NEWS and VIEWS

Science and Research in Great Britain

THE debate which took place in the House of Commons on April 19 on Sir Granville Gibson's motion urging "the declaration of a bold and generous Government policy of financial assistance directed to the expansion of teaching and research facilities in our universities and technical colleges, to the extension of pure and applied research in all fields by the State, by industry through private firms and research associations and to the effective and rapid application of the results of research", in connexion with which the White Paper on Scientific Research and Development (Cmd. 6514) had been issued, covered much of the ground of recent reports of the Parliamentary and Scientific Committee and other bodies, as well as the recent lectures on science and industry arranged by the Manchester Chamber of Commerce. Sir Granville said that in regard to the research associations the Government grant has not increased in proportion with the increase in contributions from industry. An increase in expenditure on research of anything up to £15,000,000 would be a valuable investment for the country's future. Like Mr. Edmund Harvey and others who followed, Sir Granville pointed out that the staffs of the research and scientific departments of the colleges of Great Britain are far too small, and Mr. Salt, who followed him, urged that the number of research workers should be doubled. On particular fields of research, Mr. Salt instanced coal research as specially important; Sir Ernest Shepperson stressed the need for agricultural research, particularly in relation to nutrition, and was supported by Mr. R. C. Morrison, Dr. Haden Guest and Major York, as well as by Mr. Snadden, who referred especially to veterinary research; Sir John Graham Kerr referred to fisheries research, while Mr. Owen Evans and Mr. James Griffiths directed attention to the neglect of geological research and surveys. Sir George Schuster said that more attention should be given to our failure to make full use of the knowledge gained from the limited research carried out, and urged that, first, a more scientific frame of mind must be created in British industry; secondly, closer contact should be established between those engaged in pure scientific research and those concerned with its practical applications; and thirdly, means should be found to assist the development stage and the practical evolution of new industrial ideas.

The Lord President of the Council, Mr. Attlee, replying on the debate, said that the amendment was in full accord with the policy which the Government is following now and which it desires should be followed in the post-war period. The Government is fully alive to the fact that the winning of the peace will depend largely on a full and right use of scientific men and organizations. Assistance will be given in a bold policy, and the Government will take a lead, but it must be backed by a readiness to use the results of that research and by public opinion. The nation must become more aware of the importance of science. We shall be utilizing scientific methods throughout our activities of Government and of industry, and industry must be ready to take advantage of the new openings which the application of scientific research affords. The Government is also examining the need for the establishment of a fund to meet the cost of developing new inventions and of providing facilities for testing new ideas for industry, as well as how best to fit this in with the work of the co-operative research associations. The Government is also entirely in favour of generous support for the extension of teaching and research in the universities of Britain, but Mr. Attlee questioned the practicability of any statutory university advisory council. Mr. Attlee, welcoming references in the debate to the remuneration of scientific workers, said that the whole question of the relative remuneration of scientific workers in Government service is under investigation and steps have already been taken to raise the remuneration of the heads of research institutions. He thought a Ministry of Science would be a great mistake: what we need is to see that there are persons in all departments who are trained in the scientific method and appreciate what it means. Finally, he referred to the considerable improvement in the machinery of government through the creation of a Central Statistical Section and a Central Economic Section. He welcomed the debate as promoting the formation of an informed public opinion which would support a sustained effort.

Control of German Chemical Industry

IN the House of Lords on April 18, Lord Vansittart raised the question of the control of German chemical industry after the War. In particular, he asked for the appointment of a committee of scientific men to prepare a suitable scheme for the control or elimination of Germany's nitrate and hydrogenation plants. Such control might involve a close watch on German scientific education and research, and even the limitation of manufacture of certain high-precision instruments. There will be general agreement with his view that scientific men are best able to devise means to achieve such restriction and control. Lord Vansittart was supported by Lord Horder, who mentioned two synthetic drugs, used in the treating of sleeping sickness and malaria respectively, the supply of which had been deliberately restricted in countries outside Germany as a part of the Nazi preparation for total warfare. Lord Strabolgi and Lord Farringdon sounded a note of caution, pointing out that to cut down German nitrate production unduly would have a harmful effect on European agriculture and would in the end impede the work of re-establishing the health of the people.

The Government reply was given by Lord Cherwell, Paymaster-General. He said that various committees have been considering the questions involved, and the Government intends not only to call in more expert advice but also to give great attention to the recommendations made. He agreed that to prevent Germany from manufacturing nitrate and ammonia would create difficulty in supplying Central Europe with fertilizers, but German research will have to be supervised. The question of the control of German chemical industry is part of the much larger question of curbing the German war potential, and the Government is prepared to take every step possible to achieve this end.

It is indeed welcome news that the Government has this matter under consideration, and that scientific workers, whose special competence in this field is obvious, are to take a prominent part in formulating policy. It will be recalled that the matter was raised by Sir Robert Robinson so long ago as early in 1943, at the annual luncheon of the Parliamentary and Scientific Committee, and some of the problems involved have been discussed in these columns (see

NATURE, 151, 455 and 562; 1943). No time should be lost in bringing together those with the widest knowledge of the chemical, engineering and industrial problems involved, in order that a practicable scheme of control may be ready for operation as soon as hostilities cease.

Science and Industry at Manchester

IN presiding at the last of the series of meetings on "Science and Industry", arranged by the Manchester Chamber of Commerce, on April 20, the president, Mr. A. H. S. Hinchliffe, stated that to give continuity to the interest stimulated by the meetings and improve the liaison between scientific workers engaged on research and the industrial and commercial world, the Chamber has been discussing with the University of Manchester the formation of a joint standing council the members of which would be nominated by the University and the Chamber. The Cotton Industry Research Association is to be invited to take part in the work of the proposed council, which is intended to be an advisory and consultative body. While its precise functions cannot yet be defined, it is hoped that the results of research work would be constructively examined and discussed and the workers benefited by access to the experience of firms in the area. At the same time, business people would be assisted in their quest for new knowledge and in the solution of difficulties. It might even be possible to establish a bureau of information, and the range of subjects open for discussion in the council would cover economics and sociology as well as technical matters. The council's aim should be to stimulate an advance of thought and encourage enterprising action, primarily in the North-Western area but, it was hoped, also in a much wider sphere. Sir E. Raymond Streat urged, in supporting the proposal, that if, in the coming age of research, we could weave the life and work of the University of Manchester into the life and work of the great industrial area and commercial centre which surrounds the University, we might produce a great vitalizing force. The interest evoked by the meetings shows that people holding responsible positions in industry and commerce in Lancashire realize that only by a fertile marriage between science and industry can we establish and maintain the margin of superiority essential for post-war prosperity. He suggested three main objectives: to be first with new inventions and discoveries and promptest in their application; to be quickest and surest in diagnosis of economic and technical trends; and to be foremost in economizing costs so as to be more competitive without lowering wages. The age of research does not imply disaster for all small firms, though their managers will need much fuller scientific and technical attainments than was customary in the past.

Fundamental Scientific Research and the State

SIR EDWARD APPLETON'S final address in the Manchester series dealt with "Fundamental Scientific Research and its Practical Importance". Sir Edward said that he believes it is still necessary to insist that there is no barrier between so-called pure and applied research. There is great danger that the general public should regard the scientific man as one whose sole task is to produce a succession of discoveries of immediate use to industry, or of direct use to the individual member of the community. The main theme of his address was the wisdom of ensuring that there should continue to be in Great Britain many active research groups the scientific work of which would be that of free inquiry and the extension of man's knowledge of Nature, without concern as to whether the final results are of practical use to humanity or not. Emphasizing and illustrating the way in which most of the scientific developments of the present century had their origin in purely scientific work conducted with no thought of utility, Sir Edward pointed out that we also owe to workers in the field of pure science the scientific method of inquiry by observation, experiment and theory. It is, of course, also important that there should be practical men eager to test the properties of the new compounds and materials, and that applied scientists should keep themselves constantly in touch with the development of new knowledge, so that the gap between discovery and its application may be bridged as quickly as possible.

With regard to the conditions of success in fundamental research, chance often plays an important part. Fundamental research flourishes most abundantly in an atmosphere of freedom and, accordingly, Sir Edward believes we must look to our universities for the main body of our fundamental research. We must also recognize the importance of the man of exceptional originality and imagination, and see that he is supplied with the facilities he needs. Industrial research organizations and Government research departments should also contribute to the general body of fundamental knowledge, and he believes it to be the function of the Agricultural Research Council, the Department of Scientific and Industrial Research and the Medical Research Council to pursue fundamental research in fields which are ultimately likely to be of practical benefit to the community. Both Government and industry are awakening to the importance of scientific research and the need for its extension and application, but the large post-war developments in industrial research and technology must be sustained by an adequate volume of fundamental research.

United Nations Educational Reconstruction Plans

A TENTATIVE draft constitution for a United Nations Organization for Educational and Cultural Reconstruction was accepted by the Conference of Allied Ministers of Education at a meeting on April 19. If adopted by the Allied and Associated Governments, it will permit joint efforts in this field in line with parallel work already being developed by the Food Conference and the United Nations Relief and Rehabilitation Administration. The projected Organization would direct its activities at first to the emergency work of restoring the educational systems and the cultural institutions destroyed by the Axis Powers. Experience gained in carrying out these emergency tasks would create a basis for lasting international co-operation in educational and cultural fields. The proposed constitution was drafted at two open meetings convened by the Conference of Allied Ministers of Education and the American Education Delegation, led by Congressman Fulbright, which came to London early this month to work out plans for American collaboration with the Conference. The meetings were attended by representatives of all member and observer States currently interested in the Conference and were presided over by Mr. Fulbright. The device of holding open meetings enabled all representatives