

## Andrew Ellicott

- Born 24 January 1754, Bucks County, Pennsylvania
- 1784-1790 "Geographer of the United States," established boundaries for Virginia, Pennsylvania, and the District of Columbia, laid out the city of Washington
- 1796 established boundaries between the United States and the Spanish Possessions
- 1800 Secretary of the Land Office of Pennsylvania
- Retired in 1808 from government service, membership in the National Institute of France
- Head of the Department of Mathematics from 1 September 1813 to 29 August 1820
- First Postmaster at West Point
- Died 29 August 1820, age 66, buried at West Point Cemetery

Andrew Ellicott was born in Bucks County, Pennsylvania on 24 January 1754. He was scientifically educated, became an excellent surveyor, and developed a strong interest in astronomy. Because of his achievements in science, he was commissioned by Congress to assist in the division of the new states by the establishment of their boundaries. In 1784, he was employed by Virginia to establish the boundary line between Virginia and Pennsylvania. Then in 1785 and 1786, he helped Pennsylvania establish its western and northern borders. His work won him the title "Geographer of the United States."

In 1790, Ellicott laid out the city of Washington and determined the boundary of the District of Columbia. He was appointed in 1796 by President Washington to fix the border between the United States and the Spanish Possessions to the south and west. From 1800 to 1808, he was Secretary of the Land Office for the state of Pennsylvania. In 1808 at age 54, he retired from government service to pursue his interests in astronomy and science. By then he was the recipient of many honors and awards and a member of the National Institute of France. The journal of his travels while establishing the border with the Spanish Territories had been published in 1803, and Ellicott was considered to be one of the greatest intellect of science in the country. However, his government pension was withheld for a long period of time causing him to live in poverty during his retirement. During this time, he was forced to sell most of the books in his library and his scientific instruments to provide income. Despite his situation, he continued to devote himself to scientific pursuits, particularly, to astronomy.

Ellicott returned to public service as a Commissioner to study the navigability of the Delaware, Schuylkill, Susquehanna, and Juniata Rivers. During that time he declined an appointment as Surveyor-General of the United States.

In 1813, President Madison appointed Andrew Ellicott the Professor of Mathematics of the United States Military Academy. Ellicott replaced Captain Alden Partridge who became the Professor of Engineering. After forty years of service displaying high character and superior intelligence as one of the country's leaders in science, Ellicott was well deserving of his new position. He was nearly sixty years old when he started his tenure and, unfortunately, was too old to build up the mathematics program beyond the status that he inherited. His instruction rarely surpassed the elementary mathematics of Hutton's first volume of a Course of Mathematics. Ellicott's tenure may have coincided with the lowest ebb of academics in the Academy's history.

During this period, Secretary of War William Eustis did everything in his power to crush the Academy by depriving it of students, teachers, and resources.

During his seven years at the Academy, Ellicott occupied a yellow frame house just south of the mess hall. He was a jolly man with a kind face and always had plenty of jokes and stories for the cadets. His nickname was "Old Infinite Series" which he obtained by frequently asking his students to perform algebraic sums and to define an infinite series.

E. D. Mansfield provided the following description of Professor Ellicott and the mathematics of the Academy at a time before the arrival of Sylvanus Thayer as Superintendent. "There are some who will recollect Professor Ellicott sitting at his desk in a long room, in a second story of what was called the mess hall, teaching Geometry or Algebra, looking and acting precisely like the old-fashioned schoolmaster, of whom it was written:

'And still they gazed, and still the wonder grew,  
That one small head could carry all he knew.'

The cadets were all 'boys' to him, and his kind face was long remembered. In the other end of the room, or in the next, was seen his acting assistant, Stephen H. Long, then a young lieutenant of engineers; since distinguished as a traveler, an engineer, and a man of science. The textbook used was 'Hutton's Mathematics' and at that time the best to be had. Mr. Hutton had been a professor at Woolwich, England, and his treatises were plain, simple, easily understood, and therefore well adapted to beginners. It was, however, very deficient both in extent and analysis. It was a good textbook then, for there were no cadets trained to pursue deeper or more analytical words."

George D. Ramsay's recollections of Ellicott were similar to Mansfield's. "In his manner, Professor Ellicott was very precise and neat in his figures. He always had, I think, attached to his buttonhole, a very small slate, with sponge and pencil, and his figures were of the smallest. He always required the figures on the board to be constructed with mathematical precision, with cord and ruler, and to construct a perfect geometrical figure was with him equal to a successful demonstration."

Sylvanus Thayer's arrival in 1817 caused many changes in academics during Ellicott's last three years as Professor of Mathematics. The classes were divided into sections and many new courses were added. Mr. Latrobe who entered as a cadet in 1818 provided this account. "I do not remember upon what principle our class of one hundred and seventeen members was divided into four sections; I recollect, however, that I was put into the first section. Our recitation room was next to the guard room, on the first floor of the North Barracks. Here, on a rostrum, between two windows, sat Assistant Professor S. Stanhope Smith, and here, with the first volume of Hutton's Mathematics in hand, I began my West Point education. I am not sure we had desks, but rather think we were seated on benches against the wall, with a blackboard to supply the place of pen and ink and slates. Generally, we had the section room to ourselves. Sometimes, however, Mr. Ellicott would pay us a visit and ask a few questions, ending with giving us a sum in algebra, to explain what was meant by an infinite series, which was the name he went by in the corps."

Because of the limited growth of the mathematics curriculum under Ellicott, Professor Claude Crozet had to teach more mathematics to his students before presenting the engineering instruction. The mathematics courses that preceded the engineering consisted of Algebra, Geometry, and Logarithms in the first year and applications of Algebra, Mensuration, Plane and Spherical Trigonometry, infinite series, and conic sections in the second year. By 1819 the program was difficult as evidenced by only forty of Latrobe's 117 classmates surviving to graduate. Those found to be deficient were called "Uncle Sam's bad bargains." One lasting contribution of Ellicott was his appointment of one of his best students, Charles Davies, as an Assistant Professor of Mathematics in 1816.

Professor Andrew Ellicott died at West Point on 29 August 1820 and was buried in the West Point Cemetery. Latrobe recalled his final memory of the cemetery and Ellicott. "My last visit to it as a cadet was when I was the escort that fired the vollies over the grave of Andrew Ellicott, the Professor of Mathematics who lies buried there."