

Societies and Academies

Paris

Academy of Sciences, October 18 (*C.R.*, 205, 633-696).

MARCEL DELÉPINE: Obituary notice of Jean Baptiste Senderens.

KENTARO YANO: The change of the coefficients of a projective connexion.

GEORGES TZITZÉICA: Certain quadratic curves and the displacement of a parameter.

DAVID WOLKOWITSCH: The conoid of Plücker.

RENÉ HARMÉGNIES: The torsion of curves traced on a surface.

ERNEST VESSIOT: Partial differential equations of the second order $F(x, y, z, p, q, r, s, t) = 0$, integrable by the method of Darboux.

JEAN DELSARTE: A functional transformation relating to the theory of harmonic functions.

JOHN ELLSWORTH: Rapid changes in the tail of the Finsler comet, 1937*f*. A description of the changes shown by photographs taken between August 2 and 11. There was a second tail, and a marked change in position was shown in two consecutive photographs with an interval of 75 minutes.

LOUIS BERGERON and JOSEPH BETHENOD: The hydraulic tourniquet.

LÉOPOLD ESCANDE: The theory of flow through a depth valve.

MARCEL ATANASIU: Study of natural convection in liquids. Convection in castor oil. An electrical heater is placed in the centre of the castor oil and the temperature differences measured at different points in the oil after the whole has reached a steady state. The convection flow is deduced from these figures. The results are in agreement with the views of Vernotte and experiments of Bory on convection in air.

AUREL NICOLAU: The thermomagnetic properties and constant paramagnetism of the ion UO_2^{++} in some uranyl salts in aqueous solution. Neither uranyl sulphate or nitrate follows the law of Curie or that of Weiss: the paramagnetism is independent of the temperature.

JEAN DEBIESSE: Absorption spectra of microbial broths. The growth of micro-organisms in broth produces clear and characteristic modifications in the absorption spectrum. It is suggested that similar observations in the infra-red region and with Raman spectra would be of interest.

ALEXANDRE DUFOR and FERNAND PRUNIER: The Sagnac effect.

MARCUS BRUTZCUS: The thermochemistry of oxygenated hydrocarbons.

FRANÇOIS BOURION and EMILE ROUYER: The determination of the total hydration of the ions of strontium nitrate.

RENÉ DELAPLACE: The pressure of some permanent gases at low temperatures in the presence of silica gel. The gases studied were nitrogen, oxygen, carbon monoxide and methane. A table is given showing the pressures measured for a range of temperature between -182°C . and -134°C . The figures show that it should be easy to separate the oxygen-nitrogen group from the carbon monoxide-methane group.

CLÉMENT DUVAL: The cobalt hydroxides. By the precipitation of aqueous solutions of cobalt salts with potash, six different precipitates can be obtained, varying in colour. The necessary conditions for the preparation of each variety are given, together with analytical figures.

GEORGES WETROFF: The oxide of phosphonitril, $(\text{OPN})_n$.

LOUIS CHASSEVENT: The hydraulicity of slags.

ALFRED MAILLARD and R. FRIEDRICH: The products formed by the incomplete combustion of light liquid hydrocarbons. The combustion products were cooled to 15°C . and the condensate examined. Results are given for seven different petrols.

Mlle. MARIE LOUISE QUINET: The classification into two groups of the complex compounds of magnesium chloride with oxygenated organic compounds according to the nature of the oxygen linkage. The (OH) group, water and alcohols, gives complex molecules with six molecules attached to one molecule of magnesium chloride; the =O group, aldehydes and ketones, attach three molecules; the ether oxide, -O-, gives no complex compound, at least for temperatures above -20°C .

PAUL CHOVIN: Researches on Pechmann's colouring matters. The supposed isomerism of Pechmann and Kugel colouring matters.

JEAN DÉCOMBE: Syntheses by means of β -chloroethylated or β -vinyl ketones. The preparation of some homologues of 1-cyclohexene-3-one.

GEORGES DARZENS: The preparation of some glycerides of phenylacetic acid and their reduction to the corresponding alcohols. Application to the preparation of phenylethyl alcohol.

JEAN BEAUVERIE: The granular structure of chloroplasts: the *grana*.

WERNER MÜLLER and WILLIAM HENRI SCHOPFER: The action of aneurin and of its constituents on *Mucor Ramannianus*.

P. BONÉT-MAURY: The optical properties of bacterial suspensions. Four species of bacteria were studied and in each case the optical density was proportional to the bacterial concentration.

F. ARTIGAS: The emission of an ionizing radiation by the total ash of plants. The radiation was found to be proportional to the amount of potassium in the ash.

ALEXANDRE BESREDKA and LUDWIK GROSS: The role of the skin properly so-called and of the subcutaneous tissue in the evolution of malignant tumours.

Delhi

National Institute of Sciences of India, November 6.

M. ISHAQ: The O-O-Band of OD.

T. S. WHEELER: The theory of liquids.

H. S. PRUTHI and E. S. NARAYANAN: A study of the behaviour of some common varieties of sugarcane in reference to the attack of borers.

D. S. KOTHARI: Joule-Thomson effect and adiabatic changes in degenerate gas.

B. RAMAMURTY: The chemical fixation of nitrogen at low temperature and its significance in agriculture.

M. N. SAHARA and K. B. MATHUR: The propagation of electro-magnetic waves through the atmosphere.

B. N. SRIVASTAVA: Joule-Thomson expansion of a non-degenerate gas.

Moscow

Academy of Sciences (*C.R.*, 16, No. 1, 1937).

KH. SMALICKIJ: The functions of Le Roi, H. Poincaré and V. Stekloff.

M. KELDYŠ and L. SEDOV: The effective solution of some problems limited by harmonic functions.

STEFAN BERGMANN: Some values in pseudo-conformal images.

J. A. MINDLIN: The boundary dynamic problem of the theory of elasticity for a circle with given displacements.

V. SOKOLOVSKIJ: The design of a spherical shell.

V. S. KOSLOV: Determination of the elements of percolation flow under dams with three cut-off walls resting upon a permeable foundation of finite depth.

V. D. KUPRADZE: Solution of the general problem of the diffraction of electromagnetic waves.

V. K. ARKADIEV: The dispersion band and the skin-effect in the sinusoidal field and in the transitional one.

A. PROKOFJEV: Torch ion counter.

P. LAZAREFF: Theoretical study of the influence of mountain ascents and that of winds on peripheral visual adaptation.

N. MIHAL: The determination of the figure of the geoid from the anomalies in the horizontal gradients of gravity.

I. A. SMORODINCEV and A. M. FELDT: Determination of the dissociation constant of thyroglobulin.

M. A. KLOČKO: The 'lake age' of the Caspian Sea and its volume at the time it became a closed basin.

K. S. ANDRIANOV and A. I. SMIRNOV: The problem of the genesis of vivianite.

P. O. SITKO: Frequency of lethals in the X-chromosome due to the irradiation of spermatozoa in the males and in the spermathecae of the females of *Drosophila melanogaster*.

I. N. KONOVALOV and I. E. ROGALEV: The behaviour of nitrogenous substances during the vernalization of plants.

V. L. RYZKOV and A. M. VOVK: A new disease of the onion (*Allium Cepa*).

(C.R., 16, No. 2, 1937.)

V. STEPANOV: Arithmetical demonstration of a theorem of B. Segal.

A. V. JOFFE and A. F. JOFFE: (1) Electronic semiconductors in strong electric fields. (2) Properties of the blocking layer of solid rectifiers.

H. MANDEL and P. KUTEJNIKOV: The full electro-dynamics of material media.

N. S. KURNAKOV, A. V. NIKOLAEV and A. G. ČELIŠČEVA: (1) Heating curves of borates. (2) Specific gravity and hardness of natural borates and of the products of heating them. (3) Hydration heat and exothermic transformation of borate into inyoite. Some considerations on the transformation of borate.

V. V. ČELINCEV: Explanation of the disposition and inclination of rows of molecules in layers of organic acids according to röntgenograms.

B. P. NIKOLSKIJ and V. M. VDOVENKO: The potential difference between solid silver halogenides and aqueous solutions.

A. G. KOGAN and V. I. NIKOLAEV: Studies on the polytherme of the binary system $\text{HNO}_3\text{—HCl}$, and of the ternary system $\text{HNO}_3\text{—HCl—H}_2\text{O}$.

N. A. ORLOV and I. S. MUSTAFIN: Oxidation as a way to the formation of carbohydrates.

V. A. ŠPAK: A new method for differentiating rocks from borings by a counter recording gamma radiation impulses.

N. P. LUPPOV: The age of the "Upper Siderite clays" of the basin of the River Kuban (North Caucasus).

O. S. VIALOV: The mesozoides of Asia.

J. A. EFREMOV: Stratigraphic subdivision of the continental Permian and Jurassic of the U.S.S.R. on the basis of the fauna of early Tetrapoda.

V. I. CALKIN: The distribution of the common dolphin (*D. delphis* L.) in the Black Sea.

Forthcoming Events

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

Monday, December 6

LONDON SCHOOL OF HYGIENE AND TROPICAL MEDICINE, at 5.—Prof. F. W. Twort, F.R.S.: "A Comparative Study of Filter-passing Bacteria and Viruses" (succeeding lectures on December 8, 10, 13 and 15).*

ROYAL COLLEGE OF SURGEONS OF ENGLAND, at 5.—Sir Charles Sherrington, F.R.S.: "Jean Fernel" (Thomas Vicary Lecture (1)).

ROYAL GEOGRAPHICAL SOCIETY, at 5.—Rev. W. L. S. Fleming, A. Stephenson and G. G. L. Bertram: "Scientific Work of the British Graham Land Expedition".

Tuesday, December 7

CHADWICK PUBLIC LECTURE (at the London School of Hygiene, Gower Street, W.C.1), at 5.15.—Dr. William Butler: "The Thames Estuary and the Problem of Sewage Disposal of Greater London".*

INSTITUTION OF CIVIL ENGINEERS, at 6.—Colonel W. Garforth: "Air Raids as they Affect the Work of the Civil Engineer".

QUEKETT MICROSCOPICAL CLUB (at 11 Chandos Street, Cavendish Square, W.1), at 7.30.—Prof. L. C. Martin: "The Present Limits of Microscopy".

Wednesday, December 8

INSTITUTION OF CIVIL ENGINEERS, at 6.15.—Dr. Brysson Cunningham: "Estuary Channels and Embankments" (Vernon-Harcourt Lecture).

Thursday, December 9

THE ROYAL SOCIETY, at 4.30 p.m.—Dr. R. W. Gurney and Prof. N. F. Mott, F.R.S.: "The Theory of Photolysis of Silver Bromide and the Photographic Patent Image".

Dr. A. L. Reimann: "The Temperature Variation of the Work Function of Clean and of Thoriated Tungsten".

ROYAL ASIATIC SOCIETY, at 4.30.—Prof. Doi: "Japanese Myth and Tradition".

Friday, December 10

ROYAL INSTITUTION, at 9.—Sir George Simpson, F.R.S.: "Ice Ages".

BRITISH INSTITUTE OF RADIOLOGY, December 8–10.—Annual Congress to be held in the Central Hall, London, S.W.1.

Appointments Vacant

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

LECTURER IN MATHEMATICS in the City of Leeds Training College—The Director of Education, Education Office, Leeds 1 (December 8).

PRINCIPAL of the Openshaw Municipal Technical School—The Director of Education, Education Office, Deansgate, Manchester (December 11).

LECTURER IN ANATOMY in the University of Birmingham—The Secretary (December 11).

PATHOLOGIST AND BACTERIOLOGIST in the Memorial Ophthalmic Laboratory, Cairo—Mr. H. H. Rew, The Examination Hall, Queen Square, W.C.1 (December 18).

ASSISTANT in the Observatory at the Cape of Good Hope—The Secretary of the Admiralty (C.E. Branch), Whitehall, S.W.1 (Ref. C.E. 7106/37) (December 21).

GLASS TECHNOLOGIST to the Government of the United Provinces—The High Commissioner for India, General Department, India House, Aldwych, W.C.2 (December 31).

METEOROLOGISTS (Grade III) in the Meteorological Office—The Secretary (S.2.A.), Air Ministry, Adastral House, Kingsway, W.C.2 (December 31).

INSPECTOR OF METALLIFEROUS MINES AND QUARRIES in North Wales—The Establishment Branch, Mines Department, Dean Stanley Street, Millbank, S.W.1 (January 1).