

suitable formulæ to be freely available to manufacturers. Another committee has been formed to consider the needs of this country as regards laboratory reagents and the standards of purity necessary for such substances.

PROBABLY the most interesting structural steel work on the new Lötschberg-Simplon Railway is the steel arch bridge over the Bietsch Valley, of which an illustrated description appears in the *Engineer* for December 11. This bridge is remarkable for the fact that it is built on a short-radius curve of only 300 metres, and also on a gradient of 22.2 per 1000. The situation is over a craggy ravine, between two tunnels piercing the spur on either bank. The arch has a span of 95 metres between the centres of the hinges and a rise from this chord of 23.79 metres. Supported partly upon this arch and partly by the masonry approach arches are two trussed girder spans. These girder spans are attached to the back of the central arch by means of pivoted expansion brackets, and this part of the design is of peculiar interest in view of the complexity of the movements arising from change of temperature and vertical and lateral loading. The three structural elements in the bridge are all rectilinear, while the bridge floor and its bracing alone are curved and continuous between the pier abutments.

THE thirty-first annual issue of the "Year-Book of the Scientific and Learned Societies of Great Britain and Ireland" has now been published by Messrs. Charles Griffin and Co., Ltd. This useful reference volume is a record of the work done in science, literature, and art during the session 1913-1914 by numerous societies and Government institutions, and has been compiled from official sources. On the whole it provides a comprehensive survey of the activities of associations with which it is concerned, but we have failed to find any reference to the Wireless Society of London, the Illuminating Engineering Society, and the Historical Association. It is a pity, too, that in a volume published at the end of 1914 the extended reference to the British Association should deal almost wholly with the 1913 meeting at Birmingham. The volume, the price of which is 7s. 6d. net, deserves a place in every reference library.

MESSRS. J. WHELDON AND Co., 38 Great Queen Street, W.C., have just issued a classified list of books and other works on mineralogy, metallurgy and mining, geology and palæontology, and related subjects. The catalogue includes recent purchases and selections from several libraries, and it should be seen by geological bibliophiles and librarians of scientific societies

MESSRS. G. P. PUTNAM'S SONS ask us to say that the price of "The Essence of Astronomy," by Mr. E. W. Price, reviewed in NATURE of November 12 (p. 280), is not 10s. 6d. net as there stated, but 3s. 6d. net.

OUR ASTRONOMICAL COLUMN.

COMET 1913f (DELAVAN).—The following ephemeris is taken from the Ephemeris-Circular of the *Astronomische Nachrichten* (No. 469, 1914), being communicated by J. Fischer-Petersen and Vinter Hansen of the Copenhagen Observatory:—

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		12h. M.T. Berlin.				
		R.A. (true)			Dec. (true)	
		h.	m.	s.	Mag.	
Dec. 17	...	16	20	40	...	5.6
19	...	24	6	...	5 37.4	...
21	...	27	29	...	6 27.7	5.7
23	...	30	47	...	7 17.0	...
25	...	34	2	...	8 5.2	5.8
27	...	37	14	...	8 52.5	...
29	...	40	22	...	9 38.9	5.9
31	...	16	43	27	...	-10 24.3

Two photographs of this comet are reproduced in the current number of the Monthly Notices of the R.A.S. (vol. lxxv., November, 1914). They were taken on September 20 and 26 with the 3½-in. portrait lens and 30-in. reflector of the Royal Observatory, Greenwich.

THE SPANISH SOLAR ECLIPSE EXPEDITION.—The Madrid Observatory dispatched an expedition to Theodosia, in the Crimea, to observe the total eclipse of the sun on August 21. The party included MM. Ascarza, Carrasco, and Tinoco, with one or two voluntary helpers. The weather seems to have been favourable at their station, and the results obtained were satisfactory, and are briefly described in the *Comptes rendus* for November 30 (vol. clix., No. 22, p. 738). The corona is described as of a form analogous to that of minimum sunspots with polar rays a little more pronounced. Photographs of the spectra of the corona and chromosphere were successfully secured, and, in M. Carrasco's case, with special attention to the red, yellow, and green regions. While details regarding the wave-lengths will be published later, M. Carrasco directs attention to a red coronal radiation, the wave-length of which he gives as $\lambda 6373.87 \text{ \AA U}$. He describes the green coronal radiation as being very feeble or absent.

THE RECENT TRANSIT OF MERCURY.—Accounts of the observations of the transit of Mercury in November last are published by numerous observers in several journals. In the Monthly Notices of the Royal Astronomical Society (vol. lxxv., No. 1, November) papers are communicated by the Royal Astronomers of Greenwich and Edinburgh, Mr. R. Jonckheere, Prof. Fowler, and Dr. J. L. E. Dreyer. The different phases seemed to have been well observed at Greenwich, and the Astronomer Royal states that "none of the observers saw the 'black drop,' a halo round Mercury or a bright spot on the planet. The phenomenon appeared just as might have been expected from geometrical considerations." This communication is accompanied by a plate illustrating seven positions of the planet, taken with the photoheliograph just about the times near the beginning of the transit. M. Jonckheere discusses the 368 measures of the diameter of the planet as made at the Royal Observatory, Greenwich, by several observers during the transit. At the Royal Observatory, Edinburgh, no distinctive marking on the planet's disc could be detected nor any halo, and the second internal contact was noted as "quite clean," no ligament of any kind being visible.

Prof. Fowler's observations corroborate the above. An additional observation by him to determine by spectroscopic means whether there was any strengthening of the telluric lines near the limb of the planet led him to conclude that no effect of the kind was seen. Dr. Dreyer's observations at the Armagh Observatory show that while he observed no halo round the planet, he noted the black drop at egress and a bright point or dot on Mercury's disc. In the *Comptes rendus* for November 23 (vol. clix., No. 21) MM. Gonnessiat and Chrétien present two notes on the transit.