Biographical Encyclopedia of Astronomers

Stevin, Simon

Born Bruges, (Belgium), 1548

Died The Hague, The Netherlands, March-April 1620

Textbook author Simon Stevin was born in Bruges (in what is now Belgium) in 1548, the illegitimate child of Anthuenis Stevin and Catelyne vander Poort. Very little is known of Stevin's youth and education. His first job was in Antwerp as a bookkeeper and cashier in one of the city's trading houses, where he became acquainted with business practices and methods. In 1577, Stevin accepted a post with the financial administration of the Brugse Vrije, the region around the city of Bruges. A few years later, we find him registered in Leiden, in the present-day Netherlands. Exactly why he immigrated to the North is not known; perhaps he disliked the Spanish oppression of the southern part of the Low Countries, or he may have had Protestant sympathies In 1583, Stevin's name appears on the roll of the newly founded University of Leiden, where the young Prince Maurits of Orange was attending courses. From 1590 onward, Stevin worked mainly in the service of Prince Maurits.

In about 1614, at the age of 66, Stevin married the much younger Catharina Cray. They had four children: Frederic, Hendrik, Susanna, and Levina. The second son, Hendrik, published some of his father's works posthumously.

Stevin was the first to produce a complete description of decimal fractions and the operations that can be carried out with them in a pamphlet entitled *De Thiende* (The Disme, 1585), in which he also dealt with their practical applications in surveying, the measurement of weights, and the subdivision of money. The Scottish mathematician and theological writer John Napier also drew on Stevin's work in his invention of logarithms

In his works on physics, Stevin was again a source of new and innovative ideas. In *De Beghinselen des Waterwichts* (The Elements of Hydrostatics, 1586), Stevin gave an improved demonstration of Archimedes' law about the upward force acting on a body immersed in a liquid. He also succeeded in calculating the force exerted by a fluid on the bottom and walls of the vessel in which it is contained. And this led him to formulate the so-called hydrostatic paradox many years before Blaise Pascal, to whom it is usually attributed.

In 1586, Stevin published his experiment in which two spheres of lead, one 10 times as heavy as the other, were dropped from a tower in Delft, fell 30 feet, and reached the ground at the same time. Stevin's report preceded Galileo Galilei's first treatise on gravity by 3 years and his theoretical work on falling bodies by 18 years

Between 1605 and 1608, the textbooks he had produced for Prince Maurits in numerous sciences (algebra, geography, astronomy, bookkeeping, statics and hydrostatics, perspective, etc.) were collected and published under the title *Wisconstighe Gedachtenissen* (Mathematical Memoirs). Stevin supported Nicolaus Copernicus' heliocentric theory in *De Hemeloop* (1608),

in which he showed planetary motions in both the Ptolemaic and Copernican systems. He also described how to determine the location of a place on the Earth's surface by knowing its geographical latitude and the magnetic variation of the compass needle. This method proved extremely valuable to the ships of the Dutch East India Company.

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