Prof. V. C. A. Ferraro

PROF. V. C. A. FERRARO, who succeeds Prof. McVittie, is a graduate of the Imperial College of Science and Technology, London, and took his Ph.D. there in 1930. He was then a demonstrator in mathematics in the College for three years, until his appointment as assistant lecturer, and later (from 1937) as lecturer, at King's College, London. Prof. Ferraro was appointed in 1947 to the newly created chair of applied mathematics in the University College of the South-West of England, Exeter. In 1948 he spent some months on leave from his university duties as a guest investigator at the Department of Terrestrial Magnetism of the Carnegie Institution of Washington, and in the succeeding year he was invited to deliver a course of lectures on solar and cosmical magnetism at the Royal Observatory of Belgium. Prof. Ferraro is probably best known for his work in conjunction with Prof. S. Chapman on the theory of magnetic storms and the aurora. Their researches on this very intricate subject began in 1927 and have continued intermittently to date; their contributions to this subject seem to be gaining much general acceptance, though there is a great scope for further development, and in many respects the subject remains obscure and controversial. Prof. Ferraro has also made several important contributions to the theory of solar magnetism (one of his most interesting theorems relates to the non-uniform rotation of a star possessing a general magnetic field), and to general electromagnetism and the theory of diffusion in the ionosphere. Besides his scientific work, he has strong artistic leanings, being accomplished both in pictorial art and as a singer.

Royal Charter for the School of Pharmacy, University of London

THE granting of a Royal Charter of Incorporation to the School of Pharmacy of the University of London is a tribute to an institution which has played a most important part in the development of pharmaceutical and medical science, and has had a great and lasting influence on pharmaceutical practice, not only in Great Britain but also abroad. The Charter also marks the end of a venture started by the Pharmaceutical Society in 1842 in pursuance of its ambition to promote a uniform system of education in pharmacy and to place the practice on a professional basis. For more than a hundred years the School has been the child of the Pharmaceutical Society and financed from the resources of the pharmaceutical profession. In 1948, however, the School was given an independent existence, its finance being provided by university grants. Its new Council has a wide representation, consisting of the Dean and teachers, nominees of the University of London and of the Pharmaceutical Society, together with co-opted members from industry and research. Medicine is represented by Sir Archibald Gray, Sir Henry Dale and Dr. Charles Harris, with Sir Harry Jephcott as the chairman of the Council. It seems now a far cry to the early days of the School of Redwood, Attfield and Crossley in chemistry, Jonathan Pereira in materia medica, Greenish in pharmacy and Thomson, Bentley and Reynolds Green in botany. These men laid a firm foundation for the rapid changes that were to come as pharmacy expanded from retail into hospitals and manufacturing laboratories. The General Medical Council has consistently acknowledged the debt owed to them and their successors in the School in the compilation of all the editions of the British Pharmacopœia. The School has pioneered many new developments and has added pharmacology and microbiology to its basic sciences, in order to cope with the biological standardization of drugs, chemotherapy and the increasing importance of the provision of sterile medicaments and materials for parenteral injection. The Royal Charter now confirms the School in its position of responsibility as a School of the University of London, and those who are familiar with its history will feel a satisfaction that good provision has been made to continue its work.

Oil-processing of 'Tough' Rubbers

THE seventh Foundation Lecture of the Institution of Rubber Industry was given in the Civic Hall, Wolverhampton, on May 23 by Dr. R. P. Dinsmore, vice-president in charge of research and development of the Goodyear Tire and Rubber Co., Akron, U.S.A., who chose as his subject the "Economic and Physical Aspects of *GR-S* Modifications". Dr. Dinsmore discussed a new technique whereby 'tough' rubbers may be processed in factories using conventional equipment designed for the ordinary soft rubbers, often known as 'cold' or *GR-S* rubbers. Large quantities of petroleum oil are added to the 'tough' rubbers, and this acts as an internal lubricant so that the tendency of the rubber to crack and tear under tensions, as in the shaping of tyre treads, is avoided. On an average, about 125 lb. of this oil-masterbatched rubber, as it is called, can be produced for the same cost of 100 lb. of conventional cold rubber and the cost of the oils; carbon black can be added to improve the quality of the rubber. Various plasticizing liquids have been used, the most successful so far being one part of petroleum oil to four parts of butadiene-styrene. Tyre-tread tests have shown that oil-masterbatched rubbers give up to 21 per cent longer tread-wear than *GR-S* rubber, and that their lower heat build-up gives promise for use in heavy-duty truck tyres. The oil-masterbatch process has been developed in the Goodyear Company's research laboratories under the sponsorship of the Synthetic Rubber Division of the Reconstruction Finance Corporation, and commercial production started about a year ago in a synthetic-rubber plant at Houston, Texas, and also in factories operated by other firms. Recent experiments with this oil-processing technique give great promise for the new tough synthetic 'Alfin' rubber, developed by Prof. A. A. Morton, of the Massachusetts Institute of Technology; this rubber has been described as the most resilient of all the polymers of high molecular weight and is extremely difficult to process under ordinary conditions. In the 'Alfin' process the monomer is usually polymerized in a hydrocarbon solvent such as pentane to an extremely high molecular weight. Processing oils are then added and thoroughly incorporated before evaporation of the solvent. In this way, one, or even two, parts of oil can be added to one part of polymer to give an oil-masterbatch which processes much more easily than the very tough raw polymer. Another method is to add the oil to the monomer as a partial or total replacement for the solvent prior to polymerization.

Physical Society

AT the annual general meeting of the Physical Society, held in London on May 20, the following officers were elected: *President*, Prof. R. Whidding-