Wangerin, Albert | Encyclopedia.com

(*b*. Greiffenberg, Pomerania, Germany, 18 November 1844; *d*. Halle, Germany, 25 October 1933), *mathematics*.

Wangerin studied mathematics and physics from 1862 to 1866 at the universities of Halle and Königsberg, receiving the Ph.D. from the latter in 1866. Until 1876 he taught in high schools in Posen (now Poznan, Poland) and Berlin. He began to teach on the university level at Easter 1876, when he assumed the post of extraordinary professor at the University of Berlin. In 1882 he was named full professor at the University of Halle, where he remained until his retirement in 1919.

At Königsberg, Wangerin studied under Richelot, a supporter of the Jacobian tradition, and under Franz Neumann. It was Neumann who suggested the subject of his dissertation, and Wangerin later wrote a book (1907) and a highly appreciative article on his former teacher. Wangerin's admiration for Neumann remained an important influence on his choice of research problems. He became an expert on potential theory, spherical functions, and the fields of mathematical physics related to these subjects. For example, in one of his papers he calculated the potential of certain ovaloids and surfaces of revolution Wangerin also worked, although less intensely, in differential geometry. In 1894 he wrote an article showing how to determine many bending surfaces of a given surface of revolution of constant curvature without knowing its geodetic lines.

Wangerin's importance, however, does not lie in the authorship of enduring scientific works but, rather, in his astonishingly varied activities as university teacher, textbook author, contributor to encyclopedias and journals, editor of historical writings, and president of a scientific academy. While at Berlin he directed his lectures to a fairly broad audience, and even at Halle he continued to be greatly interested in the training of high school teachers. He also wrote a two-volume work on potential theory and spherical functions for the series Sammlung Schubert.

Wangerin wrote two articles for *Encyklopädie der mathematischen Wissenschaften*. The first (1904) deals with the theory of spherical and related functions, especially Lamé and Bessel functions. The second, "Optik; ältere Theorien" (1907), appeared in the physics volume of the *Encyklopädie*. In it Wangerin displays a familiarity with the history of physical theory that is unusual for a mathematician. His sensitivity to historical questions evokes his study, four decades earlier, under Neumann, Wangerin's historical interests are also evident in his editing of works by Gauss, Euler, Lambert, and Lagrange for *Ostwalds Klassiker der exakten Wissenschaften*.

From 1869 to 1924 Wangerin was a coeditor of *Fortschritte der Mathematik*, then the only periodical devoted to reviewing mathematical literature. In this capacity he reviewed almost all the works in his special field published during this period. For 1906 to 1921 Wangerin was president of the Deutsche Akademie der Naturforscher Leopoldina in Halle.

BIBLIOGRAPHY

Wangerin's writings include "Über die Abwicklung von Flächen konstanten Krümmungsmasses sowie einiger anderer Flächen aufeinander," in *Festschrift zur 200-jährigen Jubelfeier der Universität Halle* (Halle, 1894), 1 – 21; "Theorie der Kugelfunktionen und der verwandten Funktionen, insbesondere der Laméschen und Besselschen (Theorie spezieller, durch lineare Differentialgleichungen definierter, Funktionen)," in *Encyklopädie der mathematischen Wissenschaften*, **II** , pt. 1 (Leipzig, 1904), 699 – 759; *Franz Neumann und sein Wirken als Forscher und Lehrer* (Brunswick, 1907); "Optik, ältere Theorien," in *Encyklopädie der mathematischen Wissenschaften*, V. pt. 3 (Leipzig, 1907), 1 – 93; *Theorie des Potentials und der Kugelfunktionen*, 2 vols., nos. 58 and 59 in Sammlung Schubert (Leipzig, 1908-1921); "Franz Neumann als Mathematiker," in *Physikalische Zeitschrift*, **11** (1910), 1066 – 1072; and "Über das Potential gewisser Ovaloide," in *Nova acta Leopoldina*, **6** , no. **1** (1915), 1 – 80.

Secondary literature includes W. Lorey, "Zum 70. Geburtstag des Mathematikers A. Wangerin," in *Zeitschrift für mathematischen und naturwissenschaftlichen Unterricht*, **46** (1915), 53 – 57; and "Bericht über die Feier der 80. Wiederkehr des Geburtstages des Herrn Geh. Rats Prof. Dr. Wangerin," in *Jahresberichte der Deutschen Mathematiker–vereinigung*, **34** (1926), 108 – 111.

Werner Burau