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Isabella Abbott

A Trailblazer in Science and Representation for Ethnic and Gender Minorities

KYLIE EBISUYA



Honors 101 (Introduction to Research and Creative Work at Mānoa)

Mentor: Ilima Long

Dr. Isabella Abbott, the first Hawaiian to receive a PhD, as well as the first woman lecturer at Stanford University, is a well-known researcher and specialist in algae and ethnobotany. Throughout her academic career, she has published multiple books concerning topics such as the cultural relation of plants to Hawaiian culture and the algae diversity in California. In addition to her achievement in the field of academia, Abbott has also served as an influential advocate for Hawaiian culture and the preservation of traditional cultural plants. This bibliographical study aims to document Dr. Isabella Abbott's impact on the courses offered at the University of Hawai'i with particular regard to how her ethnobotany course has facilitated a sense of revival and greater appreciation for Hawaiian culture within her students. The study will also demonstrate the influence Dr. Abbott had on opening up the field of upper level science to women, and how her actions as a biology professor at Stanford enabled a future of opportunity for females in academia. This study will use past interviews conducted with Dr. Abbott as well as current studies in order to better understand how her taxonomic research endeavors has set the foundation for future inquiry and investigation. Current UH professor, Dr. Celia Smith, one of Dr. Abbott's former graduate students at Stanford, was also interviewed to discuss her thoughts of the relationship she shared with Dr. Abbott and the impact Dr. Abbott had in science and minority representation. The present paper will comprehensively examine the imprint Dr. Isabella Abbott has left upon the world today and how current society can learn from Dr. Abbott's viewpoints and actions. The study aims to demonstrate the widespread impact Dr. Abbott had across multiple disciplines and to connect the professional and intellectual genealogy of some of today's prominent scientists and Hawaiian researchers to Dr. Abbott.



I am a current undergraduate student at the University of Hawai'i at Mānoa pursuing a BS in Animal Science. This paper would not have been possible without the support and mentorship of Ilima Long, who first introduced me to Isabella Abbott and the impact she made as a Native Hawaiian. I hope this paper will inspire not only minorities and women to pursue science, but provide moments of learning from the strides made by a phenomenal person.

Introduction

As defined by the events of Hawai'i's past, there have been many strong women born from the island chain. One of these notable individuals who has made a significant contribution to not only the body of scientific discovery but also her community is Dr. Isabella Kauakea Aiona Abbott, commonly known as "Izzie" (Nogelmeier, 2011; Bergeron, 2010). Born in Hana, Maui on June 20, 1919, Isabella Abbott, the daughter of Annie Chung and Loo Yuen Aiona, would later become one of the most prominent experts in algae and systematic botany. She was a pioneer as the first person of Native Hawaiian ancestry to obtain a Ph.D. in a field of science as well as the first female at Stanford University to be promoted to a full professor in the biological sciences division (Nogelmeier, 2011; AHCC, 1991). Abbott earned her bachelor's degree at the University of Hawai'i at Mānoa in botany in 1941 followed by her Master of Science from the University of Michigan in 1942. Along with her husband, Abbott completed her doctorate at the University of California at Berkeley in 1950 (AHCC, 1991; Bergeron, 2010). Throughout her lifetime, Abbott not only set the taxonomic foundation for many marine botanical species, but she also did not limit herself to a single field of science; Abbott combined her scholarly background with areas such as conservation work, educational/community outreach, and even, cooking, allowing her to extend her impact across multiple disciplines. She also played an instrumental part in facilitating a revival of Hawaiian pride and culture especially across her students as a professor at the University of Hawai'i at Mānoa (UHM). By combining the experiences of her past with her scholarly drive, Abbott, in the face of adversity, paved the way for larger representation of females in academia. The widespread influence of Dr. Isabella Abbott demonstrates the prominence of her contributions as she has changed the lives of thousands of students while simultaneously providing guidance along the path of discovery and confidence to minorities. By doing so, she has created a legacy of which universities and minorities alike can continue to learn from today.

Abbott's Impact on Science and Her Interdisciplinary Approach

SUCCESS IN ACADEMIA

Commonly referenced as an expert of systematic botany and algae, Abbott began her scientific career due to a culmination of familial and childhood experiences. One of her most influential encounters includes the mentorship of Maude Schaeffer, the principal of Kamehameha School of Girls when Abbott was attending as a student (Chang et al., 2014); Abbott would later become the first Kamehameha school graduate to obtain a Ph.D (Nogelmeier, 2011). With the encouragement of Schaeffer, Ab-

bott began to learn the scientific names of plants to build upon her already-strong knowledge of the Hawaiian names—names she learned from her mother (Chang et al., 2014; Nogelmeier, 2011). These influences fostered a lifetime passion and career of botany for Abbott and allowed her to discover over 200 new algae species. She also wrote over 150 books and journal articles which illustrate the extensive knowledge and commitment Abbott dedicated to her subject (Nogelmeier, 2011). Abbott maintained her research endeavors and committee obligations well into her 90 years of age—stopping only when it became too physically challenging to work from home (Nogelmeier, 2011)

During her lifetime, Abbott contributed extensively to both teaching and researching at two universities in particular: Stanford University in California and the University of Hawai'i at Mānoa on the island of Oahu. It is noted that Abbott alternated between the two locations during the spring and summer allowing her to extend her reach across the ocean (C. Smith, personal communication, October 21, 2019). In her career, Abbott was well-recognized by the academic community. She earned numerous recognitions including the G.P. Wilder Chair of Botany, an endowed chair at UHM, and the prestigious National Academy of Science Award in honor of her steady dedication to publishing papers on marine algae (AHCC, 1991; Uehara et al., 2012). Her recognition as an award-winning scientist and an endowed chair combined with her commitment to research highlight the scientific success of Abbott.

While she has gained the acknowledgement of the scientific community, as represented by her awards, the pivotal point that makes Abbott so special is the lasting impact she had on the field of systematic botany. In an interview with Dr. Celia Smith, a current professor at UHM as well as Abbott's graduate student at Hopkins Marine Station and later, former colleague, stated that "her work is actually at the foundation of almost all of the marine botany that is done in these islands. If you have to put a name on it, you are using her taxonomy." (C. Smith, personal communication, October 21, 2019). Abbott's discoveries and work in classification were not only applicable during her lifetime but continue to remain important as a basis for future discoveries. Smith notes that without the experience and knowledge Abbott held in the field of systematic marine botany combined with her scholarly approach and review of the scientific literatures, many scientists would be guessing as to the species' names. This would make it incredibly hard to research further processes, such as reproduction, without the identity of such algae confirmed (C. Smith, personal communication, October 21, 2019). The framework and foundation Smith references in regard to the Hawaiian Islands also holds true along the pacific coast of the continental United States. In an interview with Isabella Abbott, Chang noted that "one of your colleagues even called it sacred" (Chang et al., 2014). This notion can be justified because, at the time, Abbott's book, *Marine Algae of California*, was the only book of phycology, the study of algae, detailing the different types of seaweed

along the coast of California, Oregon, Alaska, Washington, and Baja California (Chang et al., 2014). Although revisions have since been made to classifications, Abbott undoubtedly provided the most comprehensive guide of her time, fostering future scientific discoveries. This fact remains true in Smith's lab even today. Known as the Limu lab, Smith pointed out that her students use Abbott's work daily and that "just about every research initiative that's underway in my lab can be traced back to some contribution made by Dr. Abbott" (C. Smith, personal communication, October 21, 2019). In this way, Abbott's impact in establishing the foundation of phycology in the Pacific is far-reaching in terms of both distance and time.

The effects of Abbott's influence in science can also be described in terms of a fictitious absence. Abbott had a large breadth of experience and diversity as she worked in the Hawaiian Islands, California, Japan, and with colleagues from Australia. If a researcher who was only familiar with the phycology of the tropical Pacific, thus lacking Abbott's broad foundation, attempted to document the island's flora, he or she may have created errors that would have been potentially devastating for future research (C. Smith, personal communication, October 21, 2019). Abbott's experience of approximately 40 years of systematic botany research prior to settling her career on the island of Oahu gave her the scholarly background to set a strong foundation and prevent such errors from occurring (C. Smith, personal communication, October 21, 2019). In parallel, Smith notes that "it's hard to imagine being an experimental marine biologist without that kind of taxonomic framework" (C. Smith, personal communication, October 21, 2019). Smith, who studies and has published numerous works on the physiological ecology of marine algae and coral, makes it clear that without the basis of Abbott's foundational work, marine systematic botany may not have advanced as far as it has today. With Abbott's varied experience in scientific research coupled with the algae and plants her mother had taught her and the strong writing skills Abbott possessed, as evidenced by her role on the school yearbook, there arguably could have been no better scientist to set the foundation (C. Smith, personal communication, October 21, 2019). Driven, in part, by her passion for the subject, Abbott was also able to contribute so much to science because she believed herself to be fortunate and thus, her duty to society to give back to her employing university. For Abbott, this "payback" was seen in the form of frequent publication allowing the recognition of the universities she worked at. To illustrate, her active research in algae not only gained her the acknowledgement of the public and other scholars, but due to affiliation with universities such as Stanford and UHM, created a symbiotic relationship in which her universities could gain increased publicity (Uehara et al., 2012).

APPLICATIONS OF KNOWLEDGE TO TEACHING

As a result of Abbott's strong passion for learning, she did not limit herself to one field and instead, applied her knowledge

across a multitude of disciplines. Chang observed that Abbott had distinguished herself in "two fields that rarely cross, phycology and ethnobotany" (Chang et al., 2014). To this, Abbott credits her familial upbringing, in particular, her mother, for passing on the oral tradition common to Native Hawaiian practices. By growing up with a mother that often relied on using plants as remedies or as symbols of the Hawaiian culture, it seemed only natural for Abbott to blur the boundaries between Western science and cultural practice (Chang et al., 2014). Her ability to do so is highlighted in *Lā'au Hawai'i*, a book she wrote to describe the relationship between traditional plants used in the first Hawaiian communities to cultural and healing practices, including hula (Wilcox, 2008). Abbott also encouraged her students to acquire a broad range of knowledge noting that she "might tell the young PhDs who are just starting out, and those now working to get their degrees, to consider some professional training [along with the doctorate]—a law or teaching degree or something like that—to bolster your abilities. It's another perspective, more skills" (Nogelmeier, 2011, p. 83). By branching out and recommending others do so as well, she not only contributed to the advancement of a large number of different fields, namely phycology and ethnobotany, but she also demonstrated the applicability of science to everyday life as well as conservation.

In today's society, research findings are not always put into practice. Isabella Abbott, in comparison, actively applied her scientific discoveries and knowledge in hopes of bettering her community by increasing educational accessibility across the world, partaking in culinary endeavors, and joining in on the conservation effort. As Smith noted, Abbott served on multiple committees throughout her lifetime, ranging from a Kaho'olawe remediation effort to educational outreach in Chile (C. Smith, personal communication, October 21, 2019; KIRC, 2001; Santelices, 2011). One of her most notable services was her 20-year relationship with the Bernice Pauahi Bishop Museum, a connection that saw Abbott's growth from an undergraduate to a Board of Directors committee member (AHCC, 1991). Furthermore, Honpa Hongwanji named Abbott a "living treasure," a title given to select individuals who are continually learning, spreading knowledge, and contributing to the betterment of the surrounding society (Crites, 2010). In response to the recognition, Abbott stated that the award had "moved her the most (...) because it's for your contribution to your community" (Crites, 2010). Indicative of the extent to which Abbott cares about making an impact on other's lives, it is clear that she did not focus on external prestige but rather, upon applying her scientific knowledge. Paralleling this situation, Abbott expressed her preferred nickname to be "limu lady" instead of "limu professor," a title she referred to as "stiff" (Chang et al., 2014). Evident by her choice of nicknames, Abbott's value of her community was visibly stronger than superficial markers of status and knowledge. Abbott also mentioned that "if you call me limu lady, I readily identify with practically

everybody in the Hawaiian Islands” because “everybody knows what the word *limu* means” (Chang et al., 2014). Using *limu*, the Hawaiian term for edible marine algae and seaweed, Abbott established a connection to those living in the Hawaiian Islands. Functioning as a marker for those in her community of all ages and academic backgrounds, Abbott valued the local people and thus, chose a name that would best connect to the world around her.

In an effort to further combine scientific progression and community work, Abbott also chose to encourage the younger generation and guide them on a path to discovery. At the University of Hawai‘i at Mānoa, she served as an endowed chair yet continued to teach a course in ethnobotany. Smith pointed out the unusualness of this particular situation as chair-holders typically do not teach and noted it was “really her love of that subject matter that made it a drive for her to want to teach” (C. Smith, personal communication, October 21, 2019). Abbott’s apparent willingness to reach out and foster the next generation of scientists parallels her upbringing as she was heavily influenced by her Kamehameha principal to pursue higher knowledge.

Yet, Abbott’s educational outreach work did not remain solely in Hawai‘i; she also extended her influence to other countries, such as Chile. While attending a conference in 1977, Abbott first recognized that Chile lacked a solid algae research program. From the beginning, Abbott realized the need to study the algae along the coast of Chile not only for academic reasons but also because there was a large Chilean fishing community dependent on the flora algae composed. As a result, she promoted phycology research by establishing and guest teaching a course on Chilean algae with the Pontifical Catholic University of Chile in 1978. She also facilitated an interest in phycology by ensuring that Chile had access to academic literature and resources. Abbott carried a positive and encouraging attitude toward teaching in Chile as she nurtured the scholastic and personal growth of the students while occasionally returning to guest teach or conduct taxonomic research in Chile (Santelices, 2011).

Contrary to the belief and actions of Isabella Abbott, prominent Wall Street journalist and lecturer, Naomi Schaefer Riley (2011), claimed professors, along with university systems as a whole often placed too large of a focus on research in comparison to teaching. Riley compares the lack of monetary rewards surrounding teaching to the large incentives given to publications (Riley, 2011). This externally motivated focus upon research and the lack of an intrinsic motivation to teach is unlike that of Dr. Abbott who took it upon herself to nurture future scientists and phycologists. Abbott’s emphasis on community impact and support contradicts a self-centered desire to churn out papers for prestige and profit. Her impact upon her students, the community, and the world grew exponentially as result of combining academic research with outreach and a strong commitment to teaching. Illustrated by Abbott, the

need to revise the direction of universities’ priorities from research to the student becomes clear.

INFLUENCES UPON COMMUNITY WELFARE

Along with connecting research with teaching, Abbott also focused upon bridging the gap between academic study and practical application. Serving on the Kaho‘olawe Island Reserve Commission, she worked alongside 6 other members to restore the island and its surrounding ocean while simultaneously creating a place to preserve the culture of the Native Hawaiian tradition (KIRC, 2001). By applying the wealth of knowledge acquired from years of study and research, the team was able to double the plant life upon the island and thus, take a step toward restoring the environmental condition of Kaho‘olawe (Honolulu Advertiser, 2005). In addition to these efforts in environmental remediation, Abbott also helped to bring attention to invasive algae. In the year 2000, Abbott noticed the now-invasive seaweed *Hypnea musciformis*, commonly known as Hookweed. In response, she helped to bring awareness to its presence and direct scientists’ attention to its devastating potential (Song, 2005). Abbott applied her research and knowledge to not only increase the body of knowledge available but also to encourage conservational efforts.

In Hawai‘i, Isabella Abbott conducted small-scale environmental reforms and educated her community by weaving together a background familiar with both Hawaiian tradition and botany. A prominent example includes Abbott and her students’ work in helping *halaus*, a Hawaiian term describing the communities and schools which practice the Polynesian dance known as *hula*. Abbott and her students helped *halaus* identify and pick the right plants to represent the gods and goddesses associated with their *hula* performance. In addition, she also encouraged her community to respect the plants. As she inspired *halaus* to connect with the symbolic nature of Hawai‘i’s plants, Abbott also emphasized the idea of taking only what is needed. She urged *halaus* to give back to Hawai‘i’s forests—lessons a society troubled by excess food waste and deforestation can learn from (Chang et al., 2014).

Abbott became a prominent scientist because she was able to connect theory to practice, a feat that remains a challenge to researchers today. Issues such as historical distrust caused by exaggeration of facts, the influence of social media in expanding misinformation, and the inability of scientists to effectively communicate due to technical disparities and lack of relatability has resulted in confining research breakthroughs to paper (Hunter, 2016). Abbott, on the other hand, managed to create a strong connection between continuing research and applying her knowledge to areas such as conservation work (Mallonee, Fowler & Istre, 2006). With an extensive knowledge of the marine ecosystem and its algal inhabitants, Abbott was able to understand the severity of non-native invaders and bring attention to the situation. Her experience with ar-

eas such as native marine algae has not only prepared her to work on conservation and remediation, as in the case of the Kaho'olawe Island Research Committee, but also has allowed her to explore new avenues of knowledge for personal growth. Today's scientists can learn from Abbott's interdisciplinary approach as one cannot separate science into distinct branches; scientific discoveries influence each other and work in parallel and causative relationships. By following this woman's legacy, researchers may be able to bridge the gap and allow academic discoveries to blend with practical subjects.

Abbott's Impact upon the University of Hawai'i at Mānoa and the Spread of Hawaiian Culture

While Abbott played an instrumental role in the progression and application of science around her, she was also influential in her professorship at UHM. She played a main role in empowering Native Hawaiians and guiding the revitalization of Hawaiian culture amongst her students. Abbott was well positioned to do so because of her childhood, growing up with a Hawaiian mother. As a UHM professor for over 19 years, Abbott, as the Wilder Chair holder, filled what Smith referred to as a void in culture, communication, and science. Coinciding with Abbott's position at UHM, there was no one teaching the ethnobotany class as the previous professor, Beatrice Krauss, retired (C. Smith, personal communication, October 21, 2019). In light of these events, Abbott stepped in, even writing her own book specifically for the class, *Lā'au Hawai'i*, a book shining light on not only botany but also Hawaiian culture and practices. Yet, the class was particularly special because, as Smith argues, "there weren't many people who had that depth of knowledge in tradition and that kind of scholarly training to be a teacher to make it a compelling kind of window into Hawaiian culture and that was why students were riveted" (C. Smith, personal communication, October 21, 2019). Abbott's scholarly training in western phycology combined with her grandmother's, mother's, and great uncle's teachings of the Hawaiian medicinal, practical, and symbolic uses of plants, made Abbott well-prepared to combine the two. As a result, she was able to provide not only "the knowledge of the practice but also explain the science and back of what decisions had been made" for doings things like growing *kalo*. These attributes that were unique to Abbott prompted an overflowing class where students sat on the floor (C. Smith, personal communication, October 21, 2019).

Another aspect that made her class so impactful to the students at the UHM was the time period. Smith noted the multitude of generations recalling that Abbott had taught over a thousand students in her ethnobotany class alone. Aligning with her teachings, Abbott was in an era of increasing pride in Hawaiian heritage caused by cultural events like the sailing of the *Hōkūle'a*, a famous canoe sailed with the purpose

of discovering how Polynesians settled the islands in Oceania. Abbott, being of Native Hawaiian descent, was unique because she could teach from experience. This is unusual as Smith noted using the *Ahupua'a*, the division of land running from the mountain to the sea, as an example: "at that point, there may have been lectures about *Ahupua'a* (...) but I don't think any of them that were taught by an actual Native Hawaiian with all of the underpinning, the richness, and the sophistication in being able to talk about it" (C. Smith, personal communication, October 21, 2019). With Isabella Abbott as the teacher of not only science but also cultural Hawaiian practices, she represented a stride in Native Hawaiian representation in academia. Not only was she the first Hawaiian to obtain a doctorate, but Abbott was also a Hawaiian who could maintain a culture of oral tradition and restore the practice of learning from elders. By doing so, she was able to bring the botany program to the forefront of UH Mānoa (C. Smith, personal communication, October 21, 2019).

Abbott created a program that not only facilitated the growth of itself but raised students up saying in an interview "I think we have four undergraduate botany majors who are Hawaiian and we have about five Hawaiian graduate students, and before I started here, we had no Hawaiian anything" (Chang et al., 2014). Through her ethnobotany course, she gave Native Hawaiian students the chance to connect to their identity and ancestors' culture. Yet Abbott's class facilitated a better understanding of Hawaiian cultural practices in every student that took her class, a number that totals over a thousand (C. Smith, personal communication, October 21, 2019). Today her book remains as a legacy and symbol of the course she created; *Lā'au Hawai'i* still continues to impact lives as it was reprinted in 2019 by the Bishop Museum Press (Bishop Museum, 2019).

In addition to the ethnobotany course she organized, Abbott was also extremely dedicated to her students as she was determined for them to succeed. She did not degrade students based upon their IQ but instead pushed them to work their hardest. In a reflection she notes, "I tried to encourage Hawaiian students who showed an interest to go into botany or horticulture, or geography—some subject where they could utilize what they were learning" yet when answered with claims of being only average in intelligence she would reply, "I only have an average IQ. Where I succeed is, I work like everything" (Edgy et al., 2005). It is also very striking, with respect to many of today's labs and research work, that Abbott did not push her topics upon her students, but instead, allowed them to explore and discover their own interest (C. Smith, personal communication, October 21, 2019). In her graduate students, she nurtured their potential not only in overseeing their research but also going further to invite her students to dinner to check in with their life (C. Smith, personal communication, October 21, 2019). These components demonstrate Isabella Abbott's work to lift students, particularly Native Hawaiian students, up and allow them to achieve beyond the position they settled at.

Yet, it is important to recognize that Abbott did not confine the spread of her knowledge to a single race. She made it clear that “it isn’t only the Hawaiians but people who live in Hawaii, I feel, ought to know these things also because this is part of the culture of the Hawaiian Islands” (Uehara et al., 2012). Abbott encouraged everyone as a whole to broaden his or her knowledge, thus not limiting her reach to one demographic (Uehara et al., 2012).

As mentioned earlier, Isabella Abbott served as an incredible asset to students, particularly those who were or were interested in the Native Hawaiian people and culture. This was because she had an immense background in the Native Hawaiian practices and thus, was able to combine cultural phenomena with scientific explanations. Through her efforts, she was able to encourage and increase the number of Hawaiians pursuing higher education (Chang et al., 2014).

Yet, despite the efforts of Abbott, Hawaiian representation in academia is still far from perfect as professors of Hawaiian descent are scarce at UH Mānoa, a supposed “Hawaiian place of learning.” Defined by UHM (n.d., p. 5) as “a campus physically and conceptually grounded in Native Hawaiian knowledge and values,” this idea is a source of debate as bystanders criticize the lack of action UHM has undertaken (UHM Assessment Office, 2012). Specifically, less than 6% of the total UH Mānoa faculty consists of Native Hawaiians, with approximately 4% being tenured (Hofschneider, 2019). As evident by the impact of Isabella Abbott, having Native Hawaiian faculty and professors is important in order to establish a “Hawaiian place of learning”.

Marilyn Mobley, a George Mason University professor and an African American, noted that minority students purposely look for professors of their race (Josey, 1993). Students wish to converse with professors of the same race in order to help them understand minority questions and issues (Josey, 1993). Yet, having Native Hawaiian professors is only one solution; it is important also to create a nurturing environment for these minority groups. In the case of Abbott, she instilled confidence in her students and pushed them to reach their full potential (C. Smith, personal communication, October 21, 2019). Abbott’s attitude toward being Hawaiian has never been one of docility. Instead, she told students, “don’t be apologetic for being Hawaiian” (Chang et al., 2014). People like Abbott who not only have pride in their race and culture but also do not confine themselves to stereotypes or societal constraints are the professors needed in order to create a Hawaiian place of learning and inspire Hawaiians to pursue their goals with passion.

Similar to her unyielding attitude toward being Native Hawaiian, a minority in academic research, Abbott never conceded when pressed with the conflict between science and Native Hawaiian oral tradition and knowledge. Abbott has worked to find a middle ground in order to best encapsulate the knowledge both sides are able to contribute to the important discussions of the future. She suggests “the westerners

must accommodate what the Hawaiians know. The Hawaiians must accommodate what the westerners say” (Chang et al., 2014). Shown again through her open mind and her ability to see through individual bias, Abbott provided a compelling argument—an assertion that is particularly relevant in today’s discussion about Mauna Kea and the argument between Native Hawaiians seeking to protect one’s culture and the progression of scientific astronomy research. The ability for Native Hawaiian culture and science to coexist in harmony and build upon the information each can provide is not a preposterous concept. In perfect example of the interconnectedness between culture and academia that Isabella Abbott pushed for, Businger, Nogelmeier, Chinn, and Schroeder (2018) were able to highlight how the Hawaiian-language newspapers, widespread throughout the reign of the Hawaiian kingdom, could be used alongside science to form a comprehensive model of the 1871 hurricane. Society has much to learn from both culture and science, an idea pushed forth by Isabella Abbott and placed in practice by a study conducted by Businger et al. (2018).

Abbott’s Role in Opening Upper Level Academia to Women

Along with being a woman who represented the Native Hawaiian culture with pride, Isabella Abbott also served as a beacon of light to women hoping to enter academia. Abbott, being not only a woman but also of Chinese-descent, paved a path in seemingly unnavigable territory as her academic career began in the age of McCarthyism, a 1950s principle that led to distrust and wary as people were convicted of anti-American and communist acts (C. Smith, personal communication, October 21, 2019). Despite this, she became one of the most prominent researchers of her time earning multiple distinctions and setting the foundation for systematic botany. Abbott was one of the six people to attend university from her graduating class at Kamehameha. Even more stunning was that she was the only female botany major (Uehara et al., 2012). Coming from such a background, it would have been easy for her to feel discouraged, especially later in her career when her husband, who had the same degree from the same university, had six professorship and job offers while Abbott was left with none (C. Smith, personal communication, October 21, 2019). Yet, in the face of difficulty, she persevered and continued publishing until her scholarly prowess was undeniable. As the first woman to become a full professor in the biology department at Stanford University, she allowed her peers to recognize the potential of women and the difference gender fails to make. During and following the time of her professorship at Stanford, she noted that she saw numerous female faculty hired—evidence of her impact as she set a standard of respect toward women (Chang et al., 2014). Her ability to never falter in the face of discrimination remains especially inspirational for women today fac-

ing the same issues. Abbott's attention to her passions never strayed as a result of gender disparities expressing that "if I got irritated at some men scientists, I just say, well, this is like one of your brothers. You can beat him" (Chang et al., 2014). Even as a recipient of the National Academy of Sciences' prestigious Gilbert Morgan Smith Medal, Abbott stood out as the only minority woman scientist. When asked by interviewer, Leslie Wilcox, whether the fact that she was a minority amongst a sea of White men bothered her, Abbott responded "No. What would it gain me? Nothing. I would be the same person I am, and you know, continue to find new species of algae or have a good time in life" (Wilcox, 2008). Abbott's perseverance allowed her not only to prosper in academia, but also to act as a role model for the women of today. In the face of extreme adversity, she focused only on what mattered to her—algae, her research, and making the best out of life.

Conclusion

Isabella Abbott and her life achievements are not only a role model for Native Hawaiians and women, but also society, research, and the University of Hawai'i at Mānoa as a whole. She not only was influential in the fields of systematic botany and ethnobotany, but she also represented the benefits of maintaining an interdisciplinary approach to research, specifically allowing her to connect scientific discoveries to the community. In particular, she was able to apply her knowledge to UHM where she facilitated a space to embrace one's Hawaiian culture and identity as well as foster the growth of the next generation of scientists. By maintaining a persevering attitude, she not only forced the academic society to become more accepting of women but also paved the path for greater amounts of female representation, specifically at Stanford University. Abbott's legacy continues to live on through her work, particularly *Lā'au Hawai'i*, as well as invasive algae clean-ups that are led in her honor. Abbott's perseverance and determination to facilitate environments that will allow others to succeed is something the current academic and collegiate society can view as a role model.

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