We notice that no denomination is given to the weights of seeds in the table on p. 47, though pounds, of course, are intended.

MESSRS. MACMILLAN AND CO. have made arrangements for the issue in New York and London of a "Dictionary of Philosophy and Psychology," under the editorial supervision of Professor Baldwin of Princeton University. All the matter in the Dictionary will be original and signed, and the several departments will be entrusted to men most competent to deal with them.

WRITING with reference to the diagram published in NATURE of February 27 (vol. liii. p. 404), to illustrate the movements of the terrestrial pole determined by Prof. Albrech, Mr. T. W. Kingsmill points out that the irregular variations in the curve are apparently coincident with remarkable seismic disturbances. He therefore suggests that there is a connection between movements of the earth's axis and unusual seismic activity.

WE have received two more of the valuable publications of the Geological Survey of Canada, forming Parts B and M of Annual Report, vol. vii. The first of these is a Report on the Kamloops map-sheet of British Columbia, by Dr. G. M. Dawson. It is accompanied by two maps of the area, one strictly geological, the other glacial and economic, and the Report itself contains a number of reproductions of photographs of the district. The rocks of the area range from Cambrian to Tertiary and later, and are described at length; while topographical, meteorological, and mineralogical observations are also recorded. The whole volume consists of over 400 pages. The second is a Report by Mr. R. Chalmers on the surface geology of parts of New Brunswick, Nova Scotia, and Prince Edward Island. Besides minor matters of local interest, it includes discussions on the origin of the Bay of Fundy depression, the glacial striæ of the district, and the destruction of the forests. Several maps accompany the Report, and a photograph of the famous tidal bore in the Petitcodiac River, Bay of Fundy, deserves special mention.

TRUE it is that at the Royal Victoria Hall, in Waterloo Bridge Road, music and mummery occupy a larger share of attention than lectures on scientific subjects. South London audiences have but a mere *penchant* for the generous new wine of science; they reserve their capacities for the variety entertainments. But though the audiences on Tuesday evenings, when scientific discourses are delivered, are very much smaller than on the evenings when a lighter vein predominates, they listen in a way which shows that they appreciate the fare provided for them. And it is satisfactory to know that most of the lecturers are in the front rank of scientific investigators, for this fact may be taken as a guarantee that sound information is imparted. The list of lecturers and subjects given in the report on the work of the Hall during 1895 is most creditable to the energy of Miss Cons, the Secretary, and to the generous spirit of the men of science who gave their services.

FOLLOWING up the work which resulted in the preparation of the phosphoryl chlorobromides, M. Besson (*Comptes rendus*, May 11), by a similar method, has succeeded in preparing the corresponding thiophosphoryl derivatives. A mixture of hydrobromic acid and thiophosphoryl chloride passed over pumice at 400°–500° C. yields a liquid from which it is possible, by fractional distillation under reduced pressure (60 mm.), to separate both the intermediate chlorobromides. These substances resemble in their general behaviour the corresponding phosphoryl compounds. They undergo partial decomposition when distilled under ordinary atmospheric pressure, and are slowly acted upon by water. The chloromonobromide, ($PSCl_2Br$), has been previously obtained by Michaelis by the action of bromine upon $PSCl_2(OC_2H_5)$, but his product seems to have been impure.

THE additions to the Zoological Society's Gardens during the past week include a Bonnet Monkey (*Macacus sinicus*, ♀) from India, presented by Mr. F. Greswolde-Williams; a Red-fronted Lemur (*Lemur rufifrons*, ♂) from Madagascar, presented by Mr. E. A. Pardoe; a Grison (*Galictis vittata*), a Black Tortoise (*Testudo carbonaria*), a Brazilian Tortoise (*Testudo tabulata*), a Rough Terrapin (*Clemmys punctularia*), two Scorpion Mud Terrapins (*Cinosternon scorpioides*) from South America, presented by Mr. J. J. Quelch; a Lesser Kestrel (*Tinnunculus cenchris*), captured off the coast of Sicily, presented by Mr. J. L. Spaull; a Natal Python (*Python sebæ*, var. *natalensis*), a Ring-hals Snake (*Sepedon hæmachetes*) from South Africa, presented by Mr. W. Champion; a Common Viper (*Vipera berus*), British, presented by Mr. H. L. C. Barret; eight Esquimaux Dogs (*Canis familiaris*), Arctic Regions, deposited; a Pied Crow Shrike (*Strepera graculina*) from Australia, two Whooper Swans (*Cygnus musicus*), European, purchased; two Barbary Wild Sheep (*Ovis tragelaphus*), born in the Gardens.

ERRATUM.—In the letter entitled "Simple Huyghens' Apparatus for the Optical Lantern," in the issue of NATURE for April 9, instead of "a thickness of 1½ inches or more," read "of ½ inch or more."

OUR ASTRONOMICAL COLUMN.

THE SYSTEM OF CASTOR.—A very interesting discovery with regard to this well-known binary star has been made by Dr. Belopolsky (*Bull. Acad. Imp. Sci. St. Petersbourg*, vol. iv. No. 3). In addition to the two luminous bodies, which perform their revolution in a period of about 1000 years, Dr. Belopolsky's observations indicate that the brighter star, α_1 Geminorum, has a dark companion very similar to that of Algol, except that it never produces eclipses. The existence of this dark body was suspected in 1894, and it was fully confirmed by photographs of the spectrum taken at Pulkowa early in the present year, showing periodic changes in the velocity of the star along the line of sight. Thirteen photographs were obtained, and from these the velocities of α_1 Geminorum towards or away from the sun were deduced. Although the available data are insufficient for a complete determination of the orbit, it may be taken to be circular as a first approximation, and a period of revolution of 2·98 days sufficiently accords with the spectroscopic measurements. The proper motion of the system of α_1 is 1·0 geographical mile (=4·6 English miles) per second away from the sun, while the relative orbital velocity is 4·5 geographical miles (20·7 English miles) per second.

Dr. Belopolsky also tabulates the wave-lengths of some of the principal lines in the spectrum of α_1 Geminorum, which somewhat resembles that of Sirius in having broad lines of hydrogen, and many finer lines which are chiefly due to iron. α_2 Geminorum gives a spectrum with less numerous lines.

EFFICIENCY OF PHOTOGRAPHIC TELESCOPES.—Dr. Isaac Roberts has recently conducted an important series of experiments with the view of ascertaining the relative efficiency of a reflector and of portrait lenses for the delineation of celestial objects (*Monthly Notices*, vol. lvi. p. 372). It has often been asserted that portrait lenses have, by reason of their short focal lengths in relation to their apertures, greater photographic power than instruments of other forms; but this does not accord with Dr. Roberts's experience. A portrait lens of Dallmeyer's latest pattern, 3½ inches aperture and 9½ inches focus, and a 5-inch Cooke patent triplet lens of 19·2 inches focus, were attached with their cameras to the 20-inch reflector, and photographs of the same regions were taken simultaneously with the three instruments. The 5-inch lens was stopped down to a ratio of 1 to 4·8, while the ratio of aperture to focus in the case of the reflector was 1 to 4·9. In three exposures on the region of M. 33 Trianguli, the stars were 3½ times more numerous on the reflector photograph than on the photograph taken with the 5-inch lens in an equal angular area, and 7·8 times more numerous than in the case of the 3½-inch lens. At the same time the reflector photograph showed the nebula more extensively, more clearly depicted, at least two stellar magnitudes denser, and with far more structural details than can be seen on the other photographs.