

cases, for example, hexamethylene tetramine and urea nitrate, only a small fraction of the separation of the spots from the Laue reflexions and alter but little with the setting of the crystal. These facts clearly indicate that the reflexions observed do not owe their origin to vibrations of the elastic type.

Apart from the points dealt with in the foregoing account of the subject, there is much experimental evidence of a different nature on record which supports the validity of the new approach to X-ray theory made by the present writer. To appreciate fully this evidence, one must be familiar with both the X-ray and the spectroscopic literature. The remarkable way in which the X-ray results illuminate

and are illuminated by the facts of spectroscopy will then be evident. In particular may be mentioned the correlations which exist between the geometric characters of the modes of infra-red vibration, especially those of low frequency, established by spectroscopic studies on light-scattering, and the observed intensities of the dynamic X-ray reflexions by the various lattice planes in the crystal. Such correlations are particularly striking when the molecules or ions in the crystal have planar configurations, and their translational and rotational oscillations have low frequencies (as is generally the case); the crystal planes nearly parallel to the ions or molecules then give intense dynamic X-ray reflexions.

NEWS and VIEWS

Scientific Exhibition in Moscow

AN exhibition devoted to the cultural relations between the University of Moscow and the universities and scientific institutions of Great Britain and the United States is now open in one of the halls of the University, where the bomb damage suffered in an enemy raid last year has now been made good. The exhibits include many editions of the scientific works of Faraday, Clerk Maxwell, Scott and others, and correspondence between British and American men of science and members of the Russian Natural History Society. Of special interest is a section reflecting the scientific relations between Russian and British scientific workers. There is the unpublished correspondence between Lord Kelvin and Prof. Umov, who was an honorary member of Cambridge University. There is also a selection of letters exchanged between British and American botanists and zoologists. One of the exhibits is a photograph of the famous Russian naturalist Timiryazov wearing the robes of a doctor of the University of Cambridge.

A section devoted to Charles Darwin contains his correspondence with Russian men of science, and a copy of a book written in support of his theories by the Russian zoologist Mensbir, who was one of the first to defend them. Copies of Russian translations of Darwin's works are shown, together with material from the many celebrations in honour of the great British naturalist which have been held in the U.S.S.R. from time to time. Exhibits illustrating the work of Moscow savants who have lived and worked in the universities of Great Britain and the United States are a special feature. One of these is Prof. Pavel Vinogradov, who has made the medieval history of England and Italy his special subject. He worked for some time at Oxford, and was honoured with a knighthood by the British Government. His colleagues elected the aged Sir Paul Vinogradov to the responsible post of chairman of an international commission charged with the preparation of a new edition of a dictionary of medieval Latin.

Other figures to which prominent reference is made at the exhibition are Prof. Peter Kapitza, who has been closely connected with both Soviet and British academic life, Pavlov, Prof. Samuel Harper, of the University of Chicago, and Sir Bernard Pares, of the University of London. A large section is devoted to the exchange of books between the University of Moscow and the principal universities of Europe and America. During the past two years the University of Moscow has received more than 4,500 scientific publications from 320 cities throughout the world.

Cultural and Scientific Mission in China

DR. JOSEPH NEEDHAM, F.R.S., of the Cambridge Biochemical Laboratory, has recently accepted a mission of cultural and scientific co-operation, on behalf of the British Council, to China. In Chungking he will be attached to the National Academy of China (Academia Sinica). He will carry letters of greeting to Academia Sinica from the Royal Society and the University of Cambridge, and to other Chinese organizations from the appropriate British bodies. He expects to visit most of the Chinese universities, and to facilitate the supply of scientific apparatus and books from India with the help of the Indian Government. It is probable also that he may be able to help the interchange of scientific and technical information between China and the other United Nations. For this purpose he would be glad to receive any suggestions bearing on the problems of scientific liaison, or any questions of specifically Chinese relevance; after the end of the present month, he may be reached c/o British Embassy, Chungking, via Foreign Office, London.

Man-Power in Physics in the United States

THE War Policy Committee of the American Institute of Physics has issued a report surveying the man-power problem in physics in the United States. It is stated that there are only 7,000 physicists in the United States, the large proportion of whom are doing vital war research. This leaves too few for the training of the large numbers of men needed for the operating and maintaining of technical mechanisms like aeroplane and submarine locators, signalling devices, anti-aircraft fire control, etc. The Committee estimates that some 200,000 men and women will require training in physics within a year. These will be mostly next year's college and university students, who expect to enter the Army or Navy reserve training courses to be carried out at these institutions, and they will have to be taught by staffs already considerably depleted for war research. The Committee urges therefore that every possible step be taken to increase physics man-power of the United States and to use the present supply in the most effective manner. It recommends the establishment of Government-sponsored teacher-training courses, the adoption of wise occupational policies by the Selective Service System, financial aid to qualified students so that they may continue and finish their studies (especially graduate students who are already taking a large part of the teaching load),