



HEADLINES FROM HISTORY

The scenery of the heavens



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In 2009, Athlone astronomer John Ellard Gore was honoured by the International Astronomical Union which attached his name to an impact crater on the moon.

The crater, simply named Gore, is located near the lunar north pole. It was timely recognition for a person who had done so much to advance and popularise astronomy.

John Ellard Gore was born 1 June 1845 in Athlone. His parents were John Ribton Gore, archdeacon of Achonry, County Sligo, and Frances Brabazon Gore (née Ellard). He had three brothers and one sister and was educated privately before proceeding to Trinity College Dublin, where he received a civil engineering diploma in 1865.

After graduation, he worked in Ireland as a railway engineer but moved to India around 1868, where he was appointed assistant engineer on the Sirhind Canal project in the northwest of the country.

Gore remained in this role until 1877 when he took a leave of absence and returned to Ireland. Two years later, he retired with a pension and devoted himself to astronomy, conducting observations from his family home in Sligo. After the death of his father in 1894, Gore moved to Dublin, where he spent the rest of his life.

Stellar neighbours

Gore had a particular interest in variable stars whose light, as seen from Earth, changes in brightness. In the course of his observations, Gore discovered several variable stars, such as W Cygni in the constellation Cygnus.

In 1884, he presented the Royal Irish Academy with a Catalogue of Known Variable Stars with Notes and Observations, listing 191 such objects. Four years later, he published a revised Catalogue of Variable Stars with 243 objects. Gore was a founding member of the British Astronomical Association in 1890 and was subsequently appointed

as the first director of the association's Variable Star Section.

Gore was also interested in binary systems in which two stars orbit around a common centre of gravity. Although such systems are extremely common in our galaxy, they were poorly understood during Gore's lifetime.

He devoted much of his research to computing the orbits of stars in binary systems, publishing his findings in an array of astronomical journals. According to Jeremy Shears, an astronomer who has researched Gore's life and career, Gore's approach set him apart from many contemporary amateur astronomers, who were content to record what they saw.

Gore, however, wanted a mathematical understanding of the phenomena which he observed. It was that attitude which led him to become the first person to estimate the mass of a type of stellar object later known as a white dwarf.

Such white dwarfs are the hot, extremely dense remnants of long-dead stars, which have exhausted their fuel supply, blown off their outer layers and shrunk to become much smaller than their original size.

At the time, Gore was studying Sirius, the brightest star in the night sky. Sirius is actually a binary system, a fact which had been known since 1844. However, astronomers were unsure as to the nature of the smaller object in that system and Gore attempted to answer this question.

He calculated that the smaller body – which is today named Sirius B and known to be a white dwarf – was an extremely dense object. Unfortunately, Gore rejected his own conclusions since scientists at that time did not believe that stars could ever be compressed to such extreme densities. Nevertheless, Gore was on the right track and, today, he is considered to have played an important role in the discovery of white dwarfs.

Spreading the word

In 1901, Gore was one of a handful of astronomers who, independent of one another, discovered the Nova Persei, which became visible in February of that year.

Gore later left an account of his moment of discovery: 'On the evening of Friday, February 22, 1901, while

returning home from the house of a friend in Dublin, about 11h 40m P.M., Greenwich Mean Time, I happened to look towards the constellation Perseus, and was astonished to see a bright star of nearly the first magnitude shining in a spot where I knew that no star visible to the naked eye had previously existed.'

Gore had witnessed an exploding star and the next morning he telegraphed the observatories at Greenwich and Edinburgh. He was soon informed, however, that he was not the very first to see the nova: that honour had fallen to an amateur astronomer in Scotland.

Gore was keen to popularise astronomy and he was a prolific author, contributing to many scientific journals and writing a series of books aimed at the general public, such as Planetary and stellar studies (1888), The scenery of the heavens (1890), The visible universe (1893), The worlds of space (1894), The stellar heavens (1903), Studies in astronomy (1904) and Astronomical curiosities: facts and fallacies (1909).

As contemporaries and later biographers noted, Gore's scientific writings were suffused with spiritual imagery and sentiments. In books such as Astronomical curiosities: facts and fallacies Gore suggests that humanity's ability to unravel the mysteries of space was proof that the universe was created and structured by God.

Light and shadow

According to Jeremy Shears, Ellard was fascinated by Spiritualism, a system of belief through which the dead can, supposedly, communicate with the living. The modern Spiritualist movement emerged in the USA during the 1840s, spreading to Europe during the following decades and practices such as telepathy, clairvoyance, and communication with the dead through spirit mediums gained many high-profile and wealthy adherents.

Gore's interest in Spiritualist practices, despite their association with fraud and exploitation, was not unusual. Early Spiritualism attracted some of the great scientists of the day, including the physicists Marie and Pierre Curie and the evolutionary biologist Alfred Russel Wallace, all of whom believed that modern scientific methods could be used to explore the spiritual realm.

John Ellard Gore, around 1875. He was born in Athlone in 1845.



This melding of science and spirituality inspired the rise of so-called psychic research. In 1882, devotees of Spiritualism founded the London-based Society for Psychical Research and a Dublin branch was formed in 1908, of which Gore was vice-chairman. According to historian Shane McCortistine, the Dublin branch concentrated on investigations into séances, the use of Ouija boards and related paranormal phenomena.

By that stage, Gore has abandoned astronomical observation, since his eyesight had started to fail around 1900. It further deteriorated during subsequent years, leaving Gore almost unable to read by 1909, the year in

which he donated his library to the Royal Irish Academy. At that stage in his life, Gore was living on Dublin's Haddington Road. He never married and contemporaries described him as a quiet but friendly individual.

On the evening of Monday 18 July 1910, Gore was knocked down by a jaunting car while crossing Grafton Street in Dublin. He died at the scene and was buried in the city's Mount Jerome Cemetery. Gore left a wonderful legacy of astronomical research and popular publications. He was, as described in his obituary in the publication Popular Astronomy, 'a brilliant example of what an amateur may accomplish in astronomy'.

