

[Episode 8 - Ada Lovelace Transcript]

Hello, my name is Devon Reynolds, and I'm going to do a biography on the female mathematician, Ada Lovelace. Ada Lovelace was an English mathematician born in London in 1815 as Augusta Ada Byron. Her father was the famous British poet, Lord Byron. He was unhappily married to her mother, Lady Annabella Byron, and left shortly after Ada was born. He died when Ada was eight years old, and she never knew her father. Her mother had a strong background in math, and was called the princess of parallelograms by Lord Byron. Her mother felt that an education in math and science would counteract any inherited poetic ambitions from her father, who she considered to be a bit of an eccentric. Lovelace showed a talent for numbers early on. Amongst her tutors was famous female mathematician and astronomer, Mary Somerville. Today she is considered to be one of the world's first programmers.

Ada Lovelace met Charles Babbage in 1833. He was a mathematics professor at Cambridge. Today, he's commonly recognized as the father of the computer. He was her mentor and instructor, but they were intellectual equals, and Ada was only 17 years old. Babbage envisioned the first computer, which he called the Analytical Engine. It could be programmed to carry out different mathematical operations. In 1843, Babbage asked Lovelace to translate an article describing his engine which was written in French by an Italian mathematician. It took her nine months, and she appended her own set of notes which were three times longer than the actual translation. They also included a method for calculating a sequence of Bernoulli numbers. Ada Lovelace understood the workings and potential of the Analytical Engine better than Babbage did himself. Essentially she had written what many considered to be the first computer program. She also speculated that the device could be useful beyond numbers and could be used to manipulate anything within a fixed set of rules.

She grew up with creative and analytical ambitions which were influenced by her mother and father. She thought of herself as an analyst and a metaphysician. Lovelace said that the Analytical Engine could be used for both practical and scientific uses and she envisioned that it might one day compose pieces of music of any complexity or extent. The Analytical Engine was never built, but Lovelace's translation was published and well received by the scientific community. She was acquainted with some of the intellectual elite of the time, including Michael Faraday who thought very highly of her work. She was also met with some criticism. Another mathematician wrote letters to Ada's mother expressing concern that women shouldn't exert themselves so heavily intellectually. In her later years, she tried to develop mathematical schemes for gambling. She was unsuccessful

and met a lot of financial peril. Ada Lovelace died of uterine cancer in 1852 at the age of 36. She was buried next to her father who she never knew in Nottingham, England. Her contributions to computing were way ahead of her time. It took technology almost a century to catch up. Lovelace gained a new following in the digital age. A computer programming language called Ada is named in her honor today. Thanks for listening.