Chippewa Valley Astronomy Update *March 14, 2025*

Photo caption: Women measuring star positions and brightnesses at Harvard College Observatory circa 1900. Image credit: Harvard University Archives

Inspiring Stories of Women in Astronomy By Lauren Likkel

At the Harvard College Observatory in years around 1900, women were hired to make measurements of astronomical data and do calculations. The women were literally called "human computers", and they made careful but tedious measurements of the brightness of stars on photographic plates. Although not tasked with analyzing the results of their measurements, some of the women made remarkable discoveries. This bit of astronomy history is so interesting that there is a play about it being performed this month in Hudson, WI, called “Silent Sky”.

One of women hired at Harvard College Observatory was Henrietta Leavitt, who had family ties to Wisconsin. She made huge progress in understanding the size of the universe. Leavitt’s groundbreaking discovery was that the period of a Cepheid Variable star’s brightness cycle revealed its true brightness. Comparing the true brightness to how dim it appears will reveal how far away it is from us. Thus a Cepheid Variable in a galaxy shows how far away the galaxy is. Cepheid Variable stars became the tool that proved galaxies exist and ultimately revealed that the universe is expanding.

Stories of the discoveries of historical “women in astronomy” are recounted as if to say that women can be successful in a science career. But the stories highlight the barriers to success in a field dominated by men. Women were hired in the 1900s at Harvard College Observatory only because women could do excellent work and be paid less than men. At the time, women could not get hired as a research scientist. The culture at the observatory simply reflected the societal norms in a time when no one was “woke” and no one used terms like diversity or equity. They just concluded that since women, along with people of color, did not look like other scientists, they were not suited for that position.

Henrietta Leavitt’s career 100 years ago reminds me of the barriers that women and people of color continue to face. I witnessed an example when I was beginning my career as a woman in astronomy and had a position as an intern at a midwestern university. After a woman was hired as a physics professor, I heard a male professor say “That just shows you how it’s easier for women to get jobs”. I asked innocently “Oh, isn’t she a good scientist?” and he answered “I don’t know anything about her, but I know a highly qualified man who didn’t get the job.” So he didn’t know anything about her but was sure she was not qualified. He didn’t recognize his unconscious bias that no woman would be highly qualified, so he concluded that any woman hired must be a DEI hire.

If you have an interest in astronomy, theater, or U.S. history, I hope you see the play “Silent Sky” about Henrietta Leavitt this month in Hudson. It is a light-hearted and enjoyable window to a fascinating piece of astronomy history, and it will leave you curious to learn more.

--Dr. Lauren Likkel is a retired professor of physics and astronomy

“Silent Sky” is an inspiring story based on the life of astronomer Henrietta Leavitt circa 1990. This play will be performed every weekend this month (March 2025) at the Phipps Center for the Arts in Hudson, an hour drive from Eau Claire. Tickets are $32 for adults. Recommended for ages 13 and up, the performance is in the cozy Black Box Theater. Details and tickets at thephipps.org. The March 30 performance will be followed by a discussion about woman in sciences.