

# Scheffers, Georg | Encyclopedia.com

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(*b.* Altendorf, near Holzminden, Germany, 21 November 1866; *d.* Berlin, Germany, 12 August 1945) *mathematics*.

Scheffers studied mathematics and physics from 1884 to 1888 at the University of Leipzig, where his father was professor at the Academy of Art. He received the doctorate from Leipzig in 1890 and qualified as a lecturer there the following year. In 1896 he became extraordinary professor at the Technische Hochschule in Darmstadt, and in 1900 he was promoted to full professor. In 1907 he succeeded Guido Hauck as full professor at the Technische Hochschule in Charlottenburg, where he remained until his retirement in 1935.

As a student Scheffers was greatly influenced by Sophus Lie, who was professor at the University of Leipzig from 1886 to 1898. He followed Lie's suggestions in choosing topics for both his doctoral dissertation and his *Habilitationsschrift*, which dealt respectively with plane contact transformations and complex number systems. Scheffers' most important independent research inspired by Lie was his 1903 paper on Abel's theorem and translation surfaces.

In later years Scheffers' reputation was based largely on his own books. These writings, which grew out of his wide-ranging activities at technical colleges, were directed at a broader audience than the books he edited with Lie; and they all went through several editions. Scheffers' two-volume *Anwendung der Differential- und Integralrechnung auf Geometrie* (1901–1902) was a popular textbook of differential geometry. Also widely used was his revision of Serret's *Lehrbuch der Differential- und Integralrechnung*, the last edition of which appeared in 1924; subsequently it was superseded by books written in a more modern style. Scheffers also published *Lehrbuch der darstellenden Geometrie* and, in 1903, an article entitled "Besondere transzendente Kurven" in the *Encyklopädie der mathematischen Wissenschaften*.

Scheffers' favorite field of study was geometry and, more specifically, the differential geometry of intuitive space. In this area he was a master at discovering many properties of particular curves and surfaces and their representation; he also possessed a gift for giving an easily understandable account of them—although in a much wordier style than is now customary. His exceptional talent for vividly communicating material is also apparent in a later work on the grids used in topographic maps and stellar charts.

## BIBLIOGRAPHY

Scheffers's original works are as follows: "Bestimmung einer Klasse von Berührungstransformationsgruppen," in *Acta mathematica*, **14** (1891), 117–178; *Zurückführung komplexer Zahlensysteme auf typische Formen* (Leipzig, 1891); *Anwendung der Differential- und Integralrechnung auf Geometrie*, 2 vols. (Leipzig, 1901–1902; 3rd ed., 1922–1923); "Das Abelsche Theorem und das Lie'sche Theorem über Translationsflächen," in *Acta mathematica*, **28** (1902), 65–91; "Besondere transzendente Kurven," in *Encyklopädie der mathematischen Wissenschaften*, III, pt. 3 (Leipzig, 1903), 185–268; *Lehrbuch der darstellenden Geometrie*, 2 vols. (Berlin, 1919–1920; 2nd ed., 1922–1927); and *Wie findet und zeichnet man Gradnetze von Land- und Sternkarten?* (Leipzig—Berlin, 1934).

Scheffers edited the following volumes by Lie: *Vorlesungen über Differentialgleichungen mit bekannten infinitesimalen Transformationen* (Leipzig, 1891); *Vorlesungen über kontinuierliche Gruppen mit geometrischen und anderen Anwendungen* (Leipzig, 1893); and collaborated with Lie on *Geoametrie der Berührungs-transformationene*, I (Leipzig, 1896). He also revised J. A. Serret's *Lehrbuch der Differential- und Integralrechnung*, A. Harnack, trans., 5th ed., 3 vols. (Leipzig, 1906–1914; I, 8th ed., 1924; II, 7th ed., 1921; III, 6th ed., 1924).

Werner Burau