

The workers at the Liverpool School of Tropical Medicine, under the direction of Prof. B. G. Maegraith and Dr. A. R. D. Adams, R.A.M.C. officers at Colchester and Woolwich, and Major-General Covell in India, are studying the effect of paludrine on the relapse-rate of benign tertian malaria, while in Australia a team of research workers in the Australian Army, led by Brigadier N. H. Fairley, is making an intensive study of its prophylactic action. The work of Brigadier Fairley is noteworthy for the great use which is made of volunteers, and the consequent rigorous control which is kept over all aspects of the experiments.

The full significance of all the work, which has been done under the auspices of the Medical Research Council, has still to be assessed, but paludrine appears to be a notable advance in the chemotherapy of malaria. The Liverpool workers, who were the first to treat human cases with the new substance, are impressed by the latitude allowed the clinician in treatment, for doses fifteen or twenty times the size of those necessary to control clinical symptoms can be given with impunity, while Brigadier Fairley is impressed by the remarkable suppressive action which the drug possesses. Unlike mepacrine, paludrine is not coloured and does not stain the skin. It is also a simpler substance, chemically, and it should be easier to manufacture. The two qualities, potential cheapness and freedom from undesirable effects at therapeutic doses, are themselves sufficient to make paludrine an important new drug.

Government Support for Research Associations in Britain

ANNOUNCING in an address to the Conference of Industrial Research Associations on November 6 that grants to such associations would form a permanent part of the activities of the Department of Scientific and Industrial Research, Mr. Herbert Morrison, Lord President of the Council, declared that we need research workers to-day as much as in 1940, and that the Government will do everything possible to encourage British industry to use scientific research. It is essential that some of the money gained to industry by relief from taxation in the new Budget should be invested in research. Large concerns, he hoped, would establish or extend their own research departments, but smaller concerns should give their full support to existing research associations, for no single section of industry can do without this essential scientific partnership and remain virile. Moreover, Government support of industrial research must be backed by readiness to use its results, and firms which cannot maintain fully equipped research staffs of their own should employ at least some trained scientific workers who can co-operate with the appropriate research association and help in the interpretation and application of its work.

Expenditure on research should be regarded as an essential cost, and dealing with the finance of research associations, Mr. Morrison said that with larger incomes the research associations would be able to carry out more of the expensive development work. The Government has therefore decided that in suitable cases it will make single grants to finance capital expenditure for such special purposes as buildings and re-equipment, the purchase of particularly expensive apparatus or the provision of semi-scale plant. Until a research association attains an appropriate scale, the present system of a block grant and an additional grant will continue. Eventually, the additional grant

will cease, but a new block grant will be made, to continue indefinitely so long as the Department of Scientific and Industrial Research is satisfied with the activities of the association. The associations, Mr. Morrison said, can rely on the Government to proceed as rapidly as possible with the release and *training of promising research workers*, and all possible assistance will be given for rebuilding or extending laboratories. Sir Edward Appleton, referring to the importance of first-class research workers, pointed out that a monastic life is not stimulating to the young scientific worker, and there should be the closest contact between the research associations themselves, and with the universities and other research establishments.

Air Speed Record by Jet Propelled Aircraft

GROUP CAPTAIN H. J. WILSON, R.A.F., piloting a Gloster Meteor aircraft powered with two Rolls Royce Derwent gas turbine engines, regained the speed record for Great Britain on November 7, flying over a course in the Thames estuary off Herne Bay. The officially recognized speed, being the average of four flights over the course in opposite directions, was 606.2 miles an hour. Mr. Eric Greenwood, the chief test pilot of the Gloster Aircraft Co., also flew a similar course, on another machine of the same type, averaging 603 miles per hour. The previous speed record was held for Germany by Fritz Wendel. This was set up on April 27, 1939, when he flew a Messerschmidt Bs.109R monoplane at 469.2 miles per hour.

The development of the Gloster machine is the result of research and experiment principally by Air Commodore F. Whittle in conjunction with Messrs. Power Jets, Ltd. The final design and construction of the aircraft and the engine were the responsibility of the Gloster Aircraft Co. and Messrs. Rolls Royce respectively. The attainment of such speeds is due to developments that are perhaps less obvious than the actual result. The production of a gas turbine having a thrust at the jet that gives, at 600 m.p.h., a horse-power of from two to three times greater than anything reached by the conventional aero engine is the most important factor. The use of jet propulsion allows this power to be turned into useful thrust more certainly than the usual airscrew method of propulsion could have accomplished. The problems of control of the aircraft at speeds approaching the speed of sound were unique and have been overcome by the aircraft designer. The machine was designed for lower speeds with earlier and less powerful engines, and it is a tribute to his foresight that it has been able to stand up to the increased stresses with a minimum of local strengthening involving no radical redesigning. The actual record-breaking aircraft was a production type of the standard R.A.F. Meteor that is now in service, and has been used in operations both over Germany and for shooting down flying bombs over Great Britain. Special preparation of the machine and the development of the general flying technique for the attempt has been under the supervision of Group Captain Wilson at Manston Aerodrome.

International Council for the Exploration of the Sea

At a meeting held in Copenhagen during October 15-19, attended by delegates and experts from Great Britain, France, Norway, Denmark, Sweden, Finland, Holland and Iceland, the International Council for the Exploration of the Sea was formally reconstituted for a five-year period, as from July 22, 1945. Though