ALGERNON MONTAGU NEWBEGIN

Algernon Montagu Newbegin died at his home in Paignton, Devon, on 1965 April 30 at the age of eighty. Although nearly twenty years ago he had ceased to be an active solar observer, he is remembered for his long series of prominence observations made with his own spectroscopic equipment which gave his work a special interest.

Montie Newbegin (as he was known among his friends), was born on 1885 January 19 at Thorpe St. Andrew, near Norwich. In later life he used to recall with pleasure his parents' pleasant house and grounds overlooking the river Yare. They had moved there from Norwich three years earlier. His father, George James Newbegin, a tobacco manufacturer in Norwich, like his father before him, was keenly interested in astronomy and was later a Fellow of this Society. He brought his 5-inch equatorial to Thorpe, and later in 1888 purchased a 9-inch refractor equatorially mounted in a 22-foot dome. With such a background, the son could scarcely fail to be interested in astronomy. As a child, young Newbegin was delicate, and he was educated at a private school. During these adolescent years the first signs of ear trouble appeared, which resulted in complete deafness in later life. At the age of twelve, he obtained a successful photograph of the Moon with one of his father's telescopes, and this growing interest in photography being recognized, Newbegin on leaving school was apprenticed to a firm of photographers in Norwich. This period of training was followed by further experience with a well-known London photographer in Bond Street, which brought him into contact with a number of interesting people, including leading members of the theatrical world. But the long and irregular hours of work were too exacting for him, and his father (who in 1904 had moved his observatory from Thorpe to Sutton in Surrey) invited his son to help him in his spectroscopic observations of solar prominences. Within a few years we find him living at Wallington, near Sutton, after his marriage with Miss Annie Jessop of Norwich whom he had known from boyhood. There he established his own observatory containing a $6\frac{1}{4}$-inch photo-visual refractor by Cooke of York and a 3-prism Evershed-type spectroscope for the observation of prominences in Hα light. These he recorded in his observation books with deftness and precision. He also made drawings of sunspots regularly. He used the widened slit method, practised by Norman Lockyer and others after the total solar eclipse of 1868. Newbegin numbered Professor Alfred Fowler among his friends; this friendship deserves recording because, in his early career, Fowler had been assistant to Norman Lockyer, and was naturally interested in Newbegin's observations. He would have given encouragement and

advice when Newbegin decided some years later to construct a spectroscope of the Littrow type. He liked using tools and was skilled with his precision lathe.

In 1919 Newbegin moved to Sutton to occupy the house and observatory belonging to his father who had died in the previous year. He brought from Wallington the $6\frac{1}{4}$-inch refractor and his spectroscope, mounting them under the 22-foot dome. He continued his observations of prominences at the limb and also of bright reversals of the Hα line on the disk over sunspots, to be identified with solar flares. Doppler displacements of the dark Hα line were also recorded.

In 1927 a complete removal was made to Worthing on the Sussex coast, where better observing conditions could be expected. In the following year, he finished the construction of his Littrow spectroscope for which a Michelson grating ruled with 15 000 lines to the inch had been purchased. This instrument now took the place of the spectroscope used at Wallington and Sutton. Before long, however, a new project began to occupy his thoughts—the construction of a spectrohelioscope that would give a comprehensive view of prominences and disk phenomena alike, as described in Hale's classic papers. Newbegin went to Greenwich more than once to see the standard instrument that had been sent in 1929 to the Royal Observatory from Mount Wilson. He was deeply interested and obtained blueprints of the instrument from Dr Hale. He began work at once on the metal parts. The castings were made in Norwich; a small objective, the twin prisms (for the optical oscillation of the slits) and the mirrors were made by an optical firm. The completed spectrohelioscope was in use by 1934. The incorporation of his Michelson grating in the instrument brought the observations of limb prominences with the Littrow spectroscope to an end, but by then he had observed some 21 000 prominences by the widened slit method.

The greater scope of observation given by the spectrohelioscope was fully explored by Newbegin, and his observations of flares began to appear in the bulletin of solar activity, published from Zurich under the auspices of the International Astronomical Union. His name appears as a member of the Commission of the I.A.U. dealing with solar activity for the report years between 1932 and 1948. He attended the Paris meeting in 1935.

Newbegin appears to have made little or no attempt to discuss his data statistically. Essentially he was an observer of distinction. He communicated a number of reports on prominences annually, quarterly or as the occasion warranted. He was the director of the solar section of the British Astronomical Association from 1925 to 1937, and edited two solar *Memoirs* during this period. In 1939 he was awarded the

Goodacre Medal of the Association for his solar work. The outbreak of war in 1939 halted Newbegin's work within a year. He was partly crippled by arthritis, and his wife was far from well. Moreover, Worthing was an area to be evacuated because of the risk of invasion. He, therefore, shut down his observatory, and went with his wife to Sherborne, Dorset, to be near his young friends the Ellisons. Contact with solar observations were preserved, at least for a time. His wife, to whom he was devoted, died there in the following year. He did not return to Worthing until the end of the war. By this time he had decided to give up active observing, and he offered the whole of his equipment to the Royal Observatory, in the near future to begin its removal to Herstmonceux.

Regrettable though it may seem that he should end his observing career at this time, Newbegin's generous gift was most opportune for the early completion of the new solar building at Herstmonceux that required a dome of the size included in the gift.

In 1946 he married Mrs Ann Cox who survives him besides the adopted daughter of his first marriage. Before long he and his wife moved to Paignton where, from his new home overlooking Tor Bay, he could look at the shipping through the small telescope he had retained for himself. Another interest of his was thus satisfied, for at one time he had owned a 20-ton motor cruiser which had, at least on one occasion, brought him from its East Anglian moorings to the bay he now overlooked.

In 1949 to his great satisfaction he was awarded the Jackson-Gwilt Medal and Gift of this Society in recognition of his forty years of solar observations and of the high quality of his work. His pictorial records made at the eyepiece of his spectroscope and spectrohelioscope were presented to the Society shortly before his death. Examples of his spectrohelioscope records are given in *Memoirs of the British Astronomical Association* **37** (Part 2): Plates 4–7.

We are left with the memory of a kind and very friendly man, who never allowed his affliction of deafness to mar his cheerful disposition.

Looking back from the present era of automatic recording of solar phenomena, Newbegin's work maintained for so long at three successive observatory sites appears of a monumental character on the receding horizon of purely visual observations.

He was elected a Fellow of the Society in 1912.

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