

most numerous. There is daily variation in the numbers of a Protozoon in a given quantity of culture. Dark, heavy soils containing much humus yielded more kinds of Protozoa than sandy ones. Samples of soil taken relatively near the surface, say six or eight inches down, usually yielded more Protozoa than deeper samples. Cultivated soils yielded more species of Protozoa, especially of Ciliata, than uncultivated ones. Owing to partial sterilisation of South African soils by solar heat and drought, the number of Protozoa in a given area of soil seems to be less than in soils from England or the northern United States. The ingestion of bacteria by soil Protozoa has, so far, not been often observed naturally in South African soils.—J. A. Gilmore: Note on elasticity of Dwyka Tillite. Investigation of Dwyka Tillite from Matjesfontein, Cape Province, shows that for an absorption of water of less than 1/400 gm. per gm., Young's Modulus decreases by about 12 per cent., whereas for an absorption of order 1/800 gm. per gm. the crushing strength increases by about 50 per cent. or more.—H. O. Mönning: On some new South African parasitic nematodes.—Sir Thomas Muir: Note on the co-evanescence of the primary minors of an axisymmetric determinant.—T. J. Mackie: The serum constituents responsible for the Sachs-Georgi and the Wassermann reactions. Sera were fractioned by Liefman's carbon-dioxide method; the carbonic-acid-insoluble globulin was inactive and inhibitory in the flocculation test. The carbonic-acid-soluble fraction was further fractioned into pseudo-globulin and albumin components and flocculation was found to be due almost entirely to the former. In the Wassermann reaction, the most active fraction is the carbonic-acid-insoluble globulin.—J. R. Sutton: Note on the propagation of heat in water. Harmonic analysis of hourly observations of the temperature of water in a brick cistern, 7 feet square and 30 in. deep, shows that the whole body of water is heated nearly simultaneously (chiefly by the sun's rays) and that the surface temperature is propagated downward as a wave of about 7 in. per hour.

Royal Society of South Africa, October 18.—Dr. J. D. F. Gilchrist, president, in the chair.—Miss A. V. Duthie: The cones, spores, and gametophytes of *Selaginella pumila*.—F. G. Cawston: South African larval trematodes and the intermediary hosts. The commoner species of fresh-water mollusc found in certain rivers of South Africa, as well as some lagoon inhabitants which are occasionally found in quite fresh water, together with the commoner larval trematodes of these localities, are described.—J. Moir: Colour and chemical constitution, Pt. XVIII: Colourless substances in concentrated sulphuric acid solution (halochromy). Observations on coloured solutions in sulphuric acid of 25 simple substances, mostly colourless *per se*, are recorded, and a scheme for calculating colour from chemical constitution is put forward.—J. Stuart Thomson: African Alcyonaria with a statement of some of the problems of their dispersal.

Official Publications Received.

Straits Settlements. Annual Report on the Raffles Museum and Library for the Year 1921. By Major J. C. Moulton. Pp. 16. (Singapore.)

The Royal Technical College, Glasgow. Annual Report on the One Hundred and Twenty-sixth Session adopted at the Annual Meeting of Governors, held on the 17th October 1922. Pp. 71. (Glasgow.)

County Borough of Warrington: Museum Committee. Report of the Keeper of the Museum for the Two Years ending 30th June 1922, with a List of the Principal Additions to the Museum Collections. Pp. 18. (Warrington.)

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Department of the Interior: Bureau of Education. Bulletin, 1922, No. 20: State Laws relating to Education enacted in 1920 and 1921. Compiled by Wm. R. Hood. Pp. iv+269. (Washington: Government Printing Office.) 25 cents.

Department of Fisheries, Bengal. Bulletin No. 19: Statistics of Fish imported into Calcutta for the Year ending 31st March 1922. Pp. 14. (Calcutta: Bengal Secretariat Book Depot.) 8 annas.

Diary of Societies.

SATURDAY, DECEMBER 16.

BRITISH ECOLOGICAL SOCIETY (Annual Meeting) (at University College), at 10.30 A.M.—Dr. R. Lloyd Praeger: Dispersal and Distribution (Presidential Address).—Dr. Cockayne's Work on the Tussock Grassland of New Zealand (Lantern and Specimens).—J. Ramsbottom: The Mycology of the Soil.—W. H. Pearsall: Plant Distribution and Basic Ratios.

BRITISH PSYCHOLOGICAL SOCIETY (Annual General Meeting) (at University College), at 3.—S. J. F. Philpott: The Analysis of the Work Curve.—H. Gordon: Hand and Ear Tests.

MONDAY, DECEMBER 18.

ROYAL GEOGRAPHICAL SOCIETY (at Lowther Lodge, Kensington Gore), at 5.—Col. Sir Gerald Lenox-Conyngham: The Proposed Determination of Primary Longitudes by International Co-operation.

INSTITUTION OF ELECTRICAL ENGINEERS (Informal Meeting), at 7.—E. E. Sharp and others: Discussion of Time Switches.

INSTITUTION OF MECHANICAL ENGINEERS (Graduates' Section), at 7.—A. J. Gould: Warships.

ROYAL INSTITUTE OF BRITISH ARCHITECTS, at 8.—A. N. C. Shelley: The Law of Building outside London.

ARISTOTELIAN SOCIETY (at University of London Club, 21 Gower Street), at 8.—Prof. R. W. Sellars: Body and Mind.

CHEMICAL INDUSTRY CLUB (at 2 Whitehall Court), at 8.—Dr. W. R. Ormandy: Paper.

TUESDAY, DECEMBER 19.

ROYAL SOCIETY OF MEDICINE, at 5.—General Meeting.

ROYAL STATISTICAL SOCIETY, at 5.15.—T. T. S. de Jastrzebski: Changes in the Birth Rate and in Legitimate Fertility in London Boroughs, 1911-1921.

INSTITUTION OF CIVIL ENGINEERS, at 6.—F. M. G. Du-Plat-Taylor: Extensions at Tilbury Docks, 1912-1917.

INSTITUTE OF MARINE ENGINEERS, INC., at 6.30.—Film illustrating Industrial Works—Messrs. Hadfields.

ROYAL PHOTOGRAPHIC SOCIETY OF GREAT BRITAIN (Technical Meeting), at 7.—H. T. G. Meredith: Gravure.

ROYAL ANTHROPOLOGICAL INSTITUTE, at 8.15.—Dr. C. Fox: The Distribution of Population in the Cambridge Region in Early Times, with special reference to the Bronze Age.

WEDNESDAY, DECEMBER 20.

ROYAL SOCIETY OF MEDICINE (History of Medicine Section), at 5.—Dr. Nixon: The Debt of Medicine to the Fine Arts.

ROYAL METEOROLOGICAL SOCIETY, at 5.—C. J. P. Cave and R. A. Watson Watt: The Study of Radiotelegraphic Atmospherics in Relation to Meteorology.—C. J. P. Cave: Winter Thunderstorms in the British Islands.—D. E. Row: Forecasting Sky Types.

GEOLOGICAL SOCIETY OF LONDON, at 5.30.—W. A. Richardson: A Micrometric Study of the St. Austell Granite (Cornwall).—W. G. Shannon: The Petrography and Correlation of the Igneous Rocks of the Torquay Promontory.—Prof. O. T. Jones: Demonstration of the Crystallisation of a Doubly-Refracting Liquid.

ROYAL MICROSCOPICAL SOCIETY, at 8.—J. E. Barnard: Sub-Bacteria.

THURSDAY, DECEMBER 21.

ROYAL SOCIETY OF MEDICINE (Dermatology Section), at 5.

INSTITUTION OF MINING AND METALLURGY (at Geological Society), at 5.30.—F. White: Notes on the Correction required to Aneroid Readings for Altitude to counteract the Effect produced by the Diurnal Barometric Wave.—P. C. Whitehead: Some Notes on the Secondary Sulphide Enrichment exhibited by certain Auriferous Veins.

CHEMICAL SOCIETY, at 8.

PUBLIC LECTURES.

SATURDAY, DECEMBER 16.

HORNIMAN MUSEUM (Forest Hill), at 3.30.—H. N. Milligan: Animals without Teeth.

THURSDAY, DECEMBER 21.

CITY OF LONDON Y.M.C.A. (186 Aldersgate Street), at 6.—Sir John N. Jordan: Some Chinese Problems.