

building in three blocks; the foundations of the first block have already been commenced, and about 110,000*l.* will be spent in the erection. Sir Hugh Bell, Sir Henry Roscoe, and other distinguished men of science have undertaken to advise in connection with the scope of this museum, the organisation of the collection, the policy to be followed in regard to the collection to be placed in the new building, and also as to what should be the relation of the museum to other societies and museums.

THE final report of the Royal Commission on University Education in London has just been issued as a Blue-book (Cd. 6717, price 2*s.*). The following are among the principal conclusions and recommendations:—(1) The Commissioners consider the whole organisation of the University fundamentally defective—(a) because of the present relations between the internal and external sides of the University; (b) because of the existing combination in the University of a large number of institutions differently related to it. (2) They propose that external students should continue to be admitted to the general examinations in the United Kingdom in all degrees except those in medicine and technology. Pupils still at school, however, would not be admitted, and students in constituent colleges or in University departments would not be admitted to these examinations in any faculty in which a special examination was open to them without the leave of the proper University authorities. (3) The University in future would consist of constituent colleges and University departments. The constituent colleges will be institutions either established by the University or existing institutions which are strong enough in one or more faculties to comply with the conditions for incorporation, and which transfer to the University the financial and educational control of their work in one or more of these faculties. (4) The normal portal of entrance to the University would be a school examination, established on the lines recommended by the Consultative Committee, instead of the present matriculation. (5) In order to reconstitute the University on these lines an additional income of 99,000*l.* would be required. We hope to deal further with the report in an early issue.

#### SOCIETIES AND ACADEMIES

##### LONDON.

**Royal Society**, April 10.—Sir Alfred Kempe, vice-president and treasurer, in the chair.—L. Hill and M. Flack: The effect of lability (resilience) of the arterial wall on the blood pressure and pulse curve.—Prof. J. H. Priestley and R. C. Knight: The nature of the toxic action of the electric discharge upon *Bacillus coli communis*. (1) Electric discharge in air is fatal to bacteria exposed to its action. (2) The effect is due to the products of the interaction of the constituents of the air, namely nitric and nitrous acid and ozone. (3) Discharge in air-free hydrogen has no deleterious effect on the organisms, but the presence of small quantities of air allows the formation of a toxic substance, probably hydrogen peroxide, which again exerts a bactericidal action. (4) It, therefore, follows that electric discharges in which the current density does not exceed  $10^{-3}$  amperes per square centimetre do not exert any directly toxic action upon micro-organisms, a result which is contrary to the statements made by some previous investigators.—S. B. Schryver: Some investigations on the phenomena of "clot" formations. Part I. The clotting of milk.—Surg-General Sir D. Bruce, Majors D. Harvey and A. E. Hamerton, and Lady Bruce: (1) Morphology of various strains of the trypanosome causing disease in

Nyasaland. II., The wild game strain. (2) Morphology of various strains of the trypanosome causing disease in man in Nyasaland. III., The wild *Glossina morsitans* strain. (3) Infectivity of *Glossina morsitans* in Nyasaland.

**Linnean Society**, April 3.—Prof. J. Stanley Gardiner, F.R.S., vice-president, in the chair.—Prof. A. Dendy: The calcareous sponges collected in the Indian Ocean on the Percy Sladen expedition. Of more than 400 species of *Calcarea* known, the present collection consisted of thirteen species, several of which were new to science.—Dr. J. D. F. Gilchrist: Larval stages of *Jasus lalandii* (Milne-Edwards).—R. S. Bagnall: The classification of the order Symphyla.

**Royal Astronomical Society**, April 11.—Major Hills, F.R.S., president, in the chair.—Mrs. Evershed: Some types of prominences associated with sun-spots. The paper was illustrated by forty slides of photographs of various forms of prominences situated over sun-spot groups; the photographs were arranged in eleven series, to show the successive changes in individual prominences. Their motions are intermittent, and vary in amount, thus differing from the motions observed in spot penumbrae, which are uniform and constant. The outward moving gas frequently falls back upon the chromosphere, sometimes forming massive banks, and sometimes rising and falling like fountains.—Miss Blagg: A suggested substitute for Bode's law. The law itself and the various hypotheses put forward to supplement it were explained. The author's theory agreed much better than Bode's law with the actual distances of planets and satellites; it strengthened the view that tidal action had always been small, and that satellites had not greatly altered their distances.—Joel Stebbins: The selenium photometer. The principle of the instrument, which was in use at the Illinois Observatory, was founded on the fact that the electrical resistance of selenium varied when exposed to light. Many irregularities were found in its use as a stellar photometer, but these were reduced by keeping it at a low temperature; about  $-20^{\circ}$  C. was found most convenient.—Dr. F. W. Dyson: The distribution in space of the stars of Carrington's circumpolar catalogue.—E. E. Barnard: Observations of the variable star 97, 1910 Cygni, at the Yerkes Observatory. The star, which had a period of nineteen or twenty months, was remarkable for its extreme faintness at minimum, when it was beyond the reach of the 40-in. telescope.—H. C. Plummer: Preliminary discussion of the galactic motions of the bright stars of type I.—A. C. D. Crommelin: Comparison of the moon's coordinates for 1914, according to the new Delaunay tables, with those given in the Nautical Almanac.

##### PARIS.

**Academy of Sciences**, April 7.—M. F. Guyon in the chair.—J. Boussinesq: The application of the formulæ of superficial viscosity to the surface of a spherical liquid drop, falling slowly, with uniform motion in the midst of an indefinite liquid mass in repose and of a density slightly lower than that of the drop.—M. de Forcrand: The dehydration and decomposition of the hydrates of uranyl nitrate. The formation of a monohydrate.—Charles Depéret: Observations on the geological Pliocene and Quaternary history of the gulf and isthmus of Corinth.—J. Guillaume: Observations of the sun made at the Observatory of Lyons during the third quarter of 1912. The results are given in three tables showing the number of spots, the distribution of the spots in latitude, and the distribution of the faculæ in latitude.—Stanislas Belsetsky: The stability of equilibrium in a particular case of a piece



with constant curvature.—Emile **Jouguet**: The propagation of deflagrations and the limits of inflammability.—Henri **Chrétien**: A variant of the method of coincidences. In the comparison of two chronometers a curious stereo-acoustic phenomenon was observed by means of which the coincidences of the beats could be accurately observed.—A. **Tian**: A new mode of construction of quartz-mercury vapour lamps. A description of a simple form of mercury lamp, easily constructed in the laboratory out of a small transparent quartz test-tube.—Maurice **Billy**: A simple method for determining the density of mineral powders. The adsorbed air on the particles of powder is replaced by carbon dioxide by evacuating and admitting carbon dioxide to the flask containing the weighed powder. A dilute solution of an alkali of known density replaces the water in the density determination. Any carbon dioxide clinging to the powder is dissolved by the solution. Comparative measurements of the density of a solid before and after powdering showed that the accuracy was of the order of 1 in 3000, or about ten times that of the usual method.—Louis **Dunoyer**: A remarkable case of optical resonance. A description of a resonance phenomenon observed in sodium vapour.—L. **Gay**: The adiabatic expansion of liquids. An account of an experimental method for determining the expansion produced in liquids by adiabatic expansion from 2 to 1 atmosphere.—G. **Wyrouboff**: Some observations concerning the note of Mlle. Feytis on the magnetism of anhydrous and hydrated salts. The author regards a hydrated and dry salt as possessing quite different constitutions, and regards the measurements of Mlle. Feytis as confirming these views.—M. Emm. **Pozzi-Escot**: A new double sulphate of silver and cerium. The new salt has the composition  $10\text{Ce}(\text{SO}_4)_2 \cdot 6\text{Ag}_2\text{SO}_4$ .—A. **Colani**: The solubility of thorium oxalate. Data are given for the solubilities in hydrochloric and oxalic acids.—Paul **Lebeau** and Marius **Picon**: The action of monosodium acetylene upon the alcoholic iodides. The preparation of true acetylenic hydrocarbons. The sodium derivative of acetylene is prepared by the action of acetylene upon sodammonium in solution in liquid ammonia at  $-50^\circ\text{C}$ . The alkyl iodide is added to this solution and a quantitative yield of the alkylacetylene is obtained. Details of the preparation of allylene and hexine by this method are given.—F. **Bodroux**: Catalytic ester formation in dilute solution; the preparation of ethyl acetate. In presence of a suitable catalyst ethyl acetate is formed from alcohol, and acetic acid in dilute solutions of sulphuric acid.—E. C. **Teodoresco**: The action of high temperatures on dried nucleases of plant origin. The dried nucleases of the three plants studied do not lose all their activity towards sodium nucleate until after thirty minutes' heating to temperatures varying between  $141^\circ\text{C}$ . and  $162^\circ\text{C}$ .—Maurice **Lenoir**: The commencement of vascular differentiation in the plantule of *Veronica*.—Marcel **Dubard** and J. A. **Urbain**: The influence of the albumen on the development of the embryo. The albumen is not indispensable to development, but its influence is favourable, especially during the first days of germination.—L. **Armand**: The kinetic phenomena of the heterotypical prophase in *Lobelia erinus*.—M. **Marage**: The inscription of the respiratory movements by means of the hand.—Edgard **Hérouard**: The relations between the depression and formation of the tentacular pseudoplanula in the Scyphistome.—A. **Quidor**: *Lamarckina caligusa* and the evolution of the Lernæidæ.—F. **Picard**: Parthenogenesis in *Phthorimæa operculella*.—Lucien **Cavel**: Sulphur and its variations in the biological treatment of sewage. The determination of combined sulphur in sewage which has passed through various stages of purification throws some light on the

proportion of unattacked albumen. The combined sulphur in a sewage effluent should be very small, if the purification has been properly carried out.—M. **Mazé**: The alcoholic fermentation of lactic acid. The organism employed caused the destruction of nearly all the lactic acid present; alcohol and formic acid are the primary products, but the alcohol is acted on and acetic acid formed.—Em. **Bourquelot** and M. **Bridel**: The synthesis of galactosides of alcohols by means of emulsin;  $\beta$ -methylgalactoside and  $\beta$ -allylgalactoside. A description of the preparation and properties of these two galactosides, the latter being new.—Henri **Dominici**, Mme. Simone **Laborde**, and Albert **Laborde**: Study on the injection of radium salts. Radium salts are eliminated from the system with extreme slowness.—Jacques **Deprat**: The succession of the Permian and Carboniferous strata in Indo-China. — Edmond **Bordage**: Researches relating to the extension of the nummulitic sea on the right bank of the Gironde.—A. **Leclère**: The genesis of sedimentary iron minerals.

## BOOKS RECEIVED.

Anthropological Report on the Ibo-speaking Peoples of Nigeria. By N. W. Thomas. Part i., Law and Custom of the Ibo of the Awka Neighbourhood, S. Nigeria. Pp. 161+xxx plates. Part ii., English-Ibo and Ibo-English Dictionary. Pp. vii+391. Part iii., Proverbs, Narratives, Vocabularies, and Grammar. Pp. vi+199. (London: Harrison and Sons.)

The Distinction between Mind and its Objects. By Dr. B. Bosanquet. Pp. 73. (Manchester University Press.) 1s. net.

Memoirs of the Geological Survey, Scotland. The Geology of Upper Strathspey, Gaick, and the Forest of Atholl (Explanation of Sheet 64). By G. Barrow, L. W. Hinxman, and E. H. C. Craig. With contributions by H. Kynaston. Pp. vi+116+iv plates. (London: H.M.S.O.; E. Stanford, Ltd.) 2s.; map, 2s. 6d.

Memoirs of the Geological Survey, England and Wales. (Explanation of Sheet 349.) The Geology of the Country around Ivybridge and Modbury. By W. A. G. Ussher. With a chapter on Altered Rocks by G. Barrow. Pp. vi+137+vi plates. (London: H.M.S.O.; E. Stanford, Ltd.) 3s.; map, 1s. 6d.

Tropical Diseases Research Fund. Report of the Advisory Committee for the Tropical Diseases Research Fund for the Year 1912. Pp. 198. (H.M.S.O.; Wyman and Sons, Ltd.)

Verhandlungen der K.K. Geologischen Reichsanstalt. Jahrgang 1912. No. 1 bis 18. (Vienna: R. Lechner.)

Neue Denkschriften der Schweizerischen Naturforschenden Gesellschaft. Band xlvii. Pp. v+309+plates. (Zurich: Zürcher and Furrer.)

Forty-fourth Annual Report of the American Museum of Natural History for the Year 1912. Pp. 208+plates. (New York.)

"Red Books" of the British Fire Prevention Committee. No. 173, Fire Tests with Doors. Reinforced-Concrete Doors. Pp. 28. (London: The British Fire Prevention Committee, 8 Waterloo Place.) 3s. 6d.

Commercial Gardening. Edited by J. Weathers. In 4 vols. Vol. i., pp. xii+239. Vol. ii., pp. xii+235; vol. iii., pp. xii+240; vol. iv., pp. xii+244. (London: The Gresham Publishing Company.) Four vols., 36s. net.

Allen's Commercial Organic Analysis. Edited by W. A. Davis and S. S. Sadtler. Vol. iii. Fourth edition. By the Editors, E. F. Armstrong, G. C. Jones, A. E. Taylor, G. Barger, and others. Pp. xi+563. (London: J. and A. Churchill.) 21s. net.

Mitteilungen der Naturforschenden Gesellschaft in