

Biographical Encyclopedia of Astronomers

© 2007 Springer

Reinhold, Erasmus

Born Saalfeld, (Thuringia, Germany), 22 October 1511

Died Saalfeld, (Thuringia, Germany), 19 February 1553

Erasmus Reinhold is best known for his preparation of the Prutenic Tables, calculated from Nicolaus Copernicus's heliocentric theory

Reinhold's father, Johann (1479–1558), studied in Leipzig and Cologne. He served in the chancellery of George, Duke of Saxony, and as secretary to the Abbot of the Benedictine monastery at Saalfeld, and held various civic offices in Saalfeld, including that of mayor. Johann Reinhold prospered sufficiently to enable his son to leave the *Stadtschule* (municipal school) in Saalfeld and attend Wittenberg University, where he devoted himself primarily to the study of mathematics under Jacob Milichius. After graduation, Erasmus Reinhold was made professor of higher mathematics (i.e., astronomy). He was elected dean of the philosophical faculty on several occasions and, from 1549 to 1550, rector of the university. Reinhold enjoyed a certain degree of advancement through his close relationship with Philipp Melanchthon

The most significant of Reinhold's publications were his commentary on the planetary theory of Georg Peurbach (1542, and subsequent editions); a textbook for the more advanced study of astronomy that he certainly based on his own lectures; a small work, *De Horizonte*, that appeared as a supplement in several impressions of John of Holywood's *Libellus de sphaera* (as printed in Wittenberg); and above all the *Tabulae Prutenicae* (Prutenic Tables). Reinhold was the most influential astronomer in Protestant Germany

Through his fellow professor Rheticus Reinhold in Wittenberg, he had a very early opportunity to become acquainted with Copernicus' heliocentric system. Immediately upon its publication, Reinhold attentively studied Copernicus's *De revolutionibus orbium coelestium*. Following a partial recalculation of observational data (where Copernicus had made several mistakes) and based on Copernicus's improved elements for planetary orbits—the constant of precession, the length of the year, and the obliquity of the ecliptic—as well as his own theory of lunar motion and approach to triangulation (among other factors), Reinhold produced new planetary tables. After many years of work, they first appeared in Tübingen in 1551, commissioned by Melanchthon and Duke Albert of Prussia, and named *Tabulae Prutenicae* in honor of the latter

Reinhold did not endorse the heliocentric system, but recognized that the mathematical theory of this system represented a significant advance in relation to new observational data. He made no statement on the question of the physical reality of the heliocentric system; as a strongly "classically" minded astronomer, adhering to the conceptual model of a division between physics and astronomy, he did not accept that such a theory raised any problem. For Reinhold, the question was irrelevant as he subscribed to the traditional scientific concept of astronomy "saving the appearances."

The Prutenic Tables rendered the heliocentric system operable for practical astronomy, in particular for the calculation of calendars and horoscopes. From the 1570s, Reinhold's tables were one of the most important astronomical tables, and they were instrumental in Copernicus being generally recognized, from the end of the 16th century, as one of the most important astronomers. The accuracy of the planetary positions as calculated proved, with time, to be a significant factor in the acceptance of the totality of the heliocentric system, rather than just its mathematical parameters. (Subsequently, larger errors became evident once again, as Johannes Kepler and others showed.) The tables were significant for the furtherance of the heliocentric world-system, even though Reinhold himself always recognized the geocentric

Reinhold's brother Johannes became professor of mathematics in Greifswald in 1549, but died in 1552. Reinhold's son, Erasmus Jr. (1538–1592), studied mathematics and medicine in Wittenberg under Melanchthon, and then in Jena, and became a doctor of medicine and municipal physician in Amberg and Saalfeld. Later he became Bergvogt (mountain steward) to the Elector of Saxony, and wrote works on land surveying as well as calendars, which appeared regularly for many years in Erfurt.

Jürgen Hamel

Translated by: *Peter Nockolds*

Selected References

Gingerich, Owen (1993). "Erasmus Reinhold and the Dissemination of the Copernican Theory." In *The Eye of Heaven: Ptolemy, Copernicus, Kepler* New York: American Institute of Physics, pp. 221-251. Hamel, Jürgen (1994). *Nicolaus Copernicus: Life, Work and Impact*. Heidelberg: Spektrum.

—— (1994). "The Reception of the Mathematical-Astronomical Part of Nicolaus Copernicus's Work in Astronomical-Astrological Pamphlets around 1600." In *Cosmographica et Geographica: Festschrift for Heribert M. Nobis on his 70th Birthday*, edited by Bernhard Fritscher and Gerhard Brey. Vol. 1, pp. 315-335. Munich: Institute for the History of Science

Henderson, Janice Adrienne (1991). *On the Distances between Sun, Moon and Earth according to Ptolemy, Copernicus and Reinhold*. *Studia Copernicana*, Brill's Series, Vol. 1. Leiden: E. J. Brill.

Koch, Ernst (1908). Magister Erasmus Reinhold from Saalfeld. *Saalfeld Christmas Booklet*, 55. Saalfeld, pp. 3-16.

—— (1909). *Dr. Erasmus Reinhold [jr.]*. Saalfeld Christmas Booklet, 56. Saalfeld, pp. 3-28.

Reinhold, Erasmus (2002). "The Commentary on 'De revolutionibus' by Nicolaus Copernicus." In *Nicolaus Copernicus, Collected Works*. Vol. 8/1. Berlin.

—— *Commentarius in opus revolutionum Copernici*. MS lat. fol. 391. Staats Berlin Library, Prussian Cultural Heritage Foundation