

Societies and Academies

Paris

Academy of Sciences, July 6 (*C.R.*, 203, pp. 1-136)*.

JACQUES ERRERA, POL MOLLET and M^{lle}. MARY L. SHERRILL: Tetramethylethylene and the influence of the double bond. Study of the infra-red spectrum.

VICTOR HENRI: The electronic state of the radicals in polyatomic molecules. The radicals discussed are SO, CN, C=C, NN, and NO. The results relating to the electronic states of the radicals, based on infra-red and Raman spectra, and on the determination of the distance between the atoms of the radicals measured by X-rays or electron rays, can serve as a basis for the analysis of the mechanism of chemical reactions between these molecules. They lead to a new interpretation of the laws of chemical kinetics.

MAURICE BACHELET: The extraction of uranium X by precipitation of ferric hydroxide. The exact working conditions are given: the yields vary from 85 to 95 per cent.

MAURICE E. NAHMIAS and ROBERT J. WALLEN: Some artificial radio-elements. Results of the bombardment of fluorine and sodium by neutrons.

HANS VON HALBAN, JUN. and PIERRE PREISWERK: Experimental proof of the diffraction of neutrons.

GEORGES CARPENI: The dissociation constants of ascorbic acid and of its product of oxidation by iodine.

ALEXANDRE KRASSILCHIK: The use of the uranyl-magnesium reagent in dilute alcohol. Discussion of the errors inherent in this method of determining sodium, and suggestions for their elimination.

M^{lle}. JEANNE FORET: The synthesis of hydrated mono-calcium silicates under pressure.

TRYPHON KARANTASSIS and LEANDRE CAPATOS: The hexa-iodotellurates of the aromatic amines and of the heterocyclic bases.

ADRIEN PERRET and JOSEPH BIECHLER: Researches on some chlorocarbonates.

M^{lle}. JEANNE BOULANGER: Study of the systems zirconyl oxalate, alkaline oxalates and water.

PIERRE SÜE: The thermal equilibrium between Nb₂O₅, Na₂CO₃, CO₂.

GEORGES DUPONT and RAYMOND DULOUE: The oxidation of cyclohexene by hydrogen peroxide.

JULES GARRIDO: The dehydration of brucite.

JEAN WYART and YEU KI-HENG: The crystallographic study of some derivatives of tartaric acid. X-ray studies of tartramide, tartramic acid, methyl tartrate and potassium borotartrate.

PIERRE MARIE: The Cretaceous micro-fauna of the south-east of the Paris basin.

MARCEL ROUBAULT: The radioactivity of some natural springs of the Kahylie de Collo (Department of Constantine, Algeria).

CHARLES BOIS: Earthquakes with abnormally deep focus. A table showing focal depth obtained by various authors by different methods.

PAUL CORSIN: The phylogeny of the Inversicatenales.

PAUL BERTRAND: Some fundamental observations for the comprehension of the organization of vascular plants.

ROGER HEIM: The phylogeny of the Lactario-Russula.

M^{lle}. JANE MANUEL: The sexuality of *Hansenula Saturnus* and of some species of the genus *Saccharomyces*.

* Continued from p. 338.

MARCELL MASCRE and RENE RAYMOND-PARIS: The comparative action of acrolein vapour on the cellular structure and glucidic composition of some plant tissues.

ANTOINE DE CUGNAC: The experimental production of inter-specific hybrids in the genus *Bromus*, and some related systematic considerations.

DESIRE LEROUX: The influence of the trituration of cultivated soils on the amount of essential fertilizing principles in their aqueous extract.

ROBERT CASTAGNE: The improvement of technique [historiography]. Substitution of a window of lithium for one of aluminium. Lower voltages can be used and exposures shortened.

EMILE HAAS: Comparison between the energy of a simple radiation and that of a mixture of radiations of the same visual appearance.

CHARLES LAPICQUE: The optical structure of the vitreous body.

R. JONNARD: The interferential study of the refraction of blood serum as a function of the concentration.

STIG VEIBEL and ERIC NIELSEN: A case of a non-hydrolyzable β -glucoside.

JEAN ROCHE and M^{lle}. MARIE THÉRÈSE BÉNEVENT: The hæmatins of the α -cytochromes.

THEOPHILE CAHN and JACQUES HOUGET: The utilization of glucides in experimental diabetes.

GASTON RAMON and ANDRÉ STAUB: A new method of anthrax vaccination.

Moscow

Academy of Sciences (*C.R.*, 2, No. 1, 1936).

S. MICHLIN: Composition of double integrals.

L. KANTOROVICH: Some theorems on semi-regular spaces of general type.

B. DEMIDOVICH: Existence of an integral invariant in a complex of periodic points.

P. A. WALTHER and V. A. STEFANOVSKIY: Action of centrifugal forces inside the axial pump.

A. A. GRUNBERG and B. V. PTICYN: Titration of bivalent platinum and trivalent iridium at different temperatures.

J. G. RYSS and N. P. BAKINA: Complex fluorides. (1) Hydrolysis of the silicofluoride ion.

W. A. SILBERMINZ and A. K. RUSANOV: Occurrence of beryllium in fossil coals.

G. M. SMIRNOV and G. M. ZARIDZE: Neo-intrusions of the Dzyrul crystalline massif.

A. M. LEBEDEV and L. I. SERGEJEV: Regeneration of vernalized plants after injury of the growing points.

I. N. KONOVALOV: The effect of the vernalization of plants upon the accumulation of organic substance.

S. V. DOROFJEV: Observations on the reproduction period of Greenland seals (*Histiophoca (groenlandica oceanica) Lepechin*).

A. S. SEREBROVSKIY: An attempt at a new method of genetical analysis of quantitative characters.

(*C.R.*, 2, No. 2, 1936).

P. S. ALEXANDROFF: Contribution to the theory of topological space.

B. Z. VULICH: Some remarks to the theory of K -normed space.

V. RASUMOVSKIY: Latent polarity and explicit polarity of molecules.

L. W. NIKITIN: Acoustico-electrochemical phenomena (2).

I. N. NAZAROV: Metal-ketyls of the fatty series. (4) Action of metallic sodium on *tert.*-butyl-*tert.*-amyl and *tert.*-butyl-*tert.*-hexyl ketones.

T. N. GODNEV and S. V. KALISHEVICH: Quantitative determination of chlorophyll with the aid of the light of a Lange electrical colorimeter.

P. G. DANILCHENKO: Ecology of the spawning migrations of the salmon.

Washington, D.C.

National Academy of Sciences (*Proc.*, 22, 327-434, June 15).

FREDERICK H. SEARES: Selective absorption of starlight by interstellar clouds. Measures of the colours of certain stars in luminous or dark nebulosities show them to be redder than would be expected from their spectral types. This seems to be due to selective absorption of light, and quantitatively it is sufficient to require a radical change in the estimated dimensions of the stellar system.

CECILIA PAYNE GAPOSCHKIN: On the physical condition of the super-novæ. Their spectra are similar to those of ordinary novæ, but with wider bright lines. It is concluded that they differ from novæ mainly in size, having possibly developed from giant stars.

E. S. CASTLE: A model imitating the origin of spiral wall structure in certain plant cells. Six wooden dowels are fixed in a wooden base and their free ends separated by a small wooden spool. A ring pushed down over the dowels produces a spirally twisted formation, which seems to be similar to that of the wall of the spore-bearing cells of *Phycomyces*.

NATHANIEL LYON GARDNER: A new red alga from New Zealand. It is parasitic on *Zostera* and has two forms, one having erect filaments (*Erythrocladia Hunteri*).

N. L. BOWEN and J. F. SCHAIRER: The system albite - fayalite. The mixture is heated in a crucible suspended in a platinum resistance furnace, and the temperature of appearance of a phase is determined by quenching the charge in mercury and examining it under the petrographic microscope to determine the phases present. The diagram for albite - fayalite is of simple eutectic type. It is hoped to use the marked fluxing action of albite to examine the equilibrium relations of other silicate mixtures.

M. DEMEREC: Frequency of 'cell-lethals' among lethals obtained at random in the X-chromosome of *Drosophila melanogaster*.

ALEŠ HRDLIČKA: Puberty in Eskimo girls. The age of onset for 16 full-blooded Kuskokwim Eskimos (Alaska) and also of 6 mixed-bloods is 13½ years, which is unexpectedly low for so far north.

FROELICH G. RAINEY: Eskimo chronology. A test cut to a depth of fourteen feet through a stratified midden deposit at Kukulik, St. Lawrence Island, Alaska, has revealed six cultural horizons, most of which have been recognized at widespread Eskimo sites in the Arctic.

WILLIAM HOVGGAARD: Torsion of rectangular tubes. Current theory, based on a hydrodynamical analogy, represents the angle of torsion correctly up to the point of breakdown, but gives an incorrect picture of the stress distribution.

R. COURANT: (1) On the problem of Plateau. (2) On the theory of conformal mapping.

G. A. MILLER: Regular subgroups of a transitive substitution group.

HANS LEWY: Generalized integrals and differential equations.

J. W. ALEXANDER: On the connectivity ring of a bicomplex space (2).

(To be continued.)

Forthcoming Events

NORTH OF ENGLAND INSTITUTE OF MINING AND MECHANICAL ENGINEERS, August 29.—Annual General Meeting to be held at Newcastle-upon-Tyne.

Official Publications Received

Great Britain and Ireland

Survey of Thunderstorms in the British Islands. British Thunderstorms, continuing Summer Thunderstorms. Fourth Annual Report. 1934. (Vol. 2, Part 1.) By S. Morris Bower and others. Pp. iv + 48 + 4 plates. (Huddersfield: Thunderstorm Census Organisation.) 2s. 6d. [48]
The Kent Incorporated Society for Promoting Experiments in Horticulture. Annual Report (Twenty-third Year) 1935, East Malling Research Station, East Malling, Kent, 1st January 1935 to 31st December 1935. (A. 19.) Pp. 242 + 10 plates. Free to Associate Members; to non-Members, 4s. Supplementary Annual Report (Twenty-third Year). General Development and Activities, East Malling Research Station, East Malling, Kent, 1st January 1935 to 31st December 1935. (Miscellaneous Publication H. 26.) Pp. 22. (East Malling: East Malling Research Station.) [48]
Prospectus of the University College of Wales, Aberystwyth. Sixty-fifth Session, 1936-1937. Pp. 128. (Aberystwyth: University College of Wales.) [78]

Other Countries

Annales de l'Institut de Physique du Globe de l'Université de Paris et du Bureau Central de Magnétisme Terrestre. Publiées par les soins de Prof. Ch. Maurain. Tome 14. (Pp. ii + 102. (Paris: Les Presses universitaires de France.) [78]
Publications of the Dominion Observatory, Ottawa. Vol. 12: Bibliography of Seismology. No. 8 (Items 2842-2941): October, November, December, 1935. By Ernest A. Hodgson. Pp. 157-178. 25 cents. No. 9 (Items 2942-3041): January, February, March, 1936. By Ernest A. Hodgson. Pp. 179-194. 25 cents. (Ottawa: King's Printer.) [78]
Report of the Aeronautical Research Institute, Tôkyô Imperial University. No. 140: The Nature of the Deflection-Aileron Flutter of a Wing as revealed through its Vibrational Frequencies. By Katsutada Sezawa and Satosi Kubo. Pp. 301-338 + plates 4-7. (Tôkyô: Kôgyô Toshô Kabushiki Kaisha.) 50 sen. [108]
Koninklijk Nederlandsch Meteorologisch Instituut. No. 102, Mededeelingen en Verhandelingen, 38: De gemiddelde hoogtewind boven De Bilt volgens loodsbalkwaarnemingen. Door W. Bleeker. Pp. v + 126. (s-Gravenhage: Rijksuitgeverij.) 1.10 fl. [108]
Proceedings of the First Meeting of the Crops and Soils Wing of the Board of Agriculture and Animal Husbandry in India, held at Delhi from the 25th February to the 2nd March 1935; with Appendices. Pp. v + 377. (Delhi: Manager of Publications.) 6 rupees; 9s. 9d. [108]
Proceedings of the Academy of Natural Sciences of Philadelphia. Vol. 87, 1935. Pp. iii + 572 + 17 plates. (Philadelphia: Academy of Natural Sciences.) 6.25 dollars. [108]
The Indian Central Cotton Committee. Spotted Boll-Worms in South Gujarat. Pp. 24. (Bombay: Indian Central Cotton Committee.) [108]
Indian Forest Records (New Series). Vol. 1, No. 3: Results obtained with a Timber Drying Kiln heated directly by Furnace Gases (Heimpel and Besler's Double Firing Generator Kiln). By Dr. S. N. Kapur. Pp. iii + 77-92 + 2 plates. 10 annas; 1s. Vol. 2, No. 2: Standard and Commercial Volume Tables for *Dalbergia sissoo*. By M. A. Kakazal. Pp. iv + 47-58 + 3 plates. 8 annas; 10d. (Delhi: Manager of Publications.) [108]
Memoirs of the India Meteorological Department. Vol. 26, Part 5: Soundings of Temperature and Humidity in the Field of a Tropical Cyclone and a Discussion of its Structure. By Dr. K. R. Ramanathan. Pp. 79-92 + 8 plates. (Delhi: Manager of Publications.) 1.6 rupees; 2s. 3d. [108]
Jahresbericht der Hamburger Sternwarte in Bergedorf für das Jahr 1935. Erstattet von dem Direktor Dr. R. Schorr. Pp. 25 + 4 plates. Astronomische Abhandlungen der Hamburger Sternwarte in Bergedorf. Band 4, Nr. 8: Untersuchungen über die Methode der effektiven Wellenlängen. Von Marius Lobsien. Pp. 201-212. (Bergedorf: Hamburger Sternwarte.) [108]
U.S. Treasury Department: Public Health Service. Variations in Physique and Growth of Children in Different Geographic Regions of the United States. Physical Measurement Studies, No. 2. By Carroll E. Palmer and Selwyn D. Collins. (Reprint No. 1677 from the Public Health Reports.) Pp. 13. 5 cents. Height and Weight of Children of the Depression Poor. Health and Depression Studies, No. 2. By Dr. Carroll E. Palmer. (Reprint No. 1701 from the Public Health Reports.) Pp. 7. 5 cents. Changes in the Incidence and Fatality of Smallpox in Recent Decades. By Dr. A. W. Hedrich. (Reprint No. 1738 from the Public Health Reports.) Pp. 30. 5 cents. (Washington, D.C.: Government Printing Office.) [108]
Hamburger Sternwarte in Bergedorf. Bergedorfer Eigenbewegungs-Lexikon für die in der Bonner Durchmusterung, der Cordoba Durchmusterung und der Cape Photographic Durchmusterung, enthaltenen Sterne des nördlichen und südlichen Himmels. 2. Ausgabe. Unter Mitwirkung von Dr. W. Kruse und B. Imgart. Herausgegeben von Prof. Dr. Richard Schorr. Band 1: Nördlicher Sternhimmel. Pp. viii + 410. Band 2: Südlicher Sternhimmel. Pp. viii + 232. (Bergedorf: Hamburger Sternwarte.) [108]
The Academy of Natural Sciences of Philadelphia. Annual Review, 124th Year, 1935. Pp. 16. (Philadelphia: Academy of Natural Sciences of Philadelphia.) [118]