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(b. Rupelmonde, Flanders, 5 March 1512; d. Duisburg, Germany, 2 December 1594)

geography.

Mercator's family name was Kremer, but he latinized it on entering the University of Louvain in 1530. Philosophy and theology were his principal subjects at Louvain, and he retained a concern with these matters throughout his life. Soon after his graduation he became concerned with mathematics and astronomy, studied these subjects informally under the guidance of Gemma Frisius, and acquired considerable skills as an engraver. His first known work was a globe, made in 1536; the following year he published his first map—of Palestine. Mercator was a man of many talents, well versed in mathematics, astronomy, geography, and theology, and was also a great artist whose contributions to calligraphy and engraving influenced several generations of artisans. His lasting fame rests on his contributions to mapmaking: he was undoubtedly the most influential of cartographers.

Mercator's maps cover a variety of subjects. During his sojourn at Louvain (1530–1552), besides his map of Palestine, he made maps of the world, globes, and scientific instruments and also established a reputation as a surveyor. Accused of heresy in 1544, and imprisoned for several months, he was released for lack of evidence, and in 1552 moved to Duisburg, where he became cosmographer to the duke of Cleves. His years at Duisburg were most fruitful: he published the first modern maps of Europe and of Britain, prepared an excellent edition of Ptolemy, and in 1569 published a world map on a new projection that still bears his name.

The 1569 world map of Mercator was designed for seamen. In order to lay out his course easily, the navigator needed a map where a line of constant bearing would cross all meridians at the same angle. Mercator designed a cylindrical projection, tangent at the equator; on it meridians and parallels are straight lines, intersecting at right angles, and distortion gradually increases toward the poles. Such a map shows loxodromes as straight lines, and for small areas it conforms to shapes, but tends to distort large areas, especially at high latitudes. Nonetheless, the Mercator projection, as modified at the end of the sixteenth century by Wright and Molyneux, remains the most important tool of the navigator.

Mercator's second great contribution to geography and cartography was the collection of maps he designed, engraved, and published during the last years of his life. It consisted of detailed and remarkably accurate maps of western and southern Europe. In 1595, the year after Mercator's death, his son, Rumold, published the entire collection under the title "Atlas — or Cosmographic Meditations on the Structure of the World," the first time the word "atlas" was used to designate a collection of maps.

BIBLIOGRAPHY

The most detailed and authoritative biography of Mercator is the work of H. Averdunk and J. Müller-Reinhard, *Gerhard Mercator and die Geographen unter seinen Nachkommen*, which is *Petermanns Mitteilungen, Ergänzungsheft*, no. 182 (1914). His correspondence was published by M. Van Durme, *Correspondance Mercatorienne* (Anvers, 1859). Among the main studies dealing with Mercator's life and works, a special publication, on the occasion of the 450th anniversary of his birth, is "Gerhard Mercator— 1512–1594: zum 450. Geburtstag," in *Duisburger Forschungen*, 6 (1962).

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