A Tapestry of Stellar Distances

ATTENTION IS DISCOVERY: *The Life and Legacy of Astronomer Henrietta Leavitt*

Anna Von Mertens
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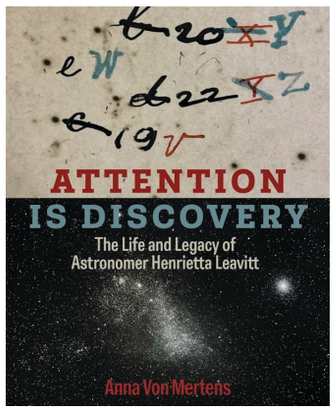
THE HARVARD COMPUTERS, especially Henrietta Leavitt (1868–1921), have caught the attention of the world as some of the first modern female astronomers, but their story was nearly lost to modernization. *Attention Is Discovery: The Life and Legacy of Astronomer Henrietta Leavitt* is a series of essays that couch science and history in glorious illustrations to create a full picture of Leavitt and the people she touched with her work. Anna Von Mertens, an award-winning visual artist specializing in quilting and textiles, has used Leavitt's story to bridge the perceived gap between astronomy and art. Her book vividly displays her eye for detail and artistry as she finds inspiration in the stars and the people who studied them.

Von Mertens opens with a lyrical description of Henrietta's work, not the traditional image of her leaning over a desk at Harvard College Observatory in Cambridge, Massachusetts, but a simple retelling of her methodical study of each star on a photographic glass plate. Lauding the importance of the discovery that came from her dedication, this book highlights the slow, repetitive work of measuring and cataloging the positions and brightness of innumerable stars on hundreds of thousands of glass plates.

Since Leavitt didn't leave behind many personal notes, the author pieces together her daily life from writings and artifacts left behind by her coworkers and other astronomers of her time. Von Mertens even details techniques that Leavitt developed for capturing and estimating the magnitude of very bright and dim stars after she published her discovery of the period-luminosity relationship in Cepheid variables. This relationship laid the foundation for modern cosmology, allowing astronomers to effectively calculate vast astronomical distances and understand the nature and scale of the visible universe.



After covering the development of the technology behind the glass plates and how our understanding of Cepheids has expanded since Leavitt's discovery, the book also takes a step forward into the modern day. A brief interlude by astrophysicist João Alves describes recent research that utilizes Leavitt's Law to map out the Milky Way and find new galactic structures like the Radcliffe Wave. The narrative then shifts to cosmologist Wendy Freedman's continued work with Cepheids and how researchers are looking to Leavitt's period-luminosity relation to untangle the Hubble Tension, the discrepancy between model and data for the universe's expansion rate.

Leavitt's contemporaries understood the significance of the Harvard Computers' work, but Von Mertens explains how the technology of the time slowly eclipsed their story in the history books. She also portrays the perseverance of the historic glass plate collection to the current day amid years of neglect and several disasters. Recently, in an effort to digitize their astronomical data, most of the Computers' ink notations on the glass were erased. Von Mertens lauds the efforts of curator Lindsay Zrull, who prevented many historic plates from being "cleaned," as well as innovation scientist Peter Williams and software engineer Benjamin Sabath, who rescued the scans from a server crash and developed a more accessible website for them.

The illustrations in this book truly shine. From full-page, face-on images to artful close-ups from interesting angles, this book swells with Jennifer Roberts' photographs of the glass plates and the Harvard Computers' logbooks, allowing the readers to fully immerse themselves in their hidden depths. Many historical photos depict the daily activities of the observatory and its staff, as well as the tools and telescopes they used. It's uncanny to see the equipment, plates, and writings of these women, and even the protective sleeves of the glass plates, displayed like art. Von Mertens' also displays some of the artwork she created while researching the Harvard Computers. Each sketch of the plates and hand-sewn quilt parades the depth and feeling of her investigation while demonstrating the deep connection she feels to Leavitt.

Von Mertens really takes the time to immerse herself in Leavitt's world and life. And she manages to glorify the process of research without glossing over its tedium. Anyone who enjoys reenactments and documentaries, as well as art and poetry, would relish immersing themselves in this book.

■ *S&T* Editorial Assistant **SABRINA GARVIN** wishes she could travel back in time to meet the Harvard Computers.