Reilly Uiterwyk

Where New Stars Form: Dr. Priscilla Benson's Story

"What are you doing this for? Why aren't you home taking care of your children?" This is a sentiment that far too many women have heard, including those who are working on their doctorate degrees in Astrophysics, like Dr. Priscilla Benson was.

Priscilla "Scilla" Benson grew up in Barrington, Rhode Island, and always had a knack for math and science. By fifth grade, she knew that she wanted to go to college and major in physics. Although Benson moved several times growing up (she attended three different high schools), her love and passion for math and science never wavered. She took as many math and science classes as she could. By her senior year, Benson was one of only two women in her physics class. She was recognized as an outstanding high school science student and granted the national Bausch and Lomb Science Award, a testament to her courage and hard work. During her college interviews, the interviewers commented on how "strange" it was for a woman to have four years of science classes on her transcript.

Benson then proceeded to Smith College in Northampton, Massachusetts. In Benson's graduating class, there were seven physics majors, including herself. For the next ten years, no class would come close to that record. Three weeks after graduating, Benson got married. Benson decided to teach 7th grade math, 8th grade science and math and ninth grade plane geometry. Benson then went on to work for an insurance company in the actuarial department until she had children. She assumed that she would follow in the footsteps of her grandmother, mother and mother-in-law and stop working and stay at home.

Ten years later, Benson returned to teaching, assisting in the freshman physics labs at Wellesley College. Wellesley College soon decided that they were going to build a new science center and require all new lab instructors to have a master's degree. Not wanting to be left behind, Benson, who had been auditing and performing well in courses at Massachusetts Institute of Technology (MIT), applied and was accepted to a PhD program at MIT. Benson then had to choose a PhD thesis. She originally was interested in studying gels that are found in eyes because her mother was blind. However, at her first meeting with the professor, he showed her how to cut out the eyeball of a baby mouse, and she decided that perhaps this area of research was not for her. Benson then met a second advisor who was studying astronomy and astrophysics and she was intrigued.

With the mentorship of her male advisor at MIT, Benson began to work on her thesis, which focused on dense matter and dark clouds in interstellar space. Benson discovered that the dense cores had baby stars within them and could predict where stars formed. While working on her thesis, Benson encountered the most opposition to her career. The most prominent example was in 1978, when Benson was denied an assistantship because a senior male faculty member in her department said that he did not think that "the National Science Foundation would support an old woman". Benson was absolutely "devastated". However, with some encouraging words from her advisor, tuition support from MIT, and a lot of strength and perseverance, Benson continued on her track.

Also while a student at MIT, Benson remembers walking from work to her bus stop and dropping all of her computer punch cards onto the sidewalk. A man who was passing by, probably assuming she was a secretary, commented, "Your boss is going to be mad at you". Benson responded with, "I am the boss and I am quite mad because I have to fix this!"

The observatories where she did her research were some of the best in the country. For example, Benson worked at the Haystack telescope which was a radio telescope that contained parabolic dishes and a 120 foot radar dish. The telescope was built as part of the early warning system and could be taken over by the military at any time. Benson recalled losing some of her observation time so that the government could track the SkyLab falling and a Russian satellite. These telescopes were also used for tracking the distance to, for example, a telescope in Alaska, to track the movement of plate tectonics. The other telescopes she used were the National Radio Astronomy Observatory, the National Optical Astronomy Observatory, the Very Large Array, the Navy Research Lab, and Mauna Kea in Hawaii. The observatories were mainly utilized by men at the time and Benson remembers working with inappropriate pictures of women, colloquially called "pin-ups," on the walls.

During the last three years of her PhD, Benson received a grant from the Zonta Foundation which is given to aspiring women in the aerospace sciences. This foundation also honored Amelia Earhart. After receiving her PhD from MIT, Dr. Benson went on to teach at Wellesley College and eventually earned a tenured faculty position. Dr. Benson also spent three years as the Chair of the Status of Women in Astronomy for the American Astronomical Society where she fought for equal pay for female professors.

One of the accomplishments that Dr. Benson is most proud of is assisting in the founding of the Keck Northeast Astronomy Consortium. Originally, Dr. Benson was contacted by a program officer of the W. M. Keck Foundation asking her to gather a group of astronomy professors from private undergraduate colleges to form a consortium. She worked with eight colleges in the Northeast including Colgate, Haverford, Middlebury, Swarthmore, Wellesley, Wesleyan and Williams. The consortium not only purchased electronic cameras for telescopes, but provided mentors for aspiring scientists and Benson was one of the first mentors. The consortium received grants from the Foundation for a summer research exchange and an annual research symposium. Benson was the leader of the consortium for twelve years. Through this, Dr. Benson created a legacy, as it still thrives today. Through this program, she was able to mentor and work with individuals as they pursued their education and careers in air and space including many women.

Contributing more than 100 publications in the field, Dr. Benson is an incredibly successful astrophysicist who advanced science and mentored women in a male dominated field. Dr. Benson gives community talks on her research and astrophysics. She is also an Emerita Professor of Astronomy at Wellesley College. Her advice to anyone looking into a science career is to never give up on what you believe in and what you love and to find mentors who support you and your career. Dr. Benson acknowledges that there will be barriers, but that perseverance can overcome any obstacle, and if you keep going, you will eventually reach the stars.

Reilly Uiterwyk is a freshman at Hanover High School. She loves writing, reading, swimming, playing lacrosse, and teaching. She enjoys all algebra problems and figuring out complicated equations. She also loves to conduct experiments in the science laboratory. Reilly is incredibly thankful to talk to Dr. Benson and is inspired by her story.