

Societies and Academies

Paris

Academy of Sciences (*C.R.*, 207, 1077-1136, Dec. 5, 1938).

B. CABRERA: Influence of water on the values of the magnetic constants of the rare earths. When allowance is made for combined water accurately determined, the values of the magnetic constants are nearer the theoretical values.

B. JESSEN: A problem of Lagrange concerning the argument of a trigonometrical polynomial.

L. BESCHKINE: A class of mechanisms with two degrees of freedom.

J. VIRGITT: Axial field in the tube support of the collector of a high-tension generator, utilizing an electrified aerosol for the transport of charges.

W. HELLER and J. RABINOVITCH: A possible determination of the topography of weak and heterogeneous magnetic fields. The change of birefringence of colloidal solutions of iron or iron oxide is used.

R. FORRER: Activation and composition of the elementary moment of ferromagnetic alloys.

R. RICARD and F. VALANCOGNE: Spectrum of rubidium in the extreme ultra-violet (2000-1050 Å.).

L. DUNOYER: Emission of luminescent tubes; general formulæ.

J. AMIEL: Paramagnetism of cupric salts of long-chain fatty acids.

G. LE CLERC: Catalytic activity of cubic sesquioxide of iron in the synthesis of hydrocarbons by hydrogenation of carbon monoxide at atmospheric pressure. The optimum temperature for alkalinized iron catalysts coincides with one of their Curie points, 250° C.

R. DUBREISAY and J. J. GOUPIL: Action on metals of certain organic acids in solution in non-aqueous liquids.

MILE. J. GUTMAN: Action of dimethylamine on methyl-1-dibromo-1-2-cyclohexane.

MILE. B. TCHOUBAR and O. SACKUR: Action of organo-magnesium derivatives on α -bromocyclohexylformaldehyde.

MME. P. RAMART and M. GRUMEZ and M. MARTYNOFF: Structure and absorption of coloured diamine derivatives of acridine.

R. QUELET and J. ALLARD: New method of synthesis of paramethoxy- α , β -dichloro-ethylbenzene; passage to the β - and the α -chloro-para-methoxy styrenes.

F. TROMBE: Determination of quartz by differential thermal analysis. The method is used for identifying different kinds of quartz in a powder.

H. VINCENNE: Co-existence of tungsten and gold in the mineralized zone of Salsigne-Villanière (Aude).

G. DEFLANDRE and L. DANGEARD: *Schizosphærella*, a new microfossil, hitherto unrecognized, of the middle and upper Jurassic.

H. GRISOLLET: Study of the light diffused by the particles in suspension in the air.

MME. G. FELDMANN-MAZOYER: A new genus of Mediterranean Ceramiaceæ.

L. PLANTFOL: Respiratory exchanges of plant tissues in cultures.

P. GAVAUDAN, MME. N. GAVAUDAN and J. DURAND: Induction of polyploidy in somatic cells of some Gramineæ by the action of vapour from acenaphthene. Confirms Kostoff's results, that the effect is identical with that of colchicine.

M. SIMONET: Inheritance of tetraploid mutations of *Petunia* obtained after the application of colchicine. The descendants of tetraploid plants show gigantism, etc., and cytologically are tetraploid (inheritance of a mutation).

Y. LE GRAND: Fluorescence of the crystalline [of the eye].

P. JOYET-LAVERGNE: Action of folliculin in the experimental transformations of male organisms into intersexuals or females. Folliculine acts directly on the living cell, diminishing its oxidizing power.

G. CHAMPETIER and E. FAURÉ-FREMIET: X-ray study of secreted keratins [as distinct from epidermal keratin].

M. MAZILLE: Unipolar electro-dialysis of blood serum.

Budapest

Hungarian Academy of Sciences, November 21.

GY. PRINZ: Surface of Central Asia.

G. RADOS: Independence of the conditional equations which exist between the coefficients of the unitarian substitution.

G. ZEMPLÉN: New and abundant synthesis of primerose and its derivatives.

J. JELITAI: Autobiography of János Bolyai.

M. HERMANN and L. ZOMBORY: Crystalline limestone stratum of Biharkapu (Portale).

G. ENTZ and O. SEBESTYÉN: Studies of biometric variation in *Ceratium hirundinellum* from Lake Balaton.

I. VITALIS: Coal of Hungary.

L. JUGOVICS: Data on the basalts on the right bank of the Danube.

Dublin

Royal Dublin Society, November 22, 1938.

W. J. LOOBY and J. DOYLE: The life-history of *Saxegothæa conspicua* Lindl. The female gametophyte and the post-fertilization phases leading to the pro-embryo resemble those described for *Podocarpus* and *Stachycarpus*. The embryonic cells pass through a bi-nucleate stage. Two sub-equal male cells are formed which do not completely separate.

H. H. POOLE: (1) On the use of a model and photo-electric cells for the determination of the daylight illumination in a proposed building. Tests with two Weston cells under opal glasses, one in the open air (in the absence of direct sunlight) and the other at various points inside a model of a proposed office and adjacent building (scale $\frac{1}{2}$ in. to 1 ft.), enabled the daylight factors on the working plane to be found for different window arrangements and heights of ceiling. As a result, it was decided to modify the original design. (2) On the effect of the colour of the light on the curvature of the light: current characteristic of rectifier photo-cells. Photometer bench tests on two Weston and eight Electrocells under illuminations ranging from about 360 to about 23,000 lux on the bare cells, using a 10-ohm galvanometer and constant resistance attenuator, showed that in all cases the deviation from proportionality of current to light was, for a given current, considerably larger when a deep red Jena RG5 filter was mounted in front of the cell. The results for other filters (Jena RG1 and BG12, and Corning green) differed less from each other and from those for the

bare cell, but in most cases the curvature was least for the blue, BG12, and greatest for the light red, RG1. It is suggested that this effect is due to the increased leakage of current caused by the photo-conductivity of selenium which reaches a maximum in the red.

Rome

National Academy of the Lincei (*Atti*, 27, 317-388; 1938).

G. ABETTI: Height of the chromosphere in 1937 and the progress of the solar cycle.

G. BRUNELLI and G. CANNICCI: Biological characteristics of Lake Tana.

A. FINZI: The reduction to the normal form of the gravitational equations of Einstein.

U. MORIN: Uni-rationality of the algebraic surface of the fifth order.

I. POPA: Projective-differential geometry of families of surfaces.

O. PYLARINOS: Congruences of straight lines normal to the same surface.

C. CATTANEO: Contact of two elastic bodies: local distribution of the forces (1).

G. KRALL: Wave propagations and transmission of energy in a hydraulic lattice.

R. PIONTELLI: Influence of ultra-sonics on the 'discharge potential' of hydrogen.

P. PEOLA: Probable existence of the palaeolithic in the Aegean Islands and the geological vicissitudes of the latter during the quaternary.

M. FEDELE: Nervous system of the Ascidiacea in the plane of organization of the Chordates.

V. FAMIANI: Normal rhythm of some secretions.

G. SOLARINO: Histological changes of the central and peripheral nervous system in experimental beriberi of birds.

F. RASETTI: Memorial lecture on Orso Mario Corbino.

Atti, 27, 397-420; 1938.

G. DANTONI: Systems of resultants.

L. GIALANELLA: New researches on the solar group of stars (2).

R. MANZONI-ANSIDEI and M. ROLLA: Absorption spectrum of pyrolyse, thiophene and furane in the middle infra-red.

V. CAPRARO: (1) Thyroxin injection and experimental beriberi. (2) Expression and calculation of the beriberi quotient Q_b . (3) Castration and experimental beriberi in pigeons.

Atti, 27, 421-466; 1938.

L. CARNERA: Results obtained from the study of latitude variations in the years 1936 and 1937.

G. GIORGI: Magnetometer of Rogowski.

S. BAGLIONI: Microchemical determination of the total soluble nitrogen and of the urea and amine fractions in blood.

C. CATTANEO: Contact of two elastic bodies: local distribution of the forces.

G. KRALL: Stability and wave propagations in a hydraulic lattice with a turbine having an isodromic regulator.

M. ZEULI: Pendulum of variable length.

L. VIGNOLI: Lipidic leucoplasts of *Agave*.

E. BIOCCHA: Series culture of *Trypanosoma brucei* in the hen embryo.

A. SIGNORINI: Memorial lecture on Gian Antonio Maggi.

Forthcoming Events

Friday, January 6

INSTITUTION OF MECHANICAL ENGINEERS, at 6.—H. Scott-Paine: "Some of the Aspects and Problems of the Development of High-Speed Craft and its Machinery" (Thomas Lowe Gray Lecture).

MATHEMATICAL ASSOCIATION, January 2-3. Annual Meeting to be held in King's College, London.

January 2.—W. Hope-Jones: "Simplicity and Truthfulness in Mathematics" (Presidential Address).

PHYSICAL SOCIETY, January 3-5. Annual Exhibition to be held at the Imperial College of Science and Technology.

January 3.—Dr. J. D. Cockcroft, F.R.S.: "The Cyclotron and its Applications".

January 4.—C. S. Wright: "Geophysical Research in Polar Regions".

SCIENCE MASTERS' ASSOCIATION, January 3-6. Annual Meeting at Cambridge.

January 3.—Prof. J. Gray, F.R.S.: "The Role of Science in Education" (Presidential Address).

GEOGRAPHICAL ASSOCIATION, January 3-6. Annual Conference to be held in the London School of Economics.

January 3.—Sir Thomas Holland, F.R.S.: "The Geography of Minerals" (Presidential Address).

INSTITUTE OF BRITISH GEOGRAPHERS, January 5-6. Annual Meeting to be held in the London School of Economics, Houghton Street, W.C.1.

Appointments Vacant

APPLICATIONS are invited for the following appointments, on or before the dates mentioned:

JUNIOR SCIENTIFIC OFFICER in the Forest Products Research Laboratory—The Establishment Officer, Department of Scientific and Industrial Research, 16 Old Queen Street, Westminster, S.W.1 (Ref. J. 39/1. January 10).

ASSISTANT LECTURER IN ZOOLOGY in King's College, London—The Secretary (January 17).

Reports and other Publications

(not included in the monthly Books Supplement)

Great Britain and Ireland

National Smoke Abatement Society. Ninth Annual Report, 1938-9. Pp. 32. (London: National Smoke Abatement Society.) [3011]

National Physical Laboratory; Metrology Department. Schedule of Fees of Tests on Volumetric Glassware. Pp. 10. (Teddington: National Physical Laboratory.) [3011]

Report of the Commissioner for the Special Areas in England and Wales for the Year ended 30th September 1937. (Cmd. 5595.) Pp. xii+209. (London: H.M. Stationery Office.) 3s. 6d. net. [3011]

National Institute of Industrial Psychology. Annual Report and Statement of Accounts for the Year ended 30th September 1938. Pp. 39. (London: National Institute of Industrial Psychology.) [212]

Ninth Annual Reports of the National Radium Trust and Radium Commission, 1937-1938, including a Statistical Report. (Cmd. 5883.) Pp. 63. (London: H.M. Stationery Office.) 1s. net. [212]

Other Countries

Jamaica. Annual Report of the Department of Agriculture for the Year ended 31st December 1937. Pp. vi+83. (Kingston: Government Printing Office.) [212]

Journal of the Faculty of Agriculture, Hokkaido Imperial University. Vol. 44, Part 1: Physico-Chemical Properties of the Virus of Broad Bean Mosaic. By Daiki Murayama. Pp. 32+1 plate. Vol. 42, Part 2: Die Bibioniden Japans (Diptera, Nematocera), von Ichiji Okada; Die Phryneiden und Pachyneuriden Japans (Diptera, Nematocera), von Ichiji Okada. Pp. 189-238+plates 6-9. (Tokyo: Maruzen Co., Ltd.) [212]

Standards on Transmitters and Antennas, 1938. Pp. vi+42. 50 cents. Standards on Electroacoustics, 1938. Pp. vi+37. 50 cents. (New York: Institute of Radio Engineers, Inc.) [212]