

AstroNOmical WOMEN: Hypatia of Alexandria was a leading scholar in mathematics and astronomy sixteen hundred years ago. Author of *The Astronomical Canon* and a popular university lecturer in philosophy, astronomy, and mathematics, she is credited with geometry and astrometry contributions instrumental in the development of the sky-measuring astrolabe. She interpreted Plato and Aristotle to those in Alexandria who inquired and the city loved her. But the male rulers envied her and she was singled out by Bishop Cyril. When the university refused his fiat to fire her, he ordered his male monks, to drag her from her chariot into a church where they brutally slashed her to death in the name of God. Bishop Cyril was later elevated to sainthood by the male clergy of the Vatican.

Henrietta Leavitt charted the astronomical skies we see each night. She discovered more than 2,400 variable stars, about half of those then known in 1912. Her most important contribution, her discovery which enabled star distances to be calculated up to 10 million light years away, dramatically changed astronomy forever. Her “yardstick to the universe” enabled Edwin Hubble and others to make discoveries that changed our view of our galaxy. Leavitt also developed a standard of photographic magnitude measurements in 1913 accepted as “the” standard and christened the Harvard Standard. But, because of her gender, Leavitt was not allowed to pursue her own research studies at the Harvard Observatory. This female astronomer could only research what was assigned to her by the male astronomers. Scientifically restricting her feigned a black hole in the research of our universe, while gender restricting her created unleashed space in which those otherwise gendered would soar and explore.

Winifred Edgerton, the first American woman to receive a Ph.D. earned it *cum laude* in the “masculine” field of mathematics and astronomy. Edgerton’s application to Columbia College, which had the only telescope at the time, was originally denied because of her gender. But, the male professor of astronomy needed an assistant and, as Edgerton was applying not to the College but to graduate school, the trustees, believing no gender-related precedent would be set, voted to allow her to pursue her advanced studies on a limited tutorial basis. Her work included computations of the orbit of the comet of 1883 and she served on a committee to found Barnard College. Her marriage in 1887 ended her work from which she withdrew due to her husband’s objections of the impropriety of committee meetings held in men’s offices. When invited by the Lt. Governor to serve on the school board in Albany, her husband deemed it unladylike and forbade her acceptance. She obeyed him. She bore him four children and founded the Oaksmere School for girls where she taught for twenty years. In 1926, ten years after his death, she took a position as the librarian at the Barbizon Hotel for women in New York, one of many libraries that might have contained her research, had she researched.

Maude Bennot remains the only “acting” director in the avant-garde history of Chicago’s Adler Planetarium. Established in 1930, the Adler was the first planetarium in the Western Hemisphere. Its first director Philip Fox was selected by Max Adler himself. When Fox resigned, Maude Bennot, his assistant since the Adler opened, was appointed “acting” director, but never granted full director entitlement, as was Fox and all male directors after her. Upon becoming “acting” director, a position in which she served for eight years, Bennot, who held a master's in astronomy from Northwestern University

said, "There is a field for women in engineering, astronomy and other scientific endeavors. But it is definitely limited -- mainly...in the minds of men." (TIME 5/17/37) Bennot's field at the Adler Planetarium in Chicago still stands as a field of directors of men only.

Thirteen women in 1960-61, the *Mercury 13*, who secretly and independent of each other trained to be astronauts, never became such because they were women. Though experienced pilots, most with more completed flight hours than the *Mercury 7* male astronauts, President Eisenhower clearly stated he wanted only jet test pilots considered for the space program. Jet test pilots were all men. His requirement covertly eliminated all women. On a letter to NASA outlining women's training and drafted for his signature, Vice President Johnson, overt in his tenet on women in the space program, affixed not his signature, but the words, "Let's Stop This Now!" Now lasted twenty-two years until Sally Ride became the first female United States' astronaut in space.

Sources: *The Mercury 13*, Martha Ackmann;

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