

Book Review
The Last Stargazers by Emily Levesque

Do you ever wonder what professional astronomers, with their modern observing instruments stretching over meters if not miles, receiving data in many bands of visible and other spectra, spend their time doing? Very few of them are doing their science by looking up at the heavens, but according to author Emily Levesque, the vast majority of them still gaze in awe at the marvels of the visible universe just as you or I would.

Astronomy can be regarded as the coldest of sciences. It's cold sitting stationary on a mountaintop while your instrument collects the light or another type of wave radiation from a rigid portion of the sky, a portion that moves slowly throughout the night only because our own planet Earth is turning. Yes, cold, receiving light that, although emanating from a nuclear inferno light years away, has traveled that distance in a space with a temperature just a few degrees above absolute zero. All that said, the author's warm and youthful presentation will rope you in as she surveys the many aspects of her chosen discipline.

Her history begins on a cold night when her parents kept their toddler up past bedtime to see Halley's Comet, an experience the likes of which has grabbed many pros and amateurs alike. After that, she was not turning away from the sky ever again. Her keen interest continued through high school summer internships, undergraduate physics courses, post-grad projects, and her wide experiences as a professional. Her descriptions are detailed enough to satisfy the thoroughly capable and deeply curious, and yet buoyant enough to keep rank novices reading.

Part memoir for sure, and yet Ms Levesque pays homage to predecessors at the forefront of a rapidly developing subject. She marvels at what they achieved with low or no tech. She gives due space to colleagues who sometimes become competitors both for time at the monster scopes and for priority in publishing new discoveries. She also details her activities in educating the general populace in various types of observing and data collecting — visual, radio, x-ray, laser interferometry, and even airborne telescoping aboard NASA's SOFIA, a modified 747 with a huge breach in its fuselage for the scope. This professional decided it was well worth her time to venture into the path of North America's 2017 total solar eclipse and enjoy it along with thousands of sky fans across the continent. She is not shy in taking the profession to task for discriminatory practices both past and present against those of her gender. Question: where under the dome, pray tell, is a woman supposed to pee?

Although her main interest is in the red supergiants of distant galaxies, Emily allows us to wonder along with her as she learns the ins and outs of radio telescopes, instruments that can observe during the day, during a cloudy day, a cloudy and rainy day. They can collect data even during a snowstorm, that is, until the antenna's dish fills up. She describes her reaction to hearing technical terms such as, "... the protostar is less than a millijansky per beam..." as a head tilt that degenerates from keenly interested scholar to confused puppy dog. So she shares her experiences as she empathetically provides them to us.

The author takes us into the six squares miles of a site called the interferometer that uses reflected laser beams to detect discrepancies in their travel time at perpendicular directions. These precision instruments are now picking up evidence of the tiny ripples in space-time that Einstein's theory predicted long ago.

I can heartily recommend this book. As an amateur observer and science writer, I enjoyed knowing Ms Levesque's perspective on some of the major advances and discoveries of the last 30 years. I strongly recommend it to 30-something professionals who will enjoy the youthful vernacular she uses to describe the hazards and foibles of her chosen career; and I strongly recommend it to men and women who have that sense of imperative dedication in their own chosen fields. Good book.

See <https://thelaststargazers.com>