

Biographical Encyclopedia of Astronomers

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Recorde, Robert

Born Tenby, (Dyfed), Wales, circa 1510

Died Southwark, (London), England, 1558

Robert Recorde was the first writer in English on arithmetic, geometry, and astronomy.

Recorde was the son of Thomas Recorde and Rose Johns (or Jones). He received his BA and was elected a fellow of All Souls College, Oxford University, in 1531. Recorde then moved to Cambridge, where he studied mathematics and medicine, and graduated with an MD from the University of Cambridge in 1545. He may have returned to Oxford University to teach mathematics, rhetoric, anatomy, music, astrology, and cosmography, but details are lacking. In fact, it seems that his reputation as a teacher rests on the views expressed in his treatises about how best to teach mathematics. Recorde moved to London where he practiced as a physician from 1547. In 1549 he was comptroller of the Mint at Bristol. The same year he became entangled in political intrigues and was accused of treason by William Herbert; this marked the beginning of a permanent quarrel with Herbert that had serious consequences for Recorde's later career. In May 1551 he was appointed general surveyor of the mines and money by the king. Recorde died in the King's Bench prison for failing to pay a penalty in a libel suit that Herbert had brought against him, yet left a little money to relatives in a will that was admitted to probate on 18 June 1558.

Recorde seems to have been a polymath who collected historical and other ancient manuscripts. His major claim to fame rests on his precociousness in mathematics, and he was the first to introduce algebra into England. Recorde's *Pathway to Knowledge* (1551) contains the first use of the term "sine" in English, and it also has a woodcut portrait of Recorde. He introduced a number of arithmetic symbols into English, and his works in mathematics remained standard authorities until the end of the 16th century.

The *Pathway*, subtitled "First Principles of Geometry," explains solar and lunar eclipses and contains a list of astronomical instruments. The *Castle of Knowledge* (1556) is the first comprehensive treatise on astronomy and the sphere to be printed in English, containing Ptolemaic astronomy in an elementary form with a brief, favorable reference to the Copernican theory. On the basis of this reference, some have considered him the first in England to adopt the Copernican system. Probably because this is an elementary text, Recorde cautioned students against rejecting the theory until they are more advanced in the study of astronomy. Still, he implied that the new theory could save the phenomena as well as the older system. The *Castle* is based on Ptolemy, Proclus, John of Holywood, and Oronce Finé, but Recorde examined the standard authorities, correcting their textual errors. There are also a number of other works that are no longer extant but that he referred to in the *Castle*. Among these is *The Treasure of Knowledge* (1556), probably on the higher part of astronomy.

Recorde is important primarily as an educational theorist. He insisted on a definite order in the study of the various branches of mathematics. He emphasized simple explanation of fundamental ideas, deferring demonstration to a later stage. Recorde used the dialog form along with visual aids and applications to practical problems. From a historiographical point of view, he is also important for his critical use of authorities and sources. When one considers the Renaissance reverence for ancient authorities, Recorde's caution is exemplary. In this regard, he is representative of the more cautious acceptance of Aristotle that one finds, especially among English authors in the 16th century. After praising Ptolemy for his diligence, Recorde continues:

Yet you and all men must take heed, that both in him and in all men's works, you be not abused by their authority, but evermore attend to their reasons, and examine them well, ever more regarding what is said, and how it is proved, then who said it: for authority often times deceives many men.

It seems as if several generations of English students were introduced to mathematics by his writings, thus establishing his reputation as the founder of the English school of mathematical writers.

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