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(b. Halle, Germany, 30 June 1848; d. Giessen, Germany, 13 May 1919)

mathematics.

Netto was the grandson of a Protestant clergyman and the son of an official of the “*Franckeschen Stiftungen*,” Heinrich Netto, and his wife, Sophie Neumann. He attended [elementary school](#) in Halle and at the age of ten entered the Gymnasium in Berlin. There he was a pupil of Karl Heinrich Schellbach, who had been Eisenstein’s teacher; this famous educator aroused his interest in mathematics. In 1866, following his graduation from the Gymnasium, Netto enrolled at the University of Berlin, where he was influenced mainly by Kronecker, Kummer, and Weierstrass. In 1870 he graduated with honors from Berlin with the dissertation *De transformatione aequationis $y^n = R(x)$, designante $R(x)$ functionem integram rationalem variabillis x , in aequationem $\eta^2 = R_1(\xi)$* (Weierstrass was chief referee). After teaching at a Gymnasium in Berlin, he became an associate professor at the University of Strasbourg in 1879.

In 1882, on Weierstrass’ recommendation, Netto was appointed associate professor at the University of Berlin. Besides the introductory lectures for first-semester students, he gave those on higher algebra, the calculus of variations, Fourier series, and theoretical mechanics; he also lectured on synthetic geometry. His textbook *Substitutionentheorie und ihre Anwendung auf die Algebra* (Berlin, 1882) is a milestone in the development of abstract group theory. In it two historical roots of abstract group theory are united—the theory of permutation groups and that of implicit group-theoretical thinking in [number theory](#). Even though Netto did not yet include transformation groups in his concept of groups, he nevertheless clearly recognized the far-reaching importance of the theory of composition in a group and its significance for future developments.

In 1888 Netto became professor at the University of Giessen, where he remained until his retirement in 1913. He contributed to the dissemination of group theory in further papers; and in *Lehrbuch der Combinatorik* (Leipzig, 1901; 2nd ed., enlarged by T. Skolem and Viggo Brun, 1927) he skillfully gathered the scattered literature in this area. His *Die Determinanten* (Leipzig, 1910) was translated into Russian in 1911. Netto was a clever, persuasive, and witty teacher who demonstrated his educational abilities and productivity through additional textbooks and other publications on algebra.

BIBLIOGRAPHY

Netto’s works are listed in Poggendorff, III, 962; IV, 1064; and V, 897–898.

On Netto or his work see Wilhelm Lorey, “Die Mathematiker an der Universität Giessen vom Beginn des 19. Jahrhunderts bis 1914,” in *Nachrichten der Giessener Hochschulgesellschaft*, **11** (1937), 54–97; Egon Ullrich, “Die Naturwissenschaftliche Fakultät,” in *Ludwigs-Universität-Justus-Liebig-Hochschule. 1607–1957. Festschrift zur 350-Jahrfeier* (Giessen, 1957), 267–287; Hans Wussing, “Zum historischen Verhältnis von Intension und Extension des Begriffes Gruppe im Herausbildungsprozess des abstrakten Gruppenbegriffes,” in *NTM—Schriftenreihe für Geschichte der Naturwissenschaften, Technik und Medizin*, **4** (1967), 23–34; and Kurt-R. Biermann, “Die Mathematik und ihre Dozenten an der Berliner Universität 1810–1920” (Berlin, 1973).

Kurt-R. Biermann