

## OBITUARIES

## Dr. Annie J. Cannon

ANNIE JUMP CANNON, who died on April 13, was born at Dover, Delaware, on December 11, 1863. While still a very little girl her curiosity was attracted towards the stars; and many evening hours were spent with her mother learning the constellations. When she left school, her father, despite the prejudice in those days against the university training of girls, sent her to Wellesley College where she graduated B.S. in 1884. Later she returned to Wellesley as a graduate student and studied physics under Prof. Sarah F. Whiting. After specializing in astronomy for two years at Radcliffe College she was appointed an assistant at the Harvard College Observatory under the inspiring directorship of E. C. Pickering. It was natural that here her interests should have become focused on variable stars and on the study of stellar spectra, the subject which was to become the great work of her life. In 1911 Miss Cannon was made curator of astronomical photographs at Harvard, and in 1938 was appointed William Cranch Bond astronomer, a post created in honour of the first director of the observatory. Though she officially retired from the staff of the Observatory in the summer of 1940, she continued with active work in her old department until a few weeks before her death.

Miss Cannon received many academic honours. Honorary degrees were conferred upon her by the University of Delaware, her own State; by the University of Groningen, Holland; by Wellesley, her Alma Mater; by Oxford, by which university she was the first woman to be honoured with a doctor's degree; by Oglethorpe University; and by Mount Holyoke College. In 1931 she was awarded the Draper Medal of the National Academy of Sciences, and in 1932 the Ellen Richards Prize. In 1914 she was elected an honorary member of the Royal Astronomical Society.

Although much the greater part of Miss Cannon's work consisted in the study of astronomical photographs and in the compilation of her own and other people's results, she was herself a very able observer. She made regular visual observations of variable stars, especially during the early years at Harvard; and many of the photographs used in her investigations were taken by herself. In 1922 she spent six months at the Harvard station at Arequipa, Peru, photographing the spectra of the southern stars with the 10-in. Metcalf telescope. Her work on variable stars alone was very prolific. She was one of the pioneers in the photographic study of stellar variability. She discovered 277 variable stars and 5 new stars, and published several extensive catalogues of variable stars. Perhaps her most important contribution to this branch of astronomy was her compilation of a bibliography of variable stars comprising more than half a million separate cards, which she

always kept up to date, and which has been of immeasurable value to all workers in this field.

By far her most important work was the production of the "Henry Draper Catalogue", which in nine volumes of the *Harvard Annals* gives the spectral types and magnitudes of 225,300 stars completely over the whole sky down to about the ninth magnitude. Not only was Miss Cannon responsible for the examination and classification of the spectra and for the preparation of the material for publication, but it was mainly due to her that the system of classification adopted in the catalogue was developed and ultimately defined. The classification was first described by her in 1900, and again, with slight modifications, in 1912; most of the work of classifying the spectra was carried out between 1911 and 1915; the first volume of the catalogue was published in 1918; and the ninth and last volume was published in 1924. It was in 1922 that this same system of classification was adopted by the International Astronomical Union as the official system for the classification of stellar spectra. Since the publication of the main catalogue Miss Cannon had been working on its extension to fainter stars, down to about the 11th magnitude, in the Milky Way and other special regions. She was occupied with this work up to the time of her last illness; and already one volume of the "Extension" had been published.

Miss Cannon did much to further the study of science among women; and in 1933 she founded the Annie J. Cannon Prize to be awarded every few years to some outstanding woman astronomer. But there are other reasons why women of science are indebted to Miss Cannon; for through her lectures, through the example of her own work and enthusiasm, and through the help and encouragement which she so freely bestowed, she was an inspiration to all whom she came across.

Miss Cannon was not only one of the greatest of women astronomers, she was also a woman with a great personality and wide interests, yet withal she was one of the kindest, simplest and happiest of women. She had friends all the world over, among the highest and the humblest, among the oldest and the youngest; and when she was at home surrounded by her work she was never too busy to welcome them. In the death of Annie J. Cannon astronomy has lost one of its most valued workers and countless people a devoted friend.

R. L. WATERFIELD.

## Prof. Edmond Leplae

News has just reached Great Britain of the death of Prof. Edmond Leplae, professor of agriculture in the University of Louvain, and director-general at the Belgian Ministry for the Colonies, which took place at Louvain on February 2. He had been