

THE SOLAR ECLIPSE

ALTHOUGH total eclipses of the sun are comparatively frequent, the narrow track or belt covered by the moon's shadow during the progress of solar obscuration is often so remote as to greatly diminish popular interest in the spectacle. In the eclipse on the morning of the 28th ult., however, the track was so long, the shadow trailing from Southern California across the continent by way of New Orleans to the vicinity of Norfolk, and passed through so thickly populated a region as to be of extraordinary interest to millions of spectators. For although the path of total obscuration, from New Orleans to Norfolk, had a width of only about forty miles, a number of important cities lay within it, while the partial phase was visible throughout a large section of the Union. In this city clouds interfered greatly with the interest of the spectacle, such glimpses of it as could be obtained being necessarily fleeting, but, generally speaking, the atmospheric conditions were perfect, and millions enjoyed a wholly satisfactory view. What are the results of the scientific observation of the phenomenon will not be known for some days since it is from photography that the greatest gains to knowledge are expected, and these cannot be adequately tested until the various expeditions have made their developments and calculations. The visual observations, considered from a scientific point of view, were, it is said, very disappointing, the corona, or ring of silvery light surrounding the sun, the constitution of which has so long baffled astronomers, being dimmer than in previous eclipses, and the coronal streamers less active. This fact, however, lends support to Bigelow's theory that the structure of the corona is affected by the successive stages of the sun-spot cycle, being most impressive in eclipses occurring in a sun-spot maximum, and less active and distinct when the cycle is near a minimum, as it is now. But photography, the application of which to astronomy in very recent years has practically revolutionized the method of securing eclipse observations, has yet to reveal its secrets, and upon what it may disclose with respect to the corona, scientists are placing a good deal of hope of enlightenment. Never before were prep-

arations for this feature of the observations so thorough and extensive, the fact that the progress of the obscuration was photographed for reproduction in moving pictures and from kites in midair, showing the interest in the work on the popular side. With the development of the photographic plates, and the analysis and comparison of the data gathered at the various stations, it is only reasonable, then, to expect that something, at least, may be added to the sum of human knowledge of the constitution of the great centre of the solar system. Fuller observation of the "contacts," the moments when the obscuration of the sun's disc begins and ends, may enable the astronomers to correct the tables of the heavenly bodies, and a completer view of the "reversing layer," or absorbent envelope, lying close upon the immediate surface of the sun, settle finally any dispute as to its existence. It may be, too, that the preparations made to secure by the aid of photography a panorama of the regions adjacent to the sun may result in the location of planets whose orbits lie inside that of Mercury, and in any event the rediscovery of the tiny planet Eros will prove a welcome event.