

Science News a Century Ago

Meeting of the Royal Geographical Society

AN ordinary meeting of this Society was held on Monday, December 14, 1835, at its rooms in Regent Street. The president, Sir John Barrow, "announced that the Council had decided that His Majesty's annual premium should be awarded to Captain Back, on account of his recent discoveries, and particularly of a large river running beyond the Great Slave Lake a distance of 500 miles. He felt convinced that the south land seen by Captain Back was the coast of North America, and this convinced him of the possibility of a north-western passage. He was happy to state that the Council had decided in Captain Back's favour on no other authority than that of his simple and affecting narrative. So closely had he been within starvation that he had been compelled, on one occasion, to eat his own shoes; yet notwithstanding the great sufferings which he had undergone, he had come forward gratuitously to the assistance of his 600 fellow-countrymen who were now enclosed in the ice on the shores of Greenland with no other prospect before them than death. He was happy to announce that Captain James Ross had previously offered his aid to the Admiralty, which, he had every reason to believe, would be accepted." (*Courier*.)

Central Agricultural Society of Great Britain and Ireland

As the result of a largely attended meeting held on December 15, 1835, at the Freemasons' Tavern, Great Queen Street, a society called the Central Agricultural Society of Great Britain and Ireland came into existence. At the meeting, Mr. Ormsby Gore, M.P., was in the chair, while the Earl of Stanhope was the principal speaker. A few days later, on December 21, the Society published a notice in *The Times*, stating that at a meeting of the Committee held on December 16, at 448 West Strand, London, it was resolved that the objects of the Society "be exclusively national; directed to no theoretical purposes but formed solely with a view to procure the co-operation of the owners and occupiers of land in every practicable measure which can afford relief to the present distressed state of agriculture . . . and with a view to improvement in every branch of practical agriculture".

Manufacture of Machinery in Germany

ON December 18, 1835, *The Times* quoted the following extract from a Frankfort paper: "We have much cause to rejoice at the great advance which has been made in Prussia within these last few years in the manufacture of machinery. It is not very long ago, for almost every large machine, we required help from England, and had the greater part from that country. Now an entire change has taken place in this respect, and the great establishment of this kind in Berlin, furnishes the most complete and admirable machines at far lower prices than in England. These happy results we owe to the zeal of Privy Councillor Beuth, who, as President of the Mechanics' Institution and Director of the Department of the Interior, does everything to favour and improve the construction of machines". Beuth was born at Cleve in 1781 and died in Berlin in 1853. A statue of him was erected in 1861.

Monument to Laplace

ON December 19, 1835, the *Athenæum* stated: "A monument has been raised to this great man at Beaumont, and placed on the site of the house where he was born. It is a building erected for the purposes of a primary school, and a hall for the mayoralty. Two tablets of marble are inserted in the front of the building, on one it is recorded that the corporation of Beaumont had erected their edifice to the memory of Laplace, born at Beaumont, the 22nd of March 1749 and died at Paris the 5th March 1827. On the other is inscribed:

'Sous un modeste toit, ici naquit Laplace,
Lui qui sut de Newton agrandir le compas,
Et, s'ouvrant un sillon dans les champs de
l'espace
Y fit encore un nouveau pas.'

Societies and Academies

DUBLIN

Royal Dublin Society, November 26. G. F. MITCHELL: A recent bog-flow in Co. Clare. On October 29, 1934, a mountain bog burst above an escarpment which interrupted the gentle slope of the hillside. The bank of well-drained peat overlooking the escarpment gave way, allowing the bog above that level to flow away violently. It is suggested that the heavy rainfall (more than 2 in.) in the vicinity in the preceding week had increased the weight of the bog, and caused the supporting bank to give way. E. J. SHEEHY: The mechanical aspect of the nutrition of farm stock. Insufficient recognition of the mechanical effect of foods explains the absence of uniformity sometimes occurring in the results of different laboratories, and also the frequent conflict of opinion between the scientific worker and the practical feeder. Certain foods have, in particular circumstances, a nutritive value in excess of their net energy value. G. CRUESS-CALLAGHAN: The application of the catalase test to butter. An analysis of the large number of results published by Knudsen (probably for butter made from ripened cream) yields a value about -0.4 for the coefficient of correlation between the catalase figure and the quality of the butter, and about the same value for the coefficient for the catalase figure and the keeping property. Reasons are suggested for the varying coefficients, ranging from -0.191 to $+0.96$, put forward by other workers.

PARIS

Academy of Sciences, November 12 (*C.R.*, 201, 861-916). AUGUSTE BÉHAL: Scientific bibliography. EDGAR BATICLE: The problem of distribution. GÉZA KUNETZ: The conservation of the Spearman common factor in a linear substitution. NIL GLAGOLEFF: Axioms of appurtenance of Euclidian geometry. MARCEL VASSEUR: Tangential invariants relating to the conjugated network common to two applicable surfaces. FRÉDÉRIC ROGER: The relation between the tangential and metric properties of Cartesian ensembles. N. ARONSAJAN: The metric characterisation of Hilbert space, of vectorial spaces and of certain metric groups. EDOUARD CALLANDREAU: The variation of the influence round a point. PIERRE CHEVENARD and XAVIER WACHÉ: The acceleration of a structural reaction in a steel by the effect of a mechanical constraint. Experiments on a chrome-

vanadium-molybdenum steel. Tests on the steel under load at temperatures between 450° and 600° C. show important changes. As neither the measurements of resistance, expansion or magnetisation showed any appreciable physicochemical modification, the softening observed must be due to a structural modification of the alloy. It is pointed out that these facts must be taken into account when designing machines required to work at a high temperature. **MARIUS AUBERT, PIERRE CLERGET and ROGER DUCHÊNE**: The influence the addition of various substances on the combustion of gas oil in injection motors. Study of the effect of adding ethyl nitrate to the gas oil in regulating the combustion and suppressing detonation. **HENRI CAMICHEL**: The constants of the movement of the *F*-type stars. **LÉON DUBAR**: The internal and superficial conductivity of cuprous oxide. Cuprous oxide possesses a very high superficial conductivity, which is reduced by the adsorption of water vapour. **Mlle. SUZANNE VEIL**: An electrometric control of displacement reactions. **GEORGES BRUHAT and LOUIS WEIL**: The rotatory power of quartz for rays perpendicular to the optic axis and its dispersion between 2537 Å. and 5780 Å. In the whole of the interval of the spectrum studied the rotatory dispersion of quartz is the same for rays perpendicular and parallel to the axis. **JEAN LAVAL**: The diffusion of X-rays varies in a discontinuous manner with the angle of diffusion. **EDMOND ROTHÉ and MME. A. HÉE**: The radiometric exploration of a rhyolite *coulée*. The rhyolite near Welschbruch is strongly radioactive, and it has been found possible to map out the volcanic *coulées* by radiometric measurements. **OSIAS BINDER**: The hydrolysis of solutions of copper sulphate. **VICTOR HENRI and PIERRE ANGENOT**: The relation between the ultra-violet absorption spectrum and the Raman spectrum of pyridine. The analysis of the ultra-violet absorption spectrum of pyridine vapour proves the existence in the lower level of the molecule of five fundamental frequencies. These correspond with the Raman spectra of pyridine and benzene. **JEAN TABUTEAU**: The application of the Raman effect to the study of the *cis-trans* isomerism of the methylcyclohexanols. It has been proved that the Raman spectra of the *cis* and *trans* isomers are different and the variations are greatest for frequencies between 300 cm^{-1} and 900 cm^{-1} . **PIERRE CARRÉ and HENRI PASSEDOUET**: The influence of an element or a negative group on the relative mobilities of alkyl radicals in their chloroformates. **GEORGES LÉVY**: The nitration of α -ethylnaphthalene. **GEORGES DARZENS and ANDRÉ LÉVY**: The preparation of 1, naphthyl- β -propionic, 2, naphthyl- β -propionic and 2, tetrahydronaphthyl- β -propionic acids. The synthesis of dihydrophenalone and of 5, 6-tetrahydrobenzo-1-indanone. **ANDRÉ GUILLEMONAT**: The oxidation of 3-methyl-2-pentene and of 2-methyl-2-pentene by means of selenious anhydride. **MOSEH AVNMELECH**: The Vindobonian in Palestine. **FERNAND JACQUET and THÉODORE MONOD**: The fossiliferous Primary of the south of Mauritanian Adrar. **RENÉ SOUÈGES**: The embryogeny of the Resedaceæ. The development of the embryo in *Reseda luteola*. **JEAN RÉGNIER and ANDRÉ QUEVAUVILLER**: The concomitant variations of chronaxy and of nervous excitability under a pharmacodynamic influence (action on the motor nerve of *Rana esculenta* of cocaine and its substitutes). **Mlle. CATHERINE VEIL**: The mechanism of the colour change in fishes.

Forthcoming Events

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

Saturday, December 14

NORTH OF ENGLAND INSTITUTE OF MINING AND MECHANICAL ENGINEERS, at 2.30.—Prof. G. Hickling: "William Hutton's Observations on Coal, 1833".

BRITISH PSYCHOLOGICAL SOCIETY, at 3.—Annual General Meeting.

Prof. J. Drever: "The Status and Qualifications of Professional Psychologists" (Presidential Address).

Sunday, December 15

BRITISH MUSEUM (NATURAL HISTORY), at 3 and 4.30.—Miss M. R. J. Edwards: "Pests".*

Monday, December 16

BRITISH MUSEUM (NATURAL HISTORY), at 11.30.—Capt. Guy Dollman: "Pouched Mammals".*

Wednesday, December 18

INSTITUTION OF CIVIL ENGINEERS, at 6.30.—Prof. A. H. Gibson: "Tidal and River Models" (Vernon-Harcourt Lecture).

Official Publications Received

Great Britain and Ireland

International Tin Research and Development Council. Miscellaneous Publications. No. 4: Tin and its Uses. By D. J. Macnaughtan. Pp. 16. Free. No. 5: Tin and Civilisation. By D. J. Macnaughtan. Pp. 9. Free. Technical Publications. Series A, No. 22: Improvement in the Quality of Tinplate by Superimposed Electrodeposition of Tin. By A. W. Hotherhall and W. N. Bradshaw. Pp. 16. Free. Series A, No. 24: The Atmospheric Corrosion and Tarnishing of Tin. By L. Kenworthy. Pp. 17. Free. Series A, No. 25: Electrodeposition of Tin Alloys from Alkaline Stannate Baths. By R. G. Monk and H. J. T. Ellingham. Pp. 12. Free. (London: International Tin Research and Development Council.) [2911]

Other Countries

Journal of the Faculty of Agriculture, Hokkaido Imperial University. Vol. 39, Part 1: The Isolation and some Cultural Characters of *Bacillus cellulosea dissolvens*. By Jun Hanzawa and Sadahiko Yoshimura. Pp. 48+1 plate. (Tokyo: Maruzen Co., Ltd.) [2911]

Territory of Papua. Anthropology, Report No. 16: The Blending of Cultures; an Essay on the Aims of Native Education. By F. E. Williams. Pp. iii+46. (Port Moresby: Government Printer.) 1s. (3011)

Tide Tables for the Atlantic Coast of Canada for the Year 1936: including the River and Gulf of St. Lawrence, the Bay of Fundy, Northumberland and Cabot Straits, Hudson Bay, and Information on Currents; in addition Tide Tables for New York and Boston, U.S.A. (Fortieth year of Issue.) Pp. 96. Ottawa: Government Printer. [3011]

Report on the Administration of the Meteorological Department of the Government of India in 1934-35. Pp. ii+35+1 plate. (Delhi: Manager of Publications.) [212]

Comisión de Estudio del Túnel submarino de Gibraltar. El Túnel submarino de Gibraltar: Estado actual de los trabajos. Pp. 118+5 plates. (Madrid: Comisión de Estudio del Túnel submarino de Gibraltar.) [212]

Royal Agricultural Society. Summarised translation of Bulletin No. 20, Chemical Section: Preliminary Investigations on the Phosphoric Acid Supply in the Soils of the Bahtim Permanent Experiments. By Ahmed Mahmoud. Pp. 47. Summarised translation of Bulletin No. 21, Chemical Section: Phosphatic Fertilisers, Comparative Trials on Immediate and Residual Effects. By Ahmed Mahmoud. Pp. 30. (Cairo: Royal Agricultural Society.) [212]

Indian Forest Records. New Series, Vol. 1, No. 5: Neue Attelabiden aus Indien (Curculionidae, Col.) Von Eduard Voss. Pp. ii+95-104. (Delhi: Manager of Publications.) 5 annas; 6d. [212]

Punjab Irrigation Research Institute. Research Publication, Vol. 2, No. 7: A Siltometer for Studying Size Distribution of Silts and Sands. By Dr. Amar Nath Puri. Pp. 6+4 plates. 5 annas; 7d. Research Publication, Vol. 4, No. 7: Soil Deterioration in the Canal Irrigated Areas of the Punjab. Part 1: Equilibrium between Ca and Na ions in Base Exchange Reactions. By Dr. E. McKenzie Taylor, Dr. Amar Nath Puri and A. G. Ashgar. Pp. 15+4 plates. 8 annas; 9d. Research Publication, Vol. 4, No. 8: Soil Deterioration in the Canal Irrigated Areas of the Punjab. Part 2: Relation between Degree of Alkalisatation and Dispersion Co-efficient in Deteriorated Soils. By A. G. Ashgar, Amar Nath Puri and E. McKenzie Taylor. Pp. 7+4 plates. 4 annas; 5d. (Lahore: Punjab Irrigation Research Institute.) [212]

Obras completas y Correspondencia científica de Florentino Ameghino. Vol. 13: Paleontropología Argentina. Edición Oficial ordenada por El Gobierno de la Provincia de Buenos Aires. Dirigida por Alfredo J. Torcelli. Pp. 704+33 plates. (La Plata: Director de la Edición Oficial de Obras de Florentino Ameghino.) [312]