

During these years Bloch published papers on quantum theory, the electrical and magnetic properties of crystals, and produced his basic contribution to ferromagnetism. Also into this period falls his work on the energy losses of fast charged particles, a paper the results of which are still of great use to nuclear physicists.

When the intellectual climate in Germany became intolerable, Bloch emigrated, in 1934, to Stanford University, California, where he became associate professor of mathematical physics. He continued his theoretical studies, mostly on problems about interaction between radiation and matter and on nuclear physics, but became also interested in experimental physics. In 1940, in collaboration with Alvarez, he was the first to determine the magnetic moment of the neutron. War research at Stanford University, at the Los Alamos Laboratory and at Harvard University occupied the years 1942-45. As soon as conditions permitted, Bloch returned to Stanford, taking up theoretical and experimental research in physics. Papers on neutron polarization by ferromagnetic media and studies of the behaviour of atoms in a time-varying magnetic field followed. In 1946 Bloch published his theory, and also, in collaboration with the late W. W. Hansen and M. Packard, the experimental method, which he called nuclear induction, of measuring nuclear magnetic moments with greatest precision. The method resembles that of Rabi, of Columbia University, in so far as transitions are induced by a radio-frequency field between the sub-levels of a nucleus placed in a magnetic field. The great advantage of Bloch's method lies in the fact that one can use bulk material and pick up the induction signal with a coil. The sharpness of the resonance has permitted the attainment of a very high accuracy of the measurement of nuclear magnetic moments, and the sensitivity of the method permits the study of nuclear species available in only small quantities, such as tritium. The nuclear induction method has spread to a great many laboratories, and its use for measuring magnetic fields in terms of the proton nuclear moment is now a standard technique. Many new and unexpected features have been discovered, such as the fine structure of the proton lines in organic compounds, an observation which may well open up a new tool for organic chemists.

Principal of University College of North Staffordshire : Sir John Lennard-Jones, K.B.E., F.R.S.

It has been announced that Sir John Lennard-Jones, Plummer professor of theoretical chemistry in the University of Cambridge, has been appointed principal of the University College of North Staffordshire, in succession to the late Lord Lindsay of Birker, formerly Master of Balliol College, Oxford, who was principal from the foundation of the College in 1950 until his death in March this year. Born in 1894, Sir John studied in the University of Manchester and Trinity College, Cambridge. During the First World War he was first a pilot in the Royal Flying Corps and then an experimental officer in the Armament Experimental Station at Orfordness. His first academic post was as a lecturer in mathematics in the University of Manchester, and then he moved to the University of Bristol as reader, and later professor, of mathematical physics. Since 1932 he has been Plummer professor of theoretical chemistry in Cambridge. During the Second World War he served in a scientific capacity in the Ministry of Supply,

being for three years chief superintendent of armament research and later director-general of scientific research (defence). Since 1947 he has been chairman of the Scientific Advisory Council of the Ministry. He has been president of the Faraday Society, and is now a member of the Scientific Advisory Committee of the National Gallery. Sir John, who is distinguished for his work in various branches of theoretical physics and chemistry, particularly the electronic structure of molecules, was elected to the Royal Society in 1933 and was made K.B.E. in 1946. He thus takes to his new post in North Staffordshire a wide experience of universities, scientific research and administration.

The Imperial Institute :

Sir Harry Lindsay, K.C.I.E., C.B.E.

SIR HARRY LINDSAY retires at the end of January 1953 from the Imperial Institute, where he has held the post of director with great distinction since he succeeded Sir William Furse in 1934. The major qualification for this post is a living and working knowledge of the British Commonwealth overseas. Prior to his appointment, Sir Harry had been a member of the Indian Civil Service, serving in India during 1905-22 and finally as Indian Trade Commissioner in London until 1934. Incidentally, his father, grandfather and great-grandfather had all served in India in various capacities, both civil and military. Recognizing that the scientific side of the Imperial Institute was in good hands, Sir Harry devoted his main attention to improving the exhibition galleries and publicizing by lectures the importance of the Commonwealth countries, both the Dominion and the Colonies. He himself has given many of these lectures, and his personal experience, gained by visits to South Africa during 1936-37 on the occasion of the Empire Exhibition and on a lecture tour of Canada in 1938, made them particularly valuable. The development of the Imperial Institute Galleries has always been handicapped by lack of funds; but Sir Harry has managed to obtain much support from many of the Dominions and Colonies and also from industrial firms. As a result the galleries have been enriched by a valuable series of dioramas studied with pleasure and profit by the parties from schools which regularly visit them. During recent years, Sir Harry has maintained an active interest in the work of societies which have strong Commonwealth and educational ties. He was chairman of the Council of the Royal Society of Arts during 1947-49 and edited the "British Commonwealth Objectives" for the Society. He was president of the Royal Geographical Society during 1948-51, of the Geographical Association in 1949 and of Aslib in 1940, and for many years served on the Councils of the Royal Empire and Royal India, Pakistan and Ceylon Societies.

Mr. Kenneth Bradley, C.M.G.

MR. KENNETH BRADLEY, who succeeds Sir Harry Lindsay on February 1, has had wide and varied experience in the Colonial Empire. He served in Northern Rhodesia as an administrative officer during 1926-39 and then as information officer until 1942. He laid the foundations of the present department, including the inauguration and development of a broadcasting service to the African population. In 1942 he went as Colonial Secretary and Financial Secretary to the Falkland Islands and, while there,