

various Government departments and industry; yet all these functions are related, and all are affected by the main strategy of the War. Strategical considerations determine which scientific problems are the most important; and conversely, the strategy of the War may be changed by scientific developments.

There is a great need for a body of scientific men who can indicate what assistance science can give to the development of strategy, who can interpret in technical terms the requirements of the strategy decided upon, and who can co-ordinate the scientific and technical work in the various Government departments and in industry. Such a body would need to be a full-time body, in direct contact with the War Cabinet, and with powers to obtain all necessary information on the resources and problems in the scientific and technical field; with the authority to initiate programmes of work and to have direct access to working scientists and engineers. The Association's proposals for a Central Scientific and Technical Board included these functions and powers. Mr. Swann pointed out that while many non-technical people spoke of men of science as 'inventors' the problem of the individual inventor is a special one, and is already very well provided for. Only a small proportion of the scientific discoveries made in this or any other country are due to individuals working on their own; the majority of discoveries are made by teams of workers in research and development establishments, either in Government service or in industry. It is these people who provide the bulk of scientific workers in Great Britain and with whom we are concerned in discussions of planning.

Other speakers from the platform and those who joined in the discussion from the floor all contributed arguments demonstrating the need for central planning in their own fields of work. Mr. D. T. Waigh spoke for men of science in industry, who, he claimed, represent the great majority of our scientific man-power. The scientific and technical staff have a fund of initiative and use it wherever they can; but they are often frustrated in their efforts through the existence of overlapping, lack of consultation and the feeling that their work is not co-ordinated into an effective whole.

Dr. D. McClean spoke of the need for planning in the biological sciences. He mentioned the absurd and damaging distinction between academic institutes and commercial undertakings, many of which are doing first-rate research and are at present the only organizations capable of translating laboratory processes into large-scale production. Bodies such as the Medical Research Council and the Agricultural Research Council are doing excellent work in their own institutes and by subsidizing research as well; but have never accepted responsibility for directing the national effort in the medical, veterinary and agricultural fields.

Mr. Innes spoke of the difficulties encountered by operational research groups, which are in general doing such good work. He considers that there is a need for combination between the different branches of the Services to avoid overlapping and waste of energy. The groups do not get sufficient guidance as to what is required, and for the efficient prosecution of their work they need knowledge of the research and production development that is actually being carried out on military equipment. Any central body must have its roots in working scientists and there must be close liaison with the scientists working for the Forces. To the working scientist it appears that there

is not sufficient policy decision on how our scientific man-power should be used.

The day after the meeting reported above it was announced that three full-time scientific advisers had been appointed to the staff of the Ministry of Production (see NATURE of September 12, p. 301). While the Association welcomes these appointments as a step to link science with production, it is certainly not clear from the official announcement whether the scope of activities of the three advisers will be wide enough to answer the demand for a Central Scientific and Technical Board. Questions which are bound to be asked are: what powers the advisers will have to get information and to put their recommendations into practice, whether it will be possible to extend their work to include the scientific and technical activities of the Service Departments and other Ministries outside the strict field of production, what the position of the Lord Privy Seal will be in supervising the work of these advisers, and their relationship with the War Cabinet and the Minister of Production. Until these and other questions are answered in practice, those who have supported the call for a Central Scientific and Technical Board will no doubt continue to voice their demands for something wider than the appointment of advisers to a single Minister.

## FORTHCOMING EVENTS

### Saturday, September 26

SOCIETY OF CHEMICAL INDUSTRY (JOINT MEETING OF THE MANCHESTER SECTION AND THE FOOD GROUP) (in the Reynolds Hall, College of Technology, Manchester), at 2.30 p.m.—Dr. L. H. Lampitt: "The Preservation of Foodstuffs".

### Monday, September 28

SOCIETY OF CHEMICAL INDUSTRY (YORKSHIRE SECTION) (in the Chemistry Lecture Theatre, The University, Leeds), at 6 p.m.—Dr. E. C. W. Smith: "Incendiary Materials".

### Thursday, October 1

INSTITUTION OF ELECTRICAL ENGINEERS (at Savoy Place, Victoria Embankment, London, W.C.2), at 5.30 p.m.—Prof. C. L. Fortescue: Presidential Address.

### Saturday, October 3

GEOLOGISTS' ASSOCIATION (at the Geological Society of London, Burlington House, Piccadilly, London, W.1), at 2.30 p.m.—Dr. David Williams: "Mineral Resources of the U.S.S.R.".

## APPOINTMENTS VACANT

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

ASSISTANT LECTURER IN CHEMISTRY—The Registrar, The University, Manchester 13 (September 30).

PRINCIPAL TEACHER OF ENGINEERING (MECHANICAL AND ELECTRICAL) in the Technical College, Coatbridge—The Director of Education and Deputy County Clerk, Lanarkshire House, 191 Ingram Street, Glasgow, C.1 (October 2).

TEACHER OF ELECTRICAL ENGINEERING—The Principal, Wolverton Technical College, Wolverton, Bucks. (October 3).

ASSISTANT LECTURER IN MECHANICAL ENGINEERING—The Registrar, College of Technology, Manchester 1 (October 5).

LECTURER IN MECHANICAL OR ELECTRICAL ENGINEERING in the Cannock Chase Mining College—The Director (H), County Education Offices, Stafford (October 14).

ASSISTANT MASTER TO TEACH MACHINE SHOP PRACTICE, THEORETICAL AND PRACTICAL—The Principal for Further Education in Gillingham, Medway Technical College, Senior Departments, Gillingham.

LECTURER (MAN OR WOMAN) IN MATHEMATICS for the Junior Technical School for Boys—The Secretary, Woolwich Polytechnic, Woolwich, London, S.E.18.

STEWARD FOR ORGANIC CHEMISTRY DEPARTMENT—The Laboratory Superintendent, Chemistry Department, Imperial College of Science and Technology, South Kensington, London, S.W.7.