

volume, with maps; "Examination Papers in Elementary Engineering," R. M. Milne; "Alcohol and Life: A Manual of Scientific Temperance Teaching for Schools," J. A. Hunter, illustrated; "Essentials of Practical Geography," B. C. Wallis (Practical Modern Geographies); "A Geography of America," T. Alford Smith (Practical Modern Geographies).

### OUR ASTRONOMICAL COLUMN.

MINOR PLANETS.—Mr. H. E. Wood records a number of minor planets on plates taken last year at Johannesburg. They have been identified by M. Louis Fabry (Marseilles Circular, No. 10). The most interesting is 722 Frieda; this planet had not been observed since its discovery in 1911, so its recovery is fortunate. The *Astronomical Journal*, No. 729, contains elements of an unidentified planet discovered at Washington by Mr. G. H. Peters last November. It may be identical with 293 Brasilia, 1906 WF, or 1911 LU. If new, he proposes the name Washingtonia. Prof. Barnard followed the Wolf planet DB until April 4, when its magnitude was 15. It has been so well observed that it ought to be possible to secure its re-observation at the next perihelion in 1922.

THE CEPHEID VARIABLE SU CASSIOPEÆ.—Further investigations of this interesting variable star have been made by W. S. Adams and H. Shapley (*Astrophysical Journal*, vol. xlvii., p. 46). Mr. Shapley had already shown that the variation could not be interpreted as the result of the rotation of a simple ellipsoidal body, and the conclusion that the star is a Cepheid has been verified by the new spectroscopic observations. The range of photographic magnitude, according to Parkhurst, is from 6.52 to 6.99, and the variations of radial velocity,  $-18$  to  $+4$  km., are correspondingly small. A period of 1.9495 days satisfies both series of changes, and the epoch of maximum negative velocity precedes the maximum of light by 0.05 day. The spectral type varies from A<sub>9</sub> at maximum to F<sub>5</sub> at minimum. Taking the visual magnitude as 6.23, as given by Boss, the spectroscopic parallax is identical with that derived by Van Maanen, namely,  $+0.010'' \pm 0.003''$ .

NEW DOUBLE STARS.—Mr. R. G. Aitken's twenty-fourth list, giving details of 100 new double stars, appears as Lick Observatory Bulletin No. 306. This observer's systematic survey of the sky was initiated in 1899, and the present list brings his total published discoveries up to 3000, the region covered being from the pole to declination  $14^\circ$  S., and to declination  $22^\circ$  S. from 13h. to 1h. right ascension. All the stars included are under  $5''$  in distance, and in the present list nearly half are less than  $1''$  apart, while sixteen do not exceed  $0.3''$ . The brightest star included is 41 Ophiuchi, the components of which are rated as magnitudes 4.6 and 7.6, the position angle and distance being  $298^\circ$  and  $0.52''$  respectively.

JOURNAL OF THE CHALDEAN SOCIETY.—We have pleasure in directing attention to a small astronomical magazine which is issued quarterly by the Chaldean Society under the title of *The Chaldean*. The publication has now reached No. 10 of the first volume, and while dealing with astronomy generally, its special appeal appears to be to observers of meteors. The recent issue includes an article on astronomical photography, and several notes on meteors by Mr. Denning and others. A feature of particular interest is a facsimile of a page from the observation book of the late Prof. A. S. Herschel, which furnishes a good example of the method of recording meteors. Communications should be addressed to the editor, Mr. J. Hargreaves, Bennington, Stevenage, Herts.

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### RECENT WORK IN MINERALOGY AND PETROLOGY.

A MINERAL variously labelled johannite and uranopilite in collections has yielded to Messrs. E. S. Larsen and G. V. Brown the composition  $RO.UO_3.SO_3.4H_2O$ , where  $R=Cu,Fe,Na_2$  (the *American Mineralogist*, vol. ii., p. 78, 1917). The new species thus indicated is called gilpinite, from the typical locality Gilpin Co., Colorado; but a Cornish specimen, one of those styled uranopilite, proves to be identical. The authors insist that optical tests under the microscope are characteristic, and that their application shows that more than one-third of the hundred specimens of "secondary uranium minerals" examined from various museums are incorrectly labelled.

Mr. A. E. V. Zealley, in "Notes on Newly Recorded Rhodesian Minerals" (Proc. Rhodesia Sci. Assoc., vol. xvi., p. 17, 1917), includes an account of the stanniferous tantalite of the Victoria tinfield, discovered in 1911, but not hitherto described. Two other Rhodesian occurrences of tantalite are noticed.

Messrs. R. C. Wells and B. S. Butler describe (Journ. Washington Acad. Sci., vol. vii., p. 596, 1917) a mineral sulphide of tungsten, under the name of tungstenite. The composition is probably  $WS_2$ , and the specific gravity is near 7.4. It looks like graphite, and has a hardness of only 2.5. This mineral occurs in some abundance in a vein with galena, pyrite, tetrahedrite, and argentite, in Salt Lake Co., Utah.

The view advanced by Mr. J. B. Scrivenor in 1910-14 as to the age of the detrital tin deposits of the Kinta district, Perak (see NATURE, vol. xciv., p. 348), has now been disputed in a detailed paper by Dr. W. R. Jones (Quart. Journ. Geol. Soc., vol. lxxii., p. 165, 1917). Mr. Scrivenor urged that these bouldery deposits were derived from the surface of Gondwanaland during the Permian ice-age, which is responsible for the Talchir Beds of India. Dr. Jones, however, connects the tin ore with the Mesozoic granite now *in situ* in the district, and he brings forward strong evidence to show that there is only one alluvial tin-bearing series in Kinta, instead of two, superposed on one another, and separated by a long geological interval.

Those acquainted with the work of Mr. W. H. Goodchild on the Insizwa Range in the Cape Province (Inst. of Mining and Metallurgy, Bull. 147, 1916) will welcome the publication of Dr. Du Toit's researches in the area, extending from 1903 to 1912 (Du Toit and Rogers, "The Geology of Part of the Transkei," South Africa Geological Survey, Explanation of Sheet 27, 1917). The geological map, showing a magnificent series of dolerite sills, penetrating the Karroo strata up to the highest Stormberg beds, is now also issued, on a scale of 1:247600. The Insizwa gabbro, with its copper ores bearing nickel and platinum, is included in the north-east of the sheet, and the memoir contains a map showing the whole of the gabbro-norite masses. The three sulphides—chalcocopyrite, pentlandite, and pyrrhotine—have separated from the igneous rock in the order in which they are here named, as a gravitative differentiation-product in the concave floor of a great sill. Forty-five miles of visible contact along the base of this sill await systematic exploration. The occurrence is discussed, in comparison with that at Sudbury, in the recently issued report of the Ontario Nickel Commission.

Prof. R. A. Daly ("Low-temperature Formation of Alkaline Felspars in Limestone," Proc. Nat. Acad. Sci., vol. iii., p. 659, 1917) describes a dolomite from Water-ton Lake, on the Montana and Alberta border, which contains 34.5 per cent. by weight of orthoclase and