

(this is meant for the Friday Sept 16, 2022 paper)

Chippewa Valley Astronomy Update for Sept 16, 2022

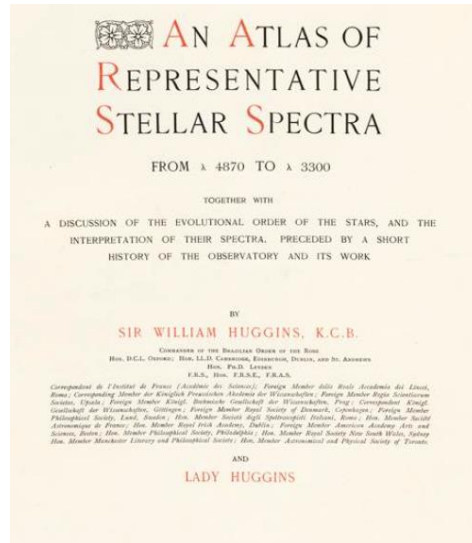


Figure caption: Margaret Lindsay Murray was an avid astronomer, but her scientific talents were almost wasted because of limited opportunities for woman in the 1800's. As Lady Margaret Huggins, she was able to contribute to cutting edge research. Image credit: Huggins Collection, Whitin Observatory, Wellesley College

Lady Margaret Huggins, Astronomer

By Kevin Litten

At a time when women weren't allowed to vote, could not own property, when most of them didn't live as long as men, women were rewriting the astronomy books.

Margaret Lindsey was born in Ireland in 1848. Her grandfather taught her the constellations at an early age. Most kids these days think that the constellation Orion is really Wonder Woman, but that is about it. Margaret knew all the constellations she could see.

Growing up in Dublin her next door neighbor was Howard Grubb. An optical engineer so good he would later be knighted for inventing the reflex sight and helping perfect the periscope. One can only imagine the conversations she had with him. "Mrs. Grubb, can Howard come out and play?" Yeah, something like that. Still at an early age, Margaret built her own telescopes, studying stars at night and sunspots by day.

As a young woman Margaret picked up on the fascination of the age and built a spectroscope. Her previous observing skills were put to good use. She became famous, in a rather small pond of astronomers, for her work in spectroscopy. Through that work, her neighbor, Sir Howard Grubb was able to introduce Margaret to her future husband Sir William Huggins. He was 51, she was 27.

Sir William Huggins had already discovered that the spectral lines of the star Sirius are shifted slightly to the red end of the spectrum, indicating that Sirius is moving away from us, even measuring its speed. This had made him famous.

Now with Margaret's help, or some say instigation, they began together a highly productive collaboration of spectroscopic and photographic research. In 1899 they co-authored the Atlas of Representative Stellar Spectra. Building on the work of Margaret Huggins, Annie Jump Cannon developed the modern star spectral sequence we still use today and Cecilia Payne – Gaposchkin wrote a paper that proposed that stars were composed of mainly hydrogen and helium. Both are masterful additions to our understanding of astronomy.

As part of her spectroscopy work, Margaret did an in-depth study of the Orion Nebula, which showed that the nebula consisted of gases rather than stars as previously believed. So maybe the constellation Orion isn't Wonder Woman after all, yet a wonderful woman helped us to better understand it and the mysteries of the Universe.

-- Kevin Litten is a member of the Chippewa Valley Astronomical Society