

The Shirburn Astronomers

The village of Shirburn lies on the B4009 between Watlington and Thame in Oxfordshire. The map opposite, from 1809, spells the village name as Sherborn.

Hidden from public view is the moated Shirburn castle. It is built of brick with an applied coating of local chalk and dates from 1377. There are four corner towers and a main entrance with a drawbridge. The origins of the castle can be traced back to Norman times.



Shirburn castle

The castle was purchased in 1716 by Thomas Parker (1666-1732), who became the 1st Earl of Macclesfield. He showed an interest in science. William Jones became a member of his household and studied mathematics with him. He later tutored his son George. He was also a member of The Royal Society. He counted fellow members Sir Isaac Newton and Edmund Halley among his friends

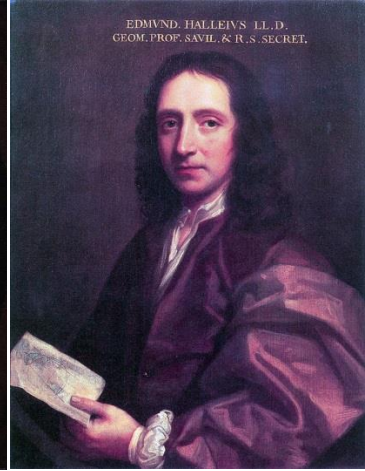
and visitors to the castle. When Newton died, the 1st Earl was a pall bearer at his funeral at Westminster Abbey.



Thomas Parker, 1st Earl



Sir Isaac Newton



Edmund Halley

When George Parker succeeded his father as the 2nd Earl of Macclesfield, he built an astronomical observatory in the castle. He 'promoted' two of his servants to be his assistants. Thomas Phelps was a stable boy. John Bartlett was a shepherd. Together they were trained by George and also studied for themselves. George was also assisted by James Bradley, an Oxford professor of astronomy and later the astronomer royal.

The observatory was in use from 1740. Notable observations made included a transit of Venus on 3rd June 1761 and eclipses of the sun on 1st April 1764 and in 1768. Thomas Phelps was the first to observe a great six-tailed comet in 1743.

The following edited extract is taken from 'Philosophical Transactions' published by the Royal Society on 1st January 1769. It describes the observation of the transit of Venus at Shirburn:

'An account of the observations of the transit of Venus ... made at Shirburn Castle. By the Reverend Thomas Hornsby MAFRS and Savilian Professor of Astronomy in the University of Oxford.

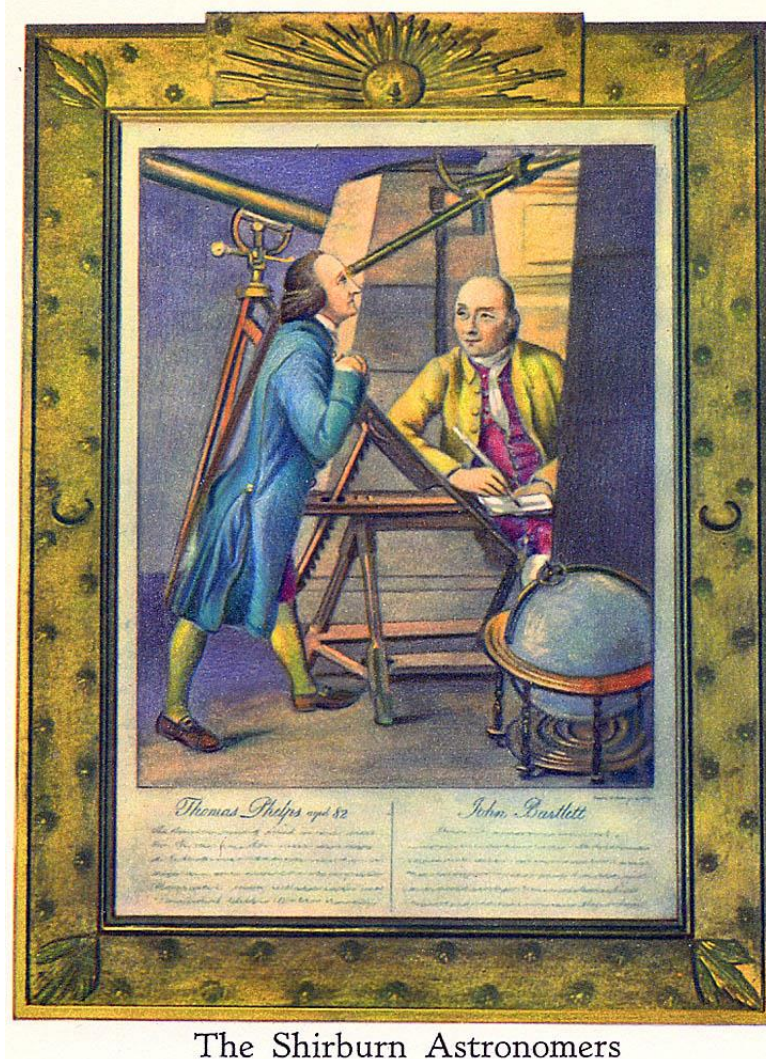
'The weather on the morning of the 3rd of June was so very unfavourable that there was little reason to expect that we should be able to make any observations. But a few minutes before noon the clouds began to break and I was enabled to observe the transit of the Sun's consequent limb over the meridian. At one o'clock the sky was again overcast and it rained until three o'clock. The clouds then dispersed, the Sun shone out clearly and at five o'clock there was hardly a cloud to be seen.

'The Right Honourable the Earl of Macclesfield made use of an excellent refracting telescope of 3¹/₂ feet, made by Mr Dollond, with a treble object glass, magnifying 150 times. At 7h 7min 49.5s he was certain that the planet had sensibly advanced upon the

Sun's disc, having seen a small impression upon the zenith part of the Sun's limb near a minute sooner. At 7h 23 min 13s His Lordship determined the internal contact, which he judged to happen when the dark penumbra, which was so sensibly perceived between the limbs of the Sun and the planet, was lost upon the completion of the thread of light. His Lordship observed at a small distance from the observatory. He used a stopwatch and compared his results with observatory clock.

'Mr Bartlett, a very excellent observer, who has been constantly employed in the observatory for many years, employed a 14 feet refractor on the north side of the observatory, within hearing of the clock, the seconds of which were counted by Mr Phelps, the other assistant observer. At 7h 7min Mr Bartlett first saw Venus upon the Sun and at 7h 23min 10.5s he judged the ingress to happen, the telescope magnifying near 60 times. Lady Macclesfield was also pleased to attend the observation at 7h 25min 16.5s judged the second internal contact to happen, with a refracting telescope of 6 feet'.

A print, published in 1776, shows Phelps and Bartlett at work in the observatory. Thomas Phelps is 82 and John Bartlett 54 years of age.



The 2nd Earl was a member of parliament for Wallingford and the President of the Royal Society from 1752 until 1764. He was a leader in persuading Great Britain to adopt the Gregorian calendar in 1752.



George Parker, 2nd Earl
Macclesfield

The Julian calendar, introduced in 45 BC by Julius Caesar, replaced the inaccurate Roman calendar. This calendar assumed that a year contained 365.25 days and made an adjustment with a leap year every four years. In fact the year is slightly shorter than this and consequently it gains about one day every 128 years. In 1582 Pope Gregory XIII introduced a more accurate version of the Julian calendar. This was based on a year of 365.2425 with leap years divisible by four and 400 but no leap year if the year is divisible by 100.

Most European countries quickly adopted the Gregorian calendar, but Great Britain resisted as the new calendar was seen as popish. By 1751 there was a difference of eleven days in the two calendars and parliament was moved to adopt the Gregorian calendar along with the North American countries. The change was achieved by Wednesday 2nd September 1752 being followed, the next day, by Thursday 14th September. At the same time New Year's Day was moved from 25th March to 1st January and Christmas day was celebrated on 25th December rather than 5th January. However the city of London refused to make changes and the financial year still runs from 6th April.

The change was generally unpopular with the British population, many feeling they had been robbed of eleven days of their life.

George Parker lived from 1695 to 1764. When he died, observations were continued by the 3rd Earl, Thomas until about 1790 aided by Phelps and Bartlett. The adjacent Shirburn church contains memorials to the Earls of Macclesfield and one to Thomas Phelps erected by the Earl stating, 'who without the aids of education, acquired by his own industry a competent skill in mathematical as well as other branches of knowledge'.



Images of Shirburn church

Extensive alterations were made to the castle in the 18th century and now no trace of the observatory can be found.