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ST237 Final Research Essay

May 14, 2021

Maine Women Botanists and Their Overlooked Contributions

While botany is considered to be a very important part of Maine's natural history's past, the documentation of its history is not fully encompassing. One aspect that is overlooked within mainstream history is the roles women played during Maine botany's development. The lack of inclusion of women in scientific history often leads to the assumption that they simply did not make any contributions worth noting. However, I believe that the reason behind these gaps in history are a result of deep-rooted practices that were implemented during the eighteenth century entwined with the belief of female inferiority created by society to exclude women from the field of science. The argument that women did not play a large role in the development of Maine's botany fails to take into account all of the societal, religious, and political beliefs, or may I say prejudices, of the time. To combat this argument, using primary and secondary sources I explore the history of Women botanists in Maine, their contributions, the roles they played, and how they shaped its development. My findings show that as a result of the societal beliefs that created the privatization of the home and the professionalization of science, there were many barriers to women's participation in science, and the women who did break through the barriers and actively participated in the development of Maine botany were overlooked in history as a result of the usual narratives of the time period.

One Woman botanist who was accredited for her classification and drawing of Maine Flora is Kate Furbish. She began her botanical studies by collecting local plants and painting detailed botanical illustrations at a young age. For the most part she was a self-taught botanist

who traveled all throughout Maine to collect samples of flora. Many of her excursions were within untouched areas of the forests, but she was determined to go alone. While botany was technically a field open to women, Kate Furbish was an unusual female botanist for her time because her traveling alone was considered highly unconventional and dangerous. Often women of her time would go on botanical quests in groups or be joined by men for assistance and safety.¹ She was a small woman, her health wasn't great, she was raised by parents who owned a small hardware store in Brunswick, and she never married, which greatly limited her financial resources.² However, despite the odds stacked against her, by the 1880s due to her extensive and impressive work, she had earned the respect and admiration of many well-known botanists. She helped found the Josselyn Botanical Society of Maine in 1884 and was eventually elected to serve as its president later on. She had also been elected to be one of the vice presidents of the Maine Botanists Society.³ Eventually she found herself lecturing to groups of botanists as well as publishing botanical articles in the *American Naturalist*. Throughout her life and career, she was constantly reminded of her amateur status as a botanist, but her dedication to the study and collection of Maine plants as well as scientific accuracy earned her the respect of other amateur and even professional botanists that she corresponded and worked with over the years. However, the resurgence of her legacy was a result of a pure coincidence. One of the planets named after her, the Furbish lousewort, which had previously been believed to have been extinct, had been found along a riverbank which deauthorized The Dickey-Lincoln School dam project and saved over 80,000 acres of Maine forest.⁴ Her name, which had previously been left out of botany's history, suddenly became a central topic for environmentalists all across the United States during

¹Graham, Ada, and Frank Graham. *Kate Furbish and the Flora of Maine*. Tilbury House, 1995, 38.

² IBID, 3.

³ IBID, 123.

⁴ IBID, x.

the 1970s. The town of Brunswick even named an elementary school after her and decorated its hallways with her illustrations. Many of Kate Furbish's paintings are actually being housed at Bowdoin College in their Special Collections as well as some other documents such as letters she wrote, a script from a lecture she read to the PSNH in 1894, and notes.⁵ Many other primary source documents on Kate Furbish can also be found in Colby College's Special Collections due to the appreciation of her work in developing Maine botany. As a result of Kate Furbish's lifelong dedication to her work she helped develop the field of botany, and much of her contributions have been explored and appreciated in various science classes at Colby College as well. While she may not have received the support and credit she deserved while she was still alive, institutions in Maine, like Colby and Bowdoin as well as other botanical clubs, make an effort to keep her legacy alive through educating or simply appreciating her surviving botany work.

Furbish not only impacted Maine botany, but she also had close ties to Colby College as well. She was a close friend and colleague of Colby's Louise Coburn, who was a fellow Maine botanist and writer as well as one of the oldest female Colby alumnae. They both pursued science as well as an obligation of representing the interests of women in the fields of botany and journalism. Together, they accomplished important work for botany and advocated for women during a time it was needed. Coburn often covered news regarding the Josselyn Botanical Society of Maine, which Furbish co-founded, and through her writing she shows that the society was truly built on a shared passion for plants with the intention of creating a collaborative and welcoming environment for its members to further the study of botany.⁶ The society itself has

⁵Eastman, L. M. "The Portland Society of Natural History: The Rise and Fall of a Venerable Institution." *Northeastern Naturalist*, vol. 13, 2006, 29.

⁶Coburn, Louise. "The Josselyn Botanical Society of Maine." *The Maine Naturalist: journal of the Knox Academy of Arts and Sciences on the fauna, flora and geology of Maine*. (1921)

made sizable contributions to Maine botany and for a field highly saturated with men, the Society served as an opportunity for women to get involved in botany during that time. Coburn had also written an appreciation autobiography of Kate Furbish to show her tenacity in pursuit of a lifelong mission of botany. The appreciation contains information about Kate Furbish's early days in life, a photograph of her, and photographic reproductions of her Maine plants paintings showing the importance of friendship among Women botanists in Maine.⁷ Even though societal beliefs served as barriers to women's participation in science, Kate Furbish and Louise Coburn helped break through these barriers together. While Louise Coburn often wrote about botanical news regarding the Portland Society of Natural History and the successes of professional male botanists, she did regard the Josselyn Botanical Society as being one of the most important contributors to Maine botany's development.

Since many of the contributions women made to botany were overlooked and undocumented as a result of the usual narratives of the time period, documents written by Louise Coburn in particular help provide insight into the environment of the time and how women worked within this field. Other documents that covered the news of the Josselyn Botanical Society, the Portland Society of Natural History and general botanical developments such as the *Maine Naturalist*, the *Northeastern Naturalist*, the *Bulletin of the Josselyn Botanical Society*, and the *Boston Daily Globe* do offer some insight into the general environment of the field of botany during the Nineteenth and Twentieth century, but do not offer much information regarding women botanists. They particularly overlook many women's involvement in botany and fail to include them in the narrative of botany's development. This failure in a way does provide some answers about why there is such little documentation of women in science during the time

⁷ Coburn, Louise Helen. *Kate Furbish, Botanist: An Appreciation*. 1924.

period, but it still doesn't provide any explanations of how women were involved. Louise Coburn's writings, in contrast, do show how women were involved, which is very telling of how who is included in the narrative of science is often dependent upon those who are in charge of documenting it.

The exclusion of women in science, and more specifically Maine botany, can be traced back to the eighteenth century when according to Schiebinger in *The Mind Has No Sex?* that the Renaissance's era brought with it "new social settings for science" that led to women being banned from universities.⁸ As universities were on the rise, the opportunities for women were declining. The history of science shows that as a career becomes more prestigious, women participation often decreases.⁹ Oftentimes, even though women were highly discouraged from participating in complex science, they were encouraged to pursue sciences that "were domestically useful to which increase moral virtue."¹⁰ One of these sciences open to women was botany because it evolved to have an "unmanly" reputation and its close relations to herbal healing and gardening allowed it to be a suitable career option for women. While these careers were open to women, social standings often determined whether or not women could participate and what kind of science they could do.¹¹ The few women who were able to succeed in science were not awarded the decency to enjoy recognition for their work. Also, a very specifically placed barrier to entry was the fact that Latin had been selected to be the international communication between scholars precisely because few women read it.

Botany, compared to other sciences, was cheap because it didn't require access to any

⁸Schiebinger, Londa. *The Mind Has No Sex ?: Women in the Origins of Modern Science*. Harvard University Press, 1996, 12.

⁹IBID, 20.

¹⁰IBID, 241.

¹¹IBID, 65.

specific facilities and it didn't require many tools, and the tools needed were very inexpensive such as a tin box, a small lens, some books, and a supply of paper to press the plants into. The study of plants was also considered to be one of the easier sciences, since it mainly relied just upon using the taxonomy determined by Linnaeus and classification systems previously established to identify plants. Overall, botany was also considered to be pious since it was associated with the natural theology that plants were connected to the confirmation of God's existence and goodness.¹² Therefore, it was appropriate for women and children to collect plants since they were able to study god's creation without having to observe any of the potential dangers that came along with observing animals. Furthermore, the study of botany was considered to be one of the more feminine sciences of the time since it was very unladylike to kill or dissect animals, flower collecting, arranging, and painting was more appropriate since it played into the domestic and traditional skills of women passed down through generations. Botany was also considered to be a health hobby since it required outdoor exercise within nature and allowed botanists to meet other botanists in the field. On some levels it was even seen as an extension to the interest in gardening within the middle class during the Victorian era.

While these things made botany more popular for those on the outer edges of society to participate, it also threatened botany's standing as a serious science in the eyes of the scientific community. The inclusion of women in botany created some issues for influential botanists who had wished to pursue full time careers as botanists and wanted to be considered practitioners of a highly renowned science. There was a history of struggles between the self-appointed male elites who wanted botany redefined as a serious science and the group of women participants who wanted to practice botany to improve their understanding of nature, God, and enjoy it as a

¹²IBID, 241.

hobby.¹³ This led to a large split between the community of botanists that heavily influenced the role of women within the field for years after. With the industrialization of the Victorian era, there was a shift of interest towards factories and machines, but more people actually became interested in botany and gardening. As a result, many government-owned gardens were established, which isn't necessarily natural botany, but it still influenced the development of the field. Around this time, botanical societies were also beginning to be established as a way for more people to get involved.

In general, women, despite how productive they have been in science, have long been overlooked by scientific historians. As a result, the intersection of women and science is extremely underexplored, especially in terms of the roles that women played in their professional lives.¹⁴ This may be due to the fact that women played a large role in freeing “science from its professional constraints by making it more accessible to laypeople.”¹⁵ Women typically kept a low profile in their careers and focused on creating networks of colleagues and supporters while men focused on creating a culture of competition centered around celebrating and awarding individual achievement. Their alternative methods to practicing science actually challenged “institutional inequities and democratized the knowledge and resources of science”¹⁶ Women defined scientific success differently from men and focused on research and outreach activities such as making science available to people on the margins of society and science, and as a result women advanced science in the United States in their own way that was different from how men did. Often these scientific advancements are overlooked because they were not the same as their

¹³IBID, 245.

¹⁴Leslie Madsen-Brooks. “Challenging Science as Usual: Women's Participation in American Natural History Museum Work, 1870–1950.” *Journal of Women's History*, vol. 21, no. 2, 2009, 13.

¹⁵IBID, 13.

¹⁶IBID, 13.

men counterparts. Unfortunately, the history of science fails to look beyond everyday mainstream work activities and doesn't take into account outreach activities as qualifying towards scientific success.¹⁷ Therefore, historians should evolve to “expand the definition of what counts as natural science beyond collecting, naming, organizing, and researching specimens.”¹⁸ Under a new definition, women's efforts to progress science through including individuals on the margins of society would be considered as advancing science. Unfortunately, the history of science has not evolved to be fully inclusive of women's contributions to the advancement of science, which plays a large role in the history of botany in Maine.

In terms of United States botany in specific, women were very rarely considered professional botanists in the Nineteenth century, but they did make up a large part of the overall botanical community and played a role in making the field more accessible and popular. However, “sexual discrimination was an additional and particularly oppressive form of segregation stratification which suppressed their achievement by at least half” which clearly went against the idea that the scientific community was a welcoming and safe environment.¹⁹ There were a few women who became professional botanists and made important contributions to the development of the field who deserved more credit than they received. Since many of the women's contributions to the development of botany fit into the categories of plant collecting, research, and participation in organizations, their significant work went unrecognized. Within these categories were activities such as “making herbarium specimens; writing observational notes, and in a few instances scientific papers and books; being active in and sometimes officers of botanical societies, and being an amateur audience for the profession of botany,” which were

¹⁷IBID, 31.

¹⁸IBID, 31.

¹⁹Rudolph, Emanuel D. “Women in Nineteenth Century American Botany; A Generally Unrecognized Constituency.” *American Journal of Botany*, vol. 69, no. 8, 1982, 1346.

activities that allowed women to contribute a substantial amount to botany.²⁰ Even women who made scientific contributions of the same level that were made by their male counterparts, often didn't receive credit either.

Since botany had been approved to be a suitable career path for young women in the United States, a shocking number of women were interested in the field. According to the 1873 published directory of American botanists, "13 percent of the 599 names are women's and that increased to 16 percent of the 982 names in 1878."²¹ According to Emanuel Rudolph in a study covered in *Women in Nineteenth Century American Botany; A Generally Unrecognized Constituency*, "1,185 women have been identified as a sample of those actively interested in botany during the century. Less than 2% of them were active before 1870, and most of them, 67%, resided in New England and the Middle Atlantic States. Almost three quarters of them were unmarried, and only 10% had higher educational degrees although 15% had some identifiable profession."²² Interestingly, there are some particular women, not many but a few individuals, who did receive credit for their contributions through activities such as collecting plants and supporting botanical societies.

Overall, Maine science, including botany, was overly saturated with men because it was a privatized field that often required a college degree for participation. While women were technically allowed to participate, it was necessarily inclusive by any means. As a result, women often participated by working individually, joining societies, or creating their own communities through outreach activities. Due to the definition of what constitutes scientific contributions and the biases surrounding women during the time periods explored, there is an overwhelming lack

²⁰IBID, 1354.

²¹IBID, 1346.

²²IBID, 1346.

of documentation and accreditation to women and their contributions to Maine botany. The few women who were able to succeed in botany were not awarded the decency to enjoy recognition for their contributions. However, there was an incredible amount of collaboration that happened within the botany community in Maine, with women sticking together, leaning on each other, and pursuing their passions together when they weren't welcome to fully participate in the mainstream botany scene. Oftentimes, women scientists were trying to work in a field that was actively working against them, and the exclusivity of Maine botany is not an exception.

Science is made up of its contributors and giving a voice to those who were previously left out of the narrative is more important than ever, whether it's to those who weren't awarded credit due to society's focus on what constitutes scientific achievement or those who were written out because of their identity. Historical writings focused on giving women voices in the narrative of modern science's development provide deeper insights and take into account all of the possible influences that determined the scientific advancements that created the modern botany we see today. As I set out to provide a written documentation and appreciation of women botanists that have remained largely invisible within the history of science, I was met with an overwhelming lack of documentation of women botanists' contributions. Addressing the gender differences that plague our society based in economic, political, and cultural realms, and uncovering the undocumented scientific achievements of women scientists is an important step in moving forward and developing the history of science. Science and women share a very intimate history and while botanists such as Kate Furbish have worked to blur these harsh gender lines, there is still much work to be done in science and society to ensure that the women of the future are awarded fair opportunities to make their contributions to science without facing unjust claims of inadequacy.

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