

SEVENTY YEARS AGO

NATURE, vol. 1, February 17, 1870

Measurement of Geological Time

THE first of two articles by A. Russel Wallace on this subject appears. "Modern geological research has rendered it almost certain that the same causes which produced the various formations with their embedded fossils have continued to act down to the present day." This, Wallace points out, should make it possible to estimate the time represented by the whole series of formations, but the changes observed are too minute and too imperfect for such an estimate to be of value. The gaps in the record might be filled from observation of the changes of animal and plant life presented by each formation. "To measure geological time, therefore, all we require is a trustworthy unit for the change of species: but this is exactly what we have not yet been able to get; for the whole length of the historical period has not produced the slightest perceptible change in any living thing in a state of nature."

Wallace then gives a summary of astronomical evidence on the subject, referring in considerable detail to Croll's calculation of the eccentricity of the earth's orbit and the precession of the equinoxes in relation to the production of climatic changes. "Mr. Croll considers astronomical causes to be the most important and effective agents in modifying climate while Sir Charles Lyell maintains that the distribution of land and water, with their action on each other by influencing marine and aerial currents, are of preponderating importance."

The Newall Telescope

"The 25-inch Equatorial Telescope, commenced several years ago by T. Cooke and Sons, of York, for R. S. Newall, Esq., of Gateshead, is now so far completed that it has been removed from the works at York into its observatory in Mr. Newall's grounds at Fern Deal. The completion of a telescope with an object glass of 25 inches aperture marks an epoch in astronomy, and its completion in England again places us in the front rank in the matter of the optical art."

The tube of the instrument was 32 ft. long, and cigar-shaped; it was constructed of steel plates riveted together; focal length of lens, 29 ft. A full-page wood-cut of the instrument was printed.

PROFESSOR LIEBIG disputes Pasteur's view that the decomposition of sugar in fermentation depends on the development and multiplication of yeast-cells and that fermentation generally is only a phenomenon accompanying the vital process of yeast. He expresses the opinion that Pasteur's researches have not explained fermentation; but have only made known another phenomenon—the development of yeast—which equally requires explanation.

The *Lancet*, in speaking of the arrangements of hospitals, instances, as much needing reform, the system of grouping together indiscriminately in medical words, cases of various affections, in an atmosphere which may be destructive to some patients while it is suitable to others. Thus we may find lying side by side a case of bronchitis and one of fever; a patient with phthisis and another with gangrene of the lung.

APPOINTMENTS VACANT

APPLICATIONS are invited for the following appointments on or before the dates mentioned:

HEADMASTER of the Technical School, Oldbury—The Director of Education, County Education Office, County Buildings, Worcester (February 21).

BOROUGH ENGINEER AND SURVEYOR, BUILDINGS SURVEYOR and SURVEYOR TO THE LOCAL EDUCATION AUTHORITY—The Town Clerk, Town Hall, Eastbourne (February 29).

HEADMASTER at the Queen Mary's (Boys) School, Basingstoke—The County Education Officer, The Castle, Winchester (March 1).

PROFESSOR OF CHEMISTRY—The Registrar, University of Allahabad, Allahabad, India (March 31).

PROFESSOR OF PHYSICS—The Registrar, University of Allahabad, Allahabad, India (March 31).

ENTOMOLOGIST to the South African Sugar Association—The Director, Sugar Experiment Station, Mount Edgecombe, Natal, South Africa.

TEMPORARY METEOROLOGICAL ASSISTANTS (Male) in the Meteorological Office—The Under-Secretary of State, S.2.B.(Met.), Department Q.A., Air Ministry, Adastral House, Kingsway, W.C.2.

ENGINEER for the Malayan Postal Service—The Crown Agents for the Colonies, 4 Millbank, S.W.1 (quoting M/9113).

ASSISTANT ENGINEER for the Drainage and Irrigation Department, Malaya—The Crown Agents for the Colonies, 4 Millbank, S.W.1 (quoting M/9114).

SUPERINTENDENT ENGINEER to the South Wellan Internal Drainage Board—Calthrop and Leopold Harvey, Clerks to the Board, Solicitors, Spalding.

MINERALOGIST OR GEO-CHEMIST—The Director of Research, British Pottery Research Association, Queen's Road, Penkhull, Stoke-on-Trent.

REPORTS AND OTHER PUBLICATIONS

(not included in the monthly Books Supplement)

Great Britain and Ireland

Department of Scientific and Industrial Research. Report of the Food Investigation Board for the Year 1938. Pp. v+277 (London: H.M. Stationery Office.) 4s. *cd.* net. [291]

Ministry of Health. Memorandum on Scabies. (Memo. 229 Med.) Pp. 8. 2*d.* net. Memorandum on the Louse and how to deal with it. (Memo. 230 Med.) Pp. 12. 2*d.* net. (London: H.M. Stationery Office.) [22]

Other Countries

Journal of the Indian Institute of Science. Vol. 22A, Part 21: Investigations on the Nature of Additions of Aliphatic Diazo-Compounds to Conjugated Double Bonded Systems; Action of Diazo-methane and Ethyl Diazo Acetate upon Cyclopenta- and Cyclohexa-Dienes and their Derivatives. By P. C. Guha and G. D. Hazra. Pp. 263-274. 1 rupee. Vol. 22A, Part 22: Synthetical Investigations in the Thujane Series, Part 9: A New Method of Synthesis of Umbellulonic Acid, by P. C. Guha and M. S. Muthanna; Part 10: Experiments on a Total Synthesis of Thujone; Synthesis of an Isomer of *a*-Thujadicarboxylic Acid (1-*isopropyl*-1-carboxy-cyclopropane-3-acetic acid), by P. C. Guha and M. S. Muthanna; Part 11: Synthesis of an Isomer of *a*-Thujadicarboxylic Acid (1-*isobutyl*-cyclopropane-1:2-dicarboxylic acid), by P. C. Guha and M. S. Nande. Pp. 275-286. 1 rupee. Vol. 22A, Part 23: Reactions of Chromates at High Temperatures, Part 11: Structures of Chromium Chromates. By D. S. Datar and S. K. K. Jatkar. Pp. 287-308. 1.8 rupees. Vol. 22A, Part 24: Reactions of Chromates at High Temperatures, Part 12: Magnetic Properties of Chromium Chromates. By D. S. Datar and S. K. K. Jatkar. Pp. 309-316. 22 annas. Vol. 22A, Part 25: Synthetical Experiments in the Pinane Group, Part 6: Further Attempts to Synthesize Pinonic Acid, Nopinone and Verbenone, by P. C. Guha and P. I. Narasimha Rao; Part 7: Total Synthesis of Verbenone; a New Total Synthesis of *a* and *β*-Pinenes, by P. C. Guha and P. I. Narasimha Rao. Pp. 317-330. 1.2 rupees. Vol. 22A, Part 26: Activation and Clarifying Properties of Fuller's Earth, Part 6: Adsorption of Colouring Matter by Fuller's Earth in Decolorisation of Oils. By B. S. Kulkarni and S. K. K. Jatkar. Pp. 331-340. 14 annas. (Bangalore: Indian Institute of Science.) [301]

Ministry of Public Health, Egypt: The Research Institute and the Endemic Diseases Hospital. Fifth Annual Report, 1935. Pp. x+65. (Cairo: Government Press.) [12]

Report of the Secretary of the Smithsonian Institution and Financial Report of the Executive Committee of the Board of Regents for the Year ended June 30, 1939. (Publication 3552.) Pp. ix+139. (Washington, D.C.: Government Printing Office.) 20 cents. [12]

Catalogues

Catalogue of Optical Projection Apparatus. Part 3: The 'Newton' and 'Wigmore' British Epidiascopes. Pp. 28. (London: Newton and Co.)

Epidemic Influenza Virus Suspension I.V.S. (B.D.H.). Pp. 8. (London: The British Drug Houses, Ltd.)

Natural History: Insecta Varia. (List No. 4.) Pp. 40. (Den Haag: Antiquariaat Junk.)