

# William Sadler Frank's FRAS

## The remarkable life of Newark's finest Astronomer

Look up at the night sky during any clear night during April and you will see the stars in all their glory. The colour of the stars indicates their temperature and size; Orange stars are cooler than yellow stars, and white or blue stars much hotter. In the middle of the 19<sup>th</sup> century, our knowledge of the composition of the stars was very limited, so cataloguing star colours was a pioneering technique to understand their nature before the spectroscope came into general use.

The 26<sup>th</sup> of April marks the 170<sup>th</sup> Anniversary of the birth of William Sadler Franks, he was born on 26 April 1851 in Newark, who was a remarkable astronomer who went on to take the young Patrick Moore under his wing and taught him everything he had learned about the stars and planets, setting Patrick on course to present his monthly show The Sky at Night.

Frank's parents were Mr Thomas Franks and a Miss Skerner. During the early part of his life, Franks was occupied in his father's business as a 'Hatter' at Leicester, and later in Newark; they made top-hats and bowlers for the gentry. He soon showed a preference for pursuits of a mechanical and scientific nature. At first chemistry and electricity claimed his foremost attention, but a glance through a friend's telescope turned his thoughts towards astronomy, and it was not long before he had an instrument of his own mounted in a small homemade observatory at his family home in Newark-on-Trent.

After satisfying his curiosity by a little general stargazing, Franks soon settled down to systematic work, choosing the study of star colours as his line of research. The first fruits of this work took the form of a "Catalogue of the Colours of 3,890 Stars," which was communicated to the Royal Astronomical Society on his behalf in 1878 by the Rev. T. W. Webb. His interest in this branch of work persisted throughout his life. He directed the Star-Colour Section of the Liverpool Astronomical society and, later, that of the British Astronomical Association from 1890 to 1894.

W S Franks married 26-year-old Charlotte Simpkin in Leicester on 6 March 1888, and the 1891 Trade directory shows Frank's living at 62 Belgrave gate, Leicester.

Dr Isaac Roberts had a large private observatory at Crowborough in Sussex and he was fascinated with the scientific study of the stars and began photographing most objects in the night sky. He read the articles written by Franks and invited the Newark stargazer to join him at his observatory as a resident astronomer. The 1901 Census shows Franks at Crowborough age 40. Franks' was engaged photographing nebula and star clusters with the 20-inch reflector there, and he also continued cataloguing star colours.

Upon Roberts's death in 1904, Franks' spent a further two years assisting Roberts's widow, Dorothea Klumpke Roberts (1861-1942), in organising her late husband's records and closing the observatory. Having completed that task in 1906, Franks moved to Uxbridge during which time he had several small engagements connected with private observatories, including John Franklin-Adams's Marvel Hill Observatory, near Godalming in Surrey.

Following the death of his first wife Charlotte Simpkin, in 1906, Franks married 38-year-old Georgina Mary Phipp in Uckfield, Sussex. Frank's had two sons: Edward William Franks born in 1908 in Uckfield (who died in Horsham, Sussex about 1982), and Alexander Constance Franks born in 1909 again in Uckfield. He also had a daughter named Charlotte Mary Franks who was born in Sept 1894 at Crowborough. Sadly Charlotte died in 1901 aged 7.

John Franklin-Adams was born at Peckham on 1843 August 5. At the turn of the century, he travelled to South Africa to photograph the stars using a 10-inch telescope. On his return to England in the spring of 1904, Franklin moved into a new house which he had built for himself at Marvel Hill, Hambledon, near Godalming, to which an observatory of suitable size was attached. It was here Franks' busied himself indexing the photographic plates taken by John Adams.

In 1910 William Sadler Franks was invited to be the first resident astronomer of Mr Frederick J. Hanburys' Brockhurst observatory in East Grinstead. The 1911 Census shows Franks & Mary Phipp living at Doona Cottage, Lewes Road. At the Brockhurst Observatory, the chief instrument was a 6¼-inch refractor by Cooke, and with it, he made thru seven years, a series of measures of wide double stars. These were published in various papers in the memoirs of the Royal Astronomical Society in the years 1914-1920.

In 1923, the Royal Astronomical Society awarded Frank's the Jackson-Gilt medal for his work on star colours, by this time he was in his seventy-second year.

Of course, it was the visitors that Franks hosted on the evening of 1933 August 21, a Monday that was particularly fortunate: a certain "Mr Moore and family". They must have been impressed with their view of Vega, the "double-double star"  $\epsilon$  Lyr and the Ring Nebula, M57, for 10-year old Patrick Moore, returned to the observatory the following week and "looked at many interesting objects" through the telescope.

With the 6¼-inch refractor equipped with the new micrometre, Frank's began observing in September. By the end of the first month, Franks had made measurements of 73 stars on 21 nights, and by the end of the first year of the project, he had 838 measurements of 575 stars on 164 nights.

The first paper resulting from the project was published in 1914 April, entitled “Micrometrical measures of 360 wide double stars”, followed by another in December, with at least one additional paper appearing each year until 1920 in recognition of his work. In 1923 he was awarded the Jackson-Gilt medal of the RAS. The high quality of his work quickly became known widely and he received a specific request from Robert Grant Aitken (1864-1951) of the Lick Observatory to provide measurements of large proper motion double stars.

Newark-on-Trent lies in Nottinghamshire, and in the early part of the 19<sup>th</sup> century two other astronomers were born in Nottingham; John Russell Hind (12 May 1823 – 23 December 1895), who worked at the Royal Greenwich Observatory for a short time, before becoming astronomer of George Bishops’ observatory in the South Villa of Regent’s Park, London, where he discovered several minor-planets. Also, Thomas William Bush was born in Nottingham on 19 May 1839.

In 1879, Thomas Bush accepted the position as a general helper at Lord Forester’s private home at Willey Park at Broseley, Shropshire. With advancing years, and by now a widower, Bush moved from Willey into Sackville College, a residential home for elderly gentlemen on East Grinstead High Street on 1924 January 8.

As a result, he set about building a 24-inch reflector telescope at Brockhurst under W.S. Frank’s supervision. Frank’s notebooks describe the installation and testing of Bush’s telescope in some detail. Two remarkable photographs show Franks alongside the 24-inch square tubed telescope, in one Thomas Bush is seen looking through the eyepiece.

Although Franks continued to observe after the completion of his work on nebulae, it was much less systematic as the frailties of increasing age became manifest. Working alone was becoming more of a challenge, but he did receive regular assistance in the observatory from a person referred to on the notebooks as “Hubert”, especially when Bush’s 24-inch reflector was used.

Most of the notebook entries between 1930 and 1935 were in connexion with visitors to the observatory, meteorological events and other news items, such as the dismantling of the Bush telescope following the death of Thomas Bush on Monday 23 April 1928, Bush was 88 years old; today his 24-inch telescope is held at Nottingham University.

Franks used to cycle from his home to Brockhurst every day and was a familiar figure in the district. In 1933 September, whilst walking, a cyclist knocked him down, resulting in a lacerated left arm and a bruised right arm and shoulder. This put him out of action for a month. The following year, 1934 October, he was again taken ill and laid up for another month.

Frank’s last notebook entry was on 1935 June 7, recording an exceptionally heavy rainfall.

A few days later Franks was again knocked off his bicycle, this time by a car, an accident from which he never recovered, he passed away on June 19 1935 in his eighty-fifth year. It was shortly after this that Patrick Moore was invited to take charge of the observatory showing visitors to Brockhurst objects through the observatory's 6¼-inch telescope at the tender age of 12. Afterwards, Patrick Moore dedicated his whole life to astronomy, introducing others to science through the BBC Sky at Night program, and his many books.

Without the knowledge and enthusiasm of his mentor William Sadler Franks, Patrick Moore's life may have taken a quite different path. Hanbury died in early 1939, and the Observatory was dismantled; the 6¼-inch Cooke refractor was sold for £40 and Frank's observing books were handed over to Patrick Moore at the request of his relations. Patrick correlated them and handed them over to the BAA. The 1939 Electoral Register shows Georgina Phipp living at 'The Hollis, in East Grinstead.

Trees now grow over the site of the Brockhurst Observatory, where William Sadler Franks played a leading role, one at least we will all celebrate with great affection on the 170<sup>th</sup> anniversary of his birth on April 26<sup>th</sup> here in Newark-on-Trent.

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