Biographical Encyclopedia of Astronomers

Maunder, Annie Scott Dill Russell

Born Strabane, Co. Tyrone, (Northern Ireland), 14 April 1868

Died London, England, 15 September 1947

Solar astronomer Annie Russell joined her husband, Edward Walter Maunder, in supporting amateur astronomers in Britain by editing their journal and leading solar eclipse expeditions, while continuing her own solar research and popular writing on astronomy.

Russell was the first daughter of the Reverend William Andrew Russell, a minister of the Irish Presbyterian Church, and his second wife, Hester (née Dill). Annie had two half-brothers from her father's first marriage and two brothers and one sister from his second. For her secondary education, she attended the Ladies' Collegiate School, Belfast (renamed Victoria College in 1887), known as the premier institution for the education of girls in Ireland. Russell decided not to pursue an Irish university degree but, instead, took the Girton College open entrance examination. By studying diligently, she overcame a deficit in her early training and, upon graduation, won the highest mathematical honor available to a woman, the Senior Optime in the mathematical *tripos*. (When Russell graduated, women were allowed to sit for the Cambridge *tripos* examinations, although they were not granted a university degree.)

Upon leaving Girton College, Russell became a mathematics teacher at the Ladies' College, Jersey, but found teaching unrewarding. After learning of a possible vacancy for a "lady computer" at the Royal Greenwich Observatory, she applied for the position, even though the pay was much less than she earned as a teacher. She accepted the post and, while measuring daily sunspot photographs, met Maunder, head of the solar photography department. In 1890, Maunder had assisted several leading amateur astronomers in founding the British Astronomical Association (BAA) after the collapse of the Liverpool Astronomical Society. Together, Russell and Maunder worked on the association's journal. She was its first editor, from 1894 to 1896, and served an additional term, from 1917 to 1930

In 1895, Russell married Maunder, and they worked together on numerous astronomical projects. Annie, however, was obliged to resign her position as Walter's paid assistant at Greenwich. Walter and Annie had no children of their own, but 45-year-old Walter was a widower with five children when he married 27-year-old Annie. Although she continued with her astronomy, much time was spent raising her stepchildren. In another sense, her marriage to Walter proved fortunate for Annie Maunder's career. Through her husband, she was able to borrow instruments, establish contacts with other astronomers, and travel to various eclipse sites. Probably the most important factor was Walter's view that women deserved an important place in astronomy

Maunder made many contributions to astronomy. Shortly after her marriage, she received the Pfeiffer Research Student Fellowship, established to enhance the research potential of Girton College. As the first recipient of this fellowship (1896), she used the money to undertake a

photographic study of the Milky Way. At Greenwich, she was assigned to the solar department as a photographic assistant. Maunder's work involved photographing the Sun and examining the negatives with a micrometer. Recruited during the approach of a sunspot maximum, she noted the positions of the sunspots and worked on interpreting the phenomena

Although much of her astronomical work was done in collaboration with Walter, Annie was an important contributor to astronomy in her own right. She published numerous papers and a book, *The Heavens and Their Story* (1908). Although Walter's name appeared as co-author, he insisted that Annie had done all of the writing. Her professional level of competence was gained from formal university training, working as a paid assistant, and from informal training by her husband.

Maunder's prodigious output included theoretical work. She developed a theory that the Earth influences the numbers and areas of sunspots, and that sunspot frequency decreases from the east-ern to the western edge of the Sun's disk (as viewed from Earth). With Walter and the BAA, she went on solar eclipse expeditions and became an expert eclipse observer. One of her photographs revealed a coronal streamer extending out to six solar radii—the longest observed at that time. Maunder published numerous reports on these eclipses and many papers on the history of astronomy, especially early accounts of the constellations.

Gender must be considered when examining Maunder's career. While she possessed all the requisites to be a professional scientist, as a woman, she received less than full recognition of her qualifications and contributions from male professional astronomers. Fortunately, her husband recognized the importance of women to astronomy. Through a variety of channels, including the BAA, she and other women astronomers were able to make their contributions

Maunder's papers may be found in the Archives of the British Astronomical Association, the Archives of the Royal Astronomical Society, and the Archives of the Royal Greenwich Observatory.

Marilyn Bailey Ogilvie

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