

the view that the principal factor tending to reduce the fracture angle to less than 45° is the internal friction of the rock itself.—A. J. Matheson: The geology of the Wellington district, N.S.W., with special reference to the origin of the Upper Devonian Series. The oldest rocks are of Silurian age, comprising shales and limestones in which are interbedded a great volcanic series. The limestone occurs on two horizons and both are coralline; the upper limestone is the more highly fossiliferous and is the youngest of the Silurian rocks. It passes by a gradation through an arenaceous type into a calcareous sandstone and, finally, into sandstone itself; the sandstone series, in its upper part, contains *Lepidodendron Australe* and *Spirifer disjunctus*, and is, therefore, of Upper Devonian age. Sandstones are characteristically red in colour, and it is suggested that they were deposited under arid conditions. They are intruded by the Wuuluman granite.—G. F. K. Naylor: The history of the development of the present drainage system in the Marulan district. Theories involving river capture were advanced by Andrews in 1904 and by Woolnough and Taylor in 1906. Andrews suggested that the old Shoalhaven was beheaded by a tributary of the Hawkesbury, while the other writers postulated an old Wollondilly beheaded by a newly formed coastal stream. The theory now being put forward suggests that the present Shoalhaven-Kangaroo system originally flowed in a westerly direction away from the coast, in a manner analogous to the present Upper Nepean system. Capture and reversal by a coastal stream which developed as a result of the post-Tertiary uplift is regarded as having brought about the present river distribution.—A. R. Penfold and F. R. Morrison: Notes on the essential oils from some cultivated Eucalypts (2). The species consisted of *E. Australiana*, *E. Macarthuri*, *E. citroidora*, *E. Smithii*, *E. dives*, and *E. dives* variety 'A' and variety 'B'. Leaves from the trees of an avenue of *E. bicostata*, near Sydney, show considerable variation in size and shape although grown from the seed of one tree collected at Jenolan, New South Wales. The yield of oil varied from 1.23 to 2.4 per cent and the cineol content from 38 to 65 per cent. The species is really a form of *E. globulus* confined to the mainland of Australia and should have been named *Eucalyptus globulus* variety *bicostata*. The chemical constituents of the oil are similar to those of *E. globulus*, namely, isovaleric aldehyde, *d*-*a*-pinene, cineol, eudesmol, etc.

Official Publications Received.

BRITISH.

British Chemicals and their Manufacturers: the Official Directory of the Association of British Chemical Manufacturers (Incorporated). Pp. 405. (London.) Free.

The British Chemical Plant Manufacturers' Association. Official Directory of Members, 1931, with a Classified List of their Manufactures and Services. Pp. 151. (London.) Free.

County Borough of Southport: Meteorological Department. The Fernley Observatory, Southport: Report, and Results of Observations for the Year 1929. By Joseph Baxendell. Pp. 28. (Southport.)

The National Capital. The Presidential Address of Sir Josiah Charles Stamp delivered to the Royal Statistical Society, November 18, 1930. Pp. 24. (London: Royal Statistical Society.) 1s. 6d.

The Observer's Handbook for 1931. Published by the Royal Astronomical Society of Canada. Twenty-third Year of Publication. Pp. 77. (Toronto.)

Food Pakes: Ancient and Modern. By E. Gabriel Jones. Pp. 24. (London: Institute of Chemistry.)

Catalogue of the Twenty-first Annual Exhibition of Electrical, Optical and other Physical Apparatus, January 6, 7 and 8, 1931. Pp. 160+xl. (London: The Physical Society and the Optical Society.) 6d.

The Proceedings of the Royal Society. Series A, Vol. 130, No. A813, January 1. Pp. 239-431. (London: Harrison and Sons, Ltd.) 10s.

Department of Scientific and Industrial Research: Water Pollution Research. Summary of Current Literature. Vol. 4, Part 1, January 1931. Abstracts Nos. 1-138. Pp. 135. (London: H.M. Stationery Office.) 1s. 3d. net.

Uganda Protectorate. Annual Report of the Geological Survey Department for the Year ended 31st December 1929. Pp. 44. (Entebbe: Government Printer.) 3s.

Commonwealth of Australia: Council for Scientific and Industrial Research. Bulletin No. 46: Black Disease (infectious Necrotic Hepatitis) of Sheep in Australia: a Toxæmia induced by a Specific Bacterium (*B. oedematiens*) in Hepatic Lesions resulting from the Migration of young Liver Flukes (*F. hepatica*). By Dr. A. W. Turner. Pp. 141. (Melbourne: H. J. Green.)

The Indian Forest Records. Entomology Series, Vol. 14, Parts 11 to 14: On some Indian Coleoptera. Part 11: A new Genus and a new Species of Melasidae and a New Species of Elateridae, by E. Fleutiaux; Part 12: A new Genus and Two new Species of Longhorn Beetles from India (Coleoptera: Cerambycidae: Subfamily Lamiinae), by W. S. Fisher; Part 13: Immature Stages of Indian Coleoptera (7), by J. C. M. Gardner; Part 14: Three new Species of Lycidae, by R. Kleine. Pp. iii+17+3 plates. (Calcutta: Government of India Central Publication Branch.) 1 rupee; 1s. 9d.

FOREIGN.

United States Department of Agriculture. Circular No. 145: *Tiphia popillivora* Rohwer, a Parasite of the Japanese Beetle. By J. L. King and J. K. Holloway. Pp. 12. 10 cents. Technical Bulletin No. 215: A Biological Study of *Trichogramma minutum* Riley as an Egg Parasite of the Oriental Fruit Moth. By Alvah Peterson. Pp. 22. 5 cents. (Washington, D.C.: Government Printing Office.)

Report of the Director of the Institute for Biological Research. V., 1929-1930. Pp. 11. (Baltimore, Md.: Johns Hopkins University.)

Memoirs of the College of Science, Kyoto Imperial University. Series A, Vol. 13, No. 6, November. Pp. 369-397. (Tokyo and Kyoto: Maruzen Co., Ltd.) 1.00 yen.

The Science Reports of the Tôhoku Imperial University, Sendai, Japan. First Series (Mathematics, Physics, Chemistry). Vol. 19, No. 4. Pp. 365-472. (Tokyo and Sendai: Maruzen Co., Ltd.)

U.S. Department of Commerce: Coast and Geodetic Survey. Serial No. 481: Results of Observations made at the United States Coast and Geodetic Survey Magnetic Observatory at Sitka, Alaska, in 1923 and 1924. By W. N. McFarland. Pp. ii+102+10 plates. (Washington, D.C.: Government Printing Office.) 50 cents.

Mitteilungen des Geologischen Instituts der Landbouwhoogeschool in Wageningen (Holland). No. 16: i. Vergleichende mikroskopische, physikalische und chemische Untersuchungen von einem Kalkstein- und einem Löss-Bodenprofil aus den Niederlanden; ii. Vergleichendes Studium von einem Kalkstein-Bodenprofil aus Holland und einem Kalkstein-Bodenprofil aus Java. Unter Mitwirkung von Prof. A. Te Wechel, Dr. L. Möser und C. van Aggelen. Bearbeitet von Prof. J. van Baren. Met een Beknopte Samenvatting in de Nederlandsche Taal. Pp. 105+20 Tafeln. (Wageningen: H. Veenman en Zonen.)

CATALOGUE.

Radio-Malt. Pp. 14. (London: The British Drug Houses, Ltd.)

Diary of Societies.

FRIDAY, JANUARY 30.

ROYAL COLLEGE OF SURGEONS OF ENGLAND, at 5.—Dr. D. Hunter: Changes in the Bones in Hyperparathyroidism and Hyperthyroidism.

INSTITUTE OF ELECTRICAL ENGINEERS (West Wales (Swansea) Sub-Centre) (at Corporation Electricity Showrooms, Swansea), at 6.—J. Urnston: The Electrical High-Pressure Testing of Cables and the Localisation of Faults.

NORTH-EAST COAST INSTITUTION OF ENGINEERS AND SHIPBUILDERS (at Mining Institute, Newcastle-upon-Tyne), at 6.—C. F. Christensen: The Whaling-Factory Ship *Vikingen*, with Some Notes on Whaling.

JUNIOR INSTITUTION OF ENGINEERS (Informal Meeting), at 7.30.—W. Fish: Modern Methods of Production of Small Machined Work.

ROYAL INSTITUTION OF GREAT BRITAIN, at 9.—Prof. G. M. Trevelyan: The First Defence of Gibraltar by the English, Oct. 1704-April 1705.

ROYAL AERONAUTICAL SOCIETY (Hull and Leeds Branch).—Col. the Master of Sempill: Gliding and Soaring.

SOCIETY OF DYERS AND COLOURISTS (Scottish Section).—D. K. Colledge: Dyeing for the Scottish Tweed Trade.

MANCHESTER LITERARY AND PHILOSOPHICAL SOCIETY (Chemical Section).

SATURDAY, JANUARY 31.

BRITISH MYCOLOGICAL SOCIETY (in Botanical Department, University College), at 11 A.M.—Dr. A. S. Horne: (a) Nuclear Division in *Spongospora*; (b) Preliminary Study of the Fungus Flora of the Air.—N. M. Nitimargi: Factors Influencing Spore Formation.—L. N. Seth: Factors Influencing Fungal Growth.—W. C. Moore and Dr. A. Smith: Notes on Some Interesting Fungi Recently Recorded.—A. A. Pearson: A Fungus Foray in Spain.

MATHEMATICAL ASSOCIATION (at Bedford College for Women), at 3.—Annual Meeting.

ROYAL INSTITUTION OF GREAT BRITAIN, at 3.—Dr. E. Cammaerts: Flemish Art (2): Broughel.

MONDAY, FEBRUARY 2.

ROYAL SOCIETY, EDINBURGH, at 4.30.—Sir E. A. Sharpey-Schafer: Observations on the Relative Rate of Growth of the Nails of the Right and Left Hands respectively: on Seasonal Variations in the Rate, and on the Influence of Nerve Section upon it.—Dr. F. J. W. Whipple: A Note on the Secular Changes of Rock Temperature on the Caltan Hill.—To be read by title.—Prof. E. L. Ince: Zeros and Turning Points of the Elliptic Cylinders.

ROYAL COLLEGE OF SURGEONS OF ENGLAND, at 5.—H. H. Woollard: The Potency of the Pharyngeal Entoderm.

ROYAL INSTITUTION OF GREAT BRITAIN, at 5.—General Meeting.

SOCIETY OF ENGINEERS (at Geological Society), at 6.—H. W. Towse: Presidential Address.