

CORRECTION to the April issue, page 2, paragraph 1, last line, the date of Airy's book on "Gravitation" should be 1834; it was reprinted in 1885.

HOBBY NOOK

My interest in archeology began at the age of 8 when I found my first arrowhead. One spring morning I found 16 perfect arrowheads in a freshly plowed field after a heavy rain—all before breakfast.

The most extensive and complete work in the field of archeology was done in 1932 in the excavation of the Kingston Village site on the shores of the Illinois River. Thousands of specimens were found, catalogued, and studied by the Archeology Section of the Peoria Academy of Science of which I am a member. The results of this work were published by the Academy in 1937, entitled. "The Kingston Village Site."

My own collection contains over a thousand specimens from the middle west--Illinois especially--arrowheads and implements of quartz, flint, copper, hematite, chert, and granite; also pieces of pottery made of clay tempered with shell. Of special interest are a six-pound copper ax and a spearhead six inches long hewn out of "sugar" quartz.

I have started a collection of natural color slides of Indian trail trees in Illinois, Wisconsin, Indiana, Ohio, and Virginia. These trees were bent at an acute angle and tied when saplings, to mark a turn in the trail. The tops died but the remaining branches grew upright forming a tree unfit for lumber and so was left standing.

---Floyd L. Barloga

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"ASTRONOMICAL ALMANACS FOR LAND, SEA, AND AIR, AND HOW THEY ARE MADE," will be the subject of an illustrated lecture by Dr. W. J. Eckert on May 6th, 8 p.m. at the National Museum. Dr. Eckert has been Director of the Nautical Almanac Office at the U.S. Naval Observatory since 1940. He came to this position from the Department of Astronomy of Columbia University in New York, where he was also a member of the Board of Managers of the Thomas J. Watson Astronomical Computing Bureau. Dr. Eckert is the author of a book on "Punched Card Methods in Scientific Computation," published by the Computing Bureau in 1940. His researches in mathematical astronomy have included investigations in the lunar theory in collaboration with E. W. Brown, and an investigation of the gravitational theory of the motion of the Trojan asteroid Hector.

In connection with this lecture, a popular article on "The Astronomical Ephemeris and the Nautical Almanac" by Simon Newcomb will be found of value, even though it was written as long ago as 1879. It is included as Chap. XIII in a volume of collected essays by Newcomb, "Side-Lights on Astronomy."

---Edgar W. Woolard

DR. HERGET'S LECTURE on "The Satellites of Jupiter" revealed many points new to us about Jupiter and its satellites. He began with the history of the satellites' discovery by Galileo in 1610. These were the first objects discovered in the universe, and Jupiter was the first planet known (excluding the earth) to have bodies revolving about it.

The orbits of Jupiter's first four satellites are edgewise to the Earth. This makes them appear to travel in a straight line about Jupiter and is the cause of the distinct shadows cast on the planet.

An interesting point about the eclipses of the moons as Dr. Herget explained, is that when they reach the edge of the planet, they seem to disappear, but due to the sunlight's falling at an angle on Jupiter, they are not yet behind it but in its shadow.

In 1675 the fact that light does not travel instantaneously was determined by a careful study of the times of eclipses of Jupiter's satellites.

In 1892 E. E. Barnard discovered the fifth and innermost satellite of Jupiter, with the 36" refractor. Barnard was a tireless observer. A flower company, to boost its advertising, offered a reward to anyone who found a comet. Barnard won many of their awards, among them one for his discovery of the fifth satellite.

1904. Perrine found photographically in two months' time, moons VI and VII. They were found to be $7\frac{1}{2}$ million miles distant with a 260 day period of revolution about Jupiter. It was the first time any planet was known to have two satellites of the same distance and revolving period.

1908. Melotte of Greenwich found No. VIII 15 million miles distant, revolving in reverse direction about the planet, i.e., clockwise.

1914. Nicholson photographed the area surrounding Jupiter and found No. IX with the same period as VIII --700 days--and the same distance of 15 million miles. The second time a planet was found to have twin moons with the same periods and distances! No other is known in the solar system.

1938. Nicholson again observing with the 100", made a thorough review of the region of Jupiter. He found about forty objects, mostly asteroids. Study eliminated all but five. Further intense research eliminated three more--and X and XI were found. Then was discovered another great fact about systems within the solar system: Moon X was found to be a triplet of VIII and IX; XI a third of VI and VII--two triplet systems, all going clockwise and all with the same distances and periods about the primary. Moons VI, VII, and XI, $7\frac{1}{2}$ million miles and 260 days; VIII, IX, and X, 15 million miles and 700 days. This has gone far to discredit the "capture" theory because it is not thought possible six satellites could be brought within the same influences such as orbits, distances, periods, and directions coincidentally. The orbits of these sets of triplets are interlocking but not intersecting. Therefore there is no danger that these bodies in their courses about each other and Jupiter will collide.

The first five satellites keep the same side always toward the primary. It is thought that perhaps this is the end-point of the solar system, i.e., eventually all the planets will present but one face to the sun.

---Dorothy F. Harris

THE CELESTIAL NAVIGATION GROUP will hold its last meeting of the season May 22d, 8 p.m. at the home of Mrs. Elanora B. Davis, 5 Rhode Island Ave., N. W.

THE HISTORY OF ASTRONOMY class will meet at the home of Dr. Woolard on May 15th at 7:30 p.m.