

## OBITUARIES

Prof. Charles Fabry, For.Mem.R.S.

MARIE PAUL AUGUSTE CHARLES FABRY was born at Marseilles on June 11, 1867, into a family of scientific outlook. His grandfather had been a pupil of Ampère, and two elder brothers were *correspondants* of the Academy of Sciences, Eugène in geometry, Louis in astronomy. A brilliant career at the *École Polytechnique* led to a doctorate in physical sciences in 1892; his thesis showed the line which he was to develop so successfully, its title being "Théorie de la visibilité et de l'orientation des franges d'interférence". In 1894, he returned to Marseilles to lecture on physics under Macé de Lépinay, whom he succeeded as professor ten years later. At Marseilles he had as colleague successively Perot and Buisson, with both of whom he collaborated in a number of important papers on interferometry and spectroscopy. Although his researches were mainly in the field of optics, locally he was best known as a most successful teacher of electrotechnics: he gave a weekly lecture on Wednesday evenings to an overflowing audience of students, engineers and work-people.

The War of 1914-18 took Fabry away from his beloved Marseilles for radiographic work, later as a scientific adviser to the Artillery and then as head of a scientific mission to the United States. By that time his international position in the world of science was already fully established, and he was received with open arms—and open doors. Meanwhile, de Gramont and Chrétien, with the fullest support of Painlevé, had been preparing for the foundation of an optical institute which should combine exact measurements of optical instruments and constants with a workshop where men could be trained for all types of work required by the optical industry. Fabry was the obvious man for the post of director to which he was called in 1920, becoming at the same time professor of physics at the Sorbonne with Prof. Cotton as his colleague. There, until his retirement in 1937, he built up by his teaching the optical industry of France and schools of research in optical principles and practice which secured brilliant results from his pupils in such allied fields as astrophysics.

On his seventieth birthday his colleagues, the National Fund for Scientific Research and the publishers Gauthier-Villars joined in a scheme for the publication of his collected papers, and in considering the great volume of his scientific output we have the advantage of his mature judgment in selecting the most important work. Interferometry comes first, and we have accounts of the Fabry-Perot interferometer, measures of standard wave-lengths in the laboratory and the sun (work of fundamental importance for the astrophysicist), general studies of the effects to be obtained by the use of thin silver films, absolute measures in electricity, new principles for colour photometry, photometric measures of the sun, the corona, the night sky and a study of the distribution of radiation in the ultra-violet spectrum of the sun, the effect of the ozone layer on atmospheric absorption. One of the memoirs of special interest to us to-day is his own account of "L'Institut d'Optique", published in 1928 in the *Revue internationale de l'Enseignement*. Among his more popular addresses, not included in his collected papers, mention may be made of "La photométrie astronomique

et celle des physiciens" in the *Annuaire du Bureau des Longitudes*, 1936, his Thomas Young Oration to the Physical Society in 1936 on "Vision in Optical Instruments", and his George Darwin Lecture to the Royal Astronomical Society in 1938 on "Interstellar Space".

Fabry's activities in international scientific circles were numerous and distinguished: starting with contributions in 1904 on standard wave-lengths to the International Union for Solar Research, he served on the wave-lengths committee of the Union (and later on that of the International Astronomical Union) for forty years. He also served on the Committee on Instruments of the International Astronomical Union from its formation, being president during 1928-38 and later its *président d'honneur*. He served on committees of the International Astronomical Union on nebulae, stellar photometry and spectrophotometry and on a committee of the International Council of Scientific Unions on Solar and Terrestrial Relationships. He was vice-president of the International Astronomical Union during 1932-35 and 1938-45, and president of the International Council of Scientific Unions during 1937-45. His sound judgment, charm of manner, lucidity and humour endeared him to his colleagues both at home and abroad. He received in 1918 the Rumford Medal of the Royal Society, of which he became a foreign member in 1931; he became an associate of the Royal Astronomical Society in 1915; he received the Franklin Medal of the Franklin Institute in 1921, and the Draper Medal of the National Academy of Sciences in 1919. He died in Paris on December 11, 1945, after some months of suffering.

F. J. M. STRATTON.

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Prof. F. R. Immer

WE regret to announce the death, on February 2, at the age of forty-six, of Prof. F. R. Immer, distinguished as a plant breeder, who had been associate director since 1941 of the University of Minnesota Agricultural Experiment Station at St. Paul.

Although most of his life had been spent in genetical research, with special reference to statistical methods, the design of field experiments and research in plant disease, Prof. Immer visited England in 1944 for special duty as operations analyst with the Eighth Air Force, where he served with distinction in the analysis of bombing operations and the improvement of bombing accuracy. It was only shortly before his death, therefore, that he returned to the United States as chairman of the North Central Regional Directors, Farm Structures Committee, of the Association of Land Grant Colleges Committee on Farm Structures Legislative Bill and of the North Central Regional Directors, Poultry Breeding Committee, and member of the crops section of the American Society of Agronomy.

As a fellow of the National Research Council, Prof. Immer visited England and Sweden in 1930-31, studying statistics at Rothamsted Experimental Station and plant breeding at Svalof.

The fruits of Prof. Immer's research consist partly in improved crop varieties, particularly with regard to disease resistance, quality and yield, and partly in improved methods in the technique of plant breeding. In 1942 he published jointly with H. K. Hayes the standard text-book, "Methods of Plant Breeding".