

Laboratory. To house a division of approximately 17,000 men in barracks requires 2,000,000 cub. ft. of timber; rather more than half if the men are quartered in a tent camp. Battleships are said to require 40,000 cub. ft. of timber and ocean transports 60,000 with an additional 300,000 sq. ft. of ply-wood, and so forth. The output of local sawn-timber and ply-wood in Malaya in 1940 has been already mentioned. Mr. Desch considered that the forests would be drawn upon to produce much larger amounts than that, and yet the forest service had already been called upon to allow a proportion of its gazetted staff to join the Forces. This was the position and in the absence of a recognition of the part played by the tropical forest in the economy of a country it appears probable that war demands would have similarly upset the good work which an excellent staff have been inaugurating during the past twenty years.

Mr. Desch regards this matter from the research and utilization point of view. His argument appears to be that the tropical forests of Malaya should be regarded as a source of sawn-timber and other produce for industries already existing in the country; but that their products should not be utilized for setting up, that is, supplying, the raw produce for new industries which, while interfering with the settled economy of the country, would require possibly new imports for their maintenance.

In how far the author's ideas would receive acceptance from the practical forest officer is open to doubt. But his ideas and these doubts must now remain for a future consideration.

## SEISMIC PERIODICITY

THIS subject has been discussed by Archie Blake, who states that classical methods for detecting and measuring periodicity have suffered from two serious defects<sup>1</sup>. First, the Schuster periodogram does not provide adequately for non-sinusoidal types of variation. Secondly, the smoothness encountered in almost all time series and many other types of data introduces a spurious appearance of periodicity which vitiates the test of significance unless proper allowance is made for the smoothness. New statistics designed to detect effects not contemplated in the Schuster periodogram are being tried in a study of the series of aftershocks of the Helena Montana earthquakes of October 1935. This work is being done by use of punched cards, which greatly alleviate the labour of the computation.

In the case of two types of departure from randomness, such as periodicity and smoothness, each effect disturbs the statistics designed to detect the other. The only rigorous treatment is to study them together, but approximate methods (for example, that of Bartels) for discounting the effect of one type of variation in studying the statistics designed to detect the other may be very useful. Thus the accurate detection of periodicity demands a treatment of the problem of detecting, describing and measuring the smoothness exhibited by the series under test. This problem has been discussed by Bartels, Jeffreys and others, and from a different point of view by Shewhart.

<sup>1</sup> Progress Report on Periodicity and Time Series, by Archie Blake, Transactions of 1941 of the American Geophysical Union.

## FORTHCOMING EVENTS

(Meetings marked with an asterisk are open to the public)

### Friday, March 13—Saturday, March 14

BRITISH ASSOCIATION FOR THE ADVANCEMENT OF SCIENCE (DIVISION FOR THE SOCIAL AND INTERNATIONAL RELATIONS OF SCIENCE) (at the Royal Institution, Albemarle Street, London, W.1).—Conference on "European Agriculture: Scientific Problems in Post-War Reconstruction".

### Friday, March 13

10.15 a.m.—"Measures for Reconstruction". (Chairman: Sir John Russell, F.R.S.)

2.15 p.m.—"Economic and Kindred Problems". (Chairman: Mr. F. L. McDougall.)

### Saturday, March 14

10.15 a.m.—"The Future Betterment of European Farming". (Chairman: Dr. A. J. Drexel Biddle.)

2.15 p.m.—(Chairman: Sir John Russell, F.R.S.)

### Monday, March 16

ROYAL SOCIETY OF ARTS (at John Adam Street, Adelphi, London, W.C.2), at 1.45 p.m.—Mr. H. P. Rooksby: "X-Ray Technique in the Industrial Laboratory" (Cantor Lecture, 1).

ROYAL GEOGRAPHICAL SOCIETY (at Kensington Gore, London, S.W.7), at 5 p.m.—Colonel Orde Wingate: "Geography of the Ethiopian Campaign".

### Tuesday, March 17

ROYAL SOCIETY OF ARTS (DOMINIONS AND COLONIES SECTION) (at John Adam Street, Adelphi, London, W.C.2), at 1.45 p.m.—Mr. Ernest Marsden: "Recent Developments in the Scientific and Industrial Research Programme of New Zealand".

CHADWICK PUBLIC LECTURE (at the London School of Hygiene and Tropical Medicine, Keppel Street, London, W.C.1), at 2.30 p.m.—Dr. William A. Brend: "Nervous Shock in Peace and War".\*

ROYAL INSTITUTION (at 21 Albemarle Street, London, W.1), at 2.30 p.m.—Sir Lawrence Bragg, F.R.S.: "Metals", 3: "Magnetic Properties of Metals".\*

ROYAL STATISTICAL SOCIETY (at the Royal Society of Arts, John Adam Street, Adelphi, London, W.C.2), at 5.15 p.m.—Mr. R. G. Glenday: "Economic Reconstruction after the War".

### Wednesday, March 18

OIL AND COLOUR CHEMISTS' ASSOCIATION (MANCHESTER SECTION) (at the Engineers' Club, Albert Square, Manchester), at 2 p.m.—Dr. J. G. Gillan: "Some Aspects of Camouflage".

INSTITUTE OF PHYSICS (Joint Meeting of the LONDON AND HOME COUNTIES' BRANCH and the LONDON AND SOUTH-EASTERN COUNTIES' SECTION OF THE INSTITUTE OF CHEMISTRY) (at the Royal Institution, Albemarle Street, London, W.1), at 2.30 p.m.—Prof. H. Levy: "Social Implications of Science in War-Time".

ROYAL METEOROLOGICAL SOCIETY (at 49 Cromwell Road, London, S.W.7), at 4.30 p.m.—Dr. H. Spencer Jones, F.R.S.: "The Atmosphere of the Planets" (Symons Memorial Lecture).

### Thursday, March 19

INSTITUTE OF FUEL (at the Connaught Rooms, Great Queen Street, London, W.C.2), at 2.30 p.m.—Dr. Ezer Griffiths, F.R.S., Dr. R. W. Powell, and Mr. M. J. Hickman: "Thermal Conductivity of Some Industrial Materials".

INSTITUTION OF ELECTRICAL ENGINEERS (at Savoy Place, London, W.C.2), at 6 p.m.—Dr. A. P. M. Fleming: "A Critical Review of Education and Training for Engineers".

### Friday, March 20

PHYSICAL SOCIETY (in the Lecture Theatre of the Science Museum, Exhibition Road, London, S.W.7), at 4.30 p.m.—Sir Edward Appleton, F.R.S.: "Ionospheric Influences on Geomagnetism" (26th Guthrie Lecture).

## APPOINTMENTS VACANT

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

LECTURER (MAN OR WOMAN) IN PHARMACEUTICAL SUBJECTS in the Plymouth and Devonport Technical College.—The Director of Education, Education Offices, Cobourg Street, Plymouth (March 18).

TECHNICAL AND CONSTRUCTIONAL ASSISTANT in the Borough of Luton Electricity Undertaking.—The General Manager and Chief Engineer, Electricity Offices, St. Mary's Road, Luton (March 20).

LECTURER IN ENGINEERING SUBJECTS in the Cardiff Technical College.—The Director of Education, City Hall, Cardiff (March 25).

ASSISTANT DRAINAGE OFFICER to the Lancashire War Agricultural Committee.—The Executive Officer, Institute of Agriculture, Hutton, Preston (March 28).

COLLOID CHEMIST OR PHYSICIST.—The Director of Research, British Pottery Research Association, Queens. Road, Penkhull, Stoke-on-Trent.