice determined the value of the constant of gravitation more accurately than it was known before. From this constant in Newton's law of gravitation, the mass of the earth may be found. The experiment is popularly spoken of as "weighing the earth." The most accurate measurement yet made of the absolute value of gravity was also made by Dr. Heyl.

Another experiment of great interest consisted of weighing large crystals in different positions relative to the crystalline axes, as nearly all other physical properties of crystals do. Crystals of from 375 to 1300 grams were weighed with a precision of about one part in a billion, probably the most accurate weighing that has ever been done. To this accuracy, no difference of weight in different positions was found.

Dr. Heyl was also the first to demonstrate experimentally that the speed with which ultraviolet light travels in a vacuum is the same as that of visible light. The method of doing this is to determine the times at which the light from the eclipsing variable Algol has its minimum intensity at different wave lengths. Dr. Heyl's photographic comparisons of the times at which minimum was reached in the visible violet and the near ultraviolet showed the speeds to be the same to at least one part in two million. This investigation was awarded the Boyden Premium of the Franklin Institute of Philadelphia in 1907.

Dr. Heyl is the author of many papers and books on physics, mathematics, and the history and philosophy of science, a few of which are listed below:

- What is Gravitation? Scientific Monthly, Aug. 1938.
 - Weighing the Earth. Scientific American, March 1928.
 - Measuring the Earth's Attraction. Scien. Mon. Sept. 1930.
 - Gravitational Anisotropy in Crystals. Bureau of Standards, Scientific Paper 482, 1924.
 - Children of the Sun. Scientific American, Jan. 1927.
 - The Wonder of the Commonplace. Scien. Amer. Oct. 1926.
- Edgar W. Woolard

THOSE WHO WERE ABLE to cope with the weather the night of the last meeting, enjoyed Mrs. Cochran's description of navigation in the early days of civilization. She spoke of the role astronomy played in the commercial development of the world. Of special interest were the historical instruments which we were allowed to examine. Two were astrolabes made by skilled artisans, and another was a nocturnal, unfamiliar to most of us.

IT WAS SUGGESTED that privileges of membership in NCAAA be extended to those in the armed forces who have evidence that they are members of astronomical societies elsewhere.

HISTORY OF ASTRONOMY group met at Dr. Woolard's home on January 10th. The date of the next meeting is February 21st, 7:30 p.m. 1232 30th Street N.W.

CELESTIAL NAVIGATION group met at the home of Capt. Lee on January 17th. The next meeting will be February 14th, 8 p.m. at the home of Mrs. Davis, 5 Rhode Island Ave. N.W. Telephone: Dupont 4382. Members will find it helpful to have copies of the Nautical Almanac which are obtainable for 65¢ at the Government Printing Office.

GRAPHIC TIME TABLE OF THE HEAVENS. Copies have been furnished through the courtesy of Dr. Paul S. Watson of the Maryland Academy of Science. They will be available at the next meeting. If more are desired, Mr. E. V. Smith will be glad to procure them.

"WHEN HISTORY IS PUSHED BACK FAR ENOUGH the point is reached where astronomy and geology meet." This Dr. Woolard began the astronomical tour through the New National Museum on January 23d, after pausing briefly to view the painting of "Dawn." The party continued through the geological section to the exhibit of meteorites consisting of nickel-iron, stony, and conglomerate masses. Cross-sections show a variety of colors and compositions, and etching reveals numerous patterns in the metallic meteorites. One group was arranged to show the effect of flight and impact. The Museum has a private endowment for the collection and study of these gifts from space.

In the Mayan section, Dr. Woolard explained the early development of astronomy in the Western Hemisphere. The Aztec calendar stone has been discussed in "The Sky." Our conductor identified the symbols in that article with those of the carving and told much of interest concerning the stone.

After explaining the Babylonian boundary stones and other cuneiform tablets that refer to astronomy, Dr.