

Biographical Encyclopedia of Astronomers

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Rheticus

Born Feldkirch, Vorarlberg, (Austria), 16 February 1514

Died Kassa (Košice, Slovakia), 4 December 1574

Georg Rheticus was among the first to adopt and spread the heliocentric theory of Nicolaus Copernicus

Georg von Lauchen, later known as Rheticus, was born in an Austrian town near the Swiss border. His father, Georg Iserin, was the town doctor and a government official; he taught his son until 1528, when he was tried on a charge of sorcery, convicted, and beheaded. One of the consequences of this execution was that his name could no longer be used; therefore, Georg's mother, an Italian

noblewoman named Tommasina de Porris, reverted to her maiden name. Since "de Porris" means "of leeks" in Italian, Rheticus preferred to translate it into German as "von Lauchen." Later, he took the additional name of Rheticus, after the ancient Roman province of Rhaetia in which he had been born

Rheticus first studied at the Latin school in Feldkirch, then at the Frauenmünsterschule in Zurich until 1531. In 1533 he matriculated at the University of Wittenberg, where he received the title of Magister Artium in 1536. Soon afterward, thanks to Philipp Melanchthon's support, Rheticus was appointed to teach arithmetic, geometry, and astronomy at the University of Wittenberg.

In October 1538, Rheticus went on leave to visit leading astronomers and mathematicians: Johannes Schöner in Nuremberg, Peter Apian in Ingolstadt, Joachim Camerarius in Tübingen, and Copernicus in Frombork (Frauenburg). In September 1541, Rheticus went back to Wittenberg, where he was elected dean of the arts faculty. A few months later he was offered a post as professor of higher mathematics at the University of Leipzig, where he began teaching in October 1542

In 1545, Rheticus left Leipzig to study abroad. After a short stay in Feldkirch, he spent some time in Italy. Toward the end of 1546, he suffered a severe mental disorder in Lindau, a town on Lake Constance; this aroused some unfounded rumors about his death. But his health recovered to allow Rheticus to teach mathematics and astronomy at Constance for three months in late 1547. Then he studied medicine in Zurich with Konrad von Gesner

In February 1548, Rheticus returned to Leipzig, where, with Melanchthon's influence, he was made a member of the theological faculty. During this period, he was deeply engrossed in his university duties and published many books, including a Latin translation of Euclid's *Elements* (1549), a calendar and ephemeris (1550), and the *Canon doctrinae triangulorum* (1551), which was the first publication to contain all six trigonometric functions. In April 1551, Rheticus was accused of having a homosexual affair with one of his students, and the resulting scandal forced

him to flee Leipzig. His friends, such as Melanchthon, withdrew their support, and he was tried in his absence by a town court. Rheticus was sentenced to 101 years of exile, and all his possessions in Leipzig were confiscated

After leaving Leipzig, Rheticus spent some time at Chemnitz before settling in Prague. In 1551/1552 he studied medicine at the University of Prague. In 1553, Rheticus traveled to Vienna, and the following year he moved to Kraków, Poland, where he remained for 20 years as a practicing physician, though he continued to devote himself to mathematics and astronomy. During this period, he worked on trigonometric tables, designed and constructed astronomical instruments, and carried out astronomical observations and alchemical experiments

In 1574, Rheticus left Kraków and went to Kassa (Kosice) at the request of the local magnate Johannes Ruben. There he was visited by Valentine Otho, who was at that time a mathematics student at the University of Wittenberg. Rheticus died shortly afterward. He left behind an unfinished manuscript, which was then completed by Otho and published as *Opus palatinum de triangulis* (1596); another book, the *Thesaurus mathematicus*, was edited by Bartholomeo Pitiscus (1613). Thanks to these posthumous works, Rheticus can be considered one of the most important authors of trigonometric tables

Rheticus was among the first to adopt and spread Copernicus' heliocentric theory. Rumors of this hypothesis had reached Rheticus in Wittenberg. In May 1539, he traveled to Poland to visit Copernicus and ended up staying at Frombork for two years, during which time he persuaded Copernicus to allow him to study the virtuously completed *De revolutionibus*. Rheticus became enthusiastic about the heliocentric theory and tried to convince Copernicus to publish it. Since his efforts were rewarded with no success, Rheticus wrote a brief summary of the theory, which was published in Danzig at the beginning of 1540, explicitly authorized by Copernicus, under the title *Narratio prima de Libris Revolutionum eruditissimi viri et mathematici excellentissimi, reverendi Domini Doctoris Nicolai Copernici Torunnaei Canonici Varmiensis* (First report on the Books of the Revolutions of the learned gentleman and distinguished mathematician, the Reverend Doctor Nicolaus Copernicus of Torun, Canon of Warmia).

Rheticus's booklet, written in the form of a letter to Schöner, was the first illustrated account of Copernicus's heliocentric theory. The *Narratio prima* is not, however, a pure summary of *De revolutionibus*; it has a different structure. First of all, Rheticus explained the questions about the motion of the fixed stars and the precession of the equinoxes: Curiously, therefore, at the beginning of his booklet he did not speak of the three motions of the Earth, but introduced them at the end. Rheticus's expository method was contrary to that used by Copernicus. While the latter started with the statement that the Earth moves and then tried to demonstrate it by analyzing the apparent motions of the stars, Rheticus expounded these motions of the stars in order to be able to assert that the motions of the Earth are the only way of explaining them. This expository order was a consequence of the pedagogical aims that Rheticus wanted to achieve, but perhaps there is also another reason: Rheticus seemed to emphasize that the apparent motions of the stars and those of the Sun, which the astronomical tradition had considered separate matters, are strictly correlated and can be coherently explained only by assuming a moving Earth. For many decades, the *Narratio prima* remained the best popularization of the heliocentric theory. The first edition of 1540 was enthusiastically received,

and a second edition was published in Basel less than a year later. The *Narratio* was reprinted as an appendix to Copernicus's *De revolutionibus* in 1566 and to Johannes Kepler's *Mysterium cosmographicum* in 1596.

Probably as a result of the *Narratio*'s success, when Rheticus left Frombork in 1541, Copernicus allowed him to take a complete copy of *De revolutionibus* to arrange for its publication. Rheticus entrusted publication of the manuscript to Johann Petrius in Nuremberg, but he could not supervise the entire work and left oversight of the printing to a Lutheran theologian, Andreas Osiander, who made some unauthorized additions to the manuscript. When Rheticus received the first copies of the printed book in April 1543, he saw that the title had been changed: Instead of *De revolutionibus*, the printed version read *De revolutionibus orbium coelestium*. The worst change, however, was the insertion of an anonymous preface, which affirmed that the book contained a mere mathematical hypothesis, not a description of the real universe. Rheticus suspected that Osiander had made the changes and probably did not approve; however, he did not take an official position against the preface, since perhaps he considered it a way of making the heliocentric theory more acceptable to ecclesiastics and theologians.

Marco Murara

Alternate name

Lauchen, Georg Joachim von

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