

All these aspects of wood utilisation deserve close study by forest owners and wood-consuming industries in Great Britain, in view of the relatively high proportion of low-grade material which newly-formed British forests will produce in the next few decades until they approach maturity; but it would be a grave mistake to think that the problem is already solved. Scientifically it may be; economically it definitely is not. As a stand-by in times of emergency, such derivatives of wood can be of the greatest value, but in emergency economy counts for little. In other times the question of cost of production is all-deciding, and in Great Britain other raw materials are cheaper to produce.

The three papers summarised above were given by men working under conditions of limited trade competition or of large supplies of cheaply transported timber, neither of which conditions obtains ordinarily in Great Britain. Therefore, before any large industries can be built up in this country by the application of chemical methods, the problem of insuring continued supplies cheaply to the factory must first be solved.

This is not to say that the study of wood chemistry in Great Britain is not worth doing; but study must be directed to objects which will fit in with the economic conditions of the country, and it will not necessarily follow lines developed in totally different surroundings.

Educational Topics and Events

CAMBRIDGE.—The Iron and Steel Industrial Research Council has decided to make a grant of £500 a year to the University for the purpose of supporting scientific research on corrosion, and has indicated its intention of continuing this grant for a short period of years subject to the satisfactory progress of the work. The grant will enable Dr. U. R. Evans to continue the investigations which he is at present carrying out while holding the Royal Society Armourers and Brasiers Company research fellowship, his tenure of which terminates shortly. Dr. Evans will retain complete freedom in planning and carrying out this work, and, while reporting the results to the Corrosion Committee of the Iron and Steel Industrial Research Council, will publish them in scientific journals or in the reports of the Corrosion Committee as may appear to him most appropriate.

The seventh course of Scott lectures will be given by Prof. E. V. Appleton, of St. John's College, Jacksonian professor elect, in the Cavendish Laboratory at 4.30 p.m. on May 11, 13, 15 and 18. The subject of the course will be "The State of the Upper Atmosphere".

ST. ANDREWS.—Mr. D. C. Innes has been appointed to the new chair of geology established by a recent Ordinance of the Court, approved by His Majesty in Council, the appointment to take effect as from August 1. Mr. Innes was appointed lecturer in geology in the University in 1920 and raised to the status of reader in 1927.

Prof. D'Arcy Thompson has been invited to deliver the Lowell Lectures in Harvard University, and the Senatus Academicus of the University has therefore agreed to grant him the necessary leave of absence to enable him to accept this invitation.

Major A. H. R. Goldie, superintendent of the Meteorological Office (Air Ministry), Edinburgh, has

been awarded the degree of D.Sc. for a thesis entitled "The Mechanism of the Depressions of Temperate Latitudes".

On April 23 the Irish Free State Dail passed a motion by 58 to 40 votes putting into force the Bill to abolish university representation. At the next general election, therefore, the three seats for Dublin and the three seats for the National University of Ireland will cease to exist (*The Times*).

Science News a Century Ago

Prof. D. Don at King's College, London

ON May 2, 1836, Prof. David Don (1800–41), who had succeeded Burnett in the chair of botany in King's College, London, gave his inaugural address. "The Professor," said *The Times* of May 3, "commenced by requesting the indulgence of his auditory, as he was unused to addressing public audiences, and as the lecture he was about to deliver was the first he had ever attempted. He then proceeded to give a detailed account of the history of botanical science and stated its progress from the times of Aristotle and Hippocrates to the days of Linnæus and Jussieu". After directing attention to the various publications relating to botany, he "impressed upon his audience the great importance of the study of botany, its immediate connexion with medical knowledge, and the necessity of its consideration by medical students, its importance to a proper knowledge of agriculture, and its great utility to the illustration of various other branches of learning. . . . Mr. Don was at all times rather inaudible and apparently labouring under the influence of those feelings which generally render persons unused to address a public meeting rather nervous. The general excellence of the lecture was, however, quite sufficient to redeem any drawback which this might have occasioned".

Don was the son of George Don (1770–1814) and brother of George Don (1798–1856), both well-known botanists. Educated in Edinburgh, he went to London in 1819, and in 1822 succeeded Robert Brown as librarian of the Linnean Society.

Annular Eclipse of the Sun, May 15, 1836

JUST as the reappearance of Halley's comet in 1835 had attracted much attention in Great Britain, so the annular eclipse of the sun on May 15, 1836, also created very widespread interest. Ten days before the eclipse, *The Times* on May 5 informed its readers that "On Sunday, May 15, in the afternoon, there will be a large and visible annular eclipse of the sun, which will be central in the north of England, Ireland and in the south of Scotland. It will begin at 50 minutes 59 seconds past 1 o'clock, and will end at 39 minutes 8 seconds past 4. Over England and the adjacent parts the light and the heat of the annular obscuration will be a little more than one tenth of the full sun; and should the atmosphere prove to be clear at the time of the greatest magnitude it may be expected that several of the largest stars will be visible. The breadth of the annulus for England will be about 142 miles. The whole body of the moon will appear on the disc of the sun, leaving a small ring or circle of light on the external edge of the sun, whence its name annular, from *annulus*, a ring".

Dichroism of Crystals

ON May 5 and 12, 1836, Henry Fox Talbot (1800-77), the pioneer of photography, read a paper to the Royal Society entitled "On the Optical Phenomena of Certain Crystals", in which he gave an account of the optical properties of certain minute crystals, obtained by the evaporation of a solution of borax in phosphoric acid, when they were examined by the polarising microscope.

In a postscript to the paper, the author gave an account of a new species of 'dichroism' in crystals, to the discovery of which he was led by applying to them his peculiar method of observation with polarised light. In these experiments the crystals themselves performed the office of the analysing plates, acting on light previously polarised and transmitted through a plate of mica. The experiments tended to confirm the views of Sir David Brewster and others as to the general cause of the dichroism of crystals.

Royal Asiatic Society and India

AT the thirteenth anniversary meeting of the Royal Asiatic Society held on May 7, 1836, the Right Hon. C. W. W. Wynn (1775-1850), who had been president of the Society since its formation in 1823, in his address said that "He felt particular gratification in congratulating the meeting on the proposal which had been laid before the Society, for establishing a Committee of Agriculture and Trade in relation to the East. . . . The plan just alluded to would be the means of introducing into India the useful discoveries of Europe in arts and sciences, but in the encouragement lately given by government to a more extended and unrestrained intercourse with the East would be found the true efficient for these ends. . . . As the proposal relative to Trade and Agriculture must, if carried into effect, produce increased means of acquiring information on the capacity of the different nations of the vast Empire of India, he hoped it would meet with encouragement, not only from the Society, but from those engaged in commercial intercourse with the East." (*Athenæum*.)

Societies and Academies

PARIS

Academy of Sciences, March 23 (*C.R.*, 202, 993-1124).

ERNEST ESCLANGON: The application of the principle of relativity to the study of a dynamical problem. MARCEL DELÉPINE and ALAIN HOREAU: The hydrogenation of carbonyl compounds by Raney nickel, coated with metals of the platinum family. The influence of alkalis. The presence of a trace of alkali is essential for the hydrogenation. Experiments were made with ruthenium, palladium, osmium, iridium and platinum as coating for the nickel. All these metals increase the velocity of addition of hydrogen, palladium being the least active, platinum, iridium and osmium the most active. LUDOVIC MRAZEC was elected *Correspondant* for the Section of Mineralogy, in succession to the late H. F. Osborn. B. HOSTINSKY: Probabilities in chain. ANDRÉ WEIL: The overlapping of topological spaces: complete spaces, bicomplete spaces. NIKOLA OBRECHKOFF: Asymptotic formulæ for Jacobi polynomials, and on the development along the polynomials. KARL MENGER: Calculation of the variations in general

spaces. I. PETROWSKY: Cauchy's problem for a system of partial differential equations in the real domain. PIERRE RACHEVSKY: A scheme unifying the theory of abstract groups with Lie's theory of infinitesimal groups. F. H. VAN DEN DUNGEN: Small movements of a system submitted to gyroscopic forces. EDGAR PIERRE TAWIL: A piezoelectric chronograph. The instrument described is capable of measuring to 1/100,000 of a second. E. DE LA VILLEMARQUÉ: The calculation of linear transformations, met with in astronomy, by the combined use of the machine and the method of mobile bands. L. SACKMANN: The study of certain discontinuities in the experimental determination of the polars of [aeroplane] wings. PAUL SCHWARZ: The Bénard-Kármán vortices behind an obstacle, in movement in a rectilinear canal. LOUIS BRÉGUET: The optimum tonnage of large aeroplanes for use in transport or bombardment. JEAN DELSARTE: A problem of diffraction. WALTER M. ELSASSER: The diffraction of slow neutrons by crystalline substances. PIERRE JOLIVET: A new electrostatic motor. RÉÉ PLANIOL: The ionisation and luminescence of atomic jets in a high vacuum. MOSHÉ FELDENKRAIS: Measurement of the voltage of a Van der Graaf electrostatic generator with belts. G. KRAVITZOFF: The anodic behaviour of organic salts of copper. L. NÉEL: The influence of the thermal variation of the molecular field on the Curie constant. THADÉE PECZALSKI: Widening of the lines of the radiation from 'singing' arcs. CHARLES SANNTÉ, LUCIEN AMY and VLADIMIR POREMSKI: The isolation of the triplet 4358 Å. of the mercury arc for use in obtaining Raman spectra. The filter proposed is a solution of nitrobenzene (6 per cent) and rhodamine 5G extra (0.01 per cent) in ethyl alcohol. JEAN ROIG: The temperature of helium in the high-frequency discharge. Although the conditions of the tube varied between wide limits, the temperature always remained in the neighbourhood of 200°C. PAUL SOLEILLET and SERGE NIKITINE: The polarisation of the radiation 2139 Å. emitted by the optical resonance of a jet of zinc atoms. RENÉ AUDUBERT and M. PROST: A radiation emitted during the hydration and dehydration of quinine sulphate. An ultra-violet radiation, between 2500 Å. and 2000 Å. was proved to accompany these changes in water content. Mlle. HOANG THI NGA: The influence of the nature and position of the groups on the photo-potential of the substituted aromatic amines. M. E. NAHMIAS: The artificial radioactivity of tin. A very slight artificial radioactivity has been produced in tin by irradiation with a radon-beryllium source. MME. EMMANUEL ZAVIZZIANO: Adsorption of protactinium by titanium, and the method of fractionation. ALEX SANIELEVICI: Calorimetric measurements of the energy of disintegration in the actinium family. MARCEL LECOIN: The continuous β -spectrum of actinium B. RAYMOND LAUTIÉ: A general constant of Van der Waals. J. TIMMERMANS, M. HENNAUT-ROLAND and D. ROZENTAL: The variation of the volume of heavy water on freezing. The difference of the specific volumes of heavy water in the liquid and solid states is 0.0811: this gives as the rate of change of the freezing point with pressure 0.00705°C. per kilogram. MME. MARIE ELISA P. RUMPF and PAUL RUMPF: The ultra-violet spectra of the bromine derivatives of aniline. GEORGES CARPÉNI: The dissociation constants of reductone and of its oxidation product with iodine. JEAN CHÉDIN: The quantitative analysis by the Raman effect of mixtures of sulphuric acid