

seen in thousands running over the covered surface. The neglect of the authorities was a matter of regret, as there could be no doubt that entomological science would cure the evil.

Giraffes at the Zoological Gardens, London

A CORRESPONDENT writing to *The Times* said that the Zoological Society, "which is now extended to about 3000 members held their monthly meeting for the first time on Thursday last [Aug. 4, 1836] in the room which has been fitted up for that purpose, as also for the scientific meetings which are held every fortnight, at the new museum in Leicester-square, the collection of preserved specimens having been removed from Bruton-street". In the report of the council read at the meeting it was stated that M. Thibaut, who had secured the giraffes for the Society, had now left England. The total cost and expenses connected with the four giraffes had been about £2,340. A building for their accommodation would be ready by October, and it was proposed to heat this by air which had passed through pipes surrounded by hot water, a plan suggested by Mr. Sylvester.

Terrestrial Magnetism in Chile

In its columns of Miscellanea, the *Athenæum* of August 6, 1836, said: "M. Gay, residing in Chile, has communicated to the French Academy of Sciences that at the time of the great earthquake in that country in February 1835, he observed great variations in the diurnal movements of the needle; but in the lesser shocks the variations were feeble. His observations amount to more than two thousand, all of which have proved to him, that magnetic phenomena are much more complete in that part of the world than in Europe; for instead of two daily movements he obtained three: one in the morning in the East, another in the middle of the day in the West, and a third in the evening to the East again. This triple movement he considers as permanent, and suggests the great chain of the Cordilleras as one of the influential causes."

Education of French Pharmacists

In the *Records of General Science* of August 1836 is a note on the French School of Pharmacy. The object of this School, it said, is to teach all the sciences connected with pharmacy, and to receive such apothecaries as in four trials prove they possess the requisite knowledge for exercising this profession. Every candidate must produce certificates of his having studied for eight years—of his having attained his twenty-fifth year, and must place in the hands of the treasurer the sum of 1,300 francs. The School consists of a director, a joint-director, ten professors, of which four are joint-professors, and a treasurer. The necessary examinations are two upon theory, one of which is upon the principles of the art, the other upon the botany and natural history of simple drugs, and a third and fourth on the practice of the art which last for four days and consist of at least ten chemical or pharmaceutical operations, which the candidate must perform himself, describing the process, materials and results. The existence of this establishment thus enables every apothecary in France to be a chemist; while in England, whoever heard of an apothecary being a chemist or of doing anything for the improvement of pharmacy?

Societies and Academies

Paris

Academy of Sciences, June 22 (*C.R.*, 202, 2021–2108).

ERNEST ESCLANGON: Observations of the eclipse of the sun of June 19, 1936. Observations of Nova Cephei and Peltier's comet. The partial eclipse in France was observed under excellent conditions at Paris, Meudon, Besançon and Bourges.

VITO VOLTERRA: The canonical equations of biological fluctuations.

W. DOEBLIN and PAUL LÉVY: The sums of contingent independent variables with lower restricted dispersions.

B. HOSTINSKY: Movements depending on chance.

OCTAV ONICESCU and G. MIHOC: Statistical chains.

CHARLES EHRESMANN: The notion of complete space in differential geometry.

DAVID WOLKOWITSCH: A family of surfaces of the fourth order.

VICTOR LALAN: Two groups of transformations defined by geodesy.

ARMAND RAUCH: Integral algebroids.

HENRI PONCIN: The search for the conditions of stability of a limiting surface of cavitation.

LÉOPOLD ESCANDE and GEORGES SABATHE: Experiments on the piers of bridges or of mobile dams with aerodynamic profile.

CHARLES BERTAUD: The star stream of Scorpio-Centaurus.

ROGER MERIGOUX: The movement of contaminated liquid surfaces.

PIERRE JOLIVET: A cause of the small power of electrostatic machines and a means of remedying this. The yield is increased by enclosing the electrostatic machine in a vessel containing air under pressure.

ALEXANDRE MARCEL MONNIER and JOSEPH BAZIN: A continuous voltage amplifier.

PIERRE GIRARD and PAUL ABADIE: Molecular interactions and chemical affinity.

LADISLAS GOLDSTEIN: Collisions of the second kind and electronic affinity.

ROBERT FORRER: Electrons, carriers in supra-conduction.

LEON CAPDECOMME: The substitution of surfaces in comparisons of reflective powers by means of the microscope. Discussions of the magnitude of the errors and precautions to be taken for reducing them.

LEWI HERMAN and MME. RENEE HERMAN-MONTAGNE: The absorption coefficients of the bands 4774, 5770 and 6290 Å. of oxygen. As found by Janssen, the absorption varies proportionally to the square of the pressure. A table is given for calculating the optical densities of atmospheric oxygen for different zenithal distances, neglecting the influence of temperature.

MAURICE ROULLEAU: The spectral transmission of developed photographic emulsions.

Mlle. YVETTE CAUCHOIS: Observation and measurement of the $L\alpha$ satellites for the elements 72, 73, 75, 83, 90 and 92. The presence of satellites has been definitely proved and this suggests the necessity of modifying or completing certain recent theoretical conceptions.

AURELIO MARQUES DA SILVA: The materialization of the energy of the β -rays of radium C.

ALBERT PORTEVIN and PAUL BASTIEN: The mechanical study of the malleability of various types of light and ultra-light alloys. A study of the best conditions for hot working of aluminium and its alloys with copper and magnesium.

ERNEST TOPORESCU: The transformation of urea into ammonium carbonate. Some ammonia is produced by dialysing a solution of urea containing sodium chloride.

RENÉ PARIS and P. MONDAIN MONVAL: The crystallization of zinc borate. A contribution to the study of the conditions of the devitrification of glass.

Mlle. SUZANNE VEIL: The Liesegang periodicity and the concentration of the reagent drop.

RAYMOND ZOUCKERMANN and RENE FREYMAN: The high-frequency absorption of various alcohols. For a given wave-length, going up a homologous series, the conductivity rapidly increases, tending to become constant starting with the term C_5 . This fact does not follow from Debye's theory, nor from the experiments of Malsch.

GUY GIRE and FERNAND RIVENQ: The hydrolysis of solutions of pentavalent vanadium.

ETIENNE CANALS, MAX MOUSSERON, LOUIS SOUCHE and PIERRE PEYROT: The Raman spectra of some substituted epoxy-cyclohexanes.

ANDRÉ DUPIRE: Contribution to the study of the borates of the polyalcohols. Pure boric esters can be obtained by azeotropic distillation with toluene.

MARCEL PATRY: Esters of polymetatelluric acid.

PIERRE LEGOUX: The relations between the granitogneiss and the schists and quartzites in western Africa.

MARCEL GAUTIER: The tectonic of the Nemours region.

MARCEL MASCRÉ: The action of acrolein on the structure of the plant cell.

ROBERT QUETEL: The variations in the proportion of nitrogen in the lily-of-the-valley during forcing.

EMILE MIÈGE: Experimental cultures of the potato in Morocco in 1935 in the mountains and on the plain. Whatever the origin and mode of preservation of the tubers sown, the yields are always greater in the mountains.

ROGER HEIM: The relationship between *Lactarius* and certain Gasteromycetes.

PIERRE DRACH: The cycle traversed between two moults and the principal stages in *Cancer pagurus*.

GABRIEL GUIGNON: The study of the blood circulation of the wings in Coleoptera and Orthoptera by means of nicotine.

RAOUL MICHEL MAY and Mlle. ALICE FRANK: The replacement of an anterior foot by a grafted bulb, in the embryo of *Discoglossus*, and its relations with the law of bilateral symmetry of the neurones.

Amsterdam

Royal Academy (*Proc.*, 39, No. 5, 1936).

L. S. ORNSTEIN, C. JANSSEN, D. T. J. TER HORST, C. KRJGSMAN and G. H. FREDERIK: Investigation of transformer oil. Physical studies of ageing.

W. H. KEESOM and P. H. VAN LAER: Measurements of the latent heat of tin in passing from the supraconductive to the non-supraconductive state.

W. H. KEESOM and A. BIJL: Comparison of platinum resistance thermometers with the helium thermometer from -190°C . to -258°C .

R. WEITZENBÖCK: The theory of semi-invariants.

J. G. VAN DER CORPUT: (1) Distribution functions (8). (2) On some Vinogradoff methods (3).

E. COHEN and A. K. W. A. VAN LIESHOUT: An electrical pressure dilatometer. Apparatus for the study of polymorphic transformations at pressures up to 200 atm.

A. H. BLAAUW, IDA LUYTEN and ANNIE M. HARTSEMA: Accelerated flowering of Dutch irises (1).

J. J. VAN LAAR: Variation of some thermal and calorimetric quantities along the two melting curves of helium.

A. G. BOER, E. H. REERINK, A. VAN WIJK and J. VAN NIEKERK: A naturally occurring chicken provitamin D. The isolation and chemical nature of a provitamin D from cholesterol.

K. MAHLER: An analogue to a theorem of Schneider.

H. FREUDENTHAL: Partially ordered moduli.

J. BEINTEMA: Crystal structure of barium antimonate. X-ray and crystallographic examination of $\text{Ba}\{\text{Sb}(\text{OH})_6\}_2 \cdot 2\text{H}_2\text{O}$.

D. TAPPENBECK: Tertiary Foraminiferan rocks of Sipoera (Mentawai Islands).

W. VAN TONGEREN: Mineralogical and chemical composition of the syenite-granite from Boekit Batee near Palembang, Sumatra, Dutch East Indies.

H. A. BARKER: Fermentation of some diabolic C_4 acids by *Aerobacter aerogenes*. The process involves an initial oxidation-reduction between two molecules of the substrate and a subsequent decomposition of the oxidized molecule.

B. VAN DER EYKEN: Dentition and teeth development in the irisforelle (*Salmo irideus*) (5). Palate and pharynx.

D. WIERSMA: Imagination and attention during childhood.

A. GEESINK, H. DE JONG and F. J. NIEUWENHUYZEN: Experimental catatonia produced by auto-intoxication. (2) Experimental catatonia after ligation of the arteria hepatica propria.

H. A. MEYLING: The glomus caroticum and the sinus caroticus of the horse.

Cape Town

Royal Society, May 20.

Mrs. M. R. LEVYNS: Notes on the genus *Stoebe*. *Stoebe* falls into two well-marked sections based on distinct types of floral structure. One type is widespread in Africa and extends to Madagascar and Reunion. Distribution of species of this type is predominantly discontinuous. The other type (comprising most of the species) is almost confined to the south-west Cape and the species have, with few exceptions, a restricted and continuous distributional range. The distribution supports the view that the south-western flora at one time occupied a much larger area than it does to-day.

J. L. B. SMITH: Fishes new to South Africa.

Vienna

Academy of Sciences, May 7.

LEOPOLD SCHMID, SIEGMUND MARGULIES and SIDONIE LENZER: Chemical investigation of amber.

LEOPOLD SCHMID and HUGO KORPERTH: (1) The colouring matter of the poppy (*Papaver rhoeas*, L.). (2) Examination of extracts of petals. The chemical nature of the colouring matter of ten flowers is given.

GEORG KOLLER and HERMANN HAMBURG: Rhodocladonic acid.

PHILIPP GROSS and HANS SUESS: Thermal decomposition of dioxane.

H. DOSTAL and R. RAFF: The mechanism of thermal polycondensation reactions.

B. ORMONT and B. A. PETROW: Thermal decomposition of simple and complex cyanides with formation of alkali metals, with special reference to potassium.

W. J. MÜLLER, H. FREISSLER and E. PLETTINGER: Anodic behaviour of gold-copper alloys in 5*N* hydrochloric acid and *N* sulphuric acid. The relative quantities of gold and copper dissolved out of alloys of various compositions are measured when these are made the anode in acid solutions.

W. J. MÜLLER and E. LÖW: (1) The influence of the purity of aluminium upon corrosion in hydrochloric acid of varying concentration. (2) Theory of corrosion phenomena. Part 4. Application of the theory of local elements to the problem of corrosion.

ALFRED LICHTENFELD and KARL SCHWARZ: The theory of Kikuchi lines studied by means of models. Light is transmitted through a 3-dimensional grating having a spacing of about 1000 λ and bright lines are formed on a screen behind the grating.

F. SEIDL: (1) Electrical conductivity of solidified melts of Rochelle salt. Conduction in Rochelle salt is found to be ionic in nature. (2) Electrical behaviour of single crystals of Rochelle salt crystallized from saturated solutions in an electric field.

HERBERT HABERLANDT: Radioactive haloes in fluorite from Striegau.

MAX TOPERCZER: Contribution of the data of the magnetic survey of Austria in 1930.0 to the study of the earth's magnetic field. (2) Improvement of some values of the vertical intensity.

WILHELM SCHMIDT: Vertical motion in clouds studied by cinematograph pictures. Vertical motion of any part of a cloud is detected by placing two successive photographs of the cloud in a stereo-comparator.

NORBERT LICHTENECKER: Glacier research in the Sonnblick in 1930-34.

F. STEINHAUSER: Probability of precipitation in the eastern Alps.

H. TOLLNER: Glacier winds on the Pasterze glacier.

ERHARD BRAUMÜLLER: The north boundary of the Tauern between the Fusch and Rauris valleys.

SIEGMUND PREY: The possibility of the emergence of the Dent Blanche nappe in the Sonnblick.

GABRIELE ROGENHOFER: Action of growth-promoting substances on bark formation in woody shoots.

HELMUTH ZAPFE: The possibility of aragonite surviving the fossilization process investigated by means of the Feigl-Leitmeier reagent.

EMIL ABEL and A. BILDERMANN: Kinetics of the oxidation of formic acid by iodic acid.

WALTER KOSMATH, VOLKMAR HARTMAIR and OTTO GERKE: Contribution of plant physiology towards the assessment of the biological or balneological importance of the radioactivity of the treatment at Bad-Gastein.

May 14.

FRANZ RINAGL: The importance of the upper elastic limit. By making use of the bending of bars of various cross-sections, trustworthy values of the upper elastic limit are obtainable.

Official Publications Received

Great Britain and Ireland

Department of Statistics, University of London: University College. Statistical Research Memoirs. Vol. 1. Edited by J. Neyman and E. S. Pearson. Pp. v+161. (London: University College.) 15s. net.

The International Institute for Psychical Research, Ltd. Bulletin 3: Enquiry into the Cloud-Chamber Method of Studying the "Intra-Atomic Quantity". By B. J. Hopper. Pp. 16+2 plates. (London: International Institute for Psychical Research, Ltd.) 2s.

Royal Botanic Gardens, Kew. Bulletin of Miscellaneous Information, 1935. Pp. iv+669+11 plates. (London: H. M. Stationery Office.) 15s. net.

The National Trust for Places of Historic Interest or Natural Beauty. Report 1935-1936. Pp. ix+126. Freehold and Leasehold Properties of the Trust and Protected Properties. Pp. xv+34+24+8 plates. (London: The National Trust.) [107]

Other Countries

Meddelelser om Grønland. Band 78, Nr. 3: The Godthaab Expedition 1928—The Hydrographic Work and Material. By Eigil Riis-Carstensen. Pp. 101+12 plates. 6.00 kr. Band 80, Nr. 1: The Godthaab Expedition 1928—Crustacea Decapoda. By K. Stephenson. Pp. 94. 4.50 kr. Band 80, Nr. 2: The Godthaab Expedition 1928—Crustacea Varia. By K. Stephenson. Pp. 38. 1.75 kr. Band 93, Nr. 5: Fossil Plants from Kingitok and Kaglunguak, West Greenland. By A. C. Seward and Verona M. Conway. Pp. 41+5 plates. 2.50 kr. Band 93, Nr. 7: Der Grönländische Moschusochse, *Ovibos moschatus wardi* Lydekker. Von Alwin Pedersen. Pp. 32. 4.00 kr. Band 95, Nr. 6: Trearexpeditionen til Christian den X's Land 1931-34—Zur Regelung der Gesteine im Kristallin von Liverpool-land in Ostgrønland. Von Th. G. Sahlstein. Pp. 27+7 plates. 2.00 kr. Band 99, Nr. 3: Trearexpeditionen til Christian den X's Land 1931-34—The Upper Jurassic Invertebrate Faunas of Cape Leslie, Milne Land. 2: Upper Kimmeridgian and Portlandian. By L. F. Spath. Pp. 180+50 plates. 13.00 kr. Band 100, Nr. 8: Trearexpeditionen til Christian den X's Land 1931-34—Investigations on the Shore Fauna of East Greenland with a Survey of the Shores of other Arctic Regions. By Holger Madsen. Pp. 79. 4.00 kr. Band 102, Nr. 2: Trearexpeditionen til Christian den X's Land 1931-34—Eskimo Settlements in Kempe Fjord and King Oscar Fjord. By P. V. Glob, with a Zoological Appendix, by M. Degerbol. Pp. 97+7 plates. 5.00 kr. Band 104, Nr. 6: The Scoresby Sound Committee's 2nd East Greenland Expedition in 1932 to King Christian IX's Land—Insects and Arachnids. By Jens Braendegaard, Kai L. Henriksen and R. Spärck. Pp. 18. 1.00 kr. (København: C. A. Reitzel's Forlag.) [296]

Spisy vydávané Přírodovědeckou Fakultou Masarykovy University (Publications de la Faculté des Sciences de l'Université Masaryk). Čís. 219: Příspevek ku poznání některých bromovaných derivátů pyrokatecholu (A Contribution to the knowledge of some Brominated Pyrocatechols). Napsali J. Frejka a B. Šefrānek. Pp. 10. Čís. 220: Nález brushtu na kostech ze starého Bitova na vranovské pēhradě (Sur la brushtu provenant de l'ossuaire de Bitov en Moravie). Napsal Josef Sekanina. Pp. 12. Čís. 221: Sur un conoide cubique (O jednom kubickém konoidu). Par Ladislav Seifert. Pp. 18. Čís. 222: Příspevek k poznání květeny československé, 1 (Ad horam čechoslovenicam additamentum, 1). Napsal Vlad. Krist. Pp. 13. Čís. 223: Nerozpustné nitroprussidy kovů (Unlösliche metallnitroprussidsalze); napsali J. V. Dubský a E. Krametz; a Reakce solí železitých s pyramidonem za přítomnosti komplexních kyanidů železa (Reaktion der ferrisalze mit pyramidon in gegenwart komplexer kyanide des eisens), napsali J. V. Dubský, E. Krametz a J. Trlíek. Pp. 10. Čís. 224: Geografické rozšíření rodu *Ophrys* v CSR (Distribution géographique des espèces du genre *Ophrys* en Tchécoslovaquie). Napsal T. Martinec. Pp. 20. (Brno: A. Písa.) [296]

Report for the Year 1935 of His Majesty's Astronomer at the Cape of Good Hope to the Secretary of the Admiralty. Pp. 17. (Cape of Good Hope: Royal Observatory.) [306]

Astrophysica Norvegica. Vol. 2, No. 1: On the Trajectories of Electric Particles in the Field of a Magnetic Dipole with Applications to the Theory of Cosmic Radiation, 5. By Carl Stermer. Pp. 124+19 plates. (Oslo: Jacob Dybwad.) [306]

Osiris. Vol. 2, Part 4: A Sketch History of Entomology. By E. O. Essig. Pp. 80-123. (Bruges: Saint Catherine Press, Ltd.) [17]

New York Zoological Society. Report of the Director of the Aquarium. Pp. 20. (New York: New York Zoological Society.) [37]

Proceedings of the United States National Museum. Vol. 83, No. 2985: A Study of the Fossil Horse Remains from the Upper Pliocene of Idaho. By C. Lewis Gazin. Pp. 281-320+plates 23-33. (Washington, D.C.: Government Printing Office.) [37]

A Decade of Service, 1925-1935: Report of the Director, Wisconsin Alumni Research Foundation. Pp. 16. (Madison, Wis.: University of Wisconsin.) [37]

Deutsche Seewarte. Einundsechzigster Jahresbericht über die Tätigkeit der Deutschen Seewarte, 1935. Pp. 53. (Hamburg: Deutsche Seewarte.) [37]

Achema-Jahrbuch, Jahrgang 1935-36: Berichte über Stand und Entwicklung des Chemischen Apparateswesens. Pp. 194+56+xxvii. (Berlin: Verlag Chemie G.m.b.H.) [67]

Catalogues

A Catalogue of Books and Periodicals on Botany (including many Important Floras), Agriculture, Forestry, Fruit-Culture, Gardens and Gardening, Herbals. (No. 523.) Pp. 60. (London: Bernard Quaritch, Ltd.)

The Wild-Barfield Heat-Treatment Journal. Vol. 2, No. 1, June. Pp. 14+iv. (London: Wild-Barfield Electric Furnaces, Ltd.)

Rapidex: a New British X-Ray Unit. Pp. 16. (London: Cuthbert Andrews.)