

4. Coats Observatory

John Pressley

Coats Observatory has been a feature of the Paisley skyline since its construction in 1883. From that time onwards the observatory has been welcoming anyone with an interest in astronomy, allowing visitors a rare chance to view the wonders of the night sky through a powerful telescope.

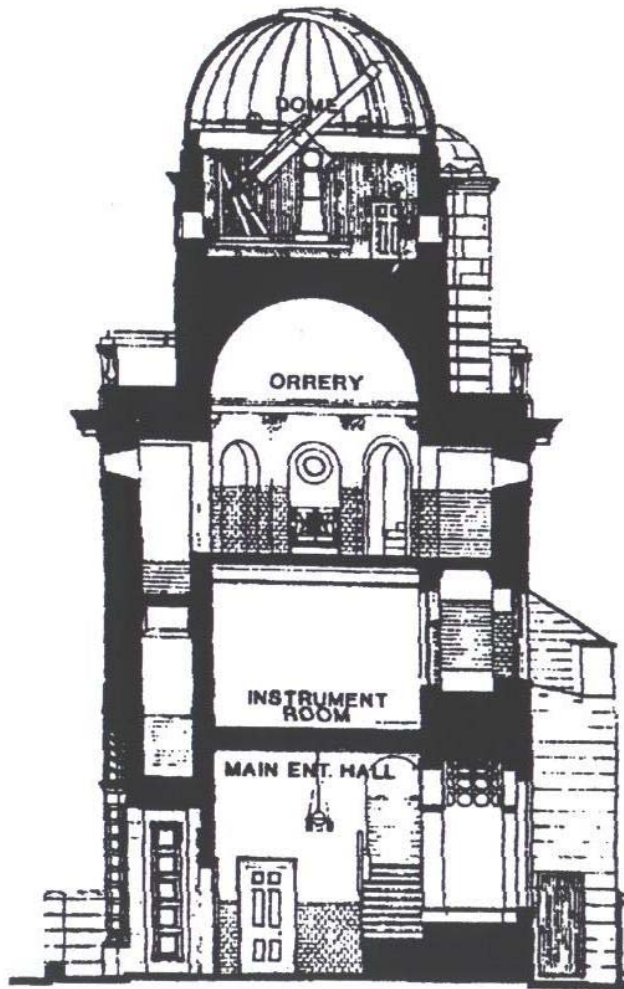
The idea behind the creation of an observatory in Paisley grew from a meeting of the Paisley Philosophical Institution (henceforth referred to as the PPI) who were founded on October 13th 1808. These 'noble pioneers of Philosophy', as they saw themselves, banded together with a view to improving themselves and their fellow towns-people through lectures, the collection of scientific books and by the formation of a museum. This idea was first mooted in 1858 and eventually reach fruition in 1871, with the opening of the first phase of Paisley Museum.

At the 1880 AGM of the PPI, a proposal was made that a telescope should be purchased, to be housed in a tower which was to be built in the new extension to the museum currently under construction. The council of the Institution agreed to this proposal and Thomas Coats offered to meet the costs involved, and also to pay for a suitable building dedicated to the study of astronomy in which to house the telescope.

Glasgow architect John Honeyman was chosen to design and build the observatory, and work commenced in late 1881. With construction well underway it was decided to commemorate the new building with the laying of a memorial stone, a duty performed by Thomas Coats on the 8th March 1882 at an event attended by a number of local dignitaries, including the Provost, Magistrates and Town Council and members of the PPI. The stone was accompanied by a 'time capsule' containing newspapers, small portraits of Mr & Mrs Coats and some coins. A presentation of a silver trowel was made to him as a memento of the day and he is recorded as saying that he hoped the observatory would "prove a stimulus to interest the rising generation of the town and neighbourhood in the study of astronomy – a science little understood among us, but which may, under the leading spirits of our Philosophical Institution, become a subject of instruction that will be eagerly sought after."

At a conversazione held in Paisley Museum on the 18th October 1882, Thomas Coats officially handed over the observatory and telescope to the Paisley Philosophical Institution. As well as outlining the building developments he announced the creation of an endowment fund of £2000 towards the upkeep and development of the observatory. This gesture saw the PPI Council meeting of January 1883 agreeing to name the place 'Coats Observatory' in Thomas Coats' honour.

Additional functions were added to the observatory, encompassing a wide range of scientific disciplines. Thomas Coats had meticulously recorded the weather at Ferguslie House since 1858 and gifted the observatory a barometer and thermometer prior to its opening. Additional equipment was added to keep weather records, which were regularly sent to the Met Office in Edinburgh. Weather recording is one function which has carried on at Coats Observatory uninterrupted since 1884 and all the weather logs are stored at the observatory and can be viewed on request. The observatory also serves as a seismic recording centre for the west of Scotland, recording earthquake data for British Geological Survey. Many of the major earthquakes over the past 100 years have been recorded here, including the infamous 1906 quake that destroyed most of San Francisco.



Coats Observatory: Cross Section

A grand ceremony had been planned for the observatory opening on October 1st 1883, but unfortunately Thomas Coats' health had deteriorated considerably. His wish was to forego any formal event and so the building opened without any fanfare at all. In fact, he only managed to visit the completed building once. He died two weeks later, on 15th October, aged 74. After Thomas' death his son James took over the family involvement in the observatory, increasing the endowment and purchasing a number of pieces of scientific equipment for use in the building. This fine collection of instruments now makes up the bulk of the science collection owned by the museum service today.

Coats Observatory has witnessed mixed fortunes throughout the years. Running of the building was taken over by the local authority from the PPI in 1963, and it now operates as a year round visitor attraction.

Today visitors can still experience much of the original building and gain a sense of the intention behind the construction of this magnificent edifice. The observatory consists of a three-storey tower, reaching a height of 56 feet, and topped by a copper-plated domed roof, within which the telescope is housed. The dome is reached via a short flight of stairs at the beginning and end and a ramped walkway between.

On entering the visitor finds themselves in the foyer. An imposing portrait of Thomas Coats adorns the green-glazed wall tiles, which run throughout the building from the

ground floor upwards. This room also features a large stained-glass window dedicated to the eighteenth century Astronomer-Royal, William Herschel, plus further depictions in stained glass of early astronomers Joseph Kepler and Galileo.

The observatory was designed very cleverly to incorporate the use of borrowed light at every opportunity. Large windows in the exterior of the building at first floor level feed into the room at that height, a space now dedicated to displays on the Solar System and used as part of the extensive school workshop programme run at Coats Observatory. The exterior of the floor above is edged with round port-hole style windows. These widen on the inside, thus projecting the light from outside into the room. Stone carving work throughout the building was carried out by James Young, whose company was one of the most prolific and important firms of sculptors in Glasgow during the late nineteenth century. Decorative ironwork was made by MacFarlanes and came from the world-famous Saracen Foundry in Glasgow. This foundry was responsible for a great deal of the surviving nineteenth Century wrought ironworks throughout the city and even further afield – their work adorns the Raffles Hotel in Singapore for example.

Many rare Victorian astronomical instruments are also on display. Perhaps most impressive is the Orrery, a working model of the Solar System. Dating from 1898 and made by the famous instrument maker Adam Hilger, it depicts the Solar System as it was known at that time and only shows eight planets – Pluto is missing as it was not discovered until 1930. However, rather fortuitously for the Observatory, the recent ruling by the International Astronomical Union to downgrade Pluto to the status of dwarf planet means that our Orrery is once again reasonably accurate!

Perhaps the most unique feature of Coats Observatory is the opportunity to view the wonders of the night sky through a powerful telescope. Housed in the dome at the top of the building are two telescopes. The smaller is the original, a 5-inch refractor made by Cooke of York and installed in 1883. In 1898 this was superseded by the larger 10-inch model, made by Howard Grubb of Dublin. Both telescopes are still in use.

During the winter months the observatory opens on a Tuesday and Thursday night and, given clear skies, the telescopes are pointed at some of the more prominent sights in the night sky, such as the Moon, the planets and even distant galaxies and nebulas. From the outset Coats Observatory was designed as a public observatory, not the reserve of the scientific establishment but also allowing the ordinary citizen access to the telescope and the sights they could behold. There are very few places throughout the country that the public can enter an astronomical observatory. There are only four public observatories in Scotland, and the Coats is the oldest of these. Public observatories are also an exclusively Scottish phenomena, so in Paisley we have the oldest public observatory in the world.

Coats Observatory is an asset that the people of Paisley can be rightly proud of. It is a rare visitor attraction and can offer a unique experience of a chance to look at the night sky through a powerful telescope. Astronomy is one branch of science in which new ideas and new discoveries are happening all the time. A facility such as the Coats Observatory can serve as an inspiration for anyone interested in the subject and will hopefully go on to inspire the astronomers of tomorrow.