

## Societies and Academies

## Paris

Academy of Sciences, August 2 (*C.R.*, 205, 301-344).

A. LACROIX: The reality of an eruption of the Soufrière of Saint-Vincent in 1718, from an observation made at Guadeloupe. In the records of the Royal Academy of Sciences for 1718 a letter has been found confirming an eruption at the island of Saint-Vincent, previously regarded as doubtful.

PAUL LANGEVIN: Sagnac's experiment. Criticisms of a recent note on this subject by A. Dufour and F. Prunier.

PIERRE LEJAY: The variations in the quantity of ozone contained in the atmosphere in the neighbourhood of Shanghai. An analysis of five years observations.

NIKOLA OBRERCHKOFF: A theorem for the zeros of polynomials.

RAPHAËL SALEM: A generalization of Poisson's method of summation.

ROBERT CORDONNIER: The application of Verdet's law to solutions. The magnetic rotatory power of the ions.

JACQUES DUCLAUX and MIGUEL AMAT: Ultra-filters of carborundum. Carborundum powder has been separated by levitation into fractions of different sizes of grain, and from these, ultra-filters have been prepared capable of removing various colloidal suspensions, such as copper cobalticyanide, arsenic sulphide and ferric hydrate. The finest grain filters prepared fail to filter off Congo red.

MME. GERMAINE CHAUVENET and GABRIEL VALENSI: The velocity of oxidation of cobalt.

ANDRÉ MAMAN: Contribution to the study of the octanes. Ten isomeric octanes have been prepared and the temperatures determined at which carbon monoxide appears when the hydrocarbon mixed with oxygen is heated.

ANDRÉ DEBIERNE and LADISLAS GOLDSTEIN: New transformations produced at low temperatures (*frigidreactions*). It was shown in a previous note that certain gases, especially hydrogen and helium, in contact with carbon cooled in liquid nitrogen, gave rise to a large evolution of heat. In the experiments now described, the carbon has been replaced by other elements (beryllium, magnesium, aluminium, nickel, copper, sand) and the heat evolution noted. With beryllium and helium the evolution of heat is larger than with helium and carbon. Generally, the light elements give the most marked reaction. No radiations could be detected outside the apparatus, but it is suggested that the *frigidreactions* correspond to nuclear actions.

GEORGES PETIT: The mechanism of the attack by sulphuric acid on monomethylarsenic and dimethylarsenic acids.

RENÉ DUBRISAY and ALBERT SAINT-MAXEN: Researches on the basic lead acetates.

MAX MOUSSERON and ROBERT GRANGER: Some derivatives of the C<sub>6</sub> and C<sub>8</sub> 1,2-cyclanediols.

LUCIEN DAUTREBANDE, PIERRE ANGENOT and EDMOND DUMOULIN: The study of esparto grass antiaerosol filters. The protection of the antiaerosol filters against moisture by a layer of dehydrating substance.

RAYMOND JACQUESSON: A type of crystalline texture observed in aluminium wires submitted to alternating torsion.

EDOUARD ROCH: The Visean of the Haut-Atlas to the east of Marrakech.

EMILE THELLIER: The disappearance of the permanent magnetization of baked earths by reheating in zero magnetic field.

MME. C. SOSA BOURDOUIL: Remarks on the composition of the pollen of some Ranunculaceæ and on their systematic position. The nitrogen percentage in pollen is different in different botanical groups. Thus in the *Aquilegia* type the nitrogen in the pollen varies between 6.6 and 7.2 per cent; in the *Clematis* type, between 5.3 and 5.7 per cent; the *Ranunculus* type, between 4.2 and 4.9 per cent.

MARC MURAT: The vegetation of the western Sahara in Mauritania.

G. LAVIER: The cytology of the Protists of the genus *Blastocystis*.

## Cape Town

Royal Society of South Africa, July 21.

A. J. H. GOODWIN: Archaeology of the Oakhurst Shelter, George. (6) Stratified deposits and contents. The stratified deposits, excluding grave infillings, etc., are here discussed. The deposits include Middle Stone Age, Smithfield B, Smithfield C, Normal Wilton and Developed Wilton. (7) Summary and conclusions.

H. ZWARENSTEIN: Gonadotropic activity of amphibian pituitary. Implantation of 8-20 mgm. of anterior pituitary tissue of *Xenopus laevis* in immature female mice caused opening of the vagina, enlargement of the ovaries with occasional hæmorrhagic follicles (blood spots) and a two- to four-fold increase in uterine weight. Control implants of frog's brain, muscle, liver, kidney, spleen and ovary gave negative results.

R. H. SMITHERS: Notes on the stranding of a school of *Pseudorca crassidens* at Berg River mouth in December, 1936.

F. SEBBA and W. PUGH: Gallium. (4) The phosphates and arsenates of gallium. Gallium orthophosphate has been prepared by neutralizing a solution of a gallium salt in presence of a phosphate. The gallium is completely precipitated as a gelatinous phosphate. A crystalline variety has been prepared under pressure. Both forms are anhydrous. Gallium ortho-arsenate has been prepared in a similar way, and both gelatinous and crystalline forms have been obtained. The arsenate separates as the di-hydrate. A crystalline complex galli-arsenate has been prepared by using a large excess of arsenate in strongly alkaline solution under pressure.

August 18.

W. PUGH: Mercurous perchlorate as a volumetric reagent for chlorides and bromides. With bromphenol blue as absorption indicator, mercurous perchlorate gives an excellent colour change at the equivalent point. The results are accurate. It has the advantage over silver nitrate that it can be used in acid solutions.

P. W. LAIDLER: Pipes and smoking in South Africa: an account of the typology and distribution of pipes of clay, stone and bone in South Africa.

M. R. LEVYNS: The geographical distribution of plants in the western portion of the Little Karroo. The area discussed is bounded on the north by the Zwartberg and on the south by the Langeberg, and has an altitude a little under 2,000 feet. Numerous kopjes are dotted over the area. The flora consists largely of succulent plants and the vegetation as a whole is of a very open type. Four mountain ranges with altitudes in the neighbourhood of 5,000 feet occur as islands in the Karroo. Towards the summits of these isolated mountains the Cape flora gradually replaces the Karroo flora. This change may be correlated with an increase in rainfall.

J. C. MIDDLETON-SHAW: The teeth of South African fossil pigs (*Notochoerus Capensis* syn. *Meadowsi*) and their geological significance.

J. L. B. SMITH: An interesting post-larval stage of the "Galjoen".

### Cracow

Polish Academy of Sciences and Letters, June 14.

TH. BANACHIEWICZ: The precision of an elliptical orbit determined from three observations.

S. KACZMARZ: The resolution of a system of linear equations by successive approximations.

K. KOZIEL: Some formulæ relating to the ratios  $n_1$  and  $n_2$  of the areas of triangles.

MLLE. L. STANKIEWICZ: The arithmetical operations in the calculation of inverses according to the method of Banachiewicz.

S. PIOTROWSKI: A method of determining the orbital elements of double stars with eclipses.

S. PIENKOWSKI: The fluorescence of octahydro-fluorocyclene ( $C_{48}H_{36}$ ).

S. MROZOWSKI: The influence of the presence of a gas and of the magnetic field on the degree of polarization of the fluorescence of iodine vapour.

A. JAGIELSKI: The dielectric polarization and viscosity of the chlornitrobenzenes in the liquid state.

MLLE. B. TWARDOWSKA: Contribution to the study of the fluorescence and adsorption of biacenaphthylidene ( $C_{24}H_{16}$ ).

MLLE. Z. LEWKOWICZ: The influence of the wavelength of the exciting light on the relative yield of the fluorescence of benzene solutions of biacenaphthylidene ( $C_{24}H_{16}$ ).

K. DZIEWONSKI and L. GIZLER: The synthesis of fluorocyclene ( $C_{48}H_{24}$ ) and its transformations into other hydrocarbons.

W. BEDNARCZYK and L. GIZLER: The absorption of ultra-violet radiation by fluorocyclene and by hydrocarbon products of its transformations.

B. SKARZYNSKI: The absorption of ultra-violet radiation by ascorbic acid (vitamin C).

J. NOWAK: The age of the Magura grit in the region of Babia Góra.

MLLE. K. CISZEWSKA and M. KSIAZKIEWICZ: Comparison of the Wienerwald fleisch with that of the Carpathians.

F. ROGOZINSKI: (1) Contributions to the estimation of magnesium. (2) The gravimetric estimation of chlorophyll.

E. FRÖHLICH: Systematic studies on the Cochlearia of Poland and other congeneric European species.

L. KORZENIEWSKI: Biometric studies on the variation of the seeds of the Siberian cedar (*Pinus Cembra*).

W. JUSZCZYK: The distribution of the chromatophores in the skin of *Pelobates fuscus* and in that of flavistic specimens.

F. ROGOZINSKI: Carotenoids and chlorophyll in the digestion of the ruminant.

J. GALLERA: The development of the extra-neutral ectoderm in birds.

ST. MARKOWSKI: Evolutionary cycle and biology of the nematode *Contracaecum aduncum*.

### Rome

National Academy of the Lincei (*Atti*, 24, 493-530; 1936).

F. SEVERI: Supplements to the general theory of correspondences between algebraic varieties (1).

G. BARBA: Definite polynomials (2). Classes of definite polynomials obtained from some which are fixed in advance.

G. ARRIGHI: Mechanics of floats with internal cyclic motions.

L. SONA: Dynamic actions of a translo-circulatory current which invests an obstacle consisting of two crossed laminae.

P. CALOI: Hypocentral depths, with particular regard to the earthquakes of the Carnic Alps (June 8, 1934) and of Lake Constance (January 31, 1935).

G. LOLLI: Curves of alcoholæmia obtained by administering hydro-alcoholic drinks through a gastric and duodenal tube.

M. PIROTTI: Presence of a true subrenal capsule in *Selaci*.

S. RANZI: Endocrine glands, sexual maturity and gestation in *Selaci*.

*Atti*, 25, 3-71; 1937.

F. SEVERI: Supplements to the general theory of correspondences between algebraic varieties (2).

E. ALMANZI: Fundamental principle of classical mechanics.

G. CHECCHIA-RISPOLI: Preliminary observations on the Cenozoic series of the Apulian Appenines.

G. BARBA: Definite polynomials (3). Interpretations, properties and supplements.

R. CACCIOPOLI: Analytical character of the solutions of a class of problems of the calculus of variations.

M. HAIMOVICI: Surfaces which correspond through parallel tangent planes so as to conserve a Tchebycheff lattice.

E. MARTINELLI: Cauchy's formula for the analytical functions of two complex variables.

G. OBERTI: Wave propagation in imperfectly elastic systems.

G. PICCARDI: Molecular spectra and spectroscopic analysis (5). Detection of gadolinium.

C. SANDONNINI and N. BORGHELLO: Electrolysis of iodine monochloride in various solvents.

O. VERONA and G. BONAVENTURA: Influence exerted on the development of plants by the partial elimination of the reserves accompanying the embryo, and the probable presence in them of 'growth substances'.

E. CARANO: Memorial lecture on Pietro Romualdo Pirota.

L. CARNERA: Memorial lecture on Friedrich Küstner.