

Astronomers Preparing for Eclipse

Astronomy

Astronomers from the U. S. Naval Observatory in Washington and from the Sproul Observatory, Swarthmore, Pa., will join with colleagues from Germany, England, Italy, France, Holland and Australia, in observing the eclipse of the sun visible in the Malay Archipelago next May. It will be the best eclipse in recent years, and will occur on the afternoon of May 9. The path of totality begins to the east of South Africa, in the Indian Ocean. From there it passes in a northeast direction to the Malay Archipelago, where it first touches easily accessible land.

In Malaysia it crosses the northern end of Sumatra, then the Malay Straits, the southern part of Siam and the northern part of the Malay Peninsula, the Gulf of Siam, Cochin China, the South China Sea, and some of the southern Philippine Islands. Then it passes into the Pacific Ocean where it ends.

Though along part of its path the eclipse lasts 5 minutes and 7 seconds, this part is out in the Indian Ocean. The Simeuloe Islands, west of Sumatra, are nearest to the maximum, where the total eclipse will last nearly that long. In Sumatra, it will last five minutes, and in the Philippines about three and a half minutes.

Capt. C. R. Freeman, of the U. S. Naval Observatory at Washington, has announced that their expedition will go to Iloilo, on the island of Panay. This is one of the largest towns in the path of totality. It has about 50,000 inhabitants and is provided with banks, hotels, machine shops and other features which visiting astronomers may need. Telegraph, radio and telephone connections will enable the outside world to be informed promptly of the outcome. The Panay and Negros Telephone Company supplies most of the towns in this part of the path, and the company has offered the free use of its lines to visiting astronomers. Dr. R. L. Waterfield, of the Johns Hopkins University, is also planning to observe it from Iloilo.

The Sproul Observatory, of Swarthmore, Pa., under the direction of Prof. John A. Miller, who has observed more eclipses than any other astronomer, will send a party to Sumatra. There will also be a Dutch expedition in Sumatra as well as one from Australia. A German party

from Potsdam will go either to Sumatra or Siam. There will be two British groups. One, from Greenwich, will go to Alor Sta, in Kedah, on the Malay Peninsula. The other, from Cambridge, will make its headquarters at Pattani, in Siam. There will be a German party, from Kiel, in Siam, at Khoke Bhode. A third German expedition, from Göttingen, has not yet announced its site, while a fourth, from Hamburg, will be neighbors of the U. S. Naval astronomers at Iloilo. A French party will go to Cochin China. There will also be one from Italy.

Perhaps the most important observations to be made will be the photography of the corona. This is the outer part of the sun, and though extending for as much as a million miles from the sun's surface, is ordinarily invisible because of its faintness. Only when the opaque moon obscures the bright globe of the sun

does the corona flash out. An eclipse of the sun cannot possibly last more than 7 minutes and 40 seconds. Most are much shorter, and as one that can be satisfactorily observed occurs on the average only once in several years, the astronomers make the most of their opportunities of observing this important part of the sun. Other observations will be made of the flash spectrum, at the beginning or end of an eclipse. This gives important knowledge of the outer layer of the sun, the "chromosphere." The English astronomers will also observe the "Einstein effect." This is the deflection of the light of stars as they pass the sun, and can only be observed during a total eclipse. This is one of the experimental proofs of the Einstein theory of relativity, and though it was found to exist at eclipses in 1919 and 1922, further evidence is desirable.

Science News-Letter, December 8, 1928

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SCIENCE NEWS-LETTER, The Weekly Summary of Current Science. Published by Science Service, Inc., the Institution for the Popularization of Science organized under the auspices of the National Academy of Sciences, the National Research Council and the American Association for the Advancement of Science.

Edited by Watson Davis.

Publication Office, 1918 Harford Ave., Baltimore, Md. Editorial and Executive Office, 21st and B Sts., N. W., Washington, D. C. Address all communications to Washington, D. C. Cable address: Scienserve, Washington.

Entered as second class matter October 1, 1926, at the postoffice at Baltimore, Md., under the act of March 3, 1879. Established in mimeographed form March 13, 1922. Title registered as trade-mark, U. S. Patent Office.

Subscription rate—\$5.00 a year postpaid. 15 cents a copy. Ten or more copies to same address, 5 cents a copy. Special reduced subscription rates are available to members of the American Association for the Advancement of Science.

Advertising rates furnished on application.

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