

**Everett, Alice**

(1865–1949)

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**Everett, Alice** (1865–1949), astronomer and physicist, was born at 105 Douglas Street, Glasgow, on 15 May 1865, one of six children of **Joseph David Everett** (1831–1904), an assistant to the professor of mathematics at Glasgow University, and his wife Jessie (1841–1924), daughter of Alexander Fraser, a Congregational minister.

In 1867 Alice Everett's father became professor of natural philosophy at Queen's College, Belfast. She was schooled at the Methodist College in Belfast, an academically focused and co-educational day school where she excelled. She went on to attend lectures at Queen's College, Belfast, from 1882, the year it opened to women students. In 1884 she took first place in a scholarship examination in science, prompting the university to decide that women were ineligible. She received a BA degree from the Royal University of Ireland in mathematics and mathematical physics in 1887, passing with honours, and in 1889 was awarded an MA. She had already, in 1886, entered Girton College, Cambridge, as a college scholar, the same year as Annie Scott Dill Russell (later Maunder). The latter was ranked the top mathematician at the college, although both women were classed as a senior optime in 1889 and went on to work at the Royal Observatory, Greenwich. The employment of women at Greenwich was a brief experiment by the astronomer royal William Christie. Having failed to secure funding for additional assistants to deal with an increasing amount and range of work, Christie appointed some highly qualified women as temporary 'computers' at the low rate of £4 a month. Everett's application was supported by a testimonial from Sir Robert Ball, the Royal Astronomer of Ireland, and she was offered and accepted the post, despite querying the salary. Starting on 14 April 1890, with three women from Newnham College, Cambridge, Everett was initially put to work re-computing transit observations. She was subsequently assigned to the *Carte du Ciel* project, measuring the position of stars on photographic plates for the international *Astrographic Catalogue*. She also worked in the Transit Department, where she made observations as well as reducing them, which may have entailed night observing. In 1891 she was boarding with a mother and daughter at 8 Gloucester Place, close to Greenwich Park.

Everett was one of three women proposed for fellowship of the Royal Astronomical Society in 1892 by A. M. W. Downing and E. W. Maunder but they failed to receive the necessary two-thirds of the vote at the society's meeting. There were no women fellows of the society until 1916. Everett was instead active within the British Astronomical Association, established by Maunder in 1890 'to meet the wishes and needs of those who find the subscription of the RAS too high or its papers too advanced, or who are, in the case of ladies, practically excluded from becoming fellows' (Ogilvie, 77). She was the association's secretary in 1893–6 and contributed accounts of observations of the 1891 total lunar eclipse, Nova Aurigae, and the 1893 solar eclipse expeditions to its journal.

In 1895 Everett secured a three-year position at the Astrophysical Observatory at Potsdam. She started on 1 October 1895, once again assigned to the *Carte du Ciel*. She was reported to have measured and reduced the positions of 22,000 stars on 72 plates in the year 1897. After this, Everett was briefly employed (1898) at the observatory of Vassar College, a women's college in New York state, USA. While in Germany, Everett published two papers in the *Monthly Notices of the Royal Astronomical Society* on the orbits of binary stars, and continued to make contributions to the BAA journal, now edited by Annie Russell Maunder. From Vassar, two papers jointly written with the professor of astronomy, Mary Whitney, appeared in the *Astrophysical Journal*. In 1899 she applied for a position at the Lick Observatory in California. The director, James Keeler, hoped to employ this 'lady of distinction in astronomical science' as an assistant, with an impressive salary of \$1200 per annum, to measure photographs of star spectra (Bruck, 284). However, the observatory's benefactor, Phoebe Hearst, was unable to supply the necessary funds. With Everett failing to find work in another observatory, her career in astronomy was at an end.

In 1900 she returned to London to live with her parents and three unmarried siblings at 11 Leopold Road in Ealing, where the family had moved after her father's retirement. Everett now turned to optics, her father's 'favourite study' (Pratt, 378), and they jointly translated a technical book on

optical glass by Heinrich Hovestadt, published in 1902. They also both worked on the Royal Society's *Catalogue of Scientific Papers*. Joseph Everett was vice-president of the Physical Society of London when he introduced his daughter's paper on experiments on zonal aberrations in lenses carried out in the laboratory of the Royal Institution; this was the first paper by a woman published in the Physical Society's proceedings (1903).

There is little known about Everett's activities in the years following her father's death in 1904. It was perhaps then that she took an advanced course in practical optics at South Kensington. Her opportunity to re-engage with professional scientific work came with World War I, when she initially joined the optical laboratory of the instrument-making firm Hilgers in Camden and then, on 9 October 1917, the National Physical Laboratory's (NPL) Physics Division. The NPL more than doubled its staff that year, largely to test optical instruments and other military materials. Everett started as a junior assistant, earning £175–235 per annum, and was promoted once, in 1919. Working in the optical section within a team of thirteen, including four other female junior assistants, Everett researched the design of optical instruments, photometry, and spectrophotometry, particularly calculating lens- and mirror-system aberrations. Some of her results were published in the NPL's annual reports.

Everett retired on 15 May 1925 but immediately turned to a new field. During the winters of 1926–8 she attended evening classes at the Regent Street Polytechnic, London, on practical wireless and passed an exam on wireless, frequency, and current measurements. In 1928–9 she carried out research in the electrical engineering department of the City and Guilds College, South Kensington. In September 1927 she was a founding fellow of the Television Society, which promoted research in this new field. Everett developed an improvement to the mirror drum component of the apparatus used by the Baird Television Company, and explored the use of different metals. On 30 January 1933 she and the company applied for a joint patent, although the drum was never constructed. For the Television Society Everett translated foreign language publications for its library's index.

In 1938 Everett was awarded a civil list pension of £100 per annum in recognition of her own and her father's contributions to physical science. At the time of her final illness she was living in Sunbury-on-Thames, Middlesex, and she died on 21 July 1949 at Gloucester House nursing home, Hampton Hill, Middlesex. Her executor was John Bernard Everett Keeble (1909–1973), an aeronautical engineer, who was son of Everett's cousin Ida Mary Nussey Keeble (1876–1962), a spiritualist medium. Her scientific books were given to the Television Society.

Everett had an extraordinarily long, varied, and professional career in science for a woman of her era. She was able and tenacious, as well as willing to change direction. Her father's position and connections were undoubtedly important in shaping and supporting her career, and she had the good fortune of coinciding with the opening of higher education to women and the five-year experiment with 'lady computers' at Greenwich. Nevertheless, her opportunities were short-term and limited until war enabled her to gain a permanent position. While civil service rules forced her to retire at sixty, her energy and intellectual curiosity were unexhausted. It is notable that the opportunities she had were often linked to new techniques or technologies, from astrophotography and astrophysics to television. Less crowded than more established fields, these were areas in which women could sometimes find opportunities: she published original observations and investigations as well as contributing significantly, alongside many others, to the international Carte du Ciel.

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Imperial College, London ICL

**Likenesses**

photograph, 1886, Girton College, Cambridge Girton Cam.

**Wealth at Death**

£2723 19s. 11d.: probate 11 Nov 1949,

Calendars of the grants of probate ... made in ... HM court of probate [England and Wales]

*CGPLA Eng. & Wales*