

# Doppelmayr, Johann Gabriel | Encyclopedia.com

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(b. Nuremberg, Germany, 1671 [?]; d. Nuremberg, 1 December 1750)

*astronomy, mathematics, physics, history of mathematics.*

Doppelmayr's father, Johann Siegmund Doppelmayr, was a merchant who made a hobby of experiments in physics and, according to his son, was the first to introduce into Nuremberg an air pump equipped with a lever and standing upright "like a flower vase."

After graduating from the Aegidien Gymnasium, Doppelmayr entered the University of Altdorf in 1696 with the intention of studying law; but there he heard the lectures on mathematics and physics of Johann Cristoph Sturm, founder of the Collegium Curiosum sive Experimentale and reputedly the most skilled experimenter in Germany. For a brief while in 1700 Doppelmayr attended the University of Halle, but he then decided to give up law for physics and mathematics, and spent two years traveling and studying in Germany, Holland, and England.

After Doppelmayr's return to Nuremberg, he was appointed in 1704 to the professorship of mathematics at the Aegidien Gymnasium, a post he held until his death. His life was devoted to lecturing, writing, astronomical and meteorological observation, and physical experimentation; his reputation was such as to gain him memberships in the Academia Caesarea Leopoldina, the academies of Berlin and [St. Petersburg](#), and the [Royal Society](#) of London.

Doppelmayr's writings are not marked by originality; they do, however, provide an index of the scientific interests and information current in Germany, and particularly of the transmission of science from England, Holland, and France into Germany during the first half of the eighteenth century.

Among the astronomical works are *Kurze Erklärung der Copernicanischen Systems* (1707), *Kurze Einleitung zur Astronomie* (1708), and translations of Thomas Streete's astronomy (1705) and of [John Wilkins](#)' defense of the [Copernican system](#) (1713). His major work, however, is the *Atlas novus coelestis* (1742), a collection of diagrams with explanations intended as an introduction to the fundamentals of astronomy. Besides star charts and a selenographic map, the *Atlas* includes diagrams illustrating the planetary systems of Copernicus, Tycho, and Riccioli; the elliptic theories of Kepler, Boulliau, Seth Ward, and Mercator; the lunar theories of Tycho, Horrocks, and Newton; and Halley's cometary theory.

Doppelmayr's writings on mathematics include *Summa geometricae practicae*; a memoir on spherical trigonometry; an essay on the construction of the sundial; and a translation (with appendices by Doppelmayr) of Nicolas Bion's treatise on mathematical instruments.

Of lasting value for historians is Doppelmayr's *Historische Nachricht* (1730), a 314-page folio volume giving biographical accounts of over 360 mathematicians, artists, and instrument makers of Nuremberg. The biographies are arranged chronologically from the fifteenth to the eighteenth century.

In physics Doppelmayr continued the experimental tradition of Sturm. His *Physica experimentis illustrata* (1731) is a list, in German, of 700 experiments and demonstrations given before the Collegium Curiosum. The procedures are not described in any detail; they are designed to illustrate such topics as the "subtlety" or fineness of subdivision of various materials, electric and magnetic "effluvia," simple machines, the principles of hydrostatics, the optics of the eye, and so on.

More important is the *Neu-entdeckte Phaenomena* (1744), a well-organized and accurate summary of the electrical experiments and theories of Hawksbee, Gray, and Dufay. This work no doubt helped to create and inform the popular interest in electrical phenomena that spread through Germany in the mid-1740's. In the last two chapters Doppelmayr proposes a hypothesis to explain away electrical attraction and repulsion as caused by air movements; Dufay's discovery of the opposite characters of vitreous and resinous electricity is reduced to a difference in electric strength of different materials; and in general Doppelmayr returns to the earlier and less promising theoretical outlook of Hawksbee.

Doppelmayr's electrical investigations continued until his death, which followed a severe shock suffered while experimenting with one of the newly invented condensers.

# BIBLIOGRAPHY

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II. Secondary Literature. On Doppelmayr or his work, see *Allgemeine deutsche Biographie*, V, 344–345; J. H. von Mädler, *Geschichte der Himmelskunde*, I (Brunswick, 1873), 129; J. G. Meusel, *Lexikon der vom Jahr 1750 bis 1800 verstorbenen teutschen Schriftsteller* (Leipzig, 1802–1816), II; *Neue deutsche Biographie*, IV, 76; and G. A. Will, *Nürnbergisches Gelehrter-Lexicon*, I (Nuremberg, 1755), 287–290.

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