

Essay

During my undergraduate and graduate coursework, women in science were often presented as incredibly exceptional features of the history of science, if they were presented at all. I started reading more about the history of women in science because of my attendance at the Western Undergraduate Women in Physics conference my junior year of college. Since then, my passion for books and career as a planetary scientist has led me to focus on a collection about women in science. I have narrowed my focus to specifically collecting material about Maria Mitchell since I first intentionally started building a women-in-science book collection in 2017. One of the first internationally renowned American astronomers, Mitchell's life has left a long trail in the print culture of the United States. My collection includes work written by and about Maria Mitchell during her lifetime (or just shortly after), work she would have had access to, and her legacy in print form up until today. My goal with this collection is to capture the interconnectedness of women in science and how Maria Mitchell over time has been interpreted in many different forms.

My collection spans in time from shortly after Mitchell's comet discovery in 1847 through 2019. It includes a publication from 1849 that summarizes the fight to have Mitchell's discovery recognized (which was an issue due the speed of mail from Nantucket, MA) edited by the then-president of Harvard, copies of magazines that include articles by Mitchell, and 20th and 21st century biographies of her. The 20th and 21st century biographies range from analyses of Mitchell in context of her time in New England amongst Transcendentalists, abolitionists, and early American feminists, to children's books. One of those early reader books was published by the Julian Messner imprint, which also published biographies of Irène Joliot-Curie and Ellen Richards. Modern ephemera, including zines and a tarot deck, are also represented in the collection.

One of my most prized and surprising items is a bound volume of *Atlantic Monthly* magazines from the first half of 1860, and is also in poor condition as both front and back covers have survived but have fallen off the original string binding. When I narrowed my focus from collecting books about women in science in general to Maria Mitchell, I wanted to focus especially on her own writing. I did not realize until I found this volume that she had written an article about meeting Mary Somerville, a talented mathematician, science writer, and the person for whom the word "scientist" was first used in print (in an 1834 review of *On the Connection of the Physical Sciences*). Reading Mitchell's impressions of Mary Somerville was proof that even early in the history of science as a profession, there was never really just one high-profile woman scientist and that they were not as isolated as I had been taught to expect. This *Atlantic Monthly* article ran so counter to the common narrative received in physics and astronomy education (for example, showing the picture of the physics conference attendees in Brussels in 1927 where Marie Curie was the only woman) that it was particularly significant for me personally and my understanding of the history of women in science.

Another item in my collection I find fascinating is the Women of Science tarot deck. While like many people I associated tarot with its non-scientific, occult connotations, I was drawn to collecting this because it contained biographies of a large number of women in different subfields

of science and because of the level of thought in the deck. In addition to the Maria Mitchell card and cards representing a broad range of women in astronomy, the card for the Devil has a banner that says “publish or perish” (the adage in academia that means peer-reviewed publications are the most important metric of one’s success, and to not publish papers, even in favor of preserving mental health or teaching, is professional death), and the card for Death has a small mammal running around dinosaur bones. These small features communicate things in science and academia that are common experiences or points of reference within the profession that may be lesser known outside of it. I also appreciate the artist’s emphasis that storytelling is a key element of both science and this deck, and that having less stereotypical formats to communicate scientific information and history may open science up to people who had not considered it before. For example, the in artist statement [online](#), Matteo Farinella writes:

I really hope that a science tarot deck can play this kind of role: a space for people who do not traditionally identify as science geeks to engage with scientific concepts in a playful and nonjudgemental way. And also, a good opportunity to challenge some stereotypes of what science “should” be and what scientists look like by celebrating the inspirational women included in the deck.

The elements of storytelling, reassessing stereotypes of physical scientists, and recognition of the full careers and lives behind people in science fields that are reflected elsewhere in my Maria Mitchell collection are also reflected in the deck as a whole.

One of my most exciting discoveries occurred this spring when I was wondering how to expand my collection further. I had checked the Maria Mitchell Association’s library and collection page online, and found that they had archived a list of books in Maria Mitchell’s personal collection. While that PDF is not included in the collection due to its digital and ephemeral nature, it guided my future directions with collecting. One of those directions was continuing to find copies of Mary Somerville’s work, as Mitchell appeared to have most of her work and understandably so given that she had also met and written about Somerville. Another was finding a copy of *Girls Who Became Famous*, a collective biography of many women, including Mitchell, that was listed among Mitchell’s books. *Girls Who Became Famous* is one of the earliest examples I have of the children’s aspirational-type biographies where Mitchell is presented as a role-model, which continues with examples from the turn of the 20th, mid-20th, and 21st centuries. The excitement for me in collecting these is to see Maria Mitchell starting to interact with her legacy during her own lifetime, as well as see what was in her scientific library.

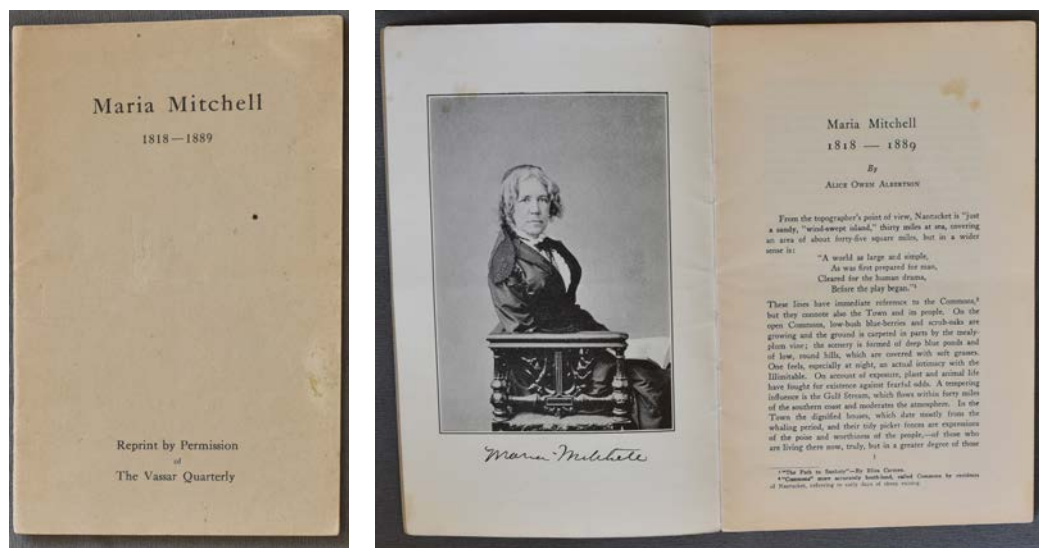
The record this collection forms of how Maria Mitchell was able to speak for herself is also particularly interesting to me. In Maria Mitchell’s own lifetime she went from having to be advocated for by male family members or male members of the Boston elite (and the first report of her comet discovery in the Monthly Notices of the Royal Astronomical Society in 1848 is also not written by her), to writing popular science articles, to going back to a figure where she’s spoken about but not as often allowed to speak through her own writing. Her collection of letters and other writing was edited by her sister and published 7 years after her death, and as far as I could find was reprinted widely once after that. I have been unable so far to find a collected

edition of her scientific papers or popular press articles, though biographies and especially biographies directed at children and young adults have been published periodically since her death. Some of these works, like *Figuring* or *Sweeper in the Sky*, clearly demonstrate that Mitchell's words were well known to their respective authors. Her legacy is clearly evident in the variety of subsequently printed works (from biographies to poetry collections to tarot decks) that reference her, but the relative lack of availability of her own words in print compared to other scientists from the 20th and 21st century is astounding. In particular, when it is safe to do so again, I want to travel to Nantucket to visit the Maria Mitchell Association and potentially use their archives to see if this trend is actually correct or due perhaps to issues of preservation or availability of material in the rare book market.

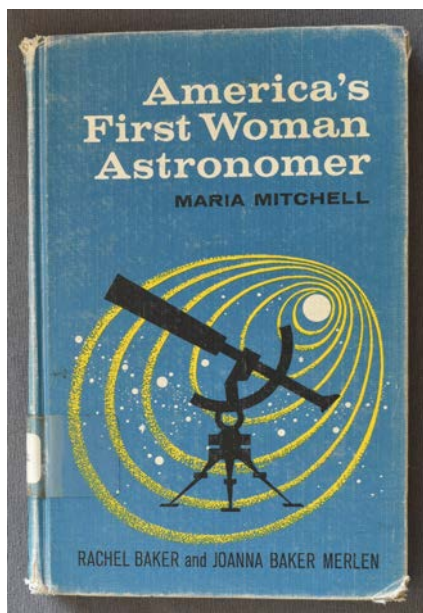
My Maria Mitchell collection grew out of a larger effort to find and collect works by and about women scientists through history as a way of narrowing my focus but also being able to explore the print legacy of one individual player in that landscape. What I found was periods of re-exploration and re-evaluation of Maria Mitchell after her life in both academic and artistic ways. I also found the portrait of a scientist who made major research contributions, taught, ran field expeditions (including to Denver for the 1878 solar eclipse), and wrote for the popular press all just as full time careers for scientists in general was becoming common. Maria Mitchell is a case study in how women have had essentially modern scientific careers as long as science has been a profession, and the ultimate goal of the collection is to be a resource when I get to a point in my career when I need to teach the history of science and astronomy.

Annotated Bibliography

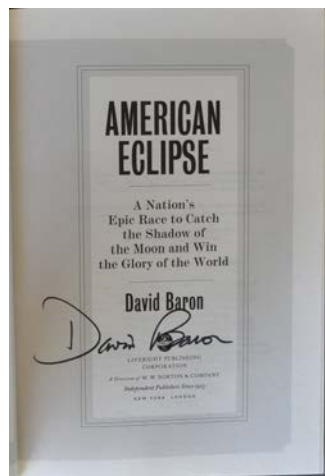
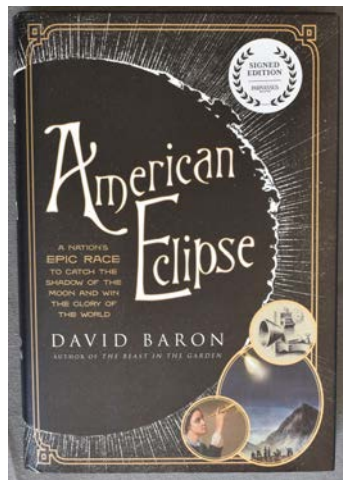
1. Albertson, Alice Owen. *Maria Mitchell 1818-1889*. Reprint by permission of the Vassar Quarterly. Undated, likely 1930s. Paper-covered pamphlet.



2. Baker, Rachel and Joanna Baker Merlen. *America's First Woman Astronomer: Maria Mitchell*. Julian Messner, New York, 1960. Sixth printing (1969). Hardcover, no dust jacket, illustrated boards. Former library book, wear to spine and annotations for library use. "Withdrawn" stamped on endpaper, title page.



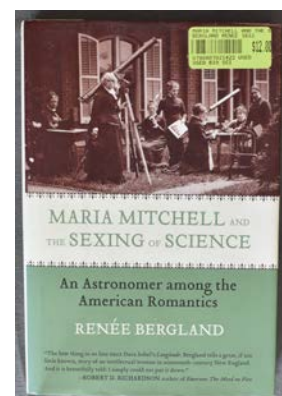
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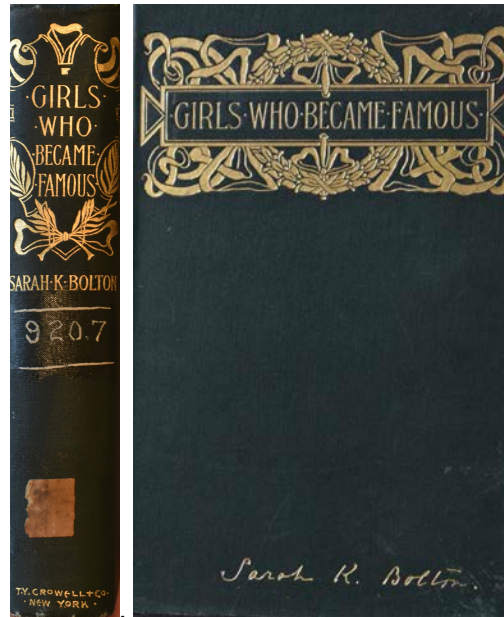
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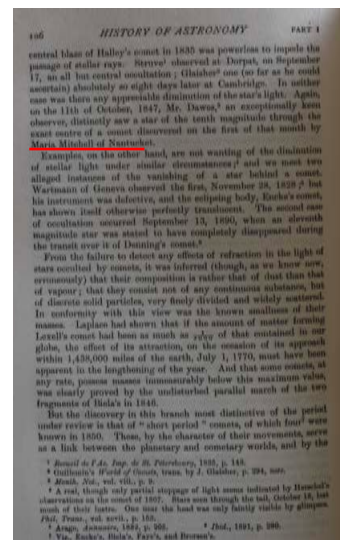
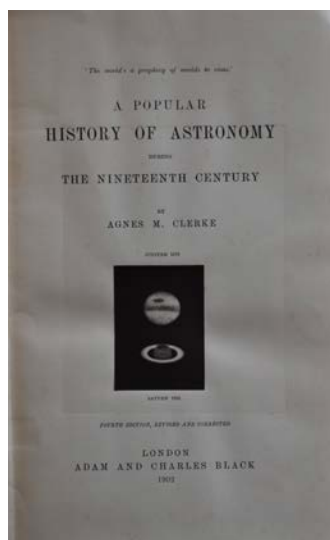
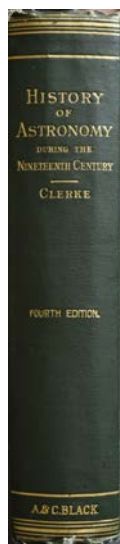
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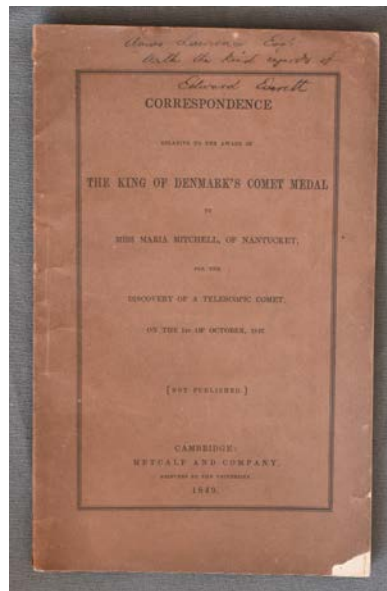
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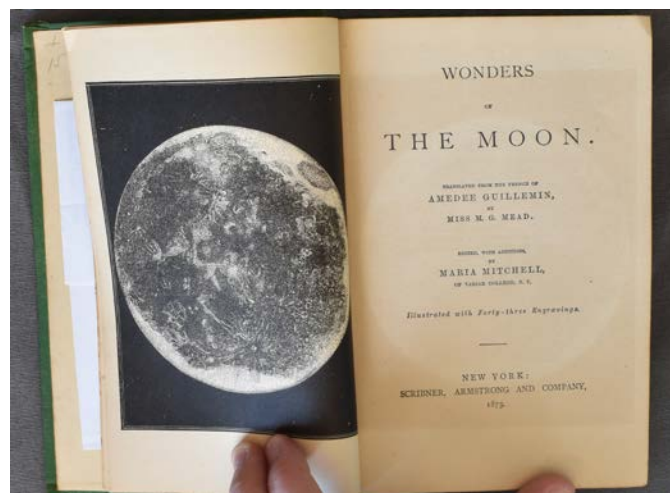
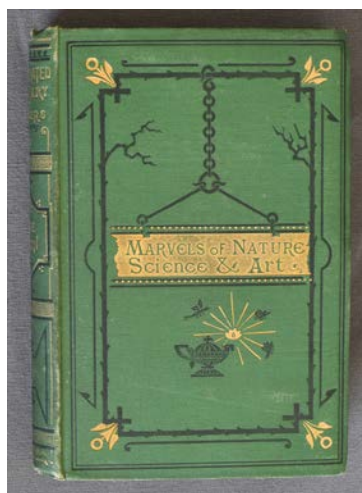
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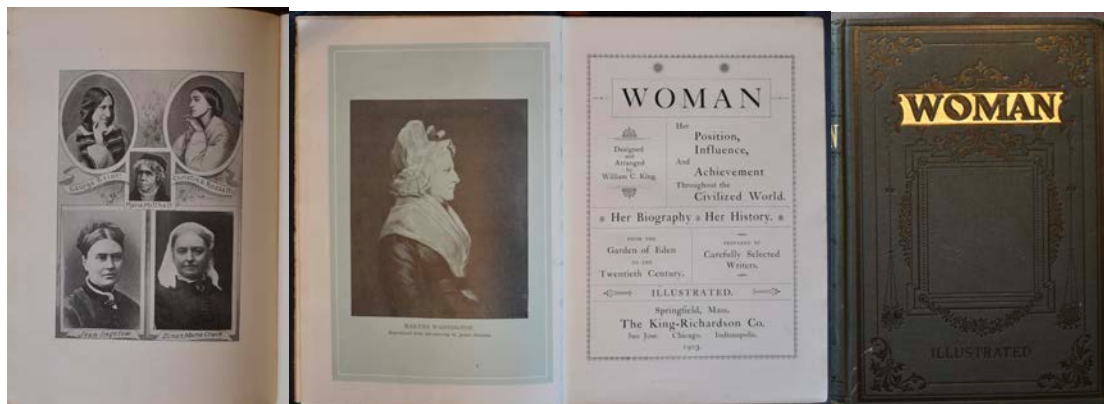
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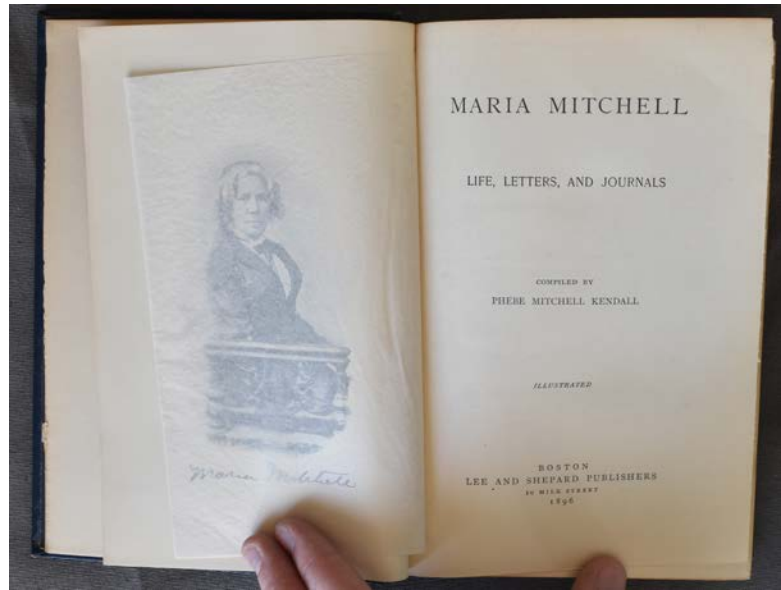
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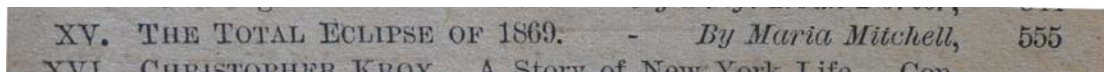
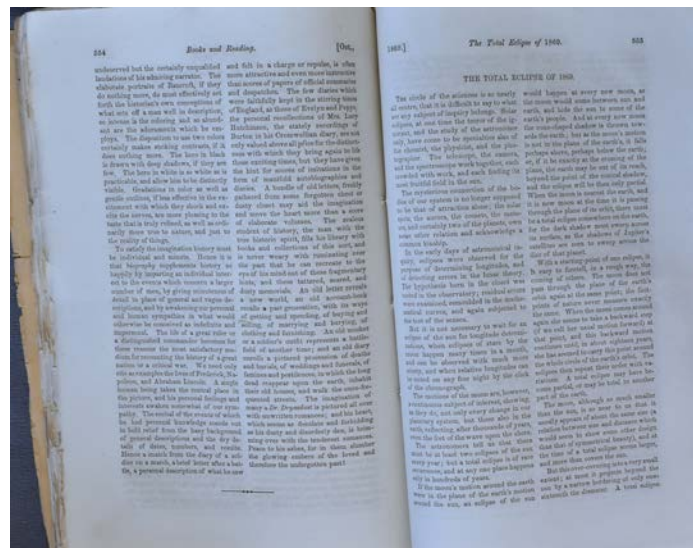
11. Massive Science (Matteo Farinella, Nadja Oertelt, Anastasia Gorelova, Yewande Pearse, Arianna Soldati, Ashley Marranzino, Berly McCoy, Brittney Borowiec, Christa Trexler, Farah Qaiser, Jack Barton, Jerald Pinson, Kathryn Vaillancourt & Lauren Reynolds). *Women of Science Tarot Deck*. 2019. Kickstarter Deck 399/500 in illustrated box with card signed by Matteo Farinella. Includes perfect bound guidebook. Maria Mitchell is included as the 8 Astro suit card.



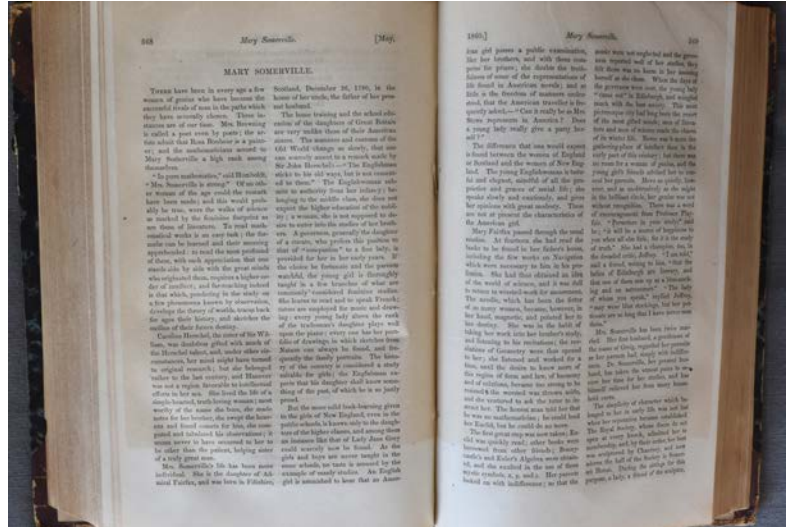
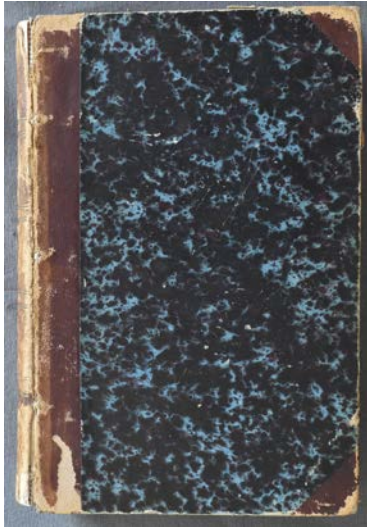
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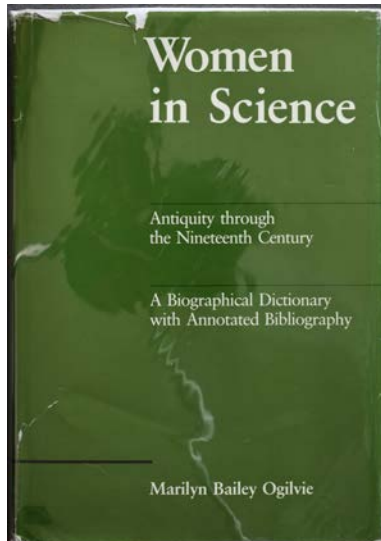
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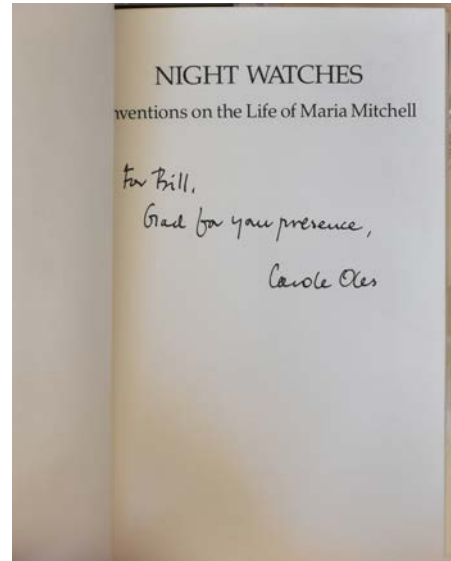
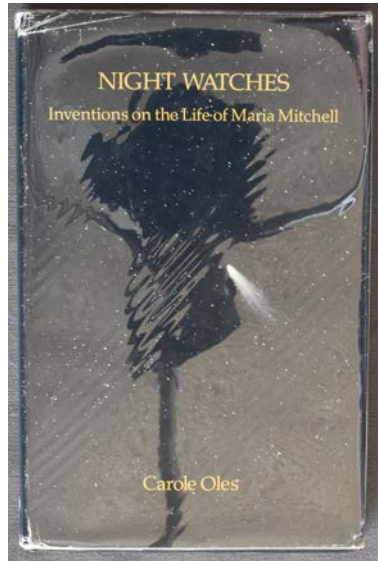
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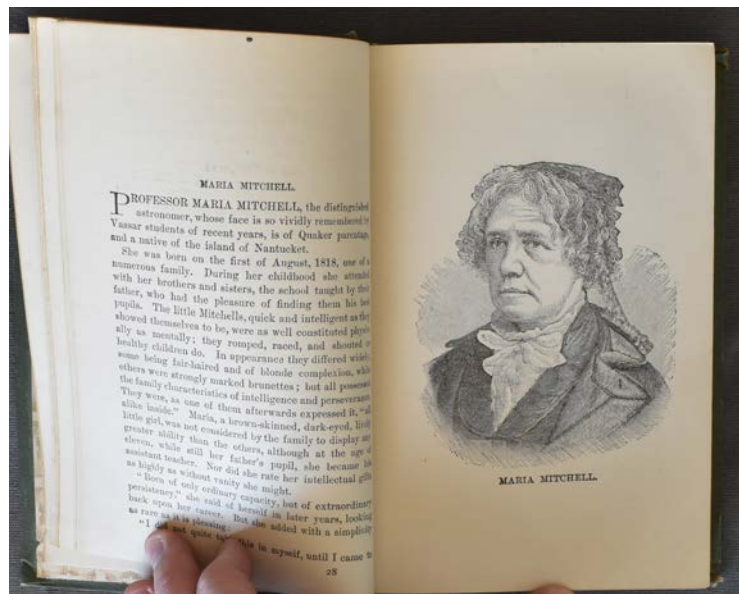
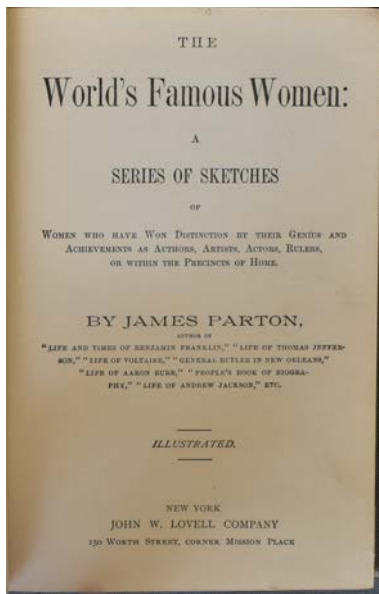
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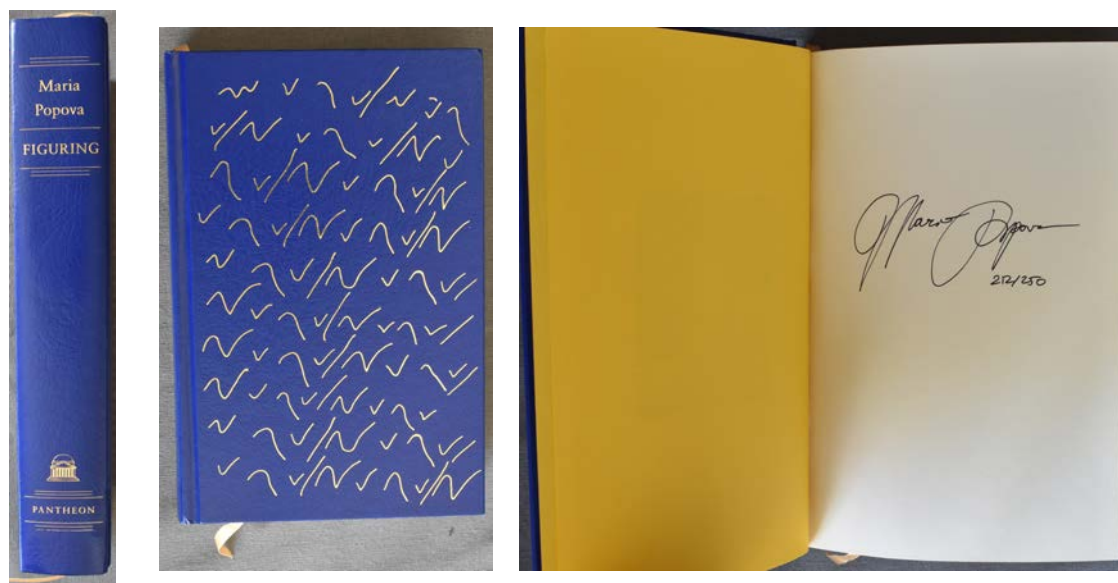
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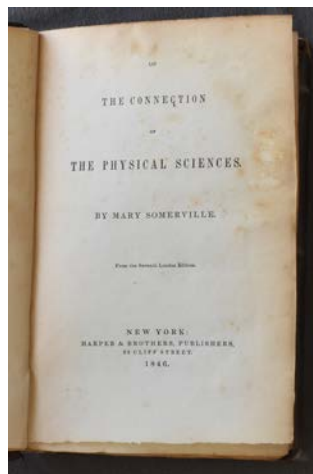
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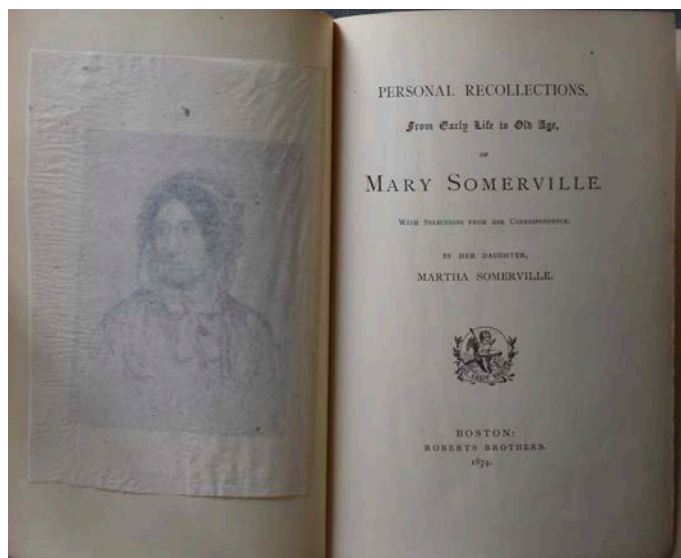
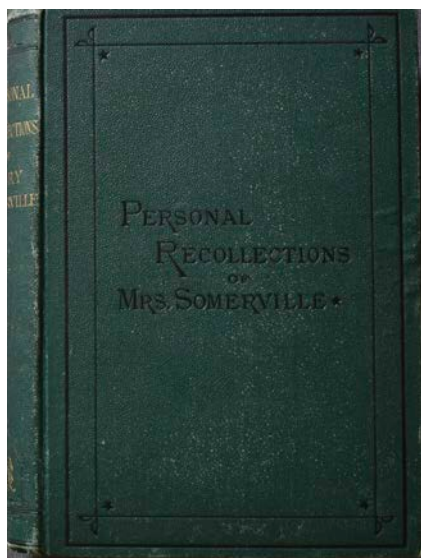
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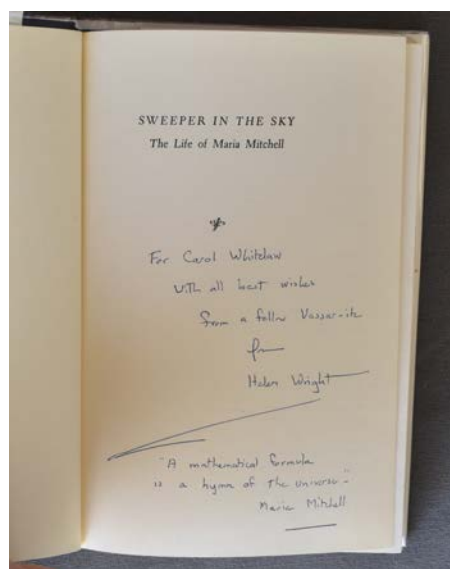
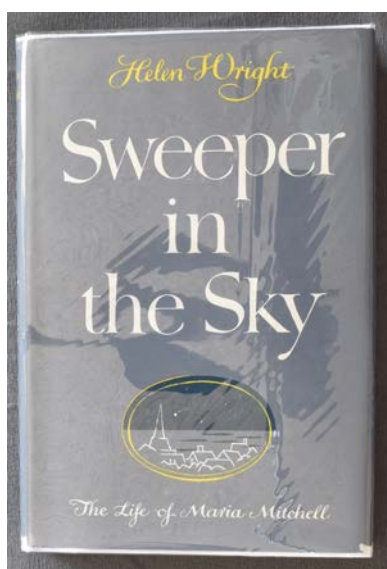
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22. Somerville, Mary and Martha. *Personal Recollections from Early Life to Old Age of Mary Somerville. With Selections from her Correspondence. By Her Daughter Martha Somerville.* Roberts Brothers, Boston, 1874. First American edition. Hardcover. Previous owner's name and nameplate with 1874 date on flyleaf. Wear to top of spine and small split in binding at the rear bottom of spine. Portrait of Mary Somerville opposite from title page. The Maria Mitchell Association catalog of Mitchell's books includes this title.



23. Wright, Helen. *Sweeper in the Sky: The Life of Maria Mitchell.* The Nantucket Maria Mitchell Association, 1959. First edition, fourth printing. Hardcover with dust jacket. Some chips and minor discoloration to edges of dust jacket. Signed and inscribed by the author to Carol Whitelaw with Maria Mitchell quote.



Wish List

- *Monthly Notices of the Royal Astronomical Society*, Volume 8, Issue 1, November 1847
 - This issue contains the paper “Miss Mitchell's Comet” which reports the discovery in 1847 of the comet for which Maria Mitchell became famous. This would push my collection as far back in time as possible in terms of Maria Mitchell’s scientific career, and it has proved particularly challenging to find.
- *Harper’s Weekly*, Saturday 24 August 1878.
 - This issue’s cover includes an engraving of Maria Mitchell, who led an expedition to observe the 1878 solar eclipse in Denver from Vassar College. All the observers on the team were women. Including this magazine would expand the ephemera related to Maria Mitchell and solar eclipses in the collection.
- Somerville, Mary. *A preliminary dissertation on the mechanism of the heavens*. Carey & Lea, Philadelphia, 1832, or later printing.
 - One of the Mary Somerville works that was in Maria Mitchell’s library list, this is also Mary Somerville’s work specifically on astronomy and would continue to collect copies of books about science by women that Maria Mitchell had in her own library.