

Obituary.

DR. E. B. KNOBEL.

EDWARD BALL KNOBEL, who died on July 25 last, was born in London on Oct. 21, 1841. He was educated at Stockwell Grammar School and at the Royal School of Mines, but did not take a university degree; he was given an honorary D.Sc. at Oxford in 1927. He was engaged in business as a manufacturer throughout the greater part of his life, and his work for astronomy could be done only in his leisure hours.

Dr. Knobel's published work began in 1873 with papers containing observations, illustrated by sketches, of Jupiter and Mars. He also invented a photometer and produced two papers on observations made with it. But his work as an observer was terminated by his removal from Burton to London in 1875. There he found an opportunity for studying astronomical bibliography, which determined the main drift of his studies for the rest of his life. In 1876 he presented to the Royal Astronomical Society a "Chronology of Star Catalogues", dealing with all the star catalogues the existence of which he could trace. With unimportant exceptions he had examined them all with his own eyes. To this collection he added a separate collection of catalogues of proper motions and a table of the names and places of stars contained in Aboul Hhassan's first catalogue. He also included notes on errors in texts of Ulugh Beg and Cusa, which, like those in the text of Aboul Hhassan, he attributed to misreadings of Arabic numerals. In the same year Dr. Knobel published a reference catalogue of books and papers on double stars, variable stars, red stars, nebulae and clusters, proper motions, stellar parallax, and star spectra.

During the next forty years Dr. Knobel produced numerous papers on points connected with star catalogues, including those of Ulugh Beg, Al Sufi, and Al Achsasi, in which he displayed a growing

confidence in his reading of Arabic and Persian manuscripts. He also published in 1905 a collection of the observations contained in the Japanese chronicle, the Nihongi, and edited a Chinese planisphere in 1909 with a valuable commentary. But Dr. Knobel's largest works were his editions of the star catalogues of Ptolemy and Ulugh Beg, published in 1915 and 1917 respectively. In each case the work had been begun by the German-American astronomer Peters, who died in 1890 and whose papers passed into Dr. Knobel's hands. In neither case did Dr. Knobel give a critical Greek or Persian text, but the work is based on a careful collation of the manuscripts in different languages for star places and magnitudes, and each star was identified, so far as identification is possible.

Probably Dr. Knobel contributed even more to astronomy by his long and devoted service to the Royal Astronomical Society than by his publications. Except for the one year, 1922-23, he was a member of its council uninterruptedly from 1876 to his death. He was twice president, 1892-93 and 1900-1; for fifteen years he was treasurer and for ten years secretary, and he will be remembered with gratitude by all British astronomers.

J. K. F.

WE regret to announce the following deaths:

Prof. A. Gullstrand, formerly professor of physiological and physical optics at the University of Uppsala, and Nobel prizeman for medicine in 1911, aged sixty-eight years.

M. Joseph Achilles Le Bel, For. Mem. R.S., formerly president of the French Chemical Society, on Aug. 8, aged eighty-three years.

Prof. J. F. Pompeckj, professor of geology and palaeontology in the University of Berlin, on July 8, aged sixty-three years.

Dr. Harvey Washington Wiley, from 1883 to 1912 chief chemist of the U.S. Department of Agriculture, on June 30, aged eighty-five years.

News and Views.

THE lives and labours of those eminent English botanists and naturalist travellers, Sir William and Sir Joseph Hooker, and their connexion with Halesworth, Suffolk, will receive recognition on Aug. 17, through the unveiling of a tablet memorial in St. Mary's Church, Halesworth, a dedicatory duty to be performed by Sir David Prain, a former director of the Royal Botanic Gardens, Kew. The requisite funds for the erection of the tablet were provided by a number of representative scientific institutions, supplemented by contributions from a small band of botanists and others who were contemporary with Sir Joseph Hooker.

SIR WILLIAM HOOKER, born at Norwich on July 6, 1785, was educated there at the grammar school. He died on Aug. 12, 1865, in his eighty-first year, and was buried in the churchyard of St. Anne's, Kew. Here it should be mentioned that his residence at Hales-

worth comprised the period 1809-1820. The story of the elder Hooker's varied career was mirrored with filial care by his son Joseph in the *Annals of Botany*. Early devoted to ornithology, entomology, and botany, he found a friend in Sir Joseph Banks. On the latter's advice he explored Iceland (1809). From 1820 to 1840 he was Regius professor of botany in the University of Glasgow. A vigorous pedestrian, Hooker, when taking weekly rest at Helensburgh, habitually on Sunday walked to Glasgow—twenty-two miles—to be in time for his eight o'clock Monday morning class. In 1841 he became director of the Botanic Gardens, Kew, remaining in office twenty years. Sir Joseph Hooker, born at Halesworth, on June 30, 1817, graduated at the University of Glasgow in the medical faculty. His scientific achievements, whether as naturalist, traveller in unexplored regions of the world, or as a master of botanical nomenclature, scarcely need recapitulation. His friendships were with men such