

Greaves, John

(1602–1652)

- Francis Maddison
- <https://doi.org/10.1093/ref:odnb/11371>
- Published in print: 23 September 2004
- Published online: 23 September 2004



John Greaves (1602–1652)

by Edward Mascall, 1650

Greaves, John (1602–1652), astronomer and orientalist, was probably born at Alresford, Hampshire, the eldest of the four sons of John Greaves (1579–1616), rector of Colmer, a noted schoolmaster, and his wife, Sara (*d.* 1640). His three brothers also achieved distinction: Nicholas became a fellow of All Souls College, Oxford, and dean of Dromore in Ireland; [Thomas Greaves](#) deputized for Thomas Pococke as professor of Arabic at Oxford University; and [Edward Greaves](#) became a physician to Charles I.

Greaves was said to have been educated by his father, he entered Balliol College, Oxford, in 1617, graduated in 1623, and was elected a fellow at Merton College, Oxford, in 1624. About this time he studied Greek, Arabic, and Persian astronomical texts; his publications suggest that he became more familiar with Persian than Arabic, but who taught him either language is unknown. In February 1631, with the support of John Bainbridge and Peter Turner, he succeeded Turner as professor of geometry at Gresham College, London, retaining his fellowship at Merton College. After visits to Paris, Venice, Padua, and Leiden, Greaves planned a journey to the Levant, one of the first scientific expeditions, in order to acquire Arabic and other oriental books and coins for Archbishop Laud, and to make astronomical observations.

Among texts Greaves was keen to acquire was the *zij* (astronomical tables) prepared by eminent Islamic astronomers at the observatory of Samarkand under the patronage of the prince, Uluğ Beg (1394–1449). In seeking these tables, the last important *zij* of many produced through the centuries at Islamic observatories, he was concerned, not with the history of astronomy, but with the possible use of the supposedly most accurate tables available, better than those of Ptolemy. For his astronomical observations he recognized that for accuracy he had to have large instruments, some of which were produced for him by Elias Allen; the degree arcs of the large brass sextant and quadrant were divided with transversals, and a cross-staff was 10 feet long with 10,000 divisions. (Several of the instruments are now in the Museum of the History of Science at Oxford University.)

Accompanied by Edward Pococke, Greaves set out from England in 1637, to Constantinople, where he found no teachers of Arabic. Despite great difficulties in acquiring manuscripts, he expected to bring back copies of most of the Greek mathematicians transcribed into Arabic. He obtained a fine *Almagest* stolen from the royal library in the Seraglio, measured Santa Sophia, observed the Turkish army, and noted the Greek use of egg yolk mixed with colours for religious pictures. While at Constantinople, he tried to organize observations of a lunar eclipse at Baghdad, Constantinople, Smyrna, and Alexandria, and his own observations included magnetic observations and sunspots. After leaving Constantinople for Alexandria he put in at Rhodes, where he measured the latitude, faulting Ptolemy (but his own calculations were also in error).

During two visits to Cairo, Greaves's curiosity was roused by several matters, especially by the chicken hatcheries, artificial incubators which had fascinated other European travellers. An artificial incubator was among the lesser secrets communicated to Elias Ashmole; Johann Vesling, of the universities of Venice and Padua, like Greaves, knew William Harvey, and the interest in the incubators may have influenced the history of embryology. Greaves's account of the hatcheries was published posthumously by Ent in 1678 in the *Philosophical Transactions of the Royal Society* (no. 137). Greaves made a detailed metrological study of the pyramids, and his measurements, published in *Pyramidagraphia* (1650) were used by Isaac Newton. From Alexandria, he went to Florence, Rome, and Naples where he made astronomical and magnetic observations. At Florence he met Sir Robert Dudley, the naval commander and designer of astronomical instruments. Greaves returned to England early in 1640. On the death of Bainbridge he became Savilian professor of astronomy at Oxford in 1643, but in November 1648 he was banished from Oxford by the parliamentary visitors and was succeeded in the professorship by his friend Seth Ward. He went to London and stayed in Kent with John Marsham, writer on chronology and Egyptologist.

Greaves's first published work was an edition of Bainbridge's *Canicularia* (1648). His additions include the positions of important stars from the observations of Uluğ Beg. With Pococke's *Notae*, it was the first book published at Oxford to use Arabic type; the Arabic in a lecture by Pasor was presented in Hebrew type; that in a lecture by Thomas Greaves had been written in by hand. More material from Uluğ Beg appeared in Greaves's *Astronomica quadam ex traditione Shah Cholgii Persae* [Mahmud Shah Khalji] *una cum hypothesibus planetarium* (1650), which includes *Binae tabulae, una Nassir Eddini Persae* [Nasir ad-din at-Tusi] *altera Uluğ Beigi Tartari* (1648). This was dedicated to Marsham. Greaves wrote in Latin the first Persian grammar to appear in England, *Elementa linguae Persicae* (1649). He found Uluğ Beg's work useful for his interest in chronology and this resulted in *Epochae celebriores ... ex traditione Uluğ Beigi* (1650), from various cultures. He also wrote on navigation, calendar reform, the Roman foot, and the *denarius*. Greaves's catalogue of Archbishop Laud's coins has not been found.

In the autumn of 1651 Greaves married Elizabeth Gibbon of Bishopstone, Kent, who survived him; he died on 8 October 1652, and was buried in St Benet Sherehog, London.

Sources

- T. Smith, *Clarissimi ac doctissimi viri, Joannis Gravii ... vita* (1699)
- J. Ward, *The lives of the professors of Gresham College* (1740), 135–53, 337–8
- T. Birch, 'An historical and critical account of the life and writings of Mr John Greaves', in *Miscellaneous works of Mr John Greaves*, ed. T. Birch, 1 (1737), i–lxxii
- R. Mercier, 'English orientalists and mathematical astronomy', *The 'Arabick' interest of the natural philosophers in seventeenth-century England*, ed. G. A. Russell (1994), 158–214

- R. T. Gunther, 'The first observatory instruments of the Savilian professors at Oxford', *The Observatory*, 60 (1937), 190–97
- R. T. Gunther, 'The first Savilian instruments at Oxford', *The Observatory*, 61 (1938), 135–6 [letter]
- E. Bernard, 'Instrumenta astronomica Musei Saviliani', *Catalogi librorum manuscriptorum Angliae et Hibernicae*, ed. E. Bernard, 2 vols. in 1 (1697), pt 1, p. 302
- Wood, *Ath. Oxon.*
- W. Pope, *The life of the right reverend father in God, Seth, lord bishop of Salisbury* (1697), 18–21
- T. Hervey, *History of Colmer and Priors Dean* (1896), 74–81

Archives

- BL, biographical collections concerning Greaves, Add. MS 4243
- Bodl. Oxf., commonplace book; corresp. and papers
- BL, letters to Edward Pococke, Add. MS 6193

Likenesses

- E. Mascal, copper engraving, 1650 (after painting?), BM, NPG [\[see illus.\]](#)