

THE following books relating to science are announced, in addition to those referred to in our issue of March 5:—In *Anthropology*—The Ban of the Bori: an Account of Demons and Demon-Dancing in West and North Africa, Major A. J. N. Tremearne, illustrated (Heath, Cranton, and Ouseley); in *Biology*—The Wonder of Life, Prof. J. A. Thomson, illustrated (A. Melrose, Ltd.); In *Nature's Ways*, M. Woodward, illustrated (C. A. Pearson, Ltd.); *British Flowering Plants*, illustrated by Mrs. H. Perrin, with descriptive notes and an introduction by Prof. Boulger, 4 vols. (B. Quaritch); in *Chemistry*—Chemical Lecture Diagrams, Dr. G. Martin; The Wonderland of Modern Chemistry, Dr. G. Martin, illustrated (Sampson Low and Co., Ltd.); *Elements of Physical Chemistry*, J. L. R. Morgan, new edition (New York: J. Wiley and Sons, Inc.); in *Engineering*—Modern Practice in Tunneling, D. W. Brunton and J. A. Davis; *Subaqueous Foundations*, C. E. Fowler; *Influence Lines for the Determination of Maximum Moments in Beams and Trusses*, M. A. Howe (New York: J. Wiley and Sons, Inc.); in *Geography and Travel*—Sport and Science on the Sino-Mongolian Frontier, A. de C. Sowerby (A. Melrose, Ltd.); *Hunting and Hunted in the Belgian Congo*, R. D. Cooper, illustrated; *South Polar Times*, reproduced in facsimile, new volume (Smith, Elder and Co.); in *Geology*—A.B.C. of the Useful Minerals, A. McLeod; *Engineering Geology*, H. Ries and T. L. Watson (New York: J. Wiley and Sons, Inc.); in *Mathematical and Physical Science*—Science and Method, H. Poincaré, translated by F. Maitland (T. Nelson and Sons); *The Stars Night by Night*, J. H. Elgie, illustrated (C. A. Pearson, Ltd.); *Meteorological Treatise*, F. H. Bigelow; *Theory of Numbers*, R. D. Carmichael; *Elementary Theory of Equations*, L. E. Dickson; *Invariants*, L. E. Dickson (New York: J. Wiley and Sons, Inc.); in *Medical Science*—Industrial Gas Poisoning, Prof. Glaister and Dr. D. D. Logan (E. and S. Livingstone).

#### OUR ASTRONOMICAL COLUMN.

COMET 1913f (DELANVAN).—In this column for February 12 we gave the ephemeris of comet 1913f, discovered by Delavan, which was computed by Dr. G. van Biesbroeck. This ephemeris is now continued here for the rest of the month so far as it is published:—

oh. M.T. Berlin.							
	R.A. (true)		Dec. (true)		Mag.		
	h.	m.	s.				
March 13	...	2 47	21	...	+5 53.6	...	10.7
17	...	49	27	...	6 38.5	...	10.7
21	...	51	44	...	7 23.7	...	10.7
25	...	2 54	12	...	+8 9.2	...	10.6

The magnitudes are based on the assumption that the comet was of magnitude 11.0 on December 17. The current number of the Lick Observatory Bulletin (No. 250) contains another computation of the parabolic elements of this comet undertaken by Messrs. S. Einarsson and S. B. Nicholson, and an ephemeris based on those elements by Miss Julia I. Mackay and Mr. C. D. Shane, of the same institution. The elements are very closely similar to those calculated by Dr. Biesbroeck, and the ephemeris differs only

slightly. According to the last-mentioned computers, it is stated that assuming the brightness of the comet to have been 1.00 on December 29 of last year the comet may become visible to the naked eye.

On the other hand, M. R. Goudey contributes to the *Astronomische Nachrichten* (No. 4717) elliptic elements of the above comet based on observations extending between December 18, 1913, and January 15 of the present year. The position he gives in his ephemeris for March 21 is almost identical with that stated in the foregoing table.

A LARGE REFLECTOR FOR CANADA.—It is very satisfactory to be able to record that Canada will soon be equipped with a fine large reflecting telescope, contracts having been given for its construction. When it is mentioned that Messrs. J. A. Brashear and Co. will be responsible for the optical parts, and Messrs. Warner and Swasey Co. for the mounting, the well-known capabilities of these firms should certainly secure a fine instrument. Prof. J. S. Plaskett is to be congratulated on the successful issue of his endeavour to secure an instrument of large aperture for Canada, and his account of the proposed form of mounting, programme of work, etc., contributed to the current number of the Journal of the Royal Astronomical Society of Canada will be read with interest. The telescope will have a parabolic mirror of 72 in. clear aperture, with a central hole of 10 in., the focal length being 30 ft.; it is to be mounted similarly to the Melbourne reflector. It will be primarily used for spectrographic observations of stellar radial velocities, but it is planned to have the telescope available for the direct photography of nebulae, clusters, etc. One of the principal considerations in the design is to enable work "to be done in the most efficient and convenient way possible with the simplest possible mechanical design." The communication in question describes in detail the simplifications with which it is intended the instrument shall be equipped.

THE SMITHSONIAN ASTROPHYSICAL OBSERVATORY.—The report of the Astrophysical Observatory for 1913, under the direction of the Smithsonian Institution, contains a good account of progress made; in fact, the director, Mr. Abbot, refers to the work of the observatory as "uncommonly successful." We notice that for the solar work at Mount Wilson there has just been erected a Tower telescope, 40 ft. high, for use with the spectroheliometer, for the study of the distribution of radiation over the sun's disc. The report states many results of the year's work. Thus the mean value of the solar constant of radiation at the earth's mean distance from the sun, from about 700 observations made at high and low stations between 1902 and 1912 is 1.932 calories per square centimetre per minute. The fluctuation of the "solar constant" values is attributed to the variability of the sun, and in addition to the periodicity due to sun-spots, there is another "irregular, non-periodic variation, sometimes running its course in a week or ten days, at other times in longer periods and varying over irregular fluctuations of from 2 to 10 per cent. of the total radiation in magnitude." Further, a combination of the effects of sun-spots and volcanic haze is put forward as explaining the principal outstanding irregularities in the temperature of the earth for the last thirty years. Finally, in the Californian expedition, in which sounding balloons were employed, the solar radiation values at very high altitudes indicate that the direct pyroheliometer observations gave results of the same order of magnitude as the solar constant work of 1902-12 by high and low sun observations on homogeneous rays, according to Langley's methods.