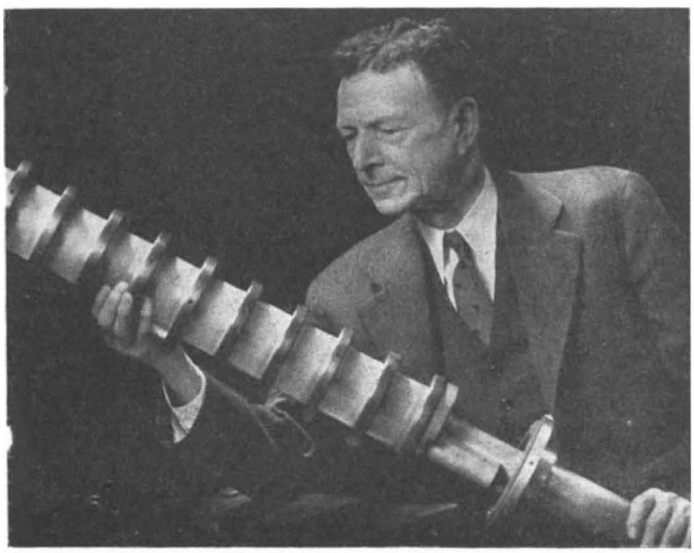
NEWS and VIEWS

Dr. W. D. Coolidge : Duddell Medallist

THE eighteenth Duddell Medal of the Physical Society has been awarded to Dr. William David Coolidge in recognition of his pioneer work in the production of ductile tungsten and, more especially, of his invention and subsequent development of the hot-cathode high-vacuum X-ray tube which is everywhere known by his name. The medal was formally presented to him on May 1 by Viscount Halifax, H.M. Ambassador in Washington, at a dinner of the American Physical Society at Baltimore. Born in 1873, Coolidge began life on a farm in Massachusetts. He found means of entering the Massachusetts Institute of Technology, where he graduated in 1896 and remained until 1905, except for a short period at Leipzig. He then joined the staff of the Research Laboratory of the G.E.C., Schenectady, N.Y., becoming assistant director in 1908, associate director in 1932, and finally director of research and vice-president of the Company in 1940. He has been widely honoured both in his own country and in Europe: of several universities he has received honorary degrees, and of many learned societies he is an honorary member or a medallist; in Great Britain he has received the Hughes Medal (1927) of the Royal Society and the Faraday Medal (1939) of the Institution of Electrical Engineers.



DR. W. D. COOLIDGE

The Coolidge tube is described in his original paper as "an X-ray tube with pure electron discharge." Unlike the older cold-cathode gas tubes, it affords exact control of both intensity and 'hardness' of the radiation through the adjustments of the filament current and the accelerating potential difference, and operates continuously without change in either respect. During the War of 1914–18, Dr. Coolidge produced complete X-ray field installations including specially designed tubes of large thermal capacity, and later he developed self-contained oil-immersed outfits, which became widely applied in dentistry and in industrial laboratories on account of their easy manipulation. For high voltages he developed a multi-section tube with intermediate tubular electrodes for step-by-step acceleration of the electrons; in the accompanying photograph Dr. Coolidge is holding a million-volt tube of this type. Such tubes have been used for deep therapy under closely controlled conditions, and for the examination of materials in industry. In other tubes of this type the electron beam is made to emerge through a 'window' in the tube, and its effects have been investigated.

Ministry of Works and Planning

THE Ministry of Works and Planning Bill, which received its second reading in the House of Commons on April 29, while recognizing the principle that private profit must not be allowed to regulate the surroundings and conditions of our life after the War, is, as the Paymaster-General admitted in his speech, a very small step towards the solution of problems of planning. The purpose of the Bill is to provide for the transfer to the Minister of Works and Planning of all the existing functions of the Commissioners of Works and the Commissioners of Public Works in Ireland, and of the existing town and country planning functions of the Ministry of Health (but not its housing powers). The precise relations of the Minister of Works and Planning and the Paymaster-General are obscure, nor is it clear how far the transfer of powers goes. The Bill is, however, a step forward towards the creation of the central authority for planning in Great Britain, put forward by the Uthwatt Committee in its first recommendations.

British Reconstruction Associations

A BROADSHEET entitled "British Reconstruction Agencies" recently issued by P E P (Political and Economic Planning) affords a valuable supplement to the summary of research activities in this field included in the "Destruction and Reconstruction" issue of the *Architectural Review* of last July. Apart from its handier form for reference, the broadsheet includes, in addition to particulars of official agencies for physical reconstruction and of committees and voluntary organizations concerned with particular aspects, notes on the Inter-Allied Relief Bureau groups working for the Allied Governments, and organizations for the study of international reconstruction. An introductory note stresses the importance of a bold reconstruction policy as an essential part of the War effort. This was emphasized by Sir Stafford Cripps early in March and is one of the keynotes of an admirable report "The Old World and the New Society", issued by the Labour Party last month. The greatest weakness of British studies on reconstruction at present, says the broadsheet, is that they are not clearly enough linked with the War effort, and while many regard 1942 as the decisive year of this War, fewer seem aware that it may equally be the decisive year for the peace. Both may be lost if we cannot now convert the fight of the United Nations into a genuine crusade for a supreme moral principle and for the building of a

people's civilization out of the civilization of a privileged few. Great Britain in particular needs to grasp this relationship of reconstruction policy to the War effort, and to recognize that the vision of a new order at home and abroad is an indispensable weapon both in the waging of a war and in the winning of a peace.

The United States and the War

WRITTEN before the United States entered the War "The Arsenal of Democracy" (Oxford Pamphlets on World Affairs, No. 53. London: Oxford University Press. 4*d*. net) still gives a pertinent account of the economic contribution of the United States towards the defeat of the Axis powers. After describing the movement of American opinion towards aid to Britain and her Allies, and the successive stages of American action before and after the passage of the Lease-Lend Act, Mr. A. J. Brown discusses the war-potential of the United States and its mobilization. His pamphlet gives a lucid account of the problems of the transfer of a peace-time economy to a war-footing and, if supplemented by current articles of the type appearing in recent issues of *Fortune*, should enable the reader to assess reasonably the significance of the bottlenecks of machine tools, skilled labour and raw materials. The labour and administrative problems are clearly displayed and the American contribution in shipbuilding, aircraft production and other supplies is fairly indicated; there is a useful appraisal of the relative strength of Great Britain, the United States and the U.S.S.R. in comparison with the Axis powers and with special reference to the time factor.

Academy of Sciences of the U.S.S.R.

A GENERAL meeting of members and corresponding members of the Soviet Academy of Sciences was held in Sverdlovsk, in the Urals, during May 2–7, to discuss the plan of scientific research work for 1942. The following papers were read: "Urgent Tasks of Science in Mobilizing the Resources of the Eastern Districts of the U.S.S.R. for the Needs of Defence", by Profs. Komarov and Bardin; "The Tasks of Social Science in the War", by Prof. Alexandrov; "Some Fundamental Problems of Agricultural Science", by Prof. Lyssenko; "Physics and the War", by Prof. Joffe; "Biology and War", by Prof. Orbeli; "The Teutonic Order, its Early Successes and Final Defeat", by Prof. Tarle; "Historic Documents of the Red Patriotic War", by Minsky. The meeting also discussed the adjustment of the Academy's work in accordance with the needs of the War.

Medical Progress in China

IN a recent lecture published in the *Asiatic Review* of April, Dr. W. H. Woo gives an interesting survey of medical progress in China from the earliest times. The origin of native medicine can be traced back to the earliest Chinese emperors, who flourished three or four thousand years ago. So early as the Chou dynasty, about 700 B.C., medicine had reached a high degree of development, and four kinds of medical man—physician, surgeon, dietician and veterinary surgeon—were distinguished. Afterwards, one of the most notable events in the history of Chinese medicine was the publication by Li Shee Chin about A.D. 1578 of a materia medica consisting of fifty-two volumes and containing not only herbs but also drugs of animal and mineral origin as well. A new medicine was introduced in 1835, being due chiefly to Dr. Parker, who founded the first hospital in China, but it was not until three quarters of a century later that Sun Yat Sen, the founder of the Chinese Republic and himself a medical man, placed medical services on a proper footing.

In 1927 a Ministry of Health was founded in China to reorganize public health centres and reform medical education. In spite of an energetic campaign against disease, the death-rate from various causes in China is still very high. According to the latest annual statistics, the infantile mortality in China is 200 per thousand, and the maternal mortality 15 per 1,000, as compared with 53 per 1,000 and 4 per 1,000 respectively in Great Britain, and tuberculosis kills 5 out of every 1,000 Chinese, while in Great Britain the proportion is ten times lower. An active campaign has been undertaken against opium smoking, and this evil would doubtless have been eradicated but for the Japanese, who encouraged the habit and distributed opium free in occupied territory. In pre-war days, medical schools in China numbered about thirty-six, but many of them have since suffered from depletion of staff and loss of laboratory equipment, to remedy which the present policy of the Ministry of Education is to confine medical education to centres in Free China.

Gold Coast Timbers

ALL over the Empire, wherever forests at all accessible exist, the same formula is heard expressed: "War-time conditions have brought about an increased demand for timber both locally and for export"; and the demands of the fighting forces are to a large extent responsible for this increased demand. On several occasions allusion has been made to this factor in NATURE. There may occasionally be an asset to set against these often unsupervised extra fellings, one of which is mentioned in a publication of the Forestry Department of the Gold Coast entitled "Gold Coast Timbers" (Govt. Printers, Accra, 1941), issued under the name of the Chief Conservator of Forests, who had the assistance of officers of the Department in its compilation. As was the case during the War of 1914–18, especially in India and Burma, the great demands by the Army and, in the present War, largely increased demands for commercial war production, have necessitated a larger call on the tropical forests and the bringing into utilization of timbers for which there was no commercial demand in peace-time. As the author says of the Gold Coast, timber is required for many and varied purposes, and species formerly but little used have come into prominence.

It was in view of this extra demand that the present small monograph was prepared. It only purports to give a summary of existing information about some of the more important Gold Coast timbers, forty-four in number; other species in the forests not mentioned may prove as useful, it is said, in the future, even if not more useful, than some of those here dealt with. There are some 20,000 square miles of high forest and double that number of savannah forest. Some 1–1½ million acres of the high forest are classed as at present accessible. On the subject of distribution and frequency of species, enumeration surveys have been carried out to a certain degree, but it is emphasized that average figures only have been obtainable from them. This