NEWS and VIEWS

Physics at Birmingham : Prof. P. B. Moon, F.R.S.

PROF. P. B. MOON has been appointed Poynting professor and head of the Department of Physics in the University of Birmingham in succession to Prof. M. L. E. Oliphant, who recently resigned in order to direct the School of Physical Sciences in the Australian National University, Canberra (see *Nature*, July 8, p. 54). Prof. Moon's early researches in the Cavendish Laboratory, Cambridge, were in the field of thermionics ; but his interest in nuclear physics soon asserted itself. During a period at the Imperial College of Science and Technology, London, he collaborated in the first experiments using the neutron velocity-selector technique, and, on his appointment to the staff of the Physics Department, University of Birmingham, he continued neutron experiments up to the outbreak of the Second World War. During the early years of the War he was a member of the Birmingham team working on the design of centimetre transmitting valves. Following the successful development of the magnetron, most members of this group were invited to work on the Atomic Energy Project, and Prof. Moon spent the latter years of the War at Los Alamos, in the United States, as a member of the British team under Sir James Chadwick. After the War he returned to work with Prof. Oliphant in Birmingham and accepted a chair of experimental physics in the University. He was elected a fellow of the Royal Society in 1947, and his book, "Artificial Radioactivity", was published in 1949. Prof. Moon takes charge of the Department at a time when the post-war programme of machine construction is approaching completion. An external beam has been obtained in the 60-inch cyclotron which is working well, and the proton synchrotron is in an advanced stage of construction. We may expect, therefore, that in the next few years the Birmingham school will contribute many and varied researches in the field of nuclear physics.

International Research on Flame Radiation

MEN of science and engineers from France, Holland and Great Britain, to be joined later by a Swedish scientific worker and observers from the United States, are co-operating in an investigation of the factors affecting luminous flame radiation, using an experimental furnace in the Royal Dutch Steelworks at Ijmuiden. Flame radiation is of great importance in relation to the mechanism of heat transfer in furnaces and boilers ; but very little is yet known on the subject. At the end of 1948, therefore, it was decided to start this joint research, and the Royal Dutch Steelworks made available its experimental furnace, which had been built in 1947–48 for the study of the radiation from oil flames of a size comparable with those in open-hearth steel-making furnaces. It was agreed that two kinds of trial should be carried out : in the first, which are done on an engineering scale, a large number of independent variables such as fuel-rate, kind of fuel (various oils, pitch, pulverized coal, coke oven gas), kind of burner or port, excess air ratio, etc., are altered systematically and a limited number of radiation, temperature and combustion properties of the flame are measured for each flame setting ; in the second, or 'scientific' trials, a relatively small number of different flame settings are to be studied in great detail by means of probes, so that, for example, the course of combustion of individual droplets, the mechanism of soot formation and the emissivity and temperature of different parts of the flame can be elucidated in detail. It is probable that this latter, fundamental investigation, though more difficult, will yield more useful results than the former, empirical method. It was decided to choose five variables—creosote pitch against oil, high and low combustion air-rate, high and low fuel-rate, high and low atomizing medium flow-rate, and air against steam as atomizing medium —and to carry out forty-eight trials according to a factorial scheme.

The work is supervised by committees set up in the three countries, each supported by many firms and organisations in their own country, and the respective chairmen are : France, Prof. G. M. Ribaud, director of research of the French Gas Industry, and director of the Laboratoire des Hautes Températures ; Great Britain, Prof. O. A. Saunders, Imperial College of Science and Technology ; and Holland, Mr. J. E. de Graaf, chief of research of the Royal Dutch Steelworks. A joint committee of the three countries has been set up to co-ordinate the work, with Prof. Ribaud as chairman, and each national committee has appointed two representatives. In charge of the research programme as a whole is Mr. M. W. Thring, head of the Physics Department of the British Iron and Steel Research Association. Further details of this work are available from the Secretary, Flame Radiation Research British Committee, c/o B.I.S.R.A., Physics Laboratories, 140 Battersea Park Road, London, S.W.11.

Manchester Joint Research Council : Report for 1949

THE annual report of the Manchester Joint Research Council for 1949 covers the fifth year of the Council's existence and stresses the Council's study of the application of the technique of operational research to industry and of the questions surrounding the use by industry of the university graduate. As a first step the Council arranged six meetings, five of them lectures on progress made in particular industries or spheres of interest by use of the techniques developed during the Second World War, and the sixth being an open forum ; the response indicates that this venture was the most rewarding on which the Council was engaged. In May 1949 the Council convened a very successful conference on "The Place of the Graduate in Industry". Although insufficient progress has been made with the investigation of the scientific needs of industry in the north-west of England for an interim report to be presented, much time has been given to the clarification of the problems involved, and the financing of the venture has been discussed with the Department of Scientific and Industrial Research. The report of Mr. A. D. Butchart, the executive liaison officer, appended to the Council's report, gives examples of the liaison and information service rendered to industry, including problems on the disposal of waste materials, the utilization of flax straw and shives, lignin as a by-product from the paper industry and new designs for machinery. Mr. Butchart has also served on a committee appointed by the Regional Advisory Council for Further Education for Manchester and District to determine the facilities, staff, etc., available for sponsored research in the various technical colleges in the area.