Not just computers and companions

Mary Brück’s historical survey is the second RAS Series publication, and one that gives an insight into the different roles taken by women astronomers: original thinkers, computers, educators, and entrepreneurs. In this extract from the chapter “The Labyrinths of Heaven”, we find out how Maria Short (c1788–1869) came to own and operate an observatory open to the public in the mid-19th century.

Mary had a good astronomical pedigree. Her father, Thomas Short, was a scientific instrument-maker in Edinburgh. Thomas was a brother of James Short, a renowned telescope-maker who flourished in the period before William Herschel began constructing his own magnificent instruments. Like Herschel, his telescopes were of the reflecting kind. James began his career in Edinburgh, instructed in mathematics under the influence of the university’s great mathematicians, and moved his workshop to London where he carried on a very successful business for over 35 years ...

When he died, unmarried, in 1768, his brother Thomas came to London to manage the workshop and acquired several mirrors and unfinished telescopes, including one of 12 inches aperture valued at thousands of pounds, originally intended for the King of Denmark. Thomas returned to Edinburgh and formed the idea of establishing an observatory in the city where this large instrument would be installed as a commercial venture and used by the university and others on payment of fees. He meantime set up telescopes in daytime where visitors could, for a charge, view the city and the surroundings. When an eclipse of the Moon occurred, he set up the large telescope in the university, and sold tickets to watch the event. It was a great success. It was reported that “a very numerous and genteel company of ladies and gentlemen convened in the New Library Room of the university, observing the Lunar Eclipse. They were all exceedingly entertained with the different appearances of the moon exhibited, and which were beheld with great advantage through Mr Short’s telescope.”

The plan for a permanent observatory was less successful. The city of Edinburgh was to provide a site and promised further aid in the future. In return, the city was to have the right to the building and the instruments, Short himself to be allowed to charge for their use. The university, which had long wished to have an observatory for teaching and research, also became entangled in the scheme. The foundation stone for the building was laid on Calton Hill, that conspicuous landmark in the centre of the city, in 1776. At the time of his death in 1788 Thomas Short was left in possession of an observatory still unfinished, after twenty years of confusion and exhausted funds. The building, with living accommodation, was completed by the city some years later. The instruments were inherited by a grandson, but not without a family feud and an unsuccessful attempt by Short’s widow, his second wife Jacobina, to take possession by force of the premises from which she had been evicted, helped by accomplices with pistols, cutlasses and a blunderbuss. The observatory eventually came into being in 1792: one of the first visitors was William Herschel who was interested in examining James Short’s large reflector. The project was not a commercial success, and gradually ceased to function ...

In 1827, long after the demise of the original Short observatory, Maria, the youngest of Thomas Short’s nine children by the fiery Jacobina, arrived in Edinburgh from abroad where she had been living, probably in the West Indies and later in Ireland with a married sister. Maria, who was by this time at least 39 years of age (her father having died in 1788), set about establishing a legal claim to the Great Telescope. Exploiting the reputation of her illustrious forebears, she wrote to influential citizens of Edinburgh and succeeded in collecting a long list of supporters. Some were sceptical of her authenticity. William Wallace, Professor of Mathematics and former tutor of Mary Somerville (Chapter 6), who could claim to know all the local opticians and telescope makers, wrote to the Lord Provost warning him of “a person calling herself the daughter of the late Thomas Short” though he had never heard of his having a legitimate daughter. Maria, however, won the day, and was awarded possession of the telescope by the city in recognition of her father’s efforts to establish the first public astronomical observatory in Edinburgh. A list of about 200 names of distinguished individuals who responded to her appeal included the Duke of Buccleuch, Lord Jeffrey and other lawyers, several university professors, Robert Stevenson the lighthouse builder, Alexander Nasmyth the artist, Sir George Clerk of Penicuik, and Miss Susan Ferrier the famous novelist. Even William Wallace succumbed, and signed a message of goodwill from the University of Edinburgh.

Maria erected a wooden building on Calton Hill and in May 1835 opened “Short’s Popular Observatory” which ran successfully for fifteen or more years. The scientific collection comprised the Great Telescope which Maria had repaired in London and re-mounted, various smaller ones, and other instruments. A printed prospectus declared that “the sublime truths of science are no longer confined to the wealthy and the learned”. The observatory figured in tourist pamphlets of the time. It was open every day from 9 a.m. to 9 p.m. One presumes that, for a charge, members of the public were shown the planets and interesting celestial objects – a forerunner of the twentieth century’s Planetarium. Maria also installed a camera obscura – an apparatus that gave an impressive panoramic view of the surrounding skyline in daytime ...

The first such panorama display for the public was that of the Edinburgh skyline from Calton Hill, demonstrated by Maria Short..

The camera obscura remains an attraction to visitors in Edinburgh today.

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