

Gascoigne, William (c.1612-1644) the inventor of the telescopic sight and the telescope micrometer. He was the eldest son of Henry Gascoigne of Thorp on the Hill (between Rothwell & Middleton near Leeds) and Jane Cartwright and lived at New Hall (no longer extant). He engaged in a lengthy correspondence with William Crabtree (of Salford, near Manchester) and thereby became known also to Jeremiah Horrocks (of Liverpool). For a brief period, all three were pioneers of precision astronomy. Gascoigne was adept at carrying out optical investigations, making his own lenses and building telescopes. He verified the sine law of refraction not long after its first publication and was one of the first to apply this law to the design and analysis of lens systems. Whilst experimenting with a keplerian telescope, he made the accidental discovery (thanks to a spider that had woven its web at the common focal point of the objective and eyepiece lenses) that a distant object and a marker within this design of telescope could be simultaneously in focus. He used this principal to make a telescopic sight with cross-hairs, which he fitted to measuring instruments, such as quadrants. He then developed the principle further, replacing the cross-hairs with a tiny scale in order to measure angular diameters of solar system bodies. This scale was then replaced by ingeniously designed moveable pointers – mounted on a screw – to create the first telescope micrometer. Using his micrometer, Gascoigne made numerous measurements of solar and lunar diameters, with the aim of testing the solar theory of Kepler and the lunar theory of Horrocks. His measurements formed the basis for the opening pages of Flamsteed's monumental *Historiae Coelestis Britannicae* (1725). During the English Civil War William Gascoigne joined the ranks of the royalist army of Charles I in whose service he lost his life, probably at the Battle of Marston Moor on 2 July 1644. Following his death, most of his instruments and papers disappeared. Although there is a possibility that his inventions had already come to the notice of a number of English astronomers (such as Christopher Wren), publication of an account of his ground-breaking work only took place after the micrometer had been reinvented by the French astronomer, Adrien Auzout, Huyghens, and others. Auzout's letter to the Royal Society in 1667 – announcing 'his' invention – prompted Richard Towneley to reveal that he had several micrometers that were made by Gascoigne more than two decades earlier (*ODNB*; [Sellers, 2012](#)).