

Societies and Academies

PARIS

Academy of Sciences, April 1 (*C.R.*, 200, 1161-1256). PAUL LANGEVIN: A suggested experiment of M. Dufour. This experiment was suggested as one capable of differentiating between classical kinematics and that of limited relativity. A mathematical analysis shows that, in the form laid down by M. Dufour, the experiment would fail to detect any difference. A modification is suggested by the author, which is theoretically capable of detecting the difference, but in practice it cannot be carried out. ERNEST ESCLANGON: Experimental researches on the optical dissymmetry of space. JULES HAAG: The algebraic structure of the admittances of a filter as a function of the frequency. FLORIN VASILESCO: The continuity of the potential through masses and the demonstration of a lemma of Kellogg. GHERMANESCO: Exceptional homogeneous combinations of integral functions. ANDRÉ FORTIER: The kinematics of flow round profiles with hyper-sustaining arrangements. ADRIEN FOCH and CHARLES CHARTIER: The flow of a fluid below a sphere. PIERRE LEJAY and TSANG HUNG-CHI: Observations of the intensity of gravity at the centre of China. Table of results from sixty-five stations, showing the reduced values of g and the corresponding anomalies. LUCIEN BULL: A liquid string galvanometer. A modification of the string galvanometer, using a thread of water of 0.3 mm. diameter. CH. LAVANCHY: General method of calculation for electrical networks. PIERRE GIRARD and PAUL ABADIE: The detection of molecular interactions by the relaxation time of polar molecules. ANDRÉ CHARRIOU and Mlle. S. VALETTE: The influence of the cations on photographic emulsions. Mlle. Cécile STORA: The action of gases (hydrogen, nitrogen, oxygen) on photo-cells with colouring matters. Mlle. YVETTE CAUCHOIS: Study of the L spectrum of mercury. C. G. BEDREAG: The place of protons and neutrons in the natural systematics of the elements. B. KURCHATOV, J. KURCHATOV and G. LATYCHEV: The disintegration of boron by slow neutrons. The vapour of methyl borate was acted upon by slow neutrons and the effects followed by the Wilson method. The photographs show that the disintegration was accompanied by the emission of two heavy particles and not three as found by Chadwick and Goldhaber. B. KOURCHATOV, I. KOURCHATOV, L. MYSSOWSKY and L. ROUSSINOW: An example of artificial radioactivity, produced by bombardment with neutrons, without capture of the neutron. GEORGES WOLF: Study of the binary system strontium nitrate - strontium hydroxide. E. RINCK: Solidification diagrams of the alloys formed by two alkali metals; the potassium-rubidium alloys. FRANÇOIS PUCHE: The thermal decomposition of the chloride and chlorosalts of palladium. MAURICE CHAIX: The ultra-violet absorption spectra of derivatives of diphenylene sulphide and diphenylene-sulphone. HENRI GUÉRIN: The reduction of the arsenates of the alkaline earths by carbon. Tricalcium and tristrontium arsenates. GUY GIRE: The formation of basic sulphate and the precipitation of nickel in solution by magnesium. PIERRE CARRÉ and DAVID LIBERMANN: The reaction of thionyl chloride and phenylglycolic acid. M. TIFFENEAU and P. WEILL: The hydrobenzoin dehydration of phenylethylglycol. The formation of α -phenyl-

crotonic aldehyde. VICTOR HARLAY: Some silver compounds of thiosemicarbazide and of the thiosemicarbazones. FRANÇOIS SALMON-LAGAGNEUR: Some reactions of the chloride of the α -mononitrile of camphoric acid. ISSAC KOGA and MITSUO SHOYAMA: The frequency-temperature characteristics of quartz plates oscillating with zero temperature coefficient. J. FRANC DE FERRIÈRE: The history of the loess soils of the Rhenish terraces in Haute-Alsace. LOUIS and HENRI LONGCHAMBON: The extension of the Toarcian hydrocarbon facies in the east of France. CH. COMBIER: The constitution of the sand winds in Syria. ROBERT GIBRAT and GEORGES VIEL: The relation between the electrical conductivities of the air and the danger arising from lightning. R. GUIZONNIER: The amplitude of the semidiurnal component of the gradient of terrestrial electric potential and solar activity. MME. C. SOSA-BOURDOUIL: Physiological researches on the parents and hybrids of the bean, *Vicia Faba*. MAURICE MARIE JANOT: The action of folliculine and equiline on the development of the hyacinth. JOSEPH and CHARLES BOUGET: Cultures of tubers obtained by the germination of seeds of potato raised in the mountains in 1933. ROBERT ECHEVIN: The absorbing power of soils towards magnesium chloride. LOUIS MAUME and JACQUES DULAC: The C/N ratio in the wheat plant at heading and flowering: its marked variations with the medium. JAMES BASSET, EUGÈNE WOLLMAN, MICHEL A. MACHEBŒUF and MICHEL BARDACH: The biological effects of ultra-pressures: the action of high pressures upon tumours. Mlle. HENRIETTE GARRAULT: The formation of rods of elastoidine in embryos of Salmonidæ. P. LECOMTE DU NOÛY and Mlle. VIVIANE HAMON: A new method of estimating the diphtheria antitoxin by the viscosity. RENÉ LEGROUX and ANDRÉ LWOFF: The schizogonic evolution of the macrogametocyte of *Hæmoproteus paddæ*. FRÉDÉRIC DIÉBERT: Study of the clarification of water by micro-organisms. PAUL GIROUD and HARRY PLOTZ: Crossed immunity between cultures of historic exanthematic typhus (murin) and the virus of passage.

CRACOW

Polish Academy of Science and Letters, March 4. M. WOLFKE: The effective section of the neutrino. Starting with the measurements of Chadwick and Lea, and taking account of the ionisation by the secondary electrons, the free path of the neutrino in normal air is about four million kilometres, corresponding to an upper limit of the effective section of the neutrino of about 7×10^{-33} cm.². Mlle. S. SZAFRANSKA: The viscosity of mixtures of hexane and nitrobenzene in the neighbourhood of the critical temperature of solution. The isothermal lines of the viscosity of mixtures are quite regular in the region not showing the phenomenon of opalescence. This is not in agreement with the results obtained by Drapier and it is suggested that these irregularities were due to Reynolds's condition not being fulfilled. B. KAMIENSKI: A method of measuring the dielectric potentials at the surface of separation of the phases solution: air. A dynamical method is employed, the solutions flowing concentrically together. Owing to the surfaces being continually renewed, the results are more constant than those obtained by the static method. L. MARCHLEWSKI and J. SKULMOWSKI: The absorption of ultra-violet rays by certain organic substances (38). L. MARCHLEWSKI and W. URBANCZYK: Studies of some chlorophyll derivatives.

M. KSLAZKIEWICZ: Zone of the Carpathian klippe in the neighbourhood of Andrychow (2). The klippe of Panska Góra and of Targanice. W. SZAFER: The forest and steppe of the western part of Podolie. A. BURSA: List of the Algæ collected in the waters of the Polish shore of the Baltic. MLLE. M. SKALINSKA: Cytogenetic studies on a tetraploid hybrid of *Aquilegia*. T. SULMA: Remarks on the ecology and distribution of the lichens in the Lublin plateau. MLLE. J. WOLOSZYNSKA: Some remarks on *Attheya decora*, a very rare plancton diatom. MLLE. J. WOLOSZYNSKA: The efflorescence of the Cyanophyceæ in the gulf of Gdansk, and the abundant development of the diatom *Chaetoceros Eibensii*.

LENINGRAD

Academy of Sciences (C.R., 1, No. 4; 1935). N. ROMANOV: The possibility of connecting the Pavlov theory of conditioned reflexes with the theory of probabilities. I. PRIVALOV: Some problems of the theory of subharmonic functions (1). L. KANTOROVITCH: Continuation of linear functionals. K. NIKOLSKIJ: Relation between the field equations of Born-Infeld and Dirac's quantum equation. E. GROSS and M. VUKS: The Raman spectrum of amorphous bodies. L. GROSHEV: The crystal photo-effect in naturally coloured rock salt. K. ANDREJEV: The burning of explosives. S. NAMETKIN and N. MELNIKOV: Contribution to the chemistry of organic compounds of thallium. J. ELLENHORN, A. PROKOFJEVA and H. J. MULLER: Optical resolution of chromosomes of *Drosophila* by means of ultra-violet light. P. TERENTJEV: Contribution to the problem of the real significance of the Pearson type of distribution curves in the case of biological objects. E. WERMEL and M. MICEVICH: Influence of hormones on the growth of tissue cultures. A. LINDBERG: Influence of caffeine on the activity of the outer layer of the cerebral hemispheres. S. KAGANOVSKAYA and A. SHLYKOVA: Influence of potassium chloride and calcium chloride on the respiratory metabolism of nerves. L. YAKUBOVA: The biogeographic division of the Black Sea on the basis of composition and distribution of its centhos fauna. S. TARANETZ and A. ANDRIASHEV: A new fish of the family Zoarcidae from the littoral fauna of the Commanders' Islands.

VIENNA

Academy of Sciences, March 7. JOVAN JURISIUĆ: Morphology and teratology of the blooms, and propagation, of *Bryophyllum crenatum*, Baker. KARL PRZIBRAM: Fluorescence of fluorite (5). Fluorescence of europium dichloride, and alkali halide-europium phosphors. Pure europium dichloride shows a bright purple fluorescence; the spectrum exhibits the blue fluorite bands and, in the red, a narrow line-like band at 690 m μ and a paler one at 630 m μ , corresponding with that given by fluorites. As previously supposed, the blue bands of fluorite are those of bivalent europium, and the same is probably the case for the red bands. Europium may be rendered capable of fluorescence by incorporation in alkali halides, and then shows, after radium irradiation or heating, the red and blue bands; the latter serve as a sensitive indicator for europium. G. NATTA, M. BACCAREDDA and R. RIGAMONTI: Electron diffraction as an aid to the determination of the structure of organic substances. KURT EHRENBERG: Comparative studies of juvenile skulls and milk-teeth of the cave hyena and its recent relatives.

Forthcoming Events

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

Sunday, May 19

BRITISH MUSEUM (NATURAL HISTORY), at 3 and 4.30.—M. A. Phillips: "Fossil Reptiles".*

Monday, May 20

ROYAL GEOGRAPHICAL SOCIETY, at 5.—J. Wright: "The Hagavatn Gorge, Iceland".

NATIONAL INSTITUTE OF INDUSTRIAL PSYCHOLOGY, at 5.30.—(London School of Hygiene and Tropical Medicine, Keppel Street, W.C.1).—Prof. Major Greenwood: "Temperaments Physical and Psychological in Modern Science".*

Thursday, May 23

ROYAL SOCIETY, at 4.30.—Prof. J. Barcroft: "Foetal Respiration" (Croonian Lecture).

ST. MARY'S HOSPITAL, LONDON, at 5.—Dr. C. H. Andrewes: "The Cancer Problem: Some Fresh Clues".*

CHADWICK PUBLIC LECTURE, at 5.30.—(in Manson House, 26 Portland Place, W.1).—Miss Noel Tidy: "Physical Exercises: Educational and Preventive".*

CHEMICAL SOCIETY, at 8.—Prof. J. E. Coates: Haber Memorial Lecture.

Official Publications Received

GREAT BRITAIN AND IRELAND

Air Ministry: Aeronautical Research Committee: Reports and Memoranda. No. 1621 (S. 178): Cine-Photographic Measurements of Speed and Attitude of Southampton Aircraft when Taking Off and Alighting. By A. E. Woodward Nutt and Dr. G. J. Richards. Pp. 13+7 plates. 1s. net. No. 1623 (T. 3488): Effect of Discs on the Air Forces on a Rotating Cylinder. By Dr. A. Thom. Pp. 10+7 plates. 9d. net. No. 1626 (T. 3534): Interference Effect of Surface of Sea on a Flying Boat. By W. L. Cowley and G. A. McMillan. Pp. 15+8 plates. 1s. net. No. 1627 (T. 3586): Tests of Six Aerofoil Sections at Various Reynolds Numbers in the Compressed Air Tunnel. By E. F. Relf, Dr. R. Jones and A. H. Bell. Pp. 28+6 plates. 1s. 6d. net. (London: H.M. Stationery Office.)

OTHER COUNTRIES

Merentutkimuslaitoksen Julkaisu: Havsforskningsinstitutets Skrift. No. 98: The Thalassological Summer Cruise in 1934. By E. Palmén. Pp. 17. No. 99: Vedenkorkeusarvoja 1933 (Vattenståndsuppgifter 1933). By S. E. Stenij. Pp. 52. No. 100: Regular Observations of Temperature and Salinity in the Seas around Finland, July 1933–June 1934. By Gunnar Granquist. Pp. 45. (Helsinki: Merentutkimuslaitos Havsforskningsinstitutet.)

Proceedings of the California Academy of Sciences, Fourth Series. Vol. 21, No. 20: The Templeton Crocker Expedition of the California Academy of Sciences, 1932. No. 20: The Termites. By S. F. Light. Pp. 253–256+plates 9–10. No. 21: The Templeton Crocker Expedition to Western Polynesian and Melanesian Islands, 1933. No. 21: Some Marine Plants of Southeastern Melanesia. By William Albert Setchell. Pp. 259–270+plates 11–15. (San Francisco: California Academy of Sciences.)

Zoologica. Vol. 19, No. 1: The Distribution of Certain Whales as shown by Logbook Records of American Whaleships. By Charles Haskins Townsend. Pp. 50+4 plates. Vol. 19, No. 2: The Vampire Bat: a Presentation of Undescribed Habits and Review of its History. By Raymond L. Ditmars and Arthur M. Greenhall. Pp. 53–76+plates 5–7. (New York: New York Zoological Society.)

U.S. Department of Commerce: National Bureau of Standards. Research Paper RP 756: A Maxwell Triangle yielding Uniform Chromaticity Scales. By Deane B. Judd. Pp. 41–57. (Washington, D.C.: Government Printing Office.) 5 cents.

Ceylon: Sessional Paper 4.—1935. Report and Accounts of the Coconut Research Scheme for 1934. Pp. 11. (Colombo: Government Record Office.) 15 cents.

CATALOGUES

A Catalogue of Rare and Interesting Books, XVIIth and XVIIIth Centuries and onwards. (No. 474.) Pp. 36. (Cambridge: Bowes and Bowes.)

General Catalogue of Books, with a selection of Atlases and Maps. (No. 585.) Pp. 98. (London: Francis Edwards, Ltd.)

Catalog and Price List of Eastman Organic Chemicals. Twenty-sixth edition. 112. (Rochester, N.Y.: Eastman Kodak Co.)

The Salerno Process and the Extraction of Oil from Oil Shales and Torbanites. Pp. 24. (London: Salerno, Ltd.)