

Comet Chaser

Guy Ellis

William Mclean Johnston was an engineer, draughtsman, artist and passionate amateur astronomer. Born in the town of Newton Stewart, Scotland in 1880, where his father was a doctor, he went on to study engineering. Newly qualified he travelled to South Africa where he was employed by the Post Office in Cape Town.

There he joined an enthusiastic group of astronomers, one of whom, William Reid, became a renowned 'comet chaser'. Born in Scotland in 1861, Reid moved to South Africa in 1901 for health reasons. Already interested in astronomy, after seeing the Coggoa comet (C/1874 H1), he became a foundation member and long-standing Council member of the Cape Astronomical Association. He was also the founding Director of the Association's Comet Section; later serving as President of the ASSA becoming the first amateur astronomer to achieve this honour.

Initially his observatory was equipped with a 10.2-cm refractor, but in about 1921 he replaced this with an excellent (15.2-cm) Cooke 6-inch f/15 Apochromatic telescope.

These famous telescopes were made by Thomas Cooke and Sons of York. Cooke, the son of a shoemaker went to work in the family business after only two years at an elementary school. He disliked shoe making and inspired by the tales of James Cook's voyages he decided to go to sea. To prepare himself for a life at sea, he spent all his free time teaching himself mathematics, navigation and astronomy. As he was about to leave home, his mother persuaded him to stay ashore. He found employment teaching local farmers' children, eventually moving to a school in Ogleforth.

Again in his spare time he began to study optics and made his own first rudimentary telescope, grinding a lens by hand out of the bottom of a glass whisky tumbler, and mounting it in into a frame made from tin that he had soldered together.

Although he continued to spend long hours teaching mathematics, he devoted his spare hours to making bigger and better telescopes. Finding a ready market, Cooke's instruments quickly established a reputation as being the best and cheapest in the country.

On his death in 1868 two of his sons ran the Buckingham Works and continued to produce high quality telescopes, prismatic compasses and theodolites. Cooke instruments were selected to fit out the Royal Observatory at Greenwich, and their telescopic sights were purchased by the Royal Navy.

Dennis Taylor, a craftsman at Cooke's, in 1892 designed the first triple apochromat refractor fitted to the Cooke Photo Visual telescope objective. This refractor uses exotic glass types that produce colour free images in focus, providing high contrast views which are ideal for lunar and planetary work and all types of deep-sky astrophotography. In 1930 these instruments were priced at £40 for a 4-inch model, while the 12 – inch was selling for £720.

One of the telescopes that William Reid used to become a world renowned astronomer was the Cooke 6" that he purchased in 1921. He identified six comets, five of which he found using the Cooke instrument.

C/1918 L1	1918 II	12 Jun 1918	Cape of Good Hope.
C/1921 E1	1921 II	13 Mar 1921	Cape Town. 16-cm comet-seeker scope.
C/1922 B1	1921 V	20 Jan 1921	Cape of Good Hope.
C/1924 F1	1924 I	25 Mar 1924	Rondebosch.
C/1925 F2	1925 III	24 Mar 1925	Rondebosch.
C/1927 B1	1926 VII	25 Jan 1926	Cape Town

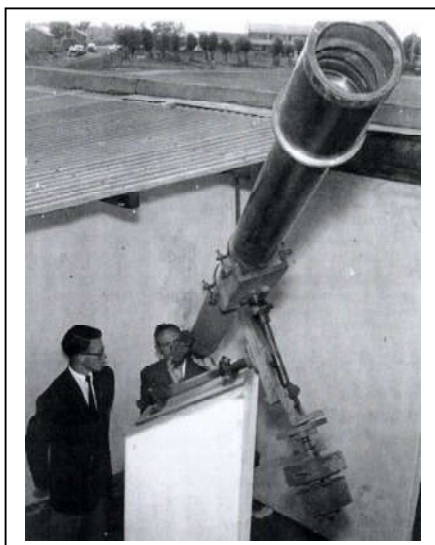
Reid was not only interested in comets; his knowledge of the Southern skies was unrivalled. With his son and two other astronomers he discovered that Saturn's A ring was translucent. He received international recognition when awarded the Jackson-Gwilt Medal by the Royal

Astronomical Society shortly before his death in 1928. This medal is awarded for the invention, improvement, or development of astronomical instrumentation or techniques; for achievement in observational astronomy; or for achievement in research into the history of astronomy.

Sometime after Reid's death, William Johnston purchased or was given Reid's telescope and he began to teach astronomy at Parow High School. Initially he lent the telescope to the school but soon donated it and even helped build the wooden shed used to house the telescope. Constructed from packing cases, the building had a roof that could be opened to the sky through ten hinged flaps and the telescope was mounted on a concrete pillar

Johnston provided the prizes for the annual astronomical competition at the school and assisted with the organisation of a school trip for 750 pupils from various Cape Town high schools to Klaver on 1 October 1940, to view the total eclipse of the Sun.

When in 1946 the wooden building had to be broken down for drainage work, Johnston lent his 4 inch portable telescope to the school so that the pupils could continue their studies.



The Cooke 6-inch telescope, photographed with the sliding roof open on Thursday 31st March 1960 by Mr. JS Labuschagne. From left; Butch Cassidy and, behind the telescope eyepiece, Mr. P. I. Rossouw, then-Senior Science Master. (Butch Cassidy collection)

Before the new building was completed, William Johnston was knocked down by a car (on 8 July 1947) and succumbed to his injuries 3 days later. Known as a retiring man he had gained the regard of all he came across. He had been a committee member of the Astronomical Society of South Africa and in 1923 was

awarded first prize for his design of a postage stamp, while his detailed large posters of the universe and the solar system were greatly admired.

In 1948 the telescope was moved into the new building. It was mounted on a 6ft high pillar which was about 15 inches in diameter. The telescope is mounted equatorially but without its setting circles. It was shipped to England in 1955-56 to be refurbished and was reinstalled in 1957. That same year astronomy was dropped from the school curriculum, but for many years it was used informally by a few teachers and pupils.

It is reported that around 1987 it was sold to Mr Joe Churms (Spencer Jones, 1995), who had recently retired as Deputy Director of the South African Astronomical Observatory, SAAO. He had intended to set it up at his home in the Karoo, however he died (1) before the telescope could be re-assembled in the special observatory room that he and some of his ex-colleagues had built.

After many years, on 28 November 2001, 'Butch' Cassidy managed to track the telescope to the home of Rainer Noack, an amateur astronomer from Blaauwberg. Mr Noack told Cassidy that the scope was in a poor state at the time, with a bent tube, a chip in the front lens and that the eyepieces were in bad condition. He had the optics tested, the tube repaired and the telescope was ready for use, with the exception that somewhere along the line its equatorial mount had been lost.

In early 2014 the telescope entered a new phase when Hannes van der Merwe purchased it with the intention of constructing or finding the correct mounting and restoring this old veteran to its former glory.

Acknowledgements and Bibliography

Thank you to Butch Cassidy for his original 1960 article on the telescope, then for tracking it down in 2001 and again in 2014. Thanks to Hannes van der Merwe for his emails and interest.

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PDHS-JJ du Preez High School, Parow, Cape Town.

Two photographs of a large (8-inch?) refractor in the workshops of Thomas Cooke of York, circa 1891. Telescope is mounted on a German equatorial.

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Amateur Optical Tracking in South Africa during 1957-2014. Part 6.

Greg Roberts

Introduction

This article covers the activities of the various MOONWATCH teams in the Pretoria area. One name is common to all the stations, that is the late Roy Smith with whom I had the pleasure of finally making contact in the last year of his life. Most of this article was culled from e-mail correspondence.