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(b. Magdeburg, Germany, 2 September 1856; d. Königsberg, Germany [now Kaliningrad, U.S.S.R.], 11 June 1934)

*mathematics.*

Meyer studied in Leipzig and Munich, where he received his doctorate in 1878. He studied further in Berlin, where at that time Weierstrass, Kummer, and Kronecker were active. In 1880 he qualified for lecturing at the University of Tübingen, and in 1888 he became full professor at the Bergakademie of Clausthalzellerfeld. From October 1897 until October 1924, when he retired, he taught at the University of Königsberg.

Meyer was a many-sided and very knowledgeable mathematician, whose list of writings includes 136 titles. His principal field of interest, however, was geometry, especially [algebraic geometry](#) and the related projective invariant theory. His *Habilitationsschrift*, which was published in 1883 as *Apolarität und rationale Kurven*, shows this direction of his research. In this work he extended the apolarity theory, created by Reye, to a multidimensional projective geometry based on the theory of rational curves. At the time such considerations were not completely obvious.

Other of Meyer's works from this period deal with algebraic curves and their production, and with related algebraic questions. He early showed himself to be one of the leading experts on invariant theory. In 1892 he composed for the Deutsche Mathematiker-vereinigung a long report on this subject, which was translated into French, Italian, and Polish. In this work he presented the development of invariant theory from its beginning in the middle of the nineteenth century to the end of the century and the appearance of the decisive finiteness theorems of Gordan and Hilbert. Meyer also made many individual contributions to invariant theory. This area of research went somewhat out of fashion during his lifetime, however, chiefly as a result of Hilbert's work.

Meyer was one of the founders of the *Encyklopädie der mathematischen Wissenschaften*. He, H. Weber, and F. Klein were responsible for planning this project. The *Encykloädie*, which was conceived on a large scale, was supported from 1895 by a syndicate of German academies. From the turn of the century until the 1930's some twenty volumes appeared; they treated all fields of mathematics and their applications. Meyer wrote the articles on potential theory (with H. Burkhardt), invariant theory, the new geometry of the triangle (with G. Berkhan), third-order surfaces, and surfaces of the fourth and higher orders.

The editing of such a vast work required great effort and presupposed considerable knowledge. In this regard Meyer benefited from his extensive familiarity with the literature, gained in large measure through the 2,000 reviews that he wrote for *Fortschritte der Mathematik*; his knowledge of foreign languages was also very useful to him. Of special note are the articles on third- and fourth-degree surfaces, which he composed at an advanced age. At that period, around 1930, Meyer was the only German mathematician who still possessed a comprehensive view of the abundant material, produced mainly in the nineteenth century, on special algebraic curves and surfaces. Meyer conducted investigations in geometry of the triangle, handled in the spirit of Klein's Erlangen program, and gave lectures discussing the essential

aspects of mathematical research in the spirit of the time and emphasizing the importance of simple algebraic identities, the symmetries of group theory, and transformation principles as a source of geometric theorems.

Meyer was an excellent teacher who had many students. Most East Prussian mathematics teachers at the beginning of the twentieth century were trained by him.

## BIBLIOGRAPHY

An extensive listing of Meyer's writings can be found in Poggendorff, IV, 1001–1002; V, 841; and VI, 1714. They include *Apolarität und rationale Kurven, eine systematische Voruntersuchung zu einer allgemeinen Theorie der linearen Räume* (Tübingen, 1883); "Bericht Über den gegenwärtigen Stand der Invariantentheorie," in *Jahresberichte der Deutschen Mathematiker-vereinigung*, **1** (1892), 79–292; and the following articles in *Encyklopädie der mathematischen Wissenschaften*: "Invariantentheorie," I, pt. 1, 320–403; "Potentialtheorie," II-A, pt.7-b, 464–503, written with H. Burkhardt; "Neuere Dreiecksgeometrie," III, pt.1-b, 1173–1276, written with G. Berkhan; "Flächen 3. Ordnung," III-C, pt. 10-a, 1437–1532; and "Flächen 4. und höherer Ordnung," III-C, 1533–1779.

An article on Meyer is B. Arndt, "W. F. Meyer zum Gedächtnis," in *Jahresberichte der Deutschen Mathematiker-vereinigung*, **45** (1935), 99–113.

W. Burau