

History of Mathematics • Volume 18

**A Station Favorable to
the Pursuits of Science:
Primary Materials in the
History of Mathematics
at the United States
Military Academy**

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Preface

The phrase “A station favorable to the pursuits of science” in the title of this volume is from a letter written by Jonathan Williams (the Academy’s first Superintendent and grandnephew of Benjamin Franklin) to William Franklin (son of Benjamin Franklin), October 22, 1807, wherein Williams describes West Point and his intellectual debts to Benjamin Franklin.

The United States Military Academy (USMA) was founded at West Point on March 16, 1802. The reflection and self examination, which will be a natural part of the Bicentennial of the Academy over the coming years, will provide appropriate opportunities to focus on the history and heritage of mathematics at West Point. There will be obvious interest in how mathematics affected the evolution of the Academy, the development of the values and talents of the Academy’s graduates, technological innovation in America’s Army, and the development of the standards for the military profession. In algebra, geometry, calculus, descriptive geometry, mechanics, surveying, mathematics education, and perhaps other mathematical disciplines, USMA professors and graduates have generated major changes across the United States, in colleges and universities, and more generally in the growth and development of the country. From textbooks to curricular designs to the professionalization of engineering, technology, and science in America, the many influences and contributions of Academy mathematicians point to a rich and significant history of mathematics at West Point. This volume is intended to launch the bicentennial reflection on USMA mathematics and to provide a resource for scholars examining this history, especially as it relates to the books in the mathematics collection at the Academy.

At the turn of the nineteenth century, both mathematics and the new United States of America were entering a time of self definition. Mathematics was in various stages of separation from mechanics, astronomy, and engineering, and the process which would lead to “pure mathematics” had begun. The United States had finally decided to establish the means for educating the leadership for a standing army, had begun in earnest the toils of westward expansion, and was developing a truly independent society.

Mathematically, in 1802, the United States was still a weak, lost colony of the English. However, less than a decade after the War of 1812, the young nation began to develop its own character in mathematics and mathematics education. It was “the time when American science got its start.”¹ Academy Superintendent Sylvanus

¹George H. Daniels, 1968. *American Science in the Age of Jackson*. New York: Columbia University Press. p. 7.

Thayer brought numerous French and British mathematics textbooks and treatises to West Point and adapted the pedagogy and curriculum of the École polytechnique of Paris to the American culture. In mathematics, Professor Charles Davies (USMA 1815) expressed what was to become the new American philosophy, “to unite . . . the scientific discussions of the French, with the practical methods of the English: that theory and practice, science and art, may mutually aid and illustrate each other.”² Davies’ series of textbooks, which were collectively called the “Course of Mathematics” became the best-selling college and high school mathematics texts during the middle of the nineteenth century. Mathematics has always been central to the program at USMA, and just as the Academy served the military needs of the emerging nation, mathematics at West Point provided leadership in the formation of American scientific and educational communities in the nation’s colleges and technological institutions.

These ideas were in the minds of the authors as we cataloged the mathematics collection of the West Point Library and wrote our introductory chapters about the Academy, its library, its people, and its books. We hope that this volume is both informative and valuable for scholarly pursuits. We hope that it is a catalyst for academic and mathematical scholarly pursuits associated with West Point’s bicentennial celebration.

²Charles Davies, 1835. *Elements of Algebra Translated from the French of M. Bourdon*. Revised Edition. Philadelphia: A. S. Barnes and Co. p. iv.