Annie Jump Cannon

(1863 - 1941)

Classifier of stars

Main image: Mrs. Annie Jump Cannon, head-and-shoulders portrait, left profile [Library of Congress, Public Domain.].
Background: Grounds of Harvard College Observatory circa 1899 [Harvard College Observatory, Public Domain].

As a child, Annie Jump Cannon's mother, Mary, taught her the constellations and stimulated her interest in astronomy. Cannon went on to study physics and astronomy at Wellesley College, graduating in 1884. After a few years of pursuing photography and other personal interests, Cannon returned to Wellesley to study her MA in Astronomy in 1907. During this time, she also enrolled at Harvard-affiliated Radcliffe College, as a 'special student'. In 1896, Edward Pickering hired her into his team of women working at the Harvard College Observatory. They were working to improve the classification system for stars in the Observatory's enormous collection of photographic plates.

An early classification system had been devised by Nettie Farrar who left shortly afterwards to marry, being replaced by Williamina Fleming. Fleming examined the spectra of more than 10,000 stars and developed a classification system using the letters A to Q, based on the strength of hydrogen spectral lines. This system was then refined by Antonia Maury before Cannon took over the task. Cannon simplified the system, using seven letters arranged by decreasing temperature: OBAFGKM. Cannon's system is still used today, with many astronomers learning the mnemonic "Oh, Be A Fine Girl - Kiss Me".

Cannon's work was published in nine volumes of the Henry Draper catalogue, 1918-1924, which ultimately listed nearly 400,000 stars. She also published catalogues of variable stars, 300 of which she had discovered. Pickering wanted Cannon to be appointed as the curator of astronomical photographs in 1911, but the Harvard president refused to add her to the staff list. Her appointment was finally made official in 1938, two years before her retirement.

Over her 40-year career Cannon achieved many "firsts", including being the first recipient of an honorary doctorate from Oxford and the first woman elected as an officer of the American Astronomical Society. In 1931 she was awarded the Henry Draper Medal by the National Academy of Sciences.