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(*b*. Flensburg, Denmark[now Germany], 6 January 1561; *d*. Copenhagen, Denmark, 24 April 1656)

mathematics, astronomy, medicine.

The son of Raadmand Jacob Fincke and Anna Thorsmede(who died six days after his birth), Fink studied from 1577 to 1582 in Strasbourg. Afterward he attended many universities: Jena, Wittenberg, Heidelberg (matriculated 6 February 1582), Leipzig (matriculated summer of 1582), Basel (studied medicine in 1583), and Padua (from 6 November 1583 to 1587). This varied education led to his receipt of the M.D. at Basel on 24 August 1587. After three years of traveling through Germany and Austria, Fink became physician-in-ordinary to Duke Philip of Holstein-Gottorp. When Philip died in 1591, Fink was appointed professor of mathematics at Copenhagen, his field of instruction being changed to rhetoric in 1602 and to medicine in 1603. He held high university posts and carried out his duties until only a few years before his death at the age of ninety-five.

Fink's most famous book is the *Geometriae rotundi*(1583), published when he was twenty-two. This important work is divided into fourteen books. The elementary theses on the circle are collected in the four opening books and the remaining books treat trigonometry, the last three being devoted to spherical trigonometry. A central place is occupied by Rheticus' goniometric tables, but here Fink took a step backward, giving the tables for each function separately and always from 0° to 90°, rather than using the complementary character of the functions, as Rheticus had done. In Strasbourg, Fink had been a pupil of the mathematician Dasypodius but seems to have learned mainly astrology from him. He makes it clear that he was an autodidact in mathematics. His inspiration and guide was not Euclid's *Elements*— this work distributed him— but Ramus' *Geometria*(1569). Therefore the *Geometriae rotundi* is based mainly on Ramus, many proofs being comprehensible only after consulting the *Geometriae*. Even the word "rotundum" in Fink's title, meaning both circle and sphere, was introduced by Ramus. Fink also adopted the term "radius" from him and himself introduced such terms as "tangents" and "secans." He devised new formulas, such as the law of tangents, and proved in this work that he was abreast of the mathematics of his time.

The *Geometriae rotundi* was meant as a textbook, since it treats basic formulas and refers the reader to Regiomontanus for more detail. As a textbook it was very influential. Such mathematicians as Lansbergen, Clavius, Napier, and Pitiscus recommended the work and adopted much from it. Fink's other works show his interest in astrology and astronomy. He was in contact with Tycho Brahe and Magini. But never again in a long series of publications did he reach the level of the *Geometriae rotundi*.

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I. Original Works. For a bibliography see H. Ehrencron-Müller, *Forfatterlexikon omfattende Danmark...*, *III*(Copenhagen, 1926), 46-49; this work does not mention *Methodica tractatio doctrinae sphaericae(Coburg, 1626); Theses logicae(Copenhagen, 1594); C. Ostenfeld, Oratio in orbitum T Finkii*(Copenhagen, 1656). Fink's most important works are *Geometriae rotundilibri XIIII(Basel, 1583)*; and *Horoscopographia sine de inveniendo stellarum situ astrologia*(Schleswig, 1591), which includes a horoscope of Heinrich Graf von Rantzau.

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