

Charles Davies

- Born 22 January 1798
- Dec 1813-Dec 1815: cadet at United States Military Academy
- 11 Dec 1815: graduated USMA and promoted to Brevet Second Lieutenant in the Light Artillery
- Dec 1816-Oct 1821: Assistant Professor of Mathematics, USMA
- Oct 1821-May 1823: Assistant Professor of Natural and Experimental Philosophy, USMA
- May 1823-May 1837: Professor of Mathematics, USMA
- 1824: received A.M. degree from College of New Jersey, Princeton, New Jersey
- 1825: received A.M. degree from Williams College, Williamstown, Massachusetts
- 1839-1841: Professor of Mathematics, Trinity College, Hartford, Connecticut
- Dec 1841-Dec 1845: Paymaster and Treasurer, West Point
- Sep 1848-Jul 1849: Professor of Mathematics, University of New York
- May 1857-Jun 1865: Professor of Higher Mathematics, Columbia College, New York
- Died 17 September 1876, age 78

Charles Davies was born 22 January 1798 in Washington, Litchfield County, Connecticut. His father was a man of tremendous ability and had great influence in the area as a County Judge. Davies' family moved to St. Lawrence County in northern New York when he was a young boy. Davies was appointed to the United States Military Academy in December 1813 through the influence of General Joseph Swift, the first graduate of the Academy and Superintendent from 1812 to 1817. Davies had earned praise by helping Wilkinson's Army unit travel down the St. Lawrence River in the fall of 1813. He had been brought up on the frontier and therefore had little formal education. However, his bright mind and hard work made the simple curriculum at USMA seem easy. After two years, Davies graduated and served in garrison for one year before resigning to accept the position of Assistant Professor of Mathematics at USMA, serving as principle assistant under Department Heads Andrew Ellicott and David Douglass. From 1821 to 1823, he was Assistant Professor of Natural and Experimental Philosophy. In 1823, Davies returned to the Department of Mathematics as Professor and stayed in that position until 1837.

Edward D. Mansfield provided the following description of Davies as a teacher and text writer, "With the exception of two or three intervals of civil and military service, he was practically a teacher; and whether at West Point for many years or in civil institutions, whether in the instruction of a class or writer of textbooks, or the author of various essays and treatises, he has made his mark on the educational system of this country probably quite as much, if not more, than any man in his generation. It was not merely the class teaching of thirty-two years to thousands of young men, who have gone forth to instruct again the millions of their countrymen, but it was also the producing of the best textbooks on the exact sciences, which have gone into the schools, academies, and colleges of our country, directing the studies and enlightening the minds of millions of our rising youth. The books and writings of Professor Davies were not those of a brilliant genius. Neither the character of his mind nor the subjects upon which he wrote admitted that; but, with two or three exceptions, they were those simple, familiar textbooks which concentrate and crystallize the light of science."

The superintendent during Davies tenure at USMA was COL Sylvanus Thayer who brought the influence of the French Ecole Polytechnic to the Academy. Under Davies and Thayer, the mathematics curriculum grew from the shadow of Hutton's Mathematics, a compendium of mathematics, philosophy, and mechanics in two volumes, through descriptive geometry to the calculus. Davies orchestrated this curriculum expansion and advanced the methods of instruction in the classroom. His series of textbooks were so thorough and complete that by 1839 all the mathematics textbooks used at the Academy were authored by Charles Davies.

Mansfield discussed the transition that occurred because of Davies insight in the following, "When we old cadets came to the higher branches, the application of mathematics, much as mechanical philosophy and engineering, we were completely at sea; no textbook of any sort existed. Professor Crozet, my professor, taught us descriptive geometry and engineering with nothing but a blackboard and a piece of chalk. It was in this state of things that Professor Davies conceived the idea of preparing textbooks. In the meanwhile he had been promoted to be Professor of Mathematics, in which office he served fourteen years. In that period he had not only aided in placing the Military Academy on that better footing and perfect classification it now has, but began that series of textbooks he was many years in completing, which stands and will stand a great and noble monument to his name and usefulness."

Davies first textbook was in the new subject that Claude Crozet was teaching in engineering, descriptive geometry. He turned to the simplest subject with the most need for a new text, geometry. At that time the French were much superior to the English in mathematics and the library Thayer had assembled had numerous French books on geometry. Davies chose to translate and improve the geometry book by Legendre and followed it up with a translation of Bourdon's Algebra. These two books were so successful and finding that the country was in need of scientific text-books, he decided to devote himself to that object.

In May 1837, Professor Davies resigned his professorship at West Point. He resided in Hartford, Connecticut for the purpose of better perfecting and publishing his text-books. For the next forty years, Davies was one of the most prolific and successful authors of educational books in America. He wrote mathematics text-books for grammar school, high school and college education. In all, Davies prepared more than twenty different volumes on the subject of mathematical education. His works were always distinguished by plainness and close logical arrangement. "Thus, looking at his (Davies) life....simply as a public writer and preparer of books...it was a life of labor, of duty, of usefulness, and of success seldom equaled, scarcely ever surpassed."

From 1839 until 1841, Davies was Professor of Mathematics in Trinity College at Hartford, Connecticut. While serving in this capacity, Davies formed the business connection with A.S. Barnes for the publication of his books. Due to a threatening illness, Davies was forced to resign his chair at Trinity College. In November 1841, Davies was reappointed in the army as paymaster, with the staff rank of major. He served as Treasurer of the Military Academy until 1846.

In 1848, Davies became the Professor of Mathematics and Philosophy at the University of New York. He retired from this job a year later so that he may have more time to devote to the writing

of his text-books. Coinciding with his retirement, Davies was honored by being awarded the degree of doctor of laws from Geneva College in New York.

Davies, "naturally a teacher," found it difficult remaining out of the classroom. After teaching briefly at the Normal School in Albany, Davies accepted the chair of higher mathematics at Columbia College in New York City in 1857. He remained in this position until 1865 when he was appointed emeritus professor. Davies continued to write and rewrite mathematics text-books until his death on 17 September 1876.

Publications:

Analytical Geometry, 1839.

Descriptive Geometry, 1826.

Differential and Integral Calculus, 1836.

Elements of Surveying, 1830.

Elementary Algebra, 1852.

First Lessons in Arithmetic

Grammar of Arithmetic

Intellectual Arithmetic

Logic and Utility of Mathematics, 1850.

Mathematical Dictionary and Cyclopaedia, 1855.

Metric System, 1871.

New School Arithmetic

Practical Mathematics

Primary Arithmetic

Shades and Shadows and Linear Perspective, 1851.

Surveying and Navigation, 1848.

University Arithmetic, 1873.

References:

Annual Reunion of the Association of Graduates, 14 June 1877, pages 23-27.

Appleton's Cyclopaedia of American Biography, Volume II, D. Appleton and Company, 1888, page 90.

Cullum's Register, Volume I, page 158.

The National Cyclopaedia of American Biography, Volume III, James T. White and Company, 1897, page 26.