

Societies and Academies

PARIS

Academy of Sciences, June 3 (*C.R.*, 200, 1893-1996).
 LUCIEN CAYEUX: The constitution of the Senonian phosphates of Palestine and Transjordan. LOUIS JOUBIN: The plankton cephalopods of the Atlantic Ocean (cruises of the *Dana* in 1921-22). ANTONIN GOSSET and IVAN BERTRAND: The utilisation of a segment of marrow as a heteroplastic graft of the peripheral nerves. SERGE BERNSTEIN: Some extremal properties of successive integrals. EMILE MATHIAS: The curvature of the diameter of the densities. JEAN CABANNES: The red lines of oxygen in the nocturnal sky. RENE MAIRE and ERNEST WILCZEK: The vegetation of the western Sahara. HUSNI HAMID: Regular varieties of higher order. SIMON DE BACKER: A new form of the equations of the dynamics of gases. GEORGES DURAND: The exactness of Eddington's mass-luminosity relation. CHARLES BORY: The natural convection of wires: the existence of a new state of convection. With a very fine wire (25 microns), measurements of the convection coefficient indicated the existence of two regimes. PIERRE VERNOTTE: The laws of convection. Theoretical discussion of the experimental results in the preceding communication. JEAN VILLEY: The calculation of the energy loss on combustion. LÉON DUBAR: The influence of vapours and occluded gases on the electrical conductivity of cuprous oxide. The electrical conductivity of compact cuprous oxide is reduced by water vapour. JEAN GENARD: The action of the magnetic field on the absorption bands of the molecules of sulphur. FRED VLÈS and ERWIN HEINTZ: The infra-red spectrum of protein substances. HENRI MURAOUR and GABRIEL AUNIS: The agreement between the calculated and experimental pressures for explosive mixtures giving rise to gases rich in steam. MARCEL LECOIN: The β -radiation of actinium C', of mesothorium 2 and of uranium X₁ and its derivatives. MME. LUCILE S. MATHIEU-LÉVY: The spectrophotometric study of the adsorption of copper in ammoniacal solutions by precipitated ferric hydroxide. WILFRIED HELLER: The determination of atmospheric ozone by fluorescein. This has advantages over the iodometric method; but may give high values owing to the presence of oxides of nitrogen in the atmosphere. EMILE ELCHARDUS and PAUL LAFFITTE: The constitution of the magnesium-zinc-silicon alloys rich in magnesium. MME. LEONE WALTER LÉVY: The basic magnesium carbonates. MME. ZINA SOUBAREW-CHATELAIN: Mannitodimolybdic acid. The complex acid, the existence of which had been deduced from physical measurements by Honnelaitre, has been isolated and has the constitution H₂Mo₂O₇.C₆H₁₄O₆.H₂O. GEORGES RICHARD: Contribution to the study of the α -halogen ketones. HENRI LONGCHAMBON and GEORGES MIGEON: The definition of the sepiolites. STOYAN PAVLOVITCH: Study of the Zlatibor gabbros (western Serbia). RENÉ PERRIN: Metamorphism generator of folds. JEAN LOMBARD: The geological structure of central Oubangui-Chari. GABRIEL LUCAS: The age of the Djebel Tenouchfi (Department of Oran) layers. JEAN DRESCH: The recent formations of Haouz de Marrakech. PAUL DELEAU: The facies of the lower Cretaceous of the region of Hammam Meskoutine (Constantine). GEORGES DENIZOT: The tectonic of the Nerthe and the Etoile, near Marseilles. GEORGES

CORROY: The bases of the Hercynian massifs of the neighbourhood of Toulon. WILLIAM HENRI SCHOPFER: Generalisation of the auxogen action of the vitamin B₁ on a micro-organism. ROBERT BONNET and RAYMOND JACQUOT: Evolution of the culture media in the growth of *Sterigmatocystis nigra* as a function of the age of the mycelium. RAOUL COMBES: Nitrogen nutrition of the flower. RENÉ SOUÈGES: Embryogeny of the Rosaceæ. Development of the embryo in *Potentilla reptans*. CHARLES CHABROLIN: Germination of the seeds and plant hosts of *Orobancha speciosa*. EMILE MIÈGE: Influence of cold on the conservation and productivity of the potato. Maintenance of the tubers at 4°-5° C. for several months had a favourable effect on all the varieties examined: the state of preservation was perfect and the productivity high. RAOUL LECOQ: In a balanced ration, can the corresponding fatty acids be used instead of glycerides? They cannot. DAVID NACHMANSOHN, JACOB WAJZER and MME. RUTH LIPPMANN: The effect of adrenaline on the metabolism of isolated muscle. MME. VERA DANTCHAKOFF: Experimental sexual inversion of the testicular element in the embryo of the fowl. CAULLERY: Remarks on the preceding communication. VICTOR PLOUVIER: Researches on the isomerisation of cyanogenetic heterosides. MICHAEL A. MACHEBŒUF and HENRY CASSAGNE: Chemical studies on the diphtheria bacillus. Fractional extraction of the lipids of the bacillus; separation of the haptene fraction; the presence of soap in the bacillary bodies. ALBERT GORIS and HENRI CANAL: The presence of 2.oxy.5.methoxyacetophenone in the essence of the rhizomes of *Primula acaulis*. FRANCIS RATHERY, LOUIS ROY and MICHEL CONTE: The spontaneous variations of the glycaemic curve of diabetics. JEAN CUILLE CHELLE and BERLUREAU: The existence in France of a bovine anaplasmosis of indigenous origin.

LENINGRAD

Academy of Sciences (*C.R.*, 2, No. 2, 1935). M. KRAVTSCHUK: An algebraic point in the problem of moments. A. POPOV: (1) On some series. (2) Series containing cylindrical functions. V. KUPRADZE: The problem of unity in the stationary marginal problems of the theory of elasticity. V. ANTONOV-ROMANOVSKIJ: The influence of an unequal distribution of phosphorescence centres and of related factors on the dimming of the Lenard phosphorus. M. KORSUNSKIJ: (1) The curve of mass defect in the heavy elements. (2) Deviations from the Sommerfeld formula for the k -levels. A. ZAICEV and G. SPIVAK: On the exchange of energy between atoms of neon, argon and mercury, and a solid wall. N. SELJAKOV and E. SOVZ: The nature of 'recovery' in metals and of the re-crystallisation in monocrystals of aluminium. I. KNUNJANC and M. GERCHUK: The condensation of the α -formyl-succinic ester with esters of α -haloid-substituted acids. I. KITAJGORODSKIJ: Theory of glass manufacture. D. BELJANKIN: Influence of mineralisers on the formation of sinter-corundums. M. CHAJLAKHJAN: The permeability of the plasma in the leaves of spring and winter wheats. M. CHAJLAKHJAN and V. ALEXANDROVSKJA: The nature of photoperiodic after-effect (induction) and on the effect of the length of day on the activity of the oxidising enzymes. M. SHKOLNIK: The need of plants for boron. E. MININA: The influence of the technique of distributing fertilisers on the quality and yield of wheat.

WASHINGTON, D.C.

National Academy of Sciences (*Proc.*, 21, 181-234, April 15). CARLETON R. BALL: New varieties of Western [American] willows. LINUS PAULING: The oxygen equilibrium of hæmoglobin and its structural interpretation. Assuming that the hæmoglobin molecule contains four equivalent 'hæmes', one equation involving two constants is derived which represents the oxygen equilibrium at constant hydrogen ion concentration, and another similar equation which represents the change of oxygen equilibrium with change of hydrogen ion concentration. These equations give curves agreeing well with experimental curves; they support the view that the four 'hæmes' lie at the corners of a square. B. S. HENRY and A. M. PARTANSKY: The rate and extent of anaerobic decomposition of sulphite waste liquor by bacteria of sea bottom mud. (2) Bacteriological. A number of anaerobic and facultative bacteria were isolated; they seem to be new species. Sulphite waste liquor slows down the growth and fermentation of nine common micro-organisms tried; it is fermented to only a limited extent by these organisms. C. C. TAN: Identification of the salivary gland chromosomes in *Drosophila pseudo-obscura*. CURT STERN: The behaviour of unstable genic loci—a hypothesis. The unstable locus is assumed to be a composite of a gene in its normal locus and its mutant allelomorph laterally attached next to it, the effect being different from that produced when the two genes are located in different chromosomes. J. T. BUCHHOLZ, A. F. BLAKESLEE and A. G. AVERY: Pollen-tube growth of a translocation of the 1·2 chromosome in *Datura*. Translocation was produced by exposure of pollen tubes to radon during their passage through the style. Reduction in rate of growth of pollen tubes from plants carrying the extra chromosomal material appears to occur and is roughly proportional to the amount of extra material present. CHESTER STROCK: Insectivora from the Sespe uppermost Eocene, California. S. LEFSCHETZ: Application of chain-deformations to critical points and extremals. J. W. ALEXANDER: Note on Pontrjagin's topological theorem of duality. SUMNER BYRON MYERS: Connexions between differential geometry and topology. A. G. MARSHAK: The sensitive-volume of the meiotic chromonemata of *Gasteria* as determined by irradiation with X-rays. The inflorescence of *Gasteria* provides a regular sequence of buds, so that the effect of irradiation can be determined at various periods after exposure. The frequency of effects are proportional to dosage of radiation. Using Glocker's equation for the number of photo-electrons traversing a given volume, and measuring the volume of the nucleus and bivalent chromosome of *Gasteria*, the observed frequency of induced abnormalities enables the width of the sensitive portion of the half-chromosome to be estimated and eventually that of the single chromatid. The figures obtained agree well with those obtained from the diameters of simple protein molecules. R. E. BOWEN: Movement of sensory hairs in the ear. The author has previously reported movements of hair in the ear of the catfish. Observations are now recorded of regular movements of the sensory hairs in the ears of two marine teleostian fish, the squirrel fish and the striped grunt.

Forthcoming Events

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

Sunday, July 21

BRITISH MUSEUM (NATURAL HISTORY) at 3 and 4.30.—
Mr. M. A. Phillips: "British Mammals".

INTERNATIONAL SOCIETY OF EXPERIMENTAL PHONETICS,
July 22-26.—Meeting to be held in London. One joint session to be held with the second International Congress of the Phonetic Sciences.

ELECTRODEPOSITION EXHIBITION, at the Science Museum,
South Kensington, July 25-October.
July 25, at 3.—Opening by Lord Melchett.

Official Publications Received

Great Britain and Ireland

Poison Gas. Pp. 64. (London: Union of Democratic Control.) 6d.
University of London Council for Psychical Investigation. Bulletin 1: Supplement to Short-Title Catalogue of Works on Psychical Research, Alleged Abnormal Phenomena, Spiritualism, Magic, Witchcraft, Legerdemain, Charlatanism and Astrology, from 1472 A.D. to the Present Time. Compiled by Harry Price. Pp. 112. (London: University of London Council for Psychical Investigation.) 2s. 6d. net.
Committee on Bird Sanctuaries in Royal Parks (England). Report for 1934. Pp. 24. (London: H.M. Stationery Office.) 6d. net.
Report on the Phenological Observations in the British Isles from December 1933 to November 1934. By J. Edmund Clark, Ivan D. Margary and C. J. P. Cave. (No. 44.) (Quarterly Journal of the Royal Meteorological Society, No. 260, Vol. 61.) Pp. 231-284. (London: Royal Meteorological Society.) 3s.

Other Countries

India Meteorological Department. Scientific Notes, Vol. 6, No. 63: Wind Data for Wind Mills. By V. Doraiswamy Iyer. Pp. 57-85+7 plates. (Delhi: Manager of Publications.) 1.6 rupees; 2s. 3d.
Smithsonian Miscellaneous Collections. Vol. 93, No. 6: Ear Exostoses. By Aleš Hrdlička. (Publication 3296.) Pp. iv+100+5 plates. Vol. 94, No. 2: Concerning the Badianus Manuscript, an Aztec Herbal, "Codex Barberini, Latin 241" (Vatican Library). By Emily Walcott Emmart. (Publication 3329.) Pp. iii+14+4 plates. Vol. 94, No. 3: Thomas Lincoln Casey and the Casey Collection of Coleoptera. By L. L. Buchanan. (Publication 3330.) Pp. iv+15+1 plate. (Washington, D.C.: Smithsonian Institution.)
U.S. Treasury Department: Public Health Service. Time Distribution of Common Colds and its relation to corresponding Weather Conditions. By Mary Gover, Lowell J. Reed and Selwyn D. Collins. (Reprint No. 1634 from the Public Health Reports.) Pp. 14. 5 cents. Further Studies on Growth and the Economic Depression: a Comparison of Weight and Weight Increments of Elementary-School Children in 1921-27 and in 1933-34. By Dr. Carroll E. Palmer. (Reprint No. 1660 from the Public Health Reports.) Pp. 17. 5 cents. (Washington, D.C.: Government Printing Office.)
Bulletin of Yale University. Report of the Director of Peabody Museum for the Academic Year 1933-1934. Pp. 35. (New Haven, Conn.: Yale University.)
U.S. Department of the Interior: Office of Education. Bulletin, 1934, No. 19: The Problem of Duplication as attacked in certain State Surveys of Higher Education. By John H. McNeely. Pp. v+50. 5 cents. Leaflet No. 45: Federal Grants for Education, 1933-34. By Timon Covert. Pp. 14. 5 cents. Pamphlet No. 61: Per Capita Costs in City Schools, 1933-34. By Lulu Mae Comstock. Pp. 19. 5 cents. (Washington, D.C.: Government Printing Office.)
Field Museum of Natural History. Publication 346: Culture Areas of Nigeria. By Wilfrid D. Hambly. (Frederick H. Rawson—Field Museum Ethnological Expedition to West Africa, 1929-30.) (Anthropological Series, Vol. 21, No. 3.) Pp. 363-502+plates 93-160. (Chicago: Field Museum of Natural History.) 2 dollars.
Proceedings of the American Academy of Arts and Sciences. Vol. 70, No. 3: Measurements of certain Electrical Resistances, Compressibilities and Thermal Expansions to 20,000 kg/cm². By P. W. Bridgman. Pp. 71-101. 75 cents. Vol. 70, No. 4: The Lower Permian Insects of Kansas. Part 7: The Order Protopterylaria. By Frank M. Carpenter. Pp. 103-146+2 plates. 90 cents. (Boston, Mass.: American Academy of Arts and Sciences.)
Reports of the Institute for Science of Labour. No. 25: General Intelligence Test and its Norm. 1: Standardization of Intelligence Tests for Children, Adolescents and Adults; 2: Mental Development of the Japanese. By Dr. Hōken Kirihara. Pp. 22. 50 sen. No. 26: A Study of the Physical Sport-Types of the Japanese. By Dr. Takatugu Yagi. Pp. 17. 30 sen. No. 27: Experimental Studies on the Day and Night Inversion of Daily Routine. By Dr. Tomoyosi Isikawa. (Supplemental Report to the No. 3 Report.) Pp. 14. 30 sen. No. 28: Baraichometer, an Instrument for Measuring Atmospheric Cooling Power. By Dr. Syuzō Eda and Dr. Sinzi Katuki. Pp. 9. 25 sen. No. 29: 1. Sex-Ratio in the Population of Japan Proper; 2. The Influence of Industrialism upon the Mortality of Young People and Adults. By Dr. Sinzi Katuki. Pp. 30. 60 sen. No. 30: Adaptation and Revision of Non-Verbal Will-Temperament Test. By Dr. Hōken Kirihara. Pp. 14. 30 sen. (Kurasiki: Institute for Science of Labour.)