

Crelle, August Leopold | Encyclopedia.com

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(b. Eichwerder, near Wriezen, Germany, 11 March 1780; d. Berlin, Germany, 6 October 1855)

mathematics, [civil engineering](#).

A son of Christian Gottfried Crelle, an impoverished dike reeve and master builder, Crelle was trained as a civil engineer and became a civil servant with the Prussian building administration. He finally obtained the rank of *Geheimer Oberbaurat* and was made a member of the Oberbaudirektion, under the Prussian Ministry of the Interior. During the years 1816–1826 Crelle was engaged in the planning and construction of many new roads throughout the country. He also worked on the railway line from Berlin to Potsdam, the first to be opened in Prussia, which was built in 1838.

Crelle, who always had been interested in mathematics but lacked the funds to enroll at a university, acquired appreciable knowledge in this field by independent study. At the age of thirty-six he obtained the doctorate from the University of Heidelberg, having submitted a thesis entitled “De calculi variabilium in geometria et arte mechanica usu.”

In 1828 Crelle transferred from the Ministry of the Interior to the Ministry of Education, where he was employed as advisor on mathematics, particularly on the teaching of mathematics in high schools, technical high schools, and teachers colleges. During the summer of 1830, on an official tour to France, he studied the French methods of teaching mathematics. In his report to the ministry Crelle praised the organization of mathematical education in France but criticized the heavy emphasis on applied mathematics. In line with the neo-humanistic ideals then current in Germany, he maintained that the true purpose of mathematical teaching lies in the enlightenment of the human mind and the development of rational thinking.

Nevertheless, to the journal for which he is best remembered Crelle gave the name *Journal für die reine and angewandte Mathematik*. He founded it in 1826 and edited fifty-two volumes. From the very beginning it was one of the leading mathematical journals and even today is universally known as *Crelle's Journal*.

Although not a great mathematician himself, Crelle had a unique sensitivity to mathematical genius. He immediately recognized the abilities of such men as Abel, Jacobi, Steiner, Dirichlet, Plücker, Moebius, Eisenstein, Kummer, and Weierstrass and offered to publish their papers in his journal. He also used his influence as ministerial advisor and his acquaintance with [Alexander von Humboldt](#) and other important persons to further their careers. It is for this lifelong, unselfish intercession that Crelle deserves a place in the history of science.

Crelle wrote many mathematical and technical papers, textbooks, and mathematical tables and translated works by Lagrange and Legendre. Except for his *Rechentafeln*, these are now mostly forgotten. Also, for many years he published *Journal für die Baukunst*.

Although beginning in the 1830's his health declined until he was hardly able to walk, Crelle continued to further the course of mathematics, even at great personal sacrifice. He was survived by his wife, the former Philippine Dressel.

Crelle was elected full, corresponding, or foreign member of the Prussian Academy of Sciences in Berlin; of the academies of sciences in [St. Petersburg](#), Naples, Brussels, and Stockholm; of the [American Philosophical Society](#); and of the Mathematical Society of Hamburg.

BIBLIOGRAPHY

Original Works. Crelle's works include *Theorie des Windstosses in Anwendung auf Windflügel* (Berlin, 1802); *Rechentafeln, welche alles Multipliciren and Dividiren unter Tausend ganz ersparen*, 2 vols. (Berlin, 1820; latest ed. Berlin, 1954); *Sammlung mathematischer Aufsätze*, 2 vols. (Berlin, 1821–1822); *Lehrbuch der Elemente der Geometrie*, 2 vols. (Berlin, 1825–1827); *Handbuch des Feldmessens and Nivellirens* (Berlin, 1826); and *Encyclopädische Darstellung der Theorie der Zahlen* (Berlin, 1845).

His German translations are A. M. Legendre, *Die Elemente der Geometrie* (Berlin, 1822; 5th ed., 1858); and J. L. Lagrange, *Mathematische Werke*, 3 vols. (Berlin 1823–1824).

He edited *Journal für die reine and angewandte Mathematik*, **1–52** (1826–1856), still being published; and *Journal für die Baukunst*, **1–30** (1829–1851).

His numerous papers on mathematics and engineering were published in these two journals and in the *Abhandlungen* and *Monatsbericht der Berliner Akademie der Wissenschaften* (1828–1853). A selection is in Poggendorff, I, 496–497, and VI, pt. 1, 491.

II. Secondary Literature. On Crelle or his work see the following (listed chronologically): Moritz Cantor, in *Allgemeine Deutsche Biographie*, IV (Leipzig, 1876), 589–590; Wilhelm Lorey, “August Leopold Crelle zum Gedächtnis,” in *Journal für die reine and angewandte Mathematik*, **157** (1927), 3–11; Otto Emersleben, “August Leopold Crelle (1780–1855) zum 100. Todestag,” in *Wissenschaftliche Annalen...* **4** (1955), 651–656; and Kurt-R. Biermann, “A. L. Crelles Verhältnis zu G. Eisenstein,” in *Monatsbericht der Deutschen Akademie der Wissenschaften zu Berlin*, **1** (1959), 67–92; and “Urteile A. L. Crelles über seine Autoren,” in *Journal für die reine and angewandte Mathematik*, **203** (1960), 216–220, with a previously unknown portrait of Crelle.

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