As an astronomer George Alcock is best known for discovery, both of comets and novae, but he started off by simply observing shooting stars with no equipment other than paper and pencil to record his observations. Some of these records were valuable in helping calibrate work being carried out with the great radio telescope at Jodrell Bank. When it seemed apparent that modern techniques were going to render such amateur observations of little use (they still haven't!), he decided to try and discover comets.

Comet Arend-Roland (1956 R1)
drawn by George Alcock on 1957 May 18.9

This is easier said than done, as most comets are very faint and can only be seen with big binoculars or a telescope under dark skies. In the 1950s the little village of Farcet near Peterborough, where George lived, did have dark skies, but today light pollution from the city is a huge problem for local amateurs. George used very large binoculars for his discoveries and his meteorological knowledge allowed him to make the best use of our short spells of suitable weather. Success didn't come easily and it took 560 nights observing spread over six and a half years before he found one. Astonishingly he found the next one only four nights later! In all he found five comets, his last being discovered in 1983 whilst observing through a special plate glass window in his house. This comet passed very close to the Earth and was widely observed.

The comet illustrated on the memorial plaque is C/1955 L1 (Mrkos). This comet was discovered by Anton Mrkos in Czechoslovakia on 1955 June 12, and George first observed it on June 15, noting that it had a 1° long tail. The drawing is unfortunately not dated, but was possibly made on 1955 June 18. George was also one of the last to observe it, spotting it in his 10cm refractor in mid August.

In 1955 George decided to hunt for novae as well as for comets. These exploding stars usually appear in

the Milky Way but are extremely difficult to spot in such crowded star fields. George memorised large areas by remembering star patterns and, after the discovery of three novae between 1967 and 1970, he was again sweeping the heavens on the night of October 21, 1976 using binoculars. In a star grouping, nicknamed 'The Coathanger' in the constellation of Vulpecula, he spotted an extra star which had distorted the usual pattern. Investigation by professional astronomers confirmed it was a nova. He went on to find others in 1985 and 1991. Dr. Brian Marsden (Smithsonian Astrophysical Observatory, USA) has commented that "these successful visual searches for novae using only binoculars, his eyes, his memory and skies often none too clear, represent a spectacular achievement that is unique in the annals of astronomy".

The nova illustrated on the memorial plaque is George's 1976 discovery of Nova Vulpecula in the Coathanger. The sketch is after a photograph taken by Harold Ridley just a few hours after the discovery.

Comet

A comet is a small body formed from dust and ice during the birth of our solar system around 4.6 billion years ago. Kept in cold storage at the very limits of the solar system for most of this period, the ices evaporate when the mountain sized object gets close to the Sun. The gas and dust can give rise to a prominent tail, but most comets appear as a fuzzy patch of light.

Some comets, such as comet Halley, return on a regular, predictable pattern, but others take such a long time to orbit round the Sun that we have little warning of their arrival. A comet is named after its discoverer, though today they are more likely to be named after professional search teams such as LINEAR, which hunts for asteroids, rather than after an amateur such as George Alcock. Roughly once a decade a comet is discovered that grows a long tail that you can see with the naked eye. None of George's comets are likely to be seen again.

Nova

A nova (new star) is a bit like a celestial firework going off - nuclear fusion reactions go critical in a shell around an old star and the resulting explosion causes it to brighten by a huge amount. Studying how the star brightens and then fades, together with spectroscopic studies showing what elements are present in the explosion give astronomers a better understanding of the physical processes that are taking place. Our own solar system formed from the

NQ Vul in Coathanger 1976 Oct 21: Harold Ridley
21.08UT start. 30m exp. Ilford Ortho plate.
500mm 15.6 Aviar lens. Nova mag. 6.6

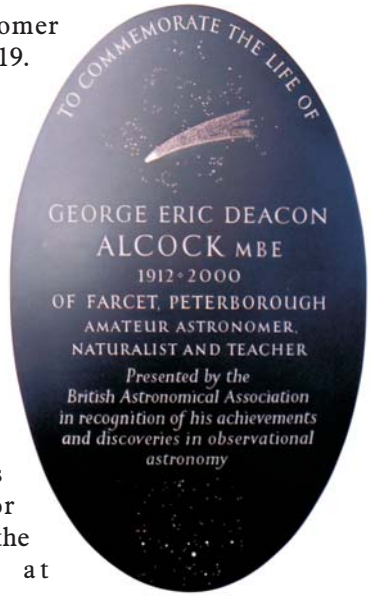
death throes of a series of giant stars that blew themselves to pieces. Stars that vary in brightness, such as novae, are given either a letter designation, or when so many are discovered that these have run out, a number.

Memorial Plaque

The plaque was designed and carved by Ronald Parsons. A comet, with background star field, is engraved at the top of the plaque. It was transposed from a copy of one of George's drawings. A nova is engraved at the lower end of the plaque. Two pointers have been cut into the slate to identify the nova, and have been highlighted with red paint. The stars in the background fields have been engraved and laid in with 'leaf' of the rare metal palladium, which shines like silver but does not tarnish.

Ronald Parsons is a designer and letter cutter whose work may be seen in churches and civic buildings throughout this country and abroad.

The plaque was unveiled by Professor Sir Martin Rees, the Astronomer Royal, on 2005 April 19.



The British Astronomical Association

The BAA is a national organisation, founded in 1890, which encourages amateur astronomy through meetings, sectional groups and its publications. For more details visit the BAA web page at http://www.britastro.org, write to us at British Astronomical Association, Burlington House, Piccadilly, London W1J 0DU or contact the Assistant Secretary on 020 7734 4145.

A eulogy for George Alcock, written by Martin Mobberley, appears in the BAA Comet Section Newsletter for 2001 April. This is available on the Internet at http://www.ast.cam.ac.uk/~jds/tail15.pdf

GEORGE ALCOCK'S DISCOVERIES:

Comet designation	Discovery date & time	Brightness
Alcock (1959 QI)	August 25 21.00	10
Alcock (1959 Q2)	August 30 03:20	6
Alcock (1963 F1)	March 19 03:00	8
Alcock (1965 S2)	September 26 21:15	10
IRAS-Araki-Alcock (1983 HI)	May 3 22:00	6

Nova Designation	Discovery date & time	Brightness
Nova Delphini 1967 (HR Del)	July 8 22:35	5.0
Nova Vulpeculae 1968 (LV Vul)	April 15 03:30	5.6
Nova Scuti 1970 (V368 Sct)	July 31 21:50	6.9
Nova Vulpeculae 1976 (NQ Vul)	October 21 18:20	6.5
RS Ophiuchi 1985 outburst (RS Oph)	January 30 05:20	5.9
Nova Herculis 1991 (V838 Her)	March 25 04:35	5.4

Compiled by Jonathan Shanklin

George Alcock

Photo: J. Boyce Ellingham

The name of George Alcock (1912 - 2000) is legendary amongst amateur astronomers, but his interests were wide ranging, covering the fields of archaeology, church architecture, geology, meteorology and natural history in addition to astronomy. A full biography of this wonderful Peterborough school teacher was written by *Kay Williams* with the title

"UNDER AN ENGLISH HEAVEN. THE LIFE OF GEORGE ALCOCK"

published by Genesis Publications Ltd. 1996.