

She Had the Misfortune of Being a Woman

The Story of Hannah Croasdale, Pioneer in Algae and Academia

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“We’re very sorry, but you missed the application deadline.” Admissions officers at Swarthmore were surprised by the bright-eyed young Hannah Croasdale and her mother, who visited campus from their nearby home in the spring of 1924, hoping to find Hannah a spot in their incoming freshman classⁱ. Hannah was graduating near the top of her class, a straight-A student, but hadn’t thought about college until her mother mentioned the idea. They were far too late to get her into Swarthmore, but what was at the time a discouraging setback actually launched young Hannah into an impressive and then unparalleled career in the sciences. She would go on to become an internationally renowned phycologist, invaluable member of the scientific community and authority on algae and desmids, as well as the first tenured female faculty member and full Professor in Arts and Sciences at the then all-male Dartmouth College in Hanover, New Hampshire.

As is the case when any glass ceiling is finally shattered, Hannah Croasdale’s extraordinary career was the result of a rare alignment of several necessary conditions. She exemplifies the need for positive female role models—though she lacked female mentors within her career, her childhood was marked by the influence of strong women; unwavering male allies—she was the beneficiary of positive attention from influential men at Dartmouth; and a field which was quantifiable so as to make her research and intellectual prowess indisputable.

Hannah Thompson Croasdale was born in 1905 in Berwyn, Pennsylvania to John Pusey and Mary Croasdaleⁱⁱ. John was a prominent lawyer and member of the Franklin Institute and the Historical Society of Pennsylvaniaⁱⁱⁱ and instilled in his two children a devout respect for education. The family lived in an old inn that the Croasdales—as well as the local papers and all of their neighbors—believed was home to a ghost^{iv}. Mary Croasdale’s extended family lived nearby, and there were always cousins around to play with. Hannah was frequently sick as a child, attributed in hindsight to a lactose intolerance, and that kept her at home in her early years instead of joining her brother Jack, whom she idolized, at the local public school. Because of that illness, Hannah was taught at home by her mother, an impressive woman in her own right who was very engaged in the community. A member of a group of local housewives referred to as “Them Damn Women,”^v her mother had a hand in the school board and the police, and was even

outspoken on issues that plagued the town, like eradicating the Ku Klux Klan and advocating for women's suffrage. In her very early years, her paternal grandmother—Hannah Croasdale as well, the woman from whom she took her name—lived with the family^{vi}. Hannah's grandmother had been one of the first practicing female physicians in the city of Philadelphia, and Hannah carried memories of her sharp dinner conversation and luxurious belongings with her and recalled them fondly. The powerful women Hannah saw at an impressionable age prevented her from internalizing the message at the time that women could not accomplish as much as their male equals. She was even allowed to wear pants at home, if necessary. Hannah started at the public school in the sixth grade^{vii}, and though she had been surrounded by books and encouraged to learn as a child, she found school tedious and exhausting. World War I domineered news headlines as Hannah attended grade school. Her freshman year of high school women were granted suffrage, a context that must have colored how she viewed her role in society. For much of her early education, Hannah passed the time with “mischief,”^{viii} but eventually her full potential was realized when her companions, mostly older cousins, graduated and left her with nothing to do but study. There at Radnor High School^{ix}, she was involved in English Club and French Club and played on the school's basketball team. She quickly rose to the top of the class. In the spring of her senior year, her mother mentioned college to her, and Hannah decided that she'd “like to go.”^x Jack had completed one year at the University of Pennsylvania^{xi}, their father's alma mater, before leaving due to pneumonia. He never went back. After deciding that Bryn Mawr, the all-women institution near their home, wasn't the proper environment for her^{xii}—she was used to male peers—and after having been turned away at Swarthmore, Hannah joined the long line of Croasdales at the University of Pennsylvania, and unknowingly started herself on an uncharted path.

In the fall of 1924, Hannah matriculated at Penn and found herself in a jarring new environment. Women were allowed, technically, at the school, but they were still very much “second-class citizens,” as she described them^{xiii}. Hannah remembered being kept from enrolling in courses required for her degree, simply because professors chose not to teach to women. It was worse, she said, for the female students living on campus—Hannah commuted by train each day for all four years and continued to do so for her graduate education. She studied on the train and would help with chores around the family farm when she got home at night. She also got to spend time with her family, especially her mother, who “went into politics”^{xiv} when Hannah left home, and the slew of cousins that lived in the area. This allowed her to distance herself from the

political atmosphere on campus in Philadelphia. The numbness or toleration she developed was a skill she learned quickly and would help her later in her career. “It didn’t bother me,” she said^{xv}. But the fact is that women weren’t allowed even inside certain buildings on campus and were prohibited from singing school songs or cheering at football games, and according to Hannah^{xvi}, only three majors were open to female students: education, architecture, and biology¹. She picked biology.

The Biology Department at Penn^{xvii} was very receptive, she recalled^{xviii}, to female students taking classes, though they were the extreme minority. Penn had a language requirement at the time, and Hannah quickly discovered that other departments were not as thrilled at the presence of female students. In one French classroom, Hannah recalled entering and being stopped by the professor, who exclaimed, “You may look around the classroom, *mademoiselle*, and you’ll see that we have no women in this classroom. I do not intend to change that rule.”^{xix} Hannah excelled in her studies, but upon graduation with her Bachelor of Science degree, could not be inducted into Phi Beta Kappa because such an honor was not available to women at the time. She returned to Penn for her graduate studies and was awarded the recognition she had earned by the time she graduated with her Master’s^{xx}. She’d discovered her love of algae early and told her advisor that she’d like to get her Master’s specializing in desmids, a primitive type of algae. “He said ‘no, far too difficult for you,’” she recalled. “Well, that’s an inspiration to anybody.”^{xxi} Hannah continued at Penn through her Ph.D.^{xxii}; her thesis, *The Freshwater Algae of Woods Hole, Mass*, was awarded the Sigma Xi Prize.

She had been taking courses and conducting research at Woods Hole Marine Biological Laboratory in the summers, and that was where she took the samples for her Ph.D. thesis. Eventually, she worked there, as a botany collector and later as a course instructor. “The joy in my life started when I started going to Woods Hole in the summers,” she said^{xxiii}. The experiences she had at Woods Hole in the summers were arguably more influential on her development into a confident scientist than any instruction she received at Penn. At Woods Hole, Hannah belonged—she was an equal, a peer, and eventually, a crucial cog in their machine.

¹ These three majors may seem surprising. While our modern lens may suggest more humanities-bent majors as the ones that would’ve been first open to women, or some combination of nursing, education, and social service, the trend for biology to be open to women seems to be across institutions. The Penn Archives say that the Department of Biology was founded there in 1884 “to provide a course of instruction in Biology for students of both sexes who are preparing to study medicine, or who desire systematic training in this subject.” Biology as a pipeline for medicine may be the answer to this puzzle.

Furthermore, she wasn't even a minority^{xxiv}; classes at Woods Hole were almost equally populated with male and female students^{xxv}. She lived with other women scientists in a house they rented together, and a group of them even co-owned a sloop that they used for collecting algae samples. The boat, called the "Ginger-Ann,"^{xxvi} infamously sunk during its maiden voyage after getting caught in a thunderstorm. The sailing party was rescued by the Coast Guard in the middle of the night and the incident was reported in numerous papers. The adventure, described by Hannah as "a great day"^{xxvii} despite being thrown to the deck of the boat during the worst of the winds, was just one of the hundreds of moments that gave her the chance to figure out how to navigate uncertainty. The incident was described by contemporary and friend Margie McCouch as "a sample of the kind of frolic any scientist might have been in in those high and far-off times at Woods Hole."^{xxviii} Surviving on a beach in a thunderstorm after having been shipwrecked wouldn't be the hardest conditions she'd have to endure, but her ability to look upon that experience and others with a thrill prepared her for her future career.

It was at Woods Hole that Hannah met her life-long friend Dorothy Stewart^{xxix}, another female student studying there. Her father, Dr. C. C. Stewart, happened to need a research assistant for his work at Dartmouth College. Dorothy convinced him to give the position to Hannah, regardless of the fact that the subject matter—nerves in frogs—was nothing close to Hannah's area of expertise. "I'd get the poor frog all tied up, and I'd have to stimulate its little nerve every two minutes for an hour, and then there was nothing to do for two minutes,"^{xxx} Hannah said. She took the downtime in the lab as an opportunity to teach herself Norwegian^{xxxi}—languages had always been an interest of hers that would prove a much-needed skill later in her life. Her skills later expanded to have dabbled in French, Italian, Latin, and German, as well. Needless to say, the Ph.D. specialist in algae found her time in the Physiology Department quite unfulfilling. She and Dr. Stewart did not get along well, but it was Hannah's foot in the door at a whole new institution full of opportunities, and she noticed a stark difference in the feeling on campus than the one she'd grown used to at Penn. While Dartmouth was still all-male when Penn had at least accepted her as a student, the culture showed its masculinity in different ways. "I didn't feel that I was needed at Dartmouth, but it was open to [women], I could do as much as I wanted,"^{xxxii} she said. Hannah wasn't prohibited from buildings, and she remembered how excited she was to cheer at football games. "I didn't have much to compare it to," she said in an interview. "I wasn't in a position to criticize."^{xxxiii} That was the attitude that buoyed her through her early years at the College.

For the first fifteen years that Hannah lived in Hanover, she stayed with Dr. Poole^{xxxiv}, a Professor of Botany at the College who she'd met at Woods Hole. His family took her in, and while she paid them rent, she was treated largely like a member of the family, befriending his daughters and wife. Hannah had accidentally stumbled into a very powerful friend—Poole was a senior faculty member with considerable clout at the College. After two years toiling in the Department of Physiology in the medical school, it became clear to Hannah that Professor Stewart wouldn't be publishing his research, as he was in a feud with the journal that had published his earlier work, so Hannah looked elsewhere^{xxxv}. In the summer of 1937, Hannah was once again at Woods Hole and saw a flyer for a job opening in the Department of Zoology at Dartmouth as a Technical Assistant. She sent her job application to a W. W. Ballard^{xxxvi}, and she got the position, beginning her career in the department in 1938.

Her arrival on campus there in Silsby Hall was much to the dismay of many senior faculty members, perhaps most notably Dr. L. Griggs, who “highly disapproved of having a woman in the building, and wouldn't speak to me,”^{xxxvii} she recalls, noting that she would drop her eyes in the hallways when she passed him, and certainly never dared speak to him. Eventually, Griggs needed microscope slides made before his 8 am class, and Hannah was the only one around who could use the machine. Things warmed between them after that. While today, many women would not consider that the start of a “friendship,” since Griggs refused to speak to her until she was of some direct value to him, Hannah was content with the fact that his treatment of her had changed—she remembered him fondly and described him as a “friend.” What she had quickly come to expect from her male colleagues was dismissal, or, at best, toleration.

Hannah continued as the Technical Assistant in the Department of Zoology until 1952^{xxxviii}, 14 years after she took the job in 1938. Despite being older and more educated than some of her male colleagues, Hannah still was not in a position to advocate for promotions, raises, or even simply more responsibility—and she had plenty to do. Professors, Assistant Professors, everyone each had something they needed from her, and she was tasked with making slides and instructional materials for a variety of classes in the department, keeping the supplies organized and retrieving materials, and generally keeping the department running. One of the worst offenders^{xxxix} was Professor W. W. Ballard, described by eventual Dean of Faculty Leonard Rieser as “king” of the Zoology Department^{xl} and described by Hannah as “the big shot in Zoology...we lived in his awe.”^{xli} It should be noted that she was the same age as Bill Ballard,

having graduated their respective undergraduate programs in the same year, the two would eventually go on to retire in the same year, despite having starkly different experiences throughout their careers.

Every detail, down to the paperwork she filled out, was designed for men and left very little room for her. The employment records kept by the college^{xliii} had a line for the name of the employee and a line for the employee's wife, for almost her entire career at Dartmouth. As much as she anticipated not feeling quite at home in the department, she was oversaturated with reminders at every turn that she was not expected.

Regardless of what was happening on campus in Hanover, Hannah had her beloved Woods Hole to return to in the summers. It was there that she was first allowed to teach—not at Dartmouth. Yet again, the Marine Biological Laboratory gave her the space to grow as a scientist so that when the College tested her, she would pass. She could get experience giving lectures to crowds, she could broaden her network of other niche phycologists, and she could collect samples for her own research, all while feeling “like a real sailor.”^{xliiii} High and far-off times, indeed.

A hurricane struck Hanover and Hannah took it upon herself to help neighbors with their fallen trees. She was comfortable, skilled even, with an axe—her father had taught her how to swing one. “I went forth to cut down trees in spare hours,” she said. “So I made friends that way, helping clear up several houses.”^{xliv} Though she never got as involved in the politics of her small town the way her mother had, the responsibility for one's community had clearly stuck with her.

World War II arrived in Hanover, as it did everywhere, rather suddenly and demanding the extra energy of every citizen. Tasks in town were quickly divided up, and Hannah soon found that all that was left in need of volunteers were the nursery and the fire department. To the surprise of everyone in town but no one in hindsight, Hannah approached the Chief of the Fire Department and convinced him to take her on as a volunteer. She was, of course, the first woman to do this, and she never shied away from a little excitement. A female firefighter was such an exotic sight that an article was written about her in *The New Hampshire Morning Union*, and when interviewed, Hannah said, “There is no reason why a woman can't make a good fireman, if she is willing to work hard and learn.”^{xlv} Fortunately for Hannah, working hard and learning were challenges she sought out. The article also noted that “firemen were skeptical, but they were also short of men.”^{xlvi} In typical Hannah style, she quickly proved herself invaluable in the department, small enough to fit in tight spaces, light enough to go up the ladder. In 1963, she was

awarded lifetime membership and voting rights in the Hanover Volunteer Hose Company^{xlvii}. It was one of the things she was proudest of, and when her house burned down in 1989^{xlviii}, she stood with neighbors and told them stories of her time in the department—fond memories, adventures.

The post-war high of the 1950s did not bring with it the prosperity for Hannah that it did for some. In fact, she was growing increasingly frustrated with her working conditions, rather than flourishing as many Americans found themselves. Hannah received a grant from the Arctic Institute and traveled to Alaska with a female scientist who specialized in mosses. They made quite the scene: just two women, trekking around the wilderness of Alaska, collecting samples and feeding their curiosities. After the death of her father, her mother moved to Hanover and lived with her, but found her responsibilities in the Zoology Department so suffocating she barely had a spare minute to devote to the samples she'd traveled so far to collect. By the time of her grant she was already well established as a phycologist to watch. It was when she started publishing work with great regularity that the advantage of her field being so quantifiable really demonstrated itself. Had Hannah been in the humanities, perhaps she never would've been promoted, but there came a point that, try as they might to ignore her, Hannah's colleagues had to acknowledge her reputation and authority. It is much easier to dismiss qualitative thoughts—literature, philosophy, history, art—than it is original research. She was out in the wilderness discovering species that had never been documented before. Since today, STEM fields are generally thought of as the areas most lacking in female representation, this fact may come as a surprise to those in modern academia. However, Hannah's advancement using quantifiable skills is the trend, not the exception. All of the other "firsts" at the College have similar stories^{xlix}: the first female Visiting Professor was a Professor of Math, the first female full Professor was a Professor of Biochemistry in the Medical School, and the first woman to join the faculty, an Associate Professor, was in the Russian Civilization Department—languages were, at the time, treated very much as a technical skill. So despite the frustrations she faced in the 1950s, Hannah was able to stick around because of the research she was doing.

"The median salary for male professors nationally in [1959] was \$9,179; women professors were earning \$7,899."^l Hannah was making \$6,900^{li}. It is a challenge to accurately convert these numbers into their equivalence today, but we do know that this gap of \$2,819 constitutes 40.85% of her total salary. While today we might think of a \$2,000 difference between the salaries of college professors as insignificant, a 40% increase of her salary would've

been unthinkable. Even if compared only to the average salary for female professors at that time—still a relatively low number—the increase in salary she would've received to catch up to the national average would've been a 14.47% increase. Even among other discriminated individuals, Hannah was a rare case. She likely wouldn't have been able to support herself without the royalty checks she was receiving from her illustration work on C. L. Wilson's book *Botany*, which was taking the market by storm. Her salary from the College was almost unlivable, and she had her ailing mother to support.

Because of the royalty checks she was receiving, Hannah was able to travel—for business, of course. Her mother had family from Scotland, so the two decided a trip to Europe would be educational. Hannah left her mother in the U.K. for a few weeks to explore while she traveled on to Scandinavia to finally meet some contemporaries of hers doing avant-garde research she was fascinated by. During their first trip to Europe, Hannah met with Einar Tieling in Sweden, and Rolf Grönblad in Finland^{lii} and began a long personal and professional friendship with both men. Communicating for the next few years only via letter, Hannah began collaborating with her new contacts in Scandinavia and even helped Tieling with finishing drawings for his work on desmids, her area of expertise. She only saw him twice, for three days in 1951 and two days in 1955 when she and her mother returned to the continent. This was her first big leap towards the international reputation she quickly found herself possessing, and an important opportunity for her to find respect and peers outside of the suffocating Dartmouth community with which she was growing frustrated.

Hannah started teaching classes in the 50s unofficially. She first taught a course on “Research in Biology” and all credit went to the Chair of Research in Botany. “I went on teaching that way, year after year, with an increasing crowd,” Hannah said. “I said, ‘I’m teaching, why won’t I get to be a member of the faculty?’ And [the Dean] says, ‘no, we don’t have women faculty members.’”^{liii} It is unclear if the Dean was unaware of the handful of other women, in a variety of departments, who had over the years become instructors at the College, or if Hannah remembered the incident as harsher than it had actually occurred. While both have their own implications, the fact that this is how Hannah remembered the conversation is still significant. Despite bearing the brunt of the work for that class and others, she was not recognized as the instructor, and was not given a classroom or a budget for materials. This anecdote was noteworthy enough to mention in an interview, but still was not out of line with the behavior Hannah was accustomed to.

Another such behavior, and one so colored by our modern perspective, is the culture and prevalence of sexual harassment. Hannah never reported anything, so there is no evidence documenting a particular incident. However, the phrase “sexual harassment” itself was not first used until the mid 1970s at Cornell University, according to *The Washington Post*^{liv}—that is, after Hannah had already retired from the College. She wouldn’t have had the language at her disposal to describe such behavior if she was experiencing it. So, was Hannah sexually harassed? It seems likely. The lack of tangible evidence neither allows us to assume this was how she was treated or rule out this behavior. She likely wouldn’t have thought it anything out of the ordinary and therefore wouldn’t have reported an incident, unless perhaps she was assaulted, which we have no record of. Our present definition of sexual harassment includes a broad range of behaviors, including inappropriate comments. She implied some of this during recollections of her time as an undergraduate—however her lack of mentioning it says more about the way she expected to be treated than the way that she actually was. A woman entering the workforce in 1935 knew she would draw a certain kind of attention from her male colleagues; it was an unfortunate fact of life.

After having expressed a desire to conduct more research to eventual Dean and then-Deputy Provost Leonard Rieser, he helped her write the grant proposal to the National Science Foundation (NSF), even sending her samples of previous cover letters that had been successful^{lv}. This suggests both his confidence in her legitimacy as a candidate and his confidence in the lack of aid she would’ve received within her own department had he not stepped in and personally helped her. She received NSF grants in 1953 and 1961^{lvi}.

In 1959, Hannah finally asked for a meeting with Rieser, allowing her growing frustrations with the situation in the department to spill over. She focused on her lack of time available to conduct her own research—the samples she’d collected on her trip to Alaska were mostly still untouched—rather than complaining about the amount of work or the disrespect she faced among her peers. It was hardly the dramatic climax of decades of mistreatment that modern feminists looking for a hero retroactively might wish it to have been; the conversation was simple, quiet, and lasted around an hour in her humble office in Silsby Hall. Hannah unknowingly made a powerful ally in Rieser that day. Rieser was himself a scientist, a Professor in the Physics Department who had worked on the Manhattan Project fresh out of his time as an undergraduate at the University of Chicago^{lvii}. As a young Professor, he was rocketing through the ranks of the College administration, and he was appalled at what Hannah told him. That

meeting began an investigation by Rieser and his colleagues to prove Hannah deserved a promotion, most of which Hannah remained unaware of. Fortunately for historians, Rieser and Arthur Jensen, then Dean of Faculty, left behind a detailed paper trail of their own exchanges discussing the matter, as well as letters to the most powerful men in the Zoology Department, attempting to corroborate how Hannah had described her treatment. Rieser chose his language carefully, saying that “this is not to imply in any sense that she is dissatisfied with Dartmouth” but that she “seeks to further increase her dignity as a full-fledged participant.”^{lviii} Her colleagues’ answers to the letter ranged from sympathetic to aggressive, though even the most dismissive still acknowledged her scientific prowess.

Professor J. H. Copenhaver was, at the time, on sabbatical at Stanford^{lix}, so his answers to Reiser’s questions were luckily recorded on paper. He wrote in September of 1960, “the members of the Department probably have taken advantage of her,” but that because he was “fairly well convinced that Hannah could have moved to the faculty of any number of schools between 1940 and 1950 but she chose to stay in Hanover knowing what the situation was,” he was “not too sympathetic with her feelings, as this letter implies.”^{lx} While his assessment of the situation may have been correct, the jobs he was referring to were largely at the Seven Sisters, and Hannah spoke about not wanting to attend Bryn Mawr, suggesting that she viewed women’s colleges as “finishing schools,” and despite her mistreatment, felt more at home around male peers. Despite his comments, Copenhaver later became one of Hannah’s more vocal allies in the department, another one of her connections she stumbled into accidentally and proved to be quite a powerful friend. For us looking back in hindsight, however, he is especially important as an example of an ally whose tone sometimes betrays his true intentions. Copenhaver balanced compliments with a stark lack of sympathy, yet advocated for her as ardently as almost anyone else, except perhaps Rieser. His comments demonstrate the type of advocacy Hannah would have thought of as a best-case scenario. Later in the same letter, he goes on to remark:

“[Hannah] is very good in small classes. She has not been used to the full extent in Zoo 3 or Life Sciences because she has not too much patience with beginners and tends to be waspish and she is refractory to suggestions that she teach in labs ‘about which she knows nothing’ (her definition). In many such cases I’m quite sure that she knows more about it than most of us, but we have a hard time altering her position. I’m sure that we could get more such work out of her if we could flatter her fleeting mercurial vanity at the right time. When she tolerates the beginning students she is very good.”^{lxi}

At the time, this was probably construed as a largely positive statement. He did, after all, acknowledge her competence. It is almost impossible to separate out any contextual resentment or bias he may have had in the moment from his true feelings for her. Despite Copenhaver's more incendiary remarks—*"fleeting mercurial vanity"*—he does clearly find her a brilliant scientist. This letter was one of many, though perhaps none from a man as important at the college and as ingrained in Hannah's situation.

Responses to his questions trickled in and Rieser sprang into action. He collected all of these opinions and assembled them for the Dean's Files in Parkhurst Hall, materials he referred to in shorthand as the "Croasdale Memos." Jensen wrote for those files that "Dr. Croasdale had the misfortune of being a woman... in the Depression, she accepted a position as a technician in the Zoology Department even though her Ph.D. and obvious scientific competence warranted a much better job... There is no question of her scientific competence. Copenhaver told me that she is one of the half dozen best algologists in the country."^{lxii}

Shortly after that all-important meeting in her Silsby office, Hannah received word in a letter from Dean Jensen that she was being promoted to Research Associate with the rank of Assistant Professor. She wrote in response:

"I am very glad to have risen at last above the rank of instructor. Thank you also for getting me another increase in salary. It gives me a feeling of financial security that I have not had for years. I had a rather heavy dose of teaching last term, with both Technic and Algae, but I enjoyed it very much. I shall hope to be permitted to teach these courses in coming years, though preferably not simultaneously."^{lxiii}

This letter is an excellent example of Hannah's carefully-honed ability to seem grateful for the opportunities given to her while still, a bit sharply, acknowledging the difference in her treatment compared to her male colleagues'. She never appears bitter or aggressive, as any slip-up, even in a letter as short as this one, could be used against her, so she learned quickly how to camouflage her true feelings in ways that make them still present should we choose to look for them. For example, she said she hoped to be "permitted" to teach her courses in the future, which is both acknowledging the honor and the excitement she felt at sharing her passion with students, and also hints at how frustrated she was to have waited so long to do so. She also managed to express how underpaid she had been in a way that reads as gratitude at first glance—"a feeling of financial security that I have not had for years" is buried after "I am very glad..." and "Thank you..." Perhaps more than anything, this letter showcases how delicately Hannah had to tread

when speaking to her superiors. It aches with the tension of that very tenuous existence she led for so many years, especially without the job security that many of her then-tenured peers enjoyed.

That research that Hannah started to have time for, thanks to the intervention of Leonard Rieser, and would later take terms off to focus on, was invaluable to the scientific community. It wasn't just the fact that she was discovering and cataloguing new species, it was also the impeccable detail with which she kept her records. "One of my students calculated that I spent thirteen years solid of my life just assembling descriptions and pictures of things that have been discovered and not put into books yet."^{lxiv} Her research process was painstaking: examining her water samples through a microscope and cross-referencing what she saw against algae species that had already been documented. If what she saw appeared new, then it was time to preserve the sample and name it in scientific Latin. There were sometimes hundreds of species present in each vial of pond water, and while it's a process that might sound tedious to non-scientists or modern eyes with modern technology, it brought Hannah all the challenge and joy she needed. "Of course I felt used,"^{lxv} Hannah said once, reflecting on how long it had taken to receive tenure. "But the situation was love it or leave it, and I loved my work too much to leave." It was worth braving the political tension and fighting for her research.

In 1961, Hannah was promoted to Research Associate with the rank of Associate Professor, as a part of the ripple effects of Rieser stirring the pot. Hannah wrote to her new confidante that the promotion "came as a complete surprise—and a very welcome one. I had thought I was in a dead-end, except for my research."^{lxvi} This is among the frankest of comments history will ever see Hannah make, and it is especially noteworthy that she said it to Leonard Rieser, who was then the Deputy Provost of the College. "I'm a great admirer of him," she said in an interview. "He was lovely."^{lxvii}

Hannah never learned of the myriad of discussions about her that occurred over the years, and certainly never read the "Croasdale Memos"^{lxviii}. In interviews later in her life, long after retirement, she said that nearly all of her colleagues in the Department had tried to take credit for her promotions^{lxix}. Some were harder to believe than others.

The tension between the Zoology and Botany Departments—both technically under the umbrella of "Biology," but with very little effective communication between them—is cited by multiple individuals as having contributed to Hannah's mistreatment. She was, for the College's purposes, a member of the Zoology Department, but her background was in algae and desmids

and her international renown was as a phycologist—she didn't belong there. When she arrived in the Zoology Department, the 1939-1940 Course Catalog listed all of the “Biology” courses together^{lxx}, and the separation between Botany and Zoology actually grew in her early years in the Department. The deepening of the political schism that coincided with her arrival unfortunately may have set her up for even more pushback than she would've otherwise faced. There were many reasons, political and administrative and financial, that motivated the College to unite the two departments in one, Biological Sciences, however Leonard Rieser, who was at the forefront of that crusade, noted that it would make things easier for Hannah^{lxxi}. The two departments were merged at long last in 1962^{lxxii}, and it was J. H. Copenhaver who became Chair of the new Department.

The new Department had earned itself a new building, called Gilman^{lxxiii}, and Hannah recalled that “when we moved from Silsby, all the professors were given the ability to request something to be moved to the new building to get us started. All I asked for was a paper cutter and they wouldn't give it to me.”^{lxxiv} So even that late in her career—she was in her late fifties in 1962—Hannah had to look to circles outside of the College to receive the respect that she deserved.

When Grönblad passed away suddenly, Hannah had been helping him with research for an upcoming paper. She finished the paper and was then contacted by the University of Finland and asked if she would finish his other incomplete work. Then she was asked to finish the papers of another colleague, and “they came piling in, kind of half-done, some drawings, some notes.”^{lxxv} Her competency and reliability—known across continents, across languages—made her the obvious choice. She continued to be contacted by scientists all over the world, including frequent pen pals in India^{lxxvi} and Poland^{lxxvii} who needed assistance with scientific Latin, a dying skill that Hannah had taught herself over the years. According to Hannah, formal education in Latin had been, in her school, only for male students^{lxxviii}. As she aged, she employed graduate students to help her with all of her mail. In 1963, a scholarship was named after her at Woods Hole^{lxxix}, yet it was also the first year that the Course Catalog saw her listed as an instructor^{lxxx}. The juxtaposition of those two accomplishments is jarring.

Hannah was finally made an Associate Professor in 1964, and with that all-important and much-overdue promotion came tenure. Suddenly Hannah found herself with the job security that for years she had been yearning for. She was 59. Bill Ballard, the same age, had joined the faculty in 1930^{lxxx}. As Chair of the Department at the time, it was J.H. Copenhaver who wrote

the letter of recommendation in support of the pending promotion, and he cited her niche field as adding to her unique situation. “This department would not set out to hire a phycologist were Hannah not here,” he said, “However, I believe that she should get the recognition which she deserves ‘at home’ that she already gained ‘abroad.’”^{lxxxii} Yet another example of Copenhaver’s not unusual brand of advocacy, he simultaneously diminished the relevance of her niche area of expertise while still complimenting her authority. He also said that “much to the surprise of several people, she has shown herself to be a very effective and stimulating teacher.”^{lxxxiii} The letter sealed the deal. Leonard Rieser informed Hannah of the good news in a June 1st letter and said, “I should like to add my personal pleasure in this action, which is so deserved, and my confidence and gratitude for your contribution to the work of the College.”^{lxxxiv} The importance of Rieser having taken it upon himself to say what no one else found necessary is one of the glimmering points of light in Hannah’s story. She noticed the difference.

Joining the faculty in 1964 meant Hannah was suddenly eligible to attend Faculty Meetings, an experience that, in some ways, felt like she was starting at Silsby Hall in 1935 all over again. Her male colleagues wouldn’t sit with her—in a room of hundreds, the ring of chairs directly around her would always be left open. “There was [sic] always one or two nice, Christian gentlemen who’d come in and very politely say, ‘Is this seat taken?’ And I’d say, ‘no.’ I remember them very well,” she said^{lxxxv}. Modern eyes may see this as condescending, for her peers to call attention to the fact that she was seated alone and ask to sit with her as a courtesy, for her benefit. However, Hannah remembered the men fondly, and even recalled some of their names so many years later. Hannah also described one Faculty Meeting in particular, where professors were asked to volunteer if they would be available to teach a seminar course. Other professors said they were interested, but couldn’t teach the course that year, and finally Hannah stood up and described a similar seminar-style course she had already taught at Woods Hole and offered to teach it in the slot that needed to be filled. “Blank silence fell as if I hadn’t said anything,” she recalled in the grainy footage of a 1988 interview^{lxxxvi}. “And then the Chairman comes up and says, ‘Well since nobody can do it this year...’ just as if I hadn’t spoken. I was having fun, I was writing books, I didn’t care.” Her interviewer was incredulous, and made her repeat the story, but with the exception of a slight chuckle, Hannah didn’t seem affected. Minutes from the Faculty Meetings^{lxxxvii} are not detailed enough to confirm whether or not this incident occurred, but it was clearly very real in Hannah’s memory—given the historical context, it does seem quite plausible. She claimed incidents like that one—of which there were surely countless

others—rolled off her back. That may be the case, but whether it offended her or not is only part of issue. She was a brilliant educator, engaging and dynamic, and she was also at the top of her field, and yet Dartmouth students were being denied opportunities to be taught by her because her colleagues were threatened by her presence or annoyed she'd dared speak.

In 1967, Hannah was President of the Psychological Society of America^{lxxxviii}. In 1964, she'd served as the Society's Vice President, and she was a critical member. She did note in a letter to Leonard Rieser that the experience had been "interesting"^{lxxxix} but she seemed drained by the constant demands on her time, especially for travel. She was expected to go to conferences on behalf of the Society, and there was some issue getting the Department to cover her travel costs—which was their policy for faculty^{xc}. Eventually the matter was resolved, but it was a discussion that her male peers wouldn't have ever had—the money was simply supplied for them. It represents part of why her feelings about what should have been an honor was also another issue to be dealt with. Hannah referred to her Presidency as a "headache."^{xc} Even a promotion or a success was often just another opportunity for her time to be consumed fighting for what she had already earned.

Then, in 1968, Hannah became a full Professor of Biology, just shy of her imminent retirement. Hannah chose not to dwell on how long she'd waited for this recognition. Whether it was optimism or survivalist instinct, she wrote in a letter to Leonard Rieser:

"Thank you very much for your letter of June 17, telling me of my promotion. I'm very glad that I made this grade before my retirement. It was close.

It was you who gave me my first boost, long ago, when I felt trapped, as a mere technician, with publishable material being wasted because I could not get enough time to work on it. You heard out my tale of woe one evening at Silsby and promised me a leave-without-pay if I could find a research grant. I got it, and everything has gone pretty well ever since.

I had another lucky break when we turned into a Biology Department, and I was allowed to try my hand at teaching.

It's not what I'd call a brilliant career, but it has been fun most of the time, and I'm still going strong—I hope."^{xcii}

Hannah was remembered by her friends and mentees as warm and genuine, but since most of her records are professional letters, that side of her—authentic and unbridled emotion—is rare to see. That makes this note of real excitement a further joy to read. Her signature brand of self-

deprecation fused with a slight passive-aggression, which sparkles most prominently in her closing line, meant that she did stand up for herself in the ways she thought possible and potentially productive. Here, to say she was the benefactor of anything close to “luck,” she had a much greater sense of humor than those that didn’t bother getting to know her could ever have imagined.

In Hannah’s day, women were generally viewed as helpless, weaker than their male peers. Hannah was told by colleague C.L. Wilson, who thought of her as competent enough to have her illustrate his textbook, that she shouldn’t purchase a home, because she’d have to pay taxes on it^{xciii}. Similarly, he didn’t think she should try teaching, because she’d have to lecture to large audiences. Hannah had, of course, been lecturing to audiences larger than most classes at Dartmouth during the summers she’d taught at Woods Hole, but his perception of her was one of weakness. The most obvious version of this is in physical strength. The fervent belief that women are significantly weaker than their male peers bleeds into arguments in which it does not belong. Even if Hannah had been as fragile as they claimed, that wouldn’t have much impact on her scientific reputation or her teaching skills. Hannah happened to be quite agile for most of her life, as evidenced by her long career in the Hanover Volunteer Hose Company, but she had to repeatedly prove her strength and endurance in ways that she wouldn’t have had to, had she been a man. As she grew older, her health deteriorated more rapidly than the average healthy woman in her sixties and seventies, in large part due to her contraction of Lyme Disease, which she was certain she’d picked up at Woods Hole, “no doubt, running around bare-legged in ponds”^{xciv}. Her eyesight began to fail her later in life, and she struggled with hip and knee pain and arthritis. When she had her hip replaced in 1965^{xcv}, there was some discussion in the Department and Administration about granting her medical leave, which they eventually did. Hannah’s former student and current Professor of Biology at Dartmouth, Celia Chen, remembers her leading students across slick boulders in the tidal with a cane to collect algae samples as the tide went down. “She just didn’t stop,” Chen said fondly^{xcvi}.

When Celia Chen, ’78, arrived at Dartmouth, it was still very much a men’s college—the senior class, her freshman fall, had enrolled at the then all-male institution, and some still harbored hard feelings over coeducation arriving during their college career. She recalled walking through the dining hall on campus, called Thayer at the time, and looking out “on a sea of male faces.”^{xcvii} The ratio felt even more skewed in her STEM courses, and that “it was definitely intimidating. You just felt like if you raised your hand and said something that wasn’t

the smartest thing in the world, you were looked down upon... so that wasn't a good, nurturing academic environment, exactly."^{xviii} She only recalled having three female professors during her entire undergraduate career at the College, and graduating in 1978, she was at a point in the history of the College and the country that some may like to think the campus would have felt more equal by then. "Hannah made a huge difference for me," she said. "You see someone, and if they are doing it, then you know it's possible. That's what it is. Hannah being a female faculty member made it look possible."^{xix} Chen returned to Dartmouth to earn her Ph.D. and has been herself a member of the Department of Biological Sciences for decades, and eventually assumed the office that once belonged to Professor Bill Ballard, "King of the Zoologists."^c Chen is certain that it was the instruction and mentorship that Hannah gave her that set her on the path she pursued, and that's a story that repeated itself countless times throughout Hannah's career. Unfortunately, though, Chen hasn't seen enough change during her time at the Biological Sciences Department. There are more women, of course, but the structural support for female employees has yet to catch up. It's not just about hiring employees, it's about retaining them, supporting them—a problem throughout academia and beyond. "I never thought 40 years later, we'd be watching women not getting paid equally for equal work."^{ci} Chen recalled the story of Nina Allen, wife of eventual Department Chair Robert Day Allen. Nina was a Ph.D. scientist with plenty to offer the College, yet for years the Department struggled to find her placement. "She had this little office at the end of the hallway that was next to Hannah's lab when I was an undergrad—they were the two women," Chen recalled. "But she was not there because she got recruited... This is the model that we have? That if women want to go with their spouse they have to come as their lab manager?" Chen said, laughing incredulously^{cii}. For many years, it seemed to Chen that was that standard.

Hannah Croasdale never married, and she never had children—though she did later get a dog, Maggie, to whom she was very attached. While the decision to have a family may seem fundamentally separate from a career at first glance, the two are closely related, and they were even more so in the 50s and 60s. An example of this is Nadezhda T. Koroton, the aforementioned first woman to be granted professorial status, an Associate Professor in the Russian Civilization Department. She lived in Hanover with her daughter Vera^{ciii}, and the two invited Koroton's students over to their apartment for dinner often, cooking them traditional Russian *piroshki*^{civ} and dark bread, entertaining them with stories of their lives before they'd fled their homeland. "*Kushaite, kushaite,*" one such visitor recalled her saying—"eat, eat."^{cv} Koroton

was remembered as a warm and bubbly person, capable of filling the homesick void so needed by college students, especially freshmen. The 1966 yearbook, the *Aegis*, had a two-page spread devoted to her^{cv}. However, despite being regarded as a brilliant educator, she was never promoted to a full Professor, and she was never given tenure. While many factors are a part of that decision, one must wonder if her reputation as warm and motherly made her be taken less seriously as an academic. While Hannah never expressed interest in marrying, or regret at not having children, it is possible that had she desired either of those things, her career would've been stopped short. Plenty of women choose to prioritize marriage and motherhood over their careers, however in the 50s and 60s, their male colleagues would never have had to make such a choice; they could have a family and a career and whatever else they wanted.

President John Kemeny took office in 1970. He was a Hungarian Professor of Math who'd come to Dartmouth from Princeton. He had a thick accent and was a pioneer in computer science; Dartmouth, sometimes known to forgo technological advancement for the sake of custom, was thrust into an uncharted world of computer software with Kemeny at the helm. He shook things up on a quiet and tradition-laden campus. At one of the early Faculty Meetings that he held, Hannah recalled that he presented on the chalkboard the average salary at the College for an Assistant Professor, Associate Professor, and a full Professor^{cvii}. It was the first time Hannah had any proof that she'd been severely underpaid her entire career—to recall earlier statistics, she was at times making as low as 60% of her male peers' salaries. "I'd always been way at the bottom of any one of those groups, but I didn't know. I had a hunch. I was really running in the red and scared about it when those royalties [from her illustrations in C. L. Wilson's book] began to come in—that was a really great moment," Hannah recalled^{cviii}. She should not have been forced to supplement her salary just to make ends meet and had sales of *Botany* not taken off in the way that they had, Hannah's financial situation would have looked quite different all those years. Her royalty checks were what allowed her to travel, and her trips to the UK and Scandinavia had put her in touch with Tieling and Grönblad, without whom her international reputation wouldn't have achieved the same stature. There is no other plausible explanation for Hannah's gross under-compensation besides discrimination.

She retired in 1971, after having been described as "the best biology teacher Dartmouth ever had" by a colleague from the former Botany Department^{ci}. News of her retirement was included in an article published by *The Dartmouth*^{cx}, but it failed to mention her accomplishment as the first female tenured professor, just as it had failed to recognize it when she was first

promoted in 1968^{cxii}. It is possible that the student reporters chose not to mention it, but it seems unlikely. The more probable explanation is that they were entirely unaware of the progress they were witnessing, which is an important context to remember, as it changes the way she would've been respected in her own time. Hannah was not one to tout her own successes, and if no one else was going to do it, then they went unnoticed. This could contribute to the painfully slow nature of progress for women's employment at the College, since so much of the progress made for groups who have been discriminated against is visibility, and she did not provide as much as she could have. The following year, 1972, saw the first female students matriculate at the College. J. H. Copenhaver later referred to it as the most profound change he witnessed at Dartmouth^{cxii}.

Hannah returned to the College in the summers for many more years as Professor Emerita to teach her Phycology course, Biology 44. It was a field-heavy class^{cxiii}, perfect for the summer, and was described in 1975 for interested students:

“Dr. Croasdale is the wonderful sort of professor everyone dreams of—dynamic, good-natured, open-minded and extremely interesting. The study of algae may sound exceptionally boring at first, but she infects students with the desire to learn... There isn't too much pressure. No exams, no final, just a quiz every two weeks, a short library project, and an extensive field project. Classes are often held outside, especially at the term's end when individual oral presentations are given to the class... There are also four field trips that go out of the immediate area, including one to the ocean. By the time summer is through, you will have had perhaps the best course of your years at Dartmouth.”^{cxiv}

She last taught the class in 1978^{cxv}. By that point in her career, the Department and Administration did largely recognize the talent they had on their hands, but even when fighting an uphill battle, she always had the glowing faces of her pupils to remind her why she stayed at the College. In a way, she was beloved and respected by all the people who mattered—her students.

An article in a 1977 issue of the *Dartmouth Alumni Magazine*, “Women at the Top (Almost),” hoped to capture the state of affairs for women at the College, high off the momentum of the new feminist culture that took the nation by storm. The article intended to be a brutally honest and self-aware lens written by Dartmouth and for Dartmouth, perhaps in an attempt to provide some transparency to the alumni base that would read it. Shelby Grantham

wrote the piece, and she exchanged letters with many of the key players in the Biology Department hoping for information on Hannah's treatment in the Department, especially when she was younger. In a very lengthy letter in response to Grantham's questions, Bill Ballard shared dozens of anecdotes about his former colleague, and said fondly of Hannah's teaching: "Spectacular. Dynamic. Devoted."^{cxvi} Other female faculty members—23 agreed to participate of the 48 who worked at the College in 1977^{cxvii}—were quoted in the article and shared extremely frank perspectives on the culture at the College. "I don't see more women at the top, who are truly independent" one Associate Professor said, "much less real feminists."^{cxviii} An Assistant Professor noted that "Affirmative action forces colleges to hire women, but there is no support system for women once they get there: thus, many have difficulties and end up being fired after their first contract expires...Although it's easier to find a job, it's harder to keep it." These women were born at a different time than Hannah, and they grew up with higher expectations from their work environments than she did. Their perspectives, shared during a year that Hannah was still teaching courses at Dartmouth despite being retired, shed much-needed light on this story that we can't see from only Hannah's perspective. Another Assistant Professor said, "I hear men as well admit that they know of male colleagues who hold discriminatory attitudes and try to act upon them."^{cxix} Shelby Grantham wrote "male as well as female professors tell me that some departments at Dartmouth—economics and psychology in particular—are reputed still to be virulently sexist."^{cxx} Dartmouth continues to struggle with equality in both of those departments; by my count, 7 of the 31 current members of the Economics Department professorship are women^{cxxi}. The Department of Psychological and Brain Sciences had three male professors investigated for sexual misconduct during the 2017-2018 school year—all three parted ways with the College^{cxxii}. The Dartmouth of 1977 knew that there was plenty of work to be done, and yet concrete steps weren't taken, or they weren't taken fast enough.

The period Hannah Croasdale worked at Dartmouth witnessed nearly all of the most important events of the twentieth century, especially for a college. She watched students get drafted in WWII, she watched Dartmouth accept women, she watched students protest Vietnam and organize a riot that overtook the President's office in Parkhurst Hall, demanding the administration end the ROTC program on campus^{cxxiii}. After four students were killed at Kent State University, Dartmouth canceled classes for a week. After the assassination of Martin Luther King, Jr., Dartmouth assembled a Committee on Equal Opportunity; one page of the

document the committee produced discussed the College's failure to provide adequate opportunities to women:

“The College is too male oriented, does not treat females on an equal basis with males, has virtually no female faculty members, no females in responsible administrative positions, and does not effectively utilize the substantial amount of female talent available to it... This is said to result in the College student not being exposed to the intellectual ability of women and misuse of the abilities of women employed in nonacademic positions by the College, leading to frustrations in able and academically trained women.”²

The College did prove it was aware of the toxic environment it was brewing, though it would be many years after these particular findings of the so-called “McLane Report”² would become a priority by the Administration. Hannah witnessed an incredibly tumultuous period in American history, yet she didn't actually witness that much progress for women, and her career advanced painfully slowly. She was largely tolerant of her treatment, but not for the reasons that many historians may assume her to have been. The examples she witnessed growing up simply told her not to expect much from the men who'd be controlling her career—Hannah was a freshman in high school when women were granted the right to vote. She didn't think, necessarily, that the “women's libbers” were asking for things that women didn't deserve, she just didn't think that they were going to get what they asked for. She thought that they should be glad to have what they were given, because she remembered a time when they were given nothing. Furthermore, there was an element of toughness and pride that tainted her views on these subjects. As someone who survived in a cutthroat environment virtually alone and unsupported, she struggled to get behind a push for better support for women in the workplace, since she'd made it on her own without any sort of safety net. She proved it was doable. Her tough-as-nails attitude, as well as her historical perspective, makes her into a person that can be falsely assumed to be cold, unfeeling, unsympathetic, dismissive of women's struggles—but she understood them better than anyone.

² Mary Garden Turco wrote her doctoral thesis, *Strides Towards Equality: Academic Women at Dartmouth College, 1960 to 1990*, which provides helpful context and a much broader picture of the state of gender relations at Dartmouth during this period and just after, for those interested in the evolution of progress on these issues after Hannah Croasdale's story ends. She explores the implications of the “McLane Report,” as she calls it, on pages 64-65 of the dissertation.

This meant that Hannah abstained from commenting on so-called “feminist issues,” even after she’d retired. Silence is often interpreted as a lack of opinion, but there is evidence that her unwillingness to talk was just strategy, not apathy. Regardless of her views on the “women’s libbers”^{cxxv} on campus, obviously Hannah was aware of the political landscape and, as a figure at the heart of it, held her own opinions. Her career ran its course largely before the impact of mainstream feminism³ was able to help her^{cxxvi}. One of the only pieces of evidence that she remained interested in the evolution of women’s place on campus comes from a newspaper article that she saved—preserved, found between other documents of interest—with the headline “Sexism, Fraternities Issues at Dartmouth.”^{cxxvii} It was likely published in 1980⁴, and describes a faculty committee that fought to prohibit fraternities on campus unless they opened their doors to women. The only faculty member quoted in the article was Charles McLane, a Professor of Government. While he was a well-known and vocal presence on campus, it is unlikely that Hannah would’ve saved the article because of any friendship or professional relationship with him. Furthermore, Celia Chen was “surprised she even knew anything about the social life at Dartmouth, or ever thought about it,” because the students she was interacting with “weren’t your fraternity basement kind of guys.”^{cxxviii} The only other explanation for her having kept this article was to track the progress of gender issues at Dartmouth; she *was* interested. She just couldn’t say it.

The Hannah Croasdale Award^{cxxix} was established at Dartmouth in 1983. It was to given to the “man or woman who had made the most significant contribution to the quality of life for women at Dartmouth.”^{cxxx} Her story highlights better than most the necessity of men stepping up to counteract the systematic sexism rampant in academia, but the fact that the award was open to men—and given to them, frequently—might bother feminists eager to spur their own progress. However, that was actually not the issue Hannah had with the award; she didn’t understand why it existed at all. “I protested because I’d done nothing. They say now I was an example just hanging on,”^{cxxxi} she said, noting that the so-called “women’s libbers” who were actually fighting

³ For context, *Ms. Magazine* was first published in 1971, and Betty Friedan’s *The Feminine Mystique* was published in 1963. *Roe v. Wade* was decided in 1973, and in 1972, Title IX of the Education Amendments went into effect, which definitively prohibited sex discrimination in areas of education that receive federal support.

⁴ We can assume that the article was published in 1980 because it mentions the student who was, at the time of publication, president of the Inter-Fraternity Council. Articles in *The Dartmouth* from 1980 cite the same student as President, suggesting that the article Hannah saved was published in that year. The clipping has no date, and it also does not note which publication she cut it out of, though it does have an “Associated Press” tagline on it.

for advancements for women “wanted more salary and more favors, and I was doing well with what I had, I thought, so they didn’t like me.”^{cxxxii}

In 1994, Hannah moved permanently to Santa Rosa Beach, Florida^{cxxxiii}, where she had been spending her winters for years. Hannah passed away in 1999^{cxxxiv} with no living immediate relatives. The people who still remember her are rare but fervent about evangelizing her legacy.

Moving forward, the only way to increase representation among women—and all minorities, for that matter—in academia is to remove the systematic barriers in place that demand this type of “stars aligning” rarity Dartmouth witnessed in Hannah Croasdale. She succeeded as a result of the coalescing of this handful of diverse factors, each one important and hard to come by on its own. To properly learn from her story is to understand the power of female role models and male allies. Female role models are critical to placing young women in the position of even envisioning themselves with careers, and male allies must use their positions of power to help lift others—straight, cisgender White men have a responsibility to point out discrimination where it exists, as Leonard Rieser did, because the fact is that even if Hannah had spoken up, Rieser’s words could have been taken seriously while hers would have been dismissed as the griping of an ungrateful woman. Rieser was thoughtful about helping women without speaking for them; it was at his prompting that an incredibly successful speech course was offered for women faculty in the 1970s to bolster their confidence with public speaking. Allyship looks different from every person, and someone like J.H. Copenhaver did a lot for the advancement of women without being as overtly warm and supportive as Leonard Rieser. As we see more and more women in positions of power, their allyship is also critical. Closing the wage gap will prevent the necessity for women to be as good as Hannah was at adapting to a limited or nonexistent budget. The shocking figures from 1959—that Hannah was making 60% of what her male peers were⁵—should be hugely different than figures today, however the national average for male professors at nonprofit, four-year institutions was \$18,200 more than female peers, suggesting that women professors still made only 72.34% of what men made for the same work, as recently as 2015 according to *The Chronicle of Higher Education*^{cxxxv}. In the 56 years that elapsed since Hannah’s 1959 salary was given to her, a modern lens may expect that more

⁵ Today, Professors in STEM fields on average make significantly more than Professors in the Humanities, so that data should be further contextualized. Since Hannah fell well below the average for all Professors, it should be considered that some of her peers in the sciences may have already been making well above the average—though those trends have grown more dramatic in recent years. It’s difficult to tell for sure in hindsight, but that knowledge should be applied to our consideration of the data presented today.

progress would have been made. If women are taken more seriously across all disciplines, then subjects like paid maternity leave or employer-provided childcare might be taken with a degree of sincerity and urgency that they aren't today and certainly weren't in Hannah's day. Women shouldn't have to choose between being warm and being professional. While Hannah's story marks her both unique and inspirational—a legacy that, as Celia Chen noted, inspired the careers of countless of today's leading scientists^{cxxxvi}—women should not need all of these components in order to be a successful professional in academia.

Dartmouth College serves as an interesting case study for the advancement of women in academia during this time of great progress and political discourse in the country. Dartmouth was one of the last Ivy League institutions to admit female students. Its remote location—less remote today than in 1935 when Hannah moved to Hanover—also allows it to remain as a “control,” that is, less influenced by the progress towards gender equality that was trendier in urban areas. This meant that Hannah's fight, though she never viewed it as such, was one she was largely fighting without outside influence of the “new standard” for how professional women should be treated. On most fronts, Dartmouth took its time catching up to its peers, especially in terms of technology and diversity. That makes Hannah Croasdale and her story a giant not just for the rather small community of students and alumni for whom obscure Dartmouth history is relevant, but a giant for anyone whose life has ever been impacted by the world of academia or scientific advancements.

She is an example of what progress looks like in as close to a vacuum as existed at that time—how grueling, how painfully slow, and often how silent. As she said when asked about the award in her honor, “I never did anything to help those girls except tell them to be quiet and wait.”^{cxxxvii}

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