Overseas Students in Great Britain

IN the review of Mr. E. Child's book "The Tools of the Chemist" in NATURE of November 9, p. 604, reference was made to the necessity of bringing students from overseas to Great Britain after the War; and the suggestion was made that this should form part of the work of the British Council. Prof. B. Ifor Evans, Educational Adviser to the British Council, now writes that, since 1935, the British Council has been inviting students from overseas to undertake courses and research at British universities and similar institutions; indeed, had not the War prevented it, nearly 250 students from twenty-one countries would have commenced their studies in Great Britain in October 1939. Drawn from practically all countries of Europe, many countries of South America, the Dominions and Colonies and the Near and Middle East, these students would have studied or carried out research in a great variety of scientific and humanistic subjects, including medicine, engineering, agriculture, law, philology, economics, sociology, physics, education, English language and literature, etc. Such activity is continuing so far as possible, even during the War; last year 143 students from overseas studied in the United Kingdom under the auspices of the British Council, and after the War it is hoped to give a considerable extension to this work.

The American Contribution to a New Order

IN an address at Southampton, Long Island, on September 1 on "Our United States in this Backward Moving World", Dr. N. Murray Butler asserted that the human race is witnessing the greatest and most far-reaching revolution which history records. This revolution is primarily the outgrowth of economic problems and ambitions, and he urged that the substitution of information for knowledge as a result of the influence of the Press and the radio has made it of vital importance to look beneath the surface of things. The arrest at the beginning of this century of progress towards a prosperous and contented and peaceful world, organized for the preservation and protection of law and order, was due to the incompetence and failure of the democracies, especially France, Great Britain and the United States, to understand the new economic and political forces at work and to co-operate for their control and direction in a manner which would preserve and protect the democratic system of economic, social and political order, as well as the free institutions built upon that order.

In these critical years the democracies lacked conspicuously the able, constructive and courageous leadership required. Discussing the causes for the absence of co-operation, courage and vision in the democracies, Dr. Butler pointed out that all those important problems and policies which have been looked upon in the United States as national or domestic are now absorbed into and made part of the world revolution. This change must be recognized, as well as the danger incurred, for the public opinion and elected political representatives in the United States come under the pressure of closely organized and persistent minority groups, unconcerned with principles or the public welfare.

Public opinion, moreover, is the unseen product of education and practical experience. Education, in turn, is the function of the family, the church and the school in co-operation, The neglect or failure of the family in its guiding influence and discipline, and of the church in its religious instruction, has given an impossible burden to the schools, and these conditions must be corrected if the American people are not to play into the hands of the advocates of a totalitarian State. Dr. Butler further referred to the signs of an incapacity to understand and to interpret liberty, or to distinguish it from licence. The limit between liberty and licence must be recognized and observed if liberty itself is to remain. In this backward-moving world, however, Dr. Butler believes that leadership towards return to a new and forward-moving world may well rest with the United States, despite its shortcomings and failures. The federal principle it has established must be applied further if a new, prosperous and peaceful world is to be established upon the wreck of the present order.

Engineers and Reconstructions

AT a meeting of the Junior Institution of Engineers on December 14, Viscount Falmouth in his presidential address pointed out that, after the War, a heavy weight of responsibility will still lie on the shoulders of the engineer, for, though the planning of reconstruction may be in other hands, the methods and the actual work of restoring a stricken world will fall largely to the man of science and the engineer. When the Napoleonic wars left England and Europe in a state of profound exhaustion, it must have seemed impossible that recovery could take place for a long time. But depression lifted gradually, first in Great Britain and later in Europe, largely due to the development by James Watt of his steam engine. After 1918, Great Britain was again exhausted by the immensity of her effort; but although we had several severe economic storms to weather, yet, on the whole, our recovery was fairly rapid. Although this time we did not have an entirely new prime mover to come to our assistance, as we had in 1815, yet the years 1918–30 saw the large steam turbine reach a high state of efficiency and trustworthiness. This, doubtless, contributed to the national recovery. The fact that power from a thermal unit can be sold as cheaply as power from a hydro-electric station, has enabled Great Britain, with its small water-power resources, still to compete with countries better placed in this respect.

To-day we ask ourselves if there is any form of prime mover which is likely to do for our generation what the Watt engine did for the years after 1815 and the Parsons steam turbine did from 1918 onwards. Possibly the high compression internal combustion engine may be an answer. This has a high thermal efficiency, and, as now constructed, is most trustworthy. The fact that it can operate on either oil or gas without even changing the com-

pression ratio gives it an important flexibility. Besides the assistance given to the world by the supply of cheap power in huge quantities after the War of 1914–18, the years since have seen a great development in the methods of manufacture. One lesson we must learn from the present War is that we must no longer neglect the manufacture of high-grade machine tools. The reasons are not necessarily technical; they are more in the economic field, but the high reputation we now have for very elaborate products should leave no one in doubt in the future that we can turn out small-grade machine tools of an excellent quality.

50-Million Volt Cyclotron to be Built in Moscow

THE construction of a very powerful cyclotron, capable of producing 50 million electron volt deuterons, will be commenced in Moscow early in 1941, according to a decision of the Academy of Sciences of the U.S.S.R., based on a report submitted by the Physical Institute of the Academy. A magnet the core of which weighs about 1,000 tons and solenoid of 18 tons is to be installed. A special building to house the cyclotron will be erected in the grounds of the new home of the Physical Institute of the Academy being built on the Bolshaya Kaluzhskaya Ulitsa in Moscow. The old apparatus in the Soviet Union, which is in the Radium Institute of Leningrad, is capable of giving an energy of 4 million electron volts to particles; another, nearing completion at the Physico-Technical Institute, also in Leningrad, will be capable of imparting an energy of 10–12 million electron volts.

Fossil Skeleton of Uintatherium

AN almost complete skeleton of Uintatherium, a six-horned animal the size of an elephant which dominated the primitive forests of southern Wyoming about thirty million years ago, has been found by Dr. Charles L. Gazin, palæontologist of the Smithsonian Institution. Bones of this giant mammal are common; but a skeleton with only a few parts missing is rare. Dr. Gazin's find lacks only one hind leg, part of a foreleg, and the neck vertebræ. The skull, about three feet long, is in exceptionally good condition, although the lower jaw is considerably crushed. There is also a second skull, including one of the beast's sabre-like down-pointed tusks about a foot long. The skeleton is expected to become one of the main exhibits in the U.S. National Museum, after it has been worked free from the matrix of hardened clay in which it is embedded, and properly mounted. This work may require as much as a year.

Recent Earthquakes

AN earthquake of considerable severity shook the island of New Britain, which is to the north-east of New Guinea, early on January 14. The epicentre appears to have been near Keravat, where houses collapsed. Keravat is some twenty-five miles from the port of Rabaul, where some faulting occurred, damaging the harbour. An earthquake of intensity 7 or 8 on the Rossi-Forel scale was felt at Rabaul on September 12, 1940, at 11.20 p.m. local time, the shock lasting for some three minutes and then decreasing in severity. Seventy-two distinct tremors were felt between then and 8.30 a.m. on September 13. The epicentre was judged to be about 70 miles south-south-east of Rabaul, and the shock was severely felt in the Kokopo District and at Wide Bay, Pondo, Namatanai and Buka.

On December 12 an earthquake was registered on the short-period instruments at Kew Observatory at 21h. 20m. 41s. G.M.T. There were only slight traces on the Galitzin seismograms. The earthquake was calculated to have had its epicentre some 290 km. distant from Kew and was thus a 'near' earthquake. About this time a shock was reported from Penrhos in North Wales. On December 28 a moderately strong earthquake, giving maximum ground amplitude of 21 μ was registered at 16h. 51m. 54s. G.M.T. It was calculated to have had its epicentre some 11,600 km. away and was thus a 'distant' earthquake. A full suite of well-registered waves was observed.

Announcements

SIR WILLIAM BEVERIDGE, who has been chairman of the man-power survey of the Ministry of Labour and National Service, has been appointed an under-secretary in the Ministry. It is stated that the man-power survey has been completed, and Sir William Beveridge will now have administrative responsibility for the section of the Ministry dealing with man-power requirements of industry and the Armed Forces.

MRS. NEVILLE-ROLFE, secretary-general of the British Social Hygiene Council, has been awarded the Snow Medal for 1941 by the American Social Hygiene Association. The medal is given for "distinguished service to humanity", and is named after Dr. Snow, the first director of the American Association, founded in 1913. Mrs. Neville-Rolfe is the fourth recipient of the medal and the first woman to receive it.

OWING to war conditions, the Industrial Health Education Society, which started its activities in 1927, has resolved to close down its work in arranging for talks on the requirements for industrial health. Its remaining funds are being handed over to the British Medical Association to establish a Mackenzie Lectureship on industrial hygiene in memory of Sir James Mackenzie, who began the work.

THE Clough Memorial Research Fund was instituted in 1935 for the purpose of encouraging geological research in Scotland and the North of England. The North of England is defined as comprising the counties of Northumberland, Cumberland, Durham, Westmorland, and Yorkshire. Under the terms of administration of the fund a sum of approximately £30 is available annually. Applications for grants are invited for the period April 1, 1941–March 31, 1942, and should be made to the Secretary, Clough Research Fund Committee, Edinburgh Geological Society, Synod Hall, Castle Terrace, Edinburgh, not later than March 1.