

The general solution of the problem of elastic equilibrium of a hollow circular cylinder and of a part of the cylinder. R. DE FLEURY, H. PORTIER and S. BENMAKROUHA : The comparative and reciprocal influences of individual values, for each alloy and for each state of the alloy, of the modulus of elasticity, the elastic limit and the density on the dimensions of beams and elements of framework under bending. LOUIS DE BROGLIE : The electromagnetic field of the light wave. L. GOLDSTEIN : The quantum theory of the diffusion of electrons. ANDRE MARCELIN and D. G. DERVICHIAN : The direct measurement of superficial pressure of superficial solutions formed by soluble substances. P. ROUARD : The reflecting power of metals in very thin plates. The reflecting power varies with the thickness of the film, passing through a minimum depending on the wave-length of the light. CH. BEDEL : The temperature coefficient of the electrical resistance of silicon and a thermoelectric phenomenon of unipolar substances. A. SANFOURCHE and B. FOCET : The calcium salt of a complex ferrophosphoric acid. F. GALLAIS : Potassium iodomercurate. LEON JACQUE : The alteration of steels by hydrogen. The modification of the micrographic structure of steel submitted to the action of hydrogen under pressure and at temperatures between 400° and 700° C., appears to be the result of two simultaneous phenomena : the elimination of the carbon of the steel by the hydrogen, and a diffusion of the carbon from the unaltered regions towards the decarbonised regions. The process is a reversed cementation. The change depends on the composition of the steel, chrome-nickel steels, for example, being less altered under the same conditions. M. LESBRE : An imperfect silver-guanidine complex. R. LEVAILLANT : The action of acid chlorides on orthoformic esters. The preparation of symmetrical esters of sulphuric acid. The reaction  $\text{CCl}_3\text{COCl} + \text{HC}(\text{OC}_2\text{H}_5)_3 = \text{CCl}_3\text{CO}_2\text{C}_2\text{H}_5 + \text{C}_2\text{H}_5\text{Cl} + \text{HCO}_2\text{C}_2\text{H}_5$  gives a 90 per cent yield of the ethyl trichloroacetate. The reaction is a general one, and can be extended to the sulphonchlorides. G. DARZENS : A new method of glycidic synthesis of aldehydes. LESPIEAU and WIEMANN : The synthesis of allodulcitol. Y. MILON : The antiquity of the depression of the gulf of Morbihan. G. DUBAR and H. TERMIER : The facies of the Lias underlying the Toarcian in the Moroccan middle Atlas. J. GAUZIT : An attempt at the estimation of atmospheric ozone by visual photometry. The method detailed, which has the advantage over other methods in use of taking less time, measures the thickness of the ozone layer in the atmosphere with an uncertainty of less than ten per cent. PH. JOYET-LAVERGNE : Oxidising power, chondriome and cytoplasmic sexualisation in the Fungi. J. BEAUVÉRIE and M. S. MONCHAL : The life of green plants in a confined atmosphere. Plants contained in glass vessels, with moist earth, and sealed with paraffin wax, can live and grow for several years. Examples are given of plants which have remained in good condition for three or four years thus sealed up. MICHEL GRAČANIN : Contribution to the study of the relation between transpiration and the resorption of ions. MARC SIMONET : New interspecific hybrids in *Iris* and their cytological study. ARMAND DEHORNE : New observations on the asexual multiplication of an annelid of the genus *Dodecaceria*. ETIENNE RABAUD and L. VERRIER : The evacuation of the gases from the air bladder and the working of the pneumatic canal. PAUL WINTREBERT : The two phases of segmentation and the subdivision theory in amphibians.

## Forthcoming Events

Monday, Jan. 9

ROYAL GEOGRAPHICAL SOCIETY, at 8.30.—B. Roberts : "The Cambridge Expedition to Vatna-Jökull, 1932".

Tuesday, Jan. 10

ROYAL ANTHROPOLOGICAL INSTITUTE, at 8.30.—Dr. N. Gordon Munro : "The Ainu Bear Ceremony" (Film).

Thursday, Jan. 12

KING'S COLLEGE, LONDON, at 5.—Prof. R. J. S. McDowall : "The Integration of the Circulation" (succeeding lectures on Jan. 19, 26 and Feb. 2).

## Official Publications Received

### GREAT BRITAIN AND IRELAND

The H.E.A. Year Book : the Annual Publication of the Horticultural Education Association. Vol. 1, 1932. Pp. 92+xl. (Wye: South-Eastern Agricultural College.) 3s. 6d.

County Borough of Southport : Meteorological Department : The Fernley Observatory, Southport. Report, and Results of Observations for the Year 1931. By Joseph Baxendell. Pp. 31. (Southport.)

Brompton Hospital Reports : A Collection of Papers recently published from the Hospital. Vol. 1, 1932. Pp. iv+144. (London.) 2s. 6d.

Proceedings of the Royal Irish Academy. Vol. 41, Section B, No. 8 : Recent Views bearing on the Problem of the Irish Flora and Fauna. By Dr. R. Lloyd Praeger. Pp. 125-145. (Dublin: Hodges, Figgis and Co.; London: Williams and Norgate, Ltd.) 1s.

True Temperance Scientific Committee. Monograph No. 8 : In Chase of Truth of Alcohol. By Prof. Henry E. Armstrong. Pp. 32. (London: Donington House.) 1s.

The Scientific Proceedings of the Royal Dublin Society. Vol. 20 (N.S.), No. 30 : A Suggested Mode of Radiotherapy when Long-continued Feeble Gamma Radiation may be Desirable. By Dr. J. Joly. P. 469. (Dublin: Hodges, Figgis and Co.; London: Williams and Norgate, Ltd.) 6d.

### OTHER COUNTRIES

International Hydrographic Bureau. Report of the Proceedings of the Third International Hydrographic Conference held at Monaco, 12-23 April, 1932. Pp. 435. (Monte Carlo.) 2.50 dollars.

Colony of Mauritius. Annual Report on the Royal Alfred Observatory for the Year 1930. Pp. 4. (Mauritius.)

Miscellaneous Publications of the Royal Alfred Observatory. No. 11 : Pilot Balloon Observations at Mauritius. By R. A. Watson and N. R. McCurdy. Pp. 17+3 plates. No. 12 : The Cyclone Season 1929-1930 at Mauritius. By R. A. Watson and N. R. McCurdy. Pp. 3+43 plates. (Mauritius.)

Indian Central Cotton Committee : Technological Laboratory. Technological Bulletin, Series A, No. 22 : Technological Report on Bauilla Cotton, 1930-32. By Dr. Nazir Ahmad. Pp. ii+17. (Bombay: Times of India Press.) 8 annas.

The Quarterly Journal of the Geological, Mining and Metallurgical Society of India. Vol. 4, No. 1, August. Pp. 27. (Calcutta.) 6 rupees.

Paleontologische Navorsing van die Nasionale Museum. Deel 2, Stuk 5 : Voorlopige Besbrywing van Vrystaatste Soogdiere. By Dr. Ir. E. C. N. Van Hoepen. Pp. 63-66. (Bloemfontein.)

Publications of the Observatory of the University of Michigan. Vol. 5, No. 2 : The Orbit of Comet Peltier-Whipple, Second Paper. By Allan D. Maxwell. Pp. 4. (Ann Arbor, Mich.)

U.S. Department of the Interior : Geological Survey. Professional Paper 166 : Physiography and Quaternary Geology of the San Juan Mountains, Colorado. By Wallace W. Atwood and Kirtley F. Mather. Pp. vi+176+34 plates. Professional Paper 167 : Lower Triassic Ammonoids of North America. By James Perrin Smith. Pp. v+199+81 plates. 70 cents. Professional Paper 171 : Geology and Ore Deposits of the Pioche District, Nevada. By Lewis G. Westgate and Adolph Knopf. Pp. viii+79+8 plates. 85 cents. Professional Paper 173 : Geology and Ore Deposits of the Stockton and Fairfield Quadrangles, Utah. By James Gilluly. Pp. vi+171+32 plates. (Washington, D.C. : Government Printing Office.)

### CATALOGUES, ETC.

The Protexray Tube. Pp. 32. (London: Cuthbert Andrews.)  
F/2 Spectrograph. (Lispeck 33.) Pp. 4. Vacuum Thermocouples for Measuring Weak Alternating Currents. (Brug 31.) Pp. 2. (Delft: P. J. Kipp en Zonen.)

Calendar for 1933. (London: The Chemical Trade Journal.)  
John G. Stein and Co., Ltd. Diary for 1933. Pp. 64+Diary. (Bonnybridge.)

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