

American Geophysical Union

THE American Geophysical Union, established in 1919 as the American National Committee of the International Union for Geodesy and Geophysics, held its annual congress this year at Washington, on April 26-28, and one of its sections met again at Berkeley, California, on June 20-21. All the seven sections of the Union, for geodesy, seismology, meteorology, terrestrial magnetism and electricity, oceanography, volcanology, and hydrology, met at Washington. Only the hydrology section was represented at Berkeley, where its meetings were associated with the Western Inter-State Snow Survey Conference. The report of the Union is this year published in two volumes (reproduced direct from typescript, as in recent years), of which the first, of 257 pages, relates to the General Assembly and the first six sections; the second volume is still larger, of 370 pages, and forms a striking illustration of the attention now being devoted in the United States to the many aspects of hydrology—a subject almost neglected in Great Britain. The volumes contain very many short scientific papers of great interest, as well as formal reports on work in progress.

Mining Research at Birmingham

WE have received the report of the work of the Mining Research Laboratory in the University of Birmingham during the year 1933, which has again been financed by the British Colliery Owners' Research Association and by the Miners' Welfare Fund. This executive board of mining research is doing excellent work under the chairmanship of Dr. J. S. Haldane. Again this year silicosis is investigated, but in accordance with Dr. Haldane's repeatedly expressed opinions, the work appears to be confined to the determination of 'free' silica; Dr. W. Jones's investigations are not referred to. Nystagmus, which was carefully investigated previously, is not specially discussed, although the investigation of underground illumination no doubt will play a very important part in minimising the incidence of this distressing and costly complaint. Much appears to have been done with regard to the production of gas of high calorific power from coal or coke oven gas, and various investigations tending to improve atmospheric conditions underground as well as investigations into the physiology of the miner will no doubt prove of great value in the future.

Calculations for Draughtsmen

THE Association of Engineering and Shipbuilding Draughtsmen has recently added to its useful series of pamphlets one on "Some Notes on Deflection", by Mr. W. R. Thomson, and another on "Mechanical Design of High-Speed Salient-Pole A.C. Rotors", by W. R. Needham. In the first of these the author gives a logical account of the principles of deflection of cantilevers and simply supported beams. No advanced mathematics is used, rough sketches being sufficient to give the figures necessary for the deflection calculations, which are made by slide rule. In the second pamphlet, Mr. Needham deals with shafts

and bearings, shaft stresses, critical speeds, rotor bodies, rotor poles, coil supports and balancing. The stresses in high-speed rotors are of a very high order, and the centrifugal force of a single pole and coil, says the author, at the overspeed may exceed a million and a half pounds. The overspeed in some hydro-electric machines may exceed the normal by as much as 100 per cent.

Bibliography of Seismology

A NEW volume (No. 12) of the Publications of the Dominion Observatory (Ottawa) is, we are informed, to be devoted to the bibliography of seismology. The first part, issued recently, contains notices of memoirs for the first quarter of the present year. It may be noted that vol. 10 of the Publications includes the titles of 2,000 memoirs for the years 1929-33. A still earlier series, in which notices of 1,200 memoirs appeared, was issued under the auspices of the Eastern Section of the Seismological Society of America and was published in vol. 17-19 of the *Bulletin* of the Society. Both series were prepared by the present editor, Mr. E. A. Hodgson, who has now the assistance of twenty-four collaborators. All the important countries in which earthquakes are studied are represented on this list, with the exception, we regret to notice, of Great Britain.

Diseases of Swedes

A NEW bulletin (No. 74) issued by the Ministry of Agriculture (H.M. Stationery Office, 1s.) is concerned with two diseases of swedes. Experiments with pure culture have shown that canker, which affects the seed-bearing plant, and dry rot which attacks the roots, are both due to the same fungus, *Phoma Lingam*. This fact is of importance, as infected seed would be likely to result in an infected root crop. The disease is not serious in England, but has become prevalent in New Zealand; and since most of the seed used there is obtained from Great Britain the question of infection is important. Methods of seed sterilisation have been sought with no great success, but evidence has been obtained that weeds afford a serious source of infection. Good cultivation would, therefore, seem as necessary as clean seed if spread of the infection is to be avoided.

Population Problems

THE third General Assembly of the International Union for the Scientific Investigation of Population Problems will be held in Berlin on September 9, at 11 a.m., in the rooms of the University. An International Congress will be held in Berlin on September 10-15 under the auspices of the International Union. The Congress will have the following divisions: (1) Population Statistics; (2) Biology and Race Hygiene; (3) Social, Economic and Psychological Problems of Population; (4) Medicine and Hygiene. The business office of the Congress is, Berlin W 62, Einemstrasse 11.

Congress of Anthropology

THE sixteenth Congress of Anthropology and Prehistoric Archaeology will be held at Brussels from