

Professor M. A. Ellison, the Director of the Dunsink Observatory, died on 1963 September 12, after an illness that had troubled him for some months. He was born on 1909 May 5, and was the son of Rev. W. F. A. Ellison who in 1918 became the Director of the Armagh Observatory. Professor Ellison showed his astronomical keenness at an early age by making and publishing double star observations. He helped with the observations and routines at the Armagh Observatory off and on during the years of his education. He went to the Armagh Royal School and from 1927 to 1931 studied at Trinity College Dublin where he took a first class B.Sc. degree in Experimental Sciences. Later he took the postgraduate degrees of M.Sc. in 1932 and Sc.D. in 1944.

One might have expected him to go directly into astronomy at the end of his university training but, ever an individualist, he went into school-teaching and took astronomy with him. It was at the Sherborne School, Dorset that he set up spectrohelioscopic equipment with which to observe flares, prominences, and other chromospheric phenomena. Observations

started in 1939 and the equipment was modified in early 1946 to cater for the photography of flare spectra. He had a fine feeling for the significance of the observations he was making.

The observations at Sherborne set the pattern for his life's work. In the following years his studies were to expand and improve until he became a leading international figure on flares and their effects.

He went to the Royal Observatory Edinburgh in 1947 as Principal Scientific Officer. Here he was quickly able to re-establish his spectroheliographic equipment and begin a series of flare and prominence experiments. In 1955 he took charge of a project of placing a Lyot H $\alpha$  Heliograph at the Cape of Good Hope. The instrument was delivered to the Cape in 1958, was quickly brought into use and films from it were sent to Dr. Ellison in Edinburgh for examination. Later the same year he accepted the Directorship of the Dunsink Observatory and the study of the Lyot Heliograph records was transferred to Dunsink.

Professor Ellison was able to draw on his long experience of spectroheliographic study to assemble the essential characteristics of the major flares that had produced outstanding events. As an example I might summarize his description of the great cosmic ray flares. These start with a sudden widening of the H $\alpha$  line which Ellison called the 'flash' phase. The flares develop in the form of two roughly parallel emission filaments each of which overlies a large sunspot and the channel between them separates the N and S polarities of the magnetic field. During the flare development there are important changes in the H $\alpha$  striation patterns for which the name 'flare nimbus' was introduced. These discoveries have given us a much better picture of the physical development within a flare than we had previously. He also made many detailed studies of the time development of flares comparing the changes of line width and intensity with the corresponding terrestrial effects—the fade-outs, corchets, phase anomalies, and enhancements of atmospherics.

Other work of importance with which Ellison's name will be remembered are his studies of prominence spectra, blow-off prominences, and atmospheric scintillation.

In later years there have been many calls on his time and energy for cooperative activities on an international scale. He acted as Reporter for Solar Activity both for the I.G.Y. and later for the Year of the Quiet Sun. He was chairman of the I.A.U. Working Group on the Classification of Flares, and has acted as secretary for several Commissions at I.A.U. Meetings. He spoke clearly and was a most useful committee man.

He is survived by his wife, a son, and two daughters.