

K. Graff's comprehensive and excellent work, the *Grundriss der Astrophysik*,† especially designed to replace the eight-year-old, but already obsolete *Populäre Astrophysik* of J. Scheiner.

Now, however, we have to report the appearance of an entirely new periodical devoted exclusively to the interests of astrophysics. This venture has been launched by the well-known publishing house of Julius Springer, of Berlin, who announce the support of a strong band of collaborators including such names as Graff, Guthnick, Kobold, Kohlschütter, Kopff, Ludendorff, Lundmark, Paschen, Sommerfeld, and Wolf, while the whole is to be under the general editorship of Prof. R. Emden, of Munich. The new *Zeitschrift für Astrophysik* is to include original papers dealing with astrophotometric or spectroscopic subjects which hitherto, for lack of some more appropriate periodical, have had to be published in various, and sometimes purely physical, journals. It will make its appearance at indefinite periods and, what will immensely add to its universal value and circulation, "Congress-languages" other than German will also be admissible for its articles.

Number one of volume one was issued in June last and contains five illustrated items which, however, all happen to be in German this time. As regards their character the first of them, by A. Unsöld, of Munich, concerns the Deviation of Stellar Atmospheres from Thermal Equilibrium; the second (Kienle) the Production of Photometric Scales for Objective-Prism Photography; the third (Müller) the Photometric Examination of the Zodiacal Light; the fourth (Freundlich, Brunn, and Brück) the Wavelengths of the Fraunhofer Lines at the Solar Surface; and the fifth (Brück) deals with Scattering in the Earth's Atmosphere and the Structure of the Fraunhofer Lines; while, following this, is a short but interesting communication from Fr. Becker describing a Stellar Spectrum showing Emission Bands, which does not fit into the Harvard Classification, but is possibly that of a Nova past maximum brilliance.

The above account amply suffices to show the general character of this new and important periodical which, in its business-like blue-grey livery and handy format—slightly less than that of its well-known contemporary, *The Astrophysical Journal* (now entering its seventy-second volume)—will doubtless soon be found to be an indispensable companion in every astrophysical institution.

W. A. P.

Obituaries.

Dr. E. B. Knobel.

We have to record with regret the death of Edward Ball Knobel, an original member of the Association, who at one time occupied the Chair for the statutory period. It may not be generally known—and the fact is so unimportant that it scarcely deserves mention—that our Association was established, forty years ago, not without opposition—not active, but veiled—for it was whispered by some that it might be a danger or hindrance to the prosperity of the Royal Astronomical Society. Dr. Knobel, being closely associated with the older body, and anxious and jealous for its welfare, was one of these malcontents, but he joined the Association at its beginning, and it was not long before he realised that his view was a mistaken one, and the Association had a no more hearty supporter. It

† This *Journal*, 40, 274.

was with some thought of the humour of the situation, remembering his former antagonism, that he was asked to be its President in 1910. He accepted gladly, and his copious knowledge of many branches of astronomy, his ready tongue, and his charming manner made him an ideal occupant of the Chair. His first Presidential address on the practice of astronomy generally, included some information about the photographic plate; his second was on astronomical photometry and photometers, which were both topics on which he had special knowledge and was fully qualified to speak, as will be shown later. A lecture delivered by him at the meeting of May, 1908, before he became President, on Numerals in Ancient Manuscripts, is an excellent example of his expertness in palæography, which was a special study with him, and the illustrated report of it is one of the most valuable items to be found in the volumes of our *Journal*.

The first recorded astronomical observation by Dr. Knobel is to be found in the *Astronomical Register*, in which he described the simultaneous disappearance of Jupiter's four satellites on August 21, 1867, as he saw it from Burton-on-Trent; but this was not his first observation for it was a small boast with him that he had seen the great comet of 1858. He joined the Royal Astronomical Society in March, 1873, when he was 31 years of age, two of his sponsors being Richard Proctor and John Browning. He was an analytical chemist by profession, and in his early years was attached to the firm of Messrs. Bass of the town above mentioned. He had at that time an 8½-inch silver-on-glass reflector mounted as an alt-azimuth and his first contributions to the Society were notes on Jupiter and Mars embodying his observations made with this instrument accompanied by drawings that will be found in the *Monthly Notices* for June, 1873, which were followed by other contributions in 1875 on an Astrometer and on photometric observations of naked-eye stars made with it. He came to London in that year and his association with the Society became closer, for he was elected to the Council in 1876 and from that time forward sat at the Council table with only a year's exception until the end of his life. The Supplementary number of the *Monthly Notices* of 1876 is made up almost entirely of a remarkable piece of work by him, a catalogue of astronomical papers classified according to subjects—Double Stars, Variable Stars, Red Stars, and so on, which must be found invaluable to a worker in any of these branches. To the Volume 43 of the *Memoirs* of the Society published in 1877 he made a contribution of similar character entitled "The Chronology of Star Catalogues," being a list, with full notes of 530 star catalogues arranged in order of epoch, all of which he had examined personally. The library research necessary for these must have occupied many hours of his life. A few years later he was again engaged in a rather laborious work relating to a delicate matter when an attack was made on Admiral Smyth's Bedford Catalogue, and the Society was blamed for giving it their approval, which Mr. Knobel countered by a paper (1880 June)

tending to show that there was some misconception as to the accuracy that ought justly to be expected in that work.

His last observational work included a paper on the comparative brightness of the Orion nebula (1881 March) to which he applied the astrometer before mentioned in conjunction with his 8½-in. silvered reflector and an unsilvered flat, and a Memoir in Vol. 48, part 2, on his observations of Mars at its opposition of 1884. From this time his astronomical writings dealt with the records of ancient or eastern peoples and showed his intimate knowledge of Oriental languages. In one he extracted astronomical observations of the seventh century A.D. from the Nihongi, the ancient chronicle of Japan, in another he collated the Jewish calendar dates about B.C. 500 with the Egyptian, as to which there was some uncertainty, by the help of certain Aramaic papyri that had been discovered. But what will probably be considered his greatest works are his editions of the star catalogue of Ptolemy in the *Almagest* published in 1915 and the catalogue of Ulugh Beigh the Tartar prince of the fifteenth century published in 1917. Both were done in collaboration to some extent with Peters, a German-American astronomer who died before they were published, and they must be considered as mainly the work of Mr. Knobel. From 1880 to 1893 he was associated with Messrs. Courtauld's silk factory at Bocking in Essex, and from 1893 up to his retirement from business was managing director of the photographic plate making company, Ilford, Limited. In the later years of his life he would refer jocularly to his early connection with the industry that led to the female fashion of the time.

This is a categorical statement of Mr. Knobel's life and work, but it leaves much unsaid. The help he gave to astronomy was not so much in his writings as in his personal efforts and personal qualities. Because of his special knowledge of photography he was one of the British representatives at the initiatory Conference of the Astrographic Chart in 1887. He was appointed a member of the Board of Visitors of the Royal Observatory in 1904 and gave the most serious attention to his duty in that respect. He was Secretary of the Royal Astronomical Society from 1882-1892, President from 1892 to 1893 and again in 1900 when he occupied the Chair for one year to complete the term that Sir George Darwin found it necessary to leave unfinished. He was Treasurer from 1895 to 1900 and again from 1912 to 1922, fulfilling the duties of all these offices with the utmost zeal. He was very conservative in his views and was opposed to the alteration of the hour of meeting from 8 to 5 o'clock and to the admission of ladies as Fellows, and on these and other questions that arose for discussion he was always fearlessly outspoken, though his opinions whether in praise or blame were always couched in most elegant and benign language.

E. B. Knobel, the son of Mr. W. E. Knobel, a Solicitor of Westminster, was born on October 21, 1841. He was a pupil at the Stockwell Grammar School and afterwards at the Royal School of Mines. He did not proceed to any University, but

in the year 1927 was granted the degree of D.Sc. by Oxford *honoris causa*. Dr. Knobel was a cultured man in many ways. He was a classical scholar and had an extensive knowledge of the Greek poets; his acquaintance with Oriental languages has already been mentioned. He was a great lover of music and a skilful violinist, and for many years was connected with the Sunday concerts at Queen's Hall.

He died on July 25 last, leaving two sons and two daughters. Mrs. Knobel died in 1922.

H. P. H.

Richard Henry Bulkeley.

Richard Henry Bulkeley, who died on 28th May, 1930, at the age of 68 years, had long been an active business man at Wallerawang, N.S.W., and later at Sydney. He was President of the Blaxland Shire Council, and was a churchwarden of St. John's Church of England at Wallerawang.

Mr. Bulkeley became a member of the British Astronomical Association in 1895, and was elected a Fellow of the Royal Astronomical Society in 1914. He was also a member of the Royal Australian Historical Society.

He took a keen interest in astronomy from an early age, and made many observations with a six-inch reflecting telescope. He was one of the party to observe the total solar eclipse of 1922 in Queensland, and also that of 1911 at Vavau in the Pacific.

Mr. Bulkeley had a buoyant personality which attracted many friends to him, and enabled him to infuse enthusiasm amongst those with whom he came in contact. In recent years he had lived in Mosman, one of Sydney's waterside suburbs, and was a regular attendant at the Committee and general meetings of the British Astronomical Association. He held the office of auditor of the New South Wales Branch for many years, and at the time of his death was one of its Vice-Presidents.

The Late Prof. Turner.

It is no doubt known to all our members that the B.A.A. has suffered great loss by the death of Professor H. H. Turner at Stockholm.

In the first number of our new volume we hope to give an obituary notice with a recent portrait. At the moment we can only feebly express our sympathy with the survivors.