

public in this method of popular instruction, which, the Board indulge the hope, will long continue. A large portion of the time of the Committee on Publications has been industriously devoted to the improvement of the Journal, and its high reputation, not only throughout our own country, but also in Europe, should in the opinion of the Board, induce the members of the Institute, and the public generally, more extensively to encourage and patronize it. . . ." Referring to the exhibition arranged for October 1835, the Board said: "To awaken and create a laudable spirit of emulation and improvement, has always been the principal object of the exhibition of articles of domestic manufacture, and the Board rely with great confidence upon the support and co-operation of the mechanics and manufacturers of Pennsylvania, and of the United States, to render the exhibition of this year as interesting, attractive, and useful as those of preceding years."

The German Universities

On April 18, 1835, *The Times* stated that "the number of these institutions is 19, 2 only of which, those of Berlin and Bonn, were founded in the present century; there were 3 established in the 14th century, Heidelberg, Prague and Vienna; 6 in the next century, 2 in that which succeeded, and 3 each in the 17th and 18th centuries. The earliest founded was of the Protestant religion, the last for both Protestants and Catholics. Of the whole number there are 11 Protestant, 5 Catholic and three mixed. The greatest number of professors is at Vienna, where there are 79; the least at Erlangen and Kiel, each having 29. The greatest attendance of students is at Vienna and Berlin—nearly 2,000 each; the least at Rostock, 110; the number of professors at which are 34, very nearly one master to 3 students; and at Kiel, where there are 29 professors, and only 130 students. The universities next best attended by students to those named as having the greatest number are Prague, Leipsic, Breslau and Heidelberg, each of which has more than 1,000 students."

Societies and Academies

PARIS

Academy of Sciences, February 25 (*C.R.*, **200**, 701–792). LOUIS LUMIÈRE: Coloured screens for stereoscopic projections. CHARLES CAMICHEL and MAX TEISSIÉ-SOLIER: The influence of a perturbation of an immersed body, under the Poiseuille condition. PAUL PASCAL and MARCEL PATRY: Introduction to the study of the telluric acids. Description of the effects on dehydration at increasing temperatures of orthotelluric acid. ALEXANDRE MINIATOFF: A property of transformations in space of two complex variables. GEORGES VALIRON: The number of transcendental singularities of the inverse functions of a class of algebroids. PIERRE DIVE: Coronas with constant logarithmic potential and integral relations characteristic of the ellipse. BORIS FUCHS: Limitations for the variation of an angle in the case of a pseudoconformal transformation in space of two complex variables. PETER THULLEN: The second problem of Cousin. LOUIS FEYLER: The course of the Tafassasset valley to the north of the Grand Erg of the Ténéré and the probability of its prolongation, to the south, up to Tehad. J. TILHO: Remarks on the preceding communication. PAUL CHAMBADAL: The

refrigeration of water by fractional evaporation. RENÉ PLANTOL: Currents of positive ions produced in a high vacuum. NY TSI-ZE and TSIEN LING-CHAO: The laws of the evolution of electricity by torsion in quartz. Two formulæ have been suggested for the quantity of electricity evolved by torsion in quartz, one by the authors and another by E. P. Tawil. For certain dimensions of hollow cylinders either formula represents the experimental facts fairly well, but with a wider range of ratio of internal and external diameters, the authors' formula appears preferable. IGNACE ZLOTOWSKI: The passage of the current at potentials below the decomposition potential of electrolytes. EMILE THELLIER: An induction apparatus for the measurement of small magnetic moments. The apparatus described is designed to eliminate the errors due to the instability of the zero, to variations in the external magnetic field and to thermo-electric effects in the circuit. It is sufficiently sensitive to measure the magnetisation of rocks and baked clays. BERNARD LYOT: A green monochromatic filter. Combinations of neodymium glass, or a solution of neodymium nitrate, with Schott VG 3 glass. One combination transmits a band at 82 Å. PIERRE AUGER: The absorption of the cosmic radiation. A discussion of the published work on this subject. The hypothesis of a single type of primary cosmic rays does not give an explanation of the whole of the experimental facts. JEAN GRÉVY: The viscosity of very dilute solutions of nitrocellulose in ether alcohol mixture. According to Staudinger, the specific viscosity of a colloidal solution is independent of the solvent. The specific viscosities of very dilute solutions of nitrocellulose in mixtures of ether and alcohol are given, the proportion of alcohol varying from 18 to 90 per cent. Between 20 and 90 per cent of alcohol, the specific viscosity is practically constant: with lower proportions of alcohol, the specific viscosity is lower. JAMES BASSET and MAURICE DODÉ: The direct synthesis of nitrates at ultra-pressures. The amounts of nitrate obtained by heating baryta, baryta plus potash and lime with mixtures of nitrogen and oxygen at pressures of 3600 kgm. are given for temperatures ranging from 500° C. to 900° C. RENÉ PERROTTE: The synthesis of ricinic acid (12-ketostearic acid). MARCEL GODCHOT, MAX MOUSSERON and ROBERT GRANGER: The dehalogenation of the cyclanic chlorhydrins with shortening of the ring. MAURICE BADOCHÉ: Researches on the dissociable organic oxides. The photo-oxidation of sodium 1, 1', 3', triphenylrubene carboxylate. GEORGES RICHARD: Contribution to the study of the α -chloroketones. ANTOINE WILLEMART: Contribution to the study of the preparation of coloured hydrocarbons of the rubene type. ANDRÉ WAHL and MARC RINGEISSEN: 2, 2'.Dihydroxy-1, 1'.dinaphthyl sulphide. GEORGES DUPONT and WITOLD ZACHAREWICZ: The synthesis of nopinene and 1, 5-pinadiene starting with pinene. The oxidation of pinene by selenium dioxide yields the myrtenol already described, nopinene and 1, 5-pinadiene. CAMILLE LEFÈVRE and CHARLES DESGREZ: Contribution to the study of the aromatic sulphides. The phenol mono- and di-sulphides previously described, as well as their complex mercury compounds, give well-defined stable salts. J. JUNG and M. ROQUES: The petrography of the crystallophyllian strata of the Bas-Limousin. E. CHAPUT: The Eocene of the plateau of Galatie (Central Anatolia). P. LEJAY: Study of the diurnal variation of atmospherics at Shanghai. Three years observations

are summarised in monthly curves. **PIERRE DANGEARD**: The structure of some quiescent nuclei. **ALBERT PITOT**: The morphology of the seed of the Leguminosae in its relations with systematics. **EMILE SAILLARD** and **ROGER SAUNIER**: The determination of the ash of sugar beets by measuring the electrical conductivity. **P. PORTIER** and **Mlle. A. RAFFY**: The action of water with low surface tension on the plumage of aquatic birds. **ETIENNE RABAUD** and **Mlle. MARIE LOUISE VERRIER**: The swim bladder and the pneumatic canal. Reply to criticisms of J. Meierhans. **EMIL CIONGA**: The presence of α -pyrrol-methyl ketone in stabilised officinal valerian. This ketone is regarded as one of the active principles of valerian. **EMILE BRUMPT**: Paludism in birds. *Plasmodium gallinaceum* of the domestic fowl. **Mlle. NINE CHOUCROUN** and **MAURICE PELTIER**: The ultra-virus of murine leprosy. **G. MOURIQUAND**, **J. ROLLET** and **M. COURRIÈRES**: The ultra-violet test for A avitaminosis. **ETIENNE SERGENT**: The action of subcutaneous injections of water against fatal doses of snake poison. In experiments with mice, the specific serum saved 12 out of 30, a serum active against other snakes saved 10 out of 30, whilst physiological water saved 5 out of 30. **ALEXANDRE BESREDKA** and **LUDWIK GROSS**: Cuti-vaccination of mice against sarcoma.

AMSTERDAM

Royal Academy of Sciences (*Proc.*, 38, No. 2). **ERNST COHEN** and **H. L. BREDÉE**: The velocity of oxidation of tin. A gas-dilatometric study showed that tin oxidises in dry air at 18° C. with a measurable velocity. **E. D. WIERSMA**: Influence of the similarity and dissimilarity of mental qualities of the parents on their children. (3) The children of happily and unhappily married parents were examined with regard to differences in temperament, intellect and tendencies. **J. FUNKE** and **C. F. E. SIMONS**: The β -bands of boron monoxide. An analysis of the $B^2\Sigma \rightarrow X^2\Sigma$ bands of BO. **P. J. BOUMA**: Outlines of a general theory of the colour metric. (2) Conclusion of a generalisation of Schrödinger's colour metric to allow for the part of the 'rods' of the retina in colour vision. **F. ZERNIKE** and **H. C. BRINKMAN**: Hyperspherical functions and the polynomials orthogonal in spherical regions. **M. PINL**: Quasi-metric on totally isotropic surfaces. (3). **A. JEANNET**: On two irregular echinoderms from the lower chalk of Ibiza (Balearic Is.). **M. G. RUTTEN**: *Orbitocyclina*, Vaughan, a synonym of *Lepidorbitoides Silvestri*. The genus *Lepidorbitoides* is identical with *Orbitocyclina* and the latter name should disappear. **G. H. R. VON KOENIGSWALD**: The fossil mammalian fauna of Java. Important conclusions regarding the original connexions of Java with the continent of Asia, the time and order of their severance are drawn. **W. J. PRUD'HOMME VAN REINE**: Plasmolysis and deplasmolysis. The variation of plasmolysis and deplasmolysis of epidermal cells from *Allium cepa* in saccharose solutions has been investigated as a function of the temperature and concentration. **H. J. VONK**: Solution of fat and fatty acid by the gastric juice of *Potamobius leptodactylus*. The gastric juice is able to bring into solution particles of milk fat and oleic acid suspended in water. This result is discussed in connexion with the digestion of fats and fatty acids by invertebrates. **F. E. KREDEL** and **W. J. ROBERTS**: Supra-vital staining of cartilage. A satisfactory method is described for differentiating living and dead cartilage cells with neutral-red as a supra-vital stain.

Forthcoming Events

[Meetings marked with an asterisk are open to the public.]

Sunday, April 14

BRITISH MUSEUM (NATURAL HISTORY), at 3 and 4.30.—Capt. Guy Dollman: (1) "Egg Laying and Pouched Mammals". (2) "African Antelopes".*

Monday, April 15

BRITISH MUSEUM (NATURAL HISTORY), at 11.30.—F. C. Fraser: "Stranded Whales on the British Coast".*

ROYAL GEOGRAPHICAL SOCIETY, at 8.30.—V. E. Fuchs: "The Lake Rudolf Rift Valley Expedition".

Wednesday, April 17

ROYAL MICROSCOPICAL SOCIETY, at 5.30.—Dr. B. H. Knight: "Modern Uses of the Petrological Microscope in Road and Building Problems".

Official Publications Received

GREAT BRITAIN AND IRELAND

Navy (Health). Statistical Report of the Health of the Navy for the Year 1933. Pp. 152. (London: H.M. Stationery Office.) 2s. 6d. net.

Wool Industries Research Association. Report of the Council, 1934. Pp. 39. (Leeds: Wool Industries Research Association.)

Researches published from the Wards and Laboratories of the London Hospital during 1934. Pp. iv+39 papers. (London: H. K. Lewis and Co., Ltd.) 7s. 6d. net.

Report of the Rugby School Natural History Society for the Year 1934. (Sixty-eighth Issue.) Pp. 56. (Rugby: George Over, Ltd.)

Dove Marine Laboratory, Cullercoats, Northumberland. Report for the Year ending July 31st, 1934. Pp. 65+7 plates. (Newcastle-on-Tyne: Armstrong College.) 5s.

City and County of Bristol: Bristol Museum and Art Gallery. Report of the Museum and Art Gallery Committee for the Year ending 31st December 1934. Pp. 28+4 plates. (Bristol.)

OTHER COUNTRIES

Technical Books of 1934. Compiled by William W. Shirley. (Twenty-seventh Issue.) Pp. 28. (Brooklyn, N.Y.: Pratt Institute Free Library.)

Mitteilungen der Naturforschenden Gesellschaft Bern aus dem Jahre 1934. Pp. liv+219+7 plates. (Bern: Paul Haupt.)

U.S. Department of Agriculture. Technical Bulletin No. 431: A Revisional Study of the Genus *Scolytus* Geoffroy (*Eccoptyogaster* Herbst) in North America. By W. M. Blackman. Pp. 31. 5 cents. Technical Bulletin No. 460: Studies of *Ezeristes roborator* (Fab.), a Parasite of the European Corn Borer, in the Lake Erie Area. By W. A. Baker and L. G. Jones. Pp. 27. 5 cents. (Washington, D.C.: Government Printing Office.)

List and Prices of Publications issued by the Carnegie Museum. Pp. 34. Annals of the Carnegie Museum. Vol. 23, 1934. (Serial No. 162.) Pp. xii+432+50 plates. 3.50 dollars. (Pittsburg, Pa.: Carnegie Museum.)

Science Reports of the Tokyo Bunrika Daigaku, Section B. No. 28: Preliminary Note on the Pearl Organs in some Japanese Cyprinoid Fishes. By Yaichirō Okada. Pp. 29-36+plates 3-5. 25 sen. No. 29: Species of the Genus *Pinnixa* (Pinnotherid Crab) found in the Far East. By Tūne Sakai. Pp. 37-43. 15 sen. No. 30: Note sur un nouveau trématode *Cephalogonimus japonicus*, parasite intestinal de la tortue comestible *Amaloda japonica*. Par Tōji Ogata. Pp. 45-53. 15 sen. No. 31: Beiträge zur Physiologie des Austerherzens, 5: Über den Bau des Herzens unter besonderer Berücksichtigung seiner physiologischen Reaktionen. Von Shun-ichi Takatsuki. Pp. 55-62. 15 sen. (Tokyo: Maruzen Co., Ltd.)

Legislative Assembly: New South Wales. Report (together with Appendices) of the Minister of Public Instruction for the Year 1933. Pp. 44. (Sydney: Government Printer.) 3s.

The Oil Palm in Malaya. By B. Bunting, C. D. V. Georgi and J. N. Milsum. (Malayan Planting Manual, No. 1.) Pp. xiii+293+36 plates. (Kuala Lumpur: Department of Agriculture.) 2 dollars.

Forest Bulletin No. 88: Seasonal Progress of Height Growth in Trees. By H. G. Champion. Pp. iii+14+5 plates. (Delhi: Manager of Publications.) 14 annas: 1s. 6d.

Transactions of the Mining and Geological Institute of India. Vol. 29, Part 4: The Mineral Resources of Rajputana. By Dr. A. M. Heron. Pp. 289-408+xv+plates 8-11. (Calcutta: Mining and Geological Institute of India.) Members and Associates, 2.8 rupees; non-Members, 4 rupees.

Editorial and Publishing Offices :
MACMILLAN & CO., LTD.
ST. MARTIN'S STREET, LONDON, W.C.2
Telephone Number : WHITEHALL 8831
Telegraphic Address : PHUSIS, LESQUARE, LONDON