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"The 'Messenger' is far superior to anything I know of for the Sunday School."—W. Ruddy, Toronto, Ont.

Gerard Mercator.

(J. F. C., in 'Chatterbox'.)

When a ship is ploughing her way through the vast ocean, and the Captain asks himself the questions, 'Where am I? Whither am I sailing?' he goes to his chart on 'Mercator's projection,' which is his inseparable companion; and when any seaman has to undergo his examination for a pilot, one of the first questions put to him is, whether he understands navigation according to Mercator's principles?

Mercator's real name was Kiemer, which means merchant, or shopkeeper, and which,

the study of Holy Scripture, but taught mathematics in the schools.

When he was twenty-four, he married Bactara Schelleken of Louvain, and he soon had to provide for a family. He now turned his attention to practical mechanical works; he learned, too, how to engrave maps, and as the fruit of his Biblical labors, published, in 1537, a map of Palestine, which was shortly after followed by one of Flanders. As the Gothic characters, then always used in printing, were very unsuited to maps, Mercator introduced his first reform and adopted the Latin characters, which, since then, have been generally used in all maps. His mechanical

mind, and for a long time he lived in constant fear of persecution from his enemies.

Mercator now continued his studies. In a letter which he wrote to the Bishop of Arras, in 1546, he explained the variations of the magnetic needle which Columbus had observed in 1492, but which had not till then been clearly understood. It was Mercator, too, who laid the foundations of the theory of the magnetism of the earth, and calculated the situation of the magnetic pole, the fixed position of which he considered of great importance. In our picture, which is taken from an old copper-plate, Mercator is represented with a globe at his side, upon which he is pointing to the magnetic pole with his compasses.

In 1552, Mercator left Louvain and settled at Duisburg, in Germany, where most of his great works were undertaken. The first of these after his settlement at Duisburg, was his large map of Europe, which unfortunately is only preserved to us in a copy reduced to a very small scale; this laid the foundation of his fame as the first geographer of his day. For three years, as teacher of mathematics, he was the ornament of the University of Duisburg. His renown continued to spread everywhere; and when in 1564, the Duke of Lorraine wished his country surveyed, and a map of it drawn, he sent for the celebrated Duisburg geographer. Mercator was a man of most versatile genius; he was an astronomer, a chronologian, distinguished as a writer of history and theology, as a draughtsman of maps, an engraver on copper, as a mechanic and a mathematician. But he considered all these branches of knowledge only as foundation-stones for his 'Cosmography—a description of the world,' which was to be a complete history of the heavens, the earth, and the human race, but of which only one portion—the 'Chronology,' appeared in 1568, and was received with universal approbation. It contained a complete harmony of the Gospels.

This work, owing to the small amount of historical and astronomical knowledge possessed by the period, was only valuable to the age in which it was produced; but Mercator's publication of his map of the world in 1569, was an era in the history of geography and navigation. Since the invention of the mariner's compass, navigation had become so far safe, that the sailor could venture out into the open sea, but the maps in which his course was marked often proved perfectly useless, no chart was of much assistance till Mercator solved the riddle. In the letter-press which was published with his map, Mercator explains the principles on which it was drawn out, with a view to spread out the globe as if it were in reality a flat surface, so that the position of all the different points should not only be correct according to latitude and longitude, but also as regarded their relative positions, and that the shape of the various countries should also be as similar to those on the globe as it was possible to make them. To effect this, he gradually enlarged the distance between the degrees of latitude as they approached the poles, diminishing them as they neared the equator. Not only to the mariner was 'Mercator's projection' one of the greatest boons which geometrical



GERARD MERCATOR.

according to the fashion of those days, he translated into Latin. He was born in 1512, at a small town in Flanders, where his parents, who were Germans, happened to be on a visit. Gerard Mercator was educated and passed the greater portion of his life in Germany, but Flemings and Germans both claim him as belonging to their own nation. He was educated at a school of Christian brothers at Herzogenbusch. Here was laid the foundation of that piety which ever after so distinguished Mercator. He afterwards studied at the University of Louvain, which he left suddenly after taking his bachelor's degree, being pained by the infidel tendency of the instruction given there. He devoted himself now to

labors, too, found a favorable reception; and splendid globes, as well as other works of art which he constructed for the Regent Granvela, as well as for the Emperor Charles V., proved his extraordinary talent in this department also.

In 1554 there was a sad interlude in the quiet life of this studious man. When on a journey undertaken to receive some money left him by an uncle, he was arrested by the Governor of Brabant and thrown into prison, being accused of heresy. Though he was quite innocent, Mercator was kept in the strictest confinement, and did not obtain his freedom for three months. This unjust imprisonment made a deep impression on his