

Emerson, Lundblad, and Jones v. The Salk Institute

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Abstract: The Salk Institute For Biological Studies is a world-renowned research institute. Despite its scientific prestige, Salk has perpetuated gender discrimination and misogyny against its female faculty. This inequality runs rampant throughout the STEM fields, and is characterized by feminist STEM scholars in the “Chilly Climate” theory and the “Leaky Pipeline” hypothesis. Drs. Emerson, Lundblad, and Jones, three tenured female professors at Salk, have experienced discriminatory treatment for years, especially through Salk’s sexist system for awarding grants and promotions. In 2017, these scientists faced a decision: to continue working at Salk and try to change the misogynistic culture from within, or to file lawsuits against the Institute and jeopardize their positions in the scientific community. This case illuminates the way many STEM institutes continue to maintain a gender hierarchy in the workplace. The scientists’ actions in response reflect the strategies women may use to fight sexism in a STEM workplace.

Entering the Salk Institute

In July of 2017, Drs. Beverly Emerson, Victoria Lundblad, and Katherine Jones were the only tenured female professors among the fifty-six professors employed at the internationally renowned Salk Institute for Biological Studies (Lundblad v. The Salk Institute 2017). Dr. Emerson, an epigeneticist, and Dr. Jones, a cancer researcher, were invited to Salk in 1986 after receiving international recognition for their research. Dr. Lundblad, a geneticist, joined Salk in 2003 after twenty years of research at Harvard University.

Ranked number 2 in the world for life science research, the Salk Institute is considered a pinnacle employer in a researcher’s career (Salk 2016). The Institute is a California non-profit public benefit institute funded 40% by government grants, 30% by foundational grants, 17% by individuals and 13% by investments (Salk 2018). Although it has no classrooms, Salk models itself after a university, titling its researchers as “Professors” in a hierarchy from “Assistant Professor” to “Full Professor” (See Appendix A).

Salk prides itself on admitting the elite of biological researchers; Emerson, Lundblad, and Jones are no exception, and all joined Salk with extraordinary qualifications already under their belts. Yet these researchers found themselves in a very different environment than they expected from such an idealized institution. Lundblad and her colleagues discovered a “hopelessly chauvinistic” workplace stifled by “stagnant, discriminatory practices” against the female faculty (Jones v. The Salk Institute 2017, 2). Their efforts to succeed at Salk were met with derision, and according to Lundblad, it soon became clear that Salk “promoted [and] encouraged only males at the expense of female scientists, who – small in number – [were] only reluctantly tolerated for public appearance reasons” (Jones v. The Salk Institute 2017, 2). These claims are symptomatic of discrimination against women in STEM at numerous institutions. Discriminatory practices are

not unique to Salk; rather, these claims articulate a “toxic” and “chilly” culture which women have reported since they first entered the STEM workplace (Maranto and Griffin 2011).

Academic and cultural examination of gender in STEM has placed the onus for change on female scientists to “stem the leaky pipeline” and “pioneer change” in their fields (King and Ramsey-Idam 2018). Emerson, Lundblad, and Jones felt this responsibility to shift the culture for the next generation of women at Salk, and led multiple committees to address the discrimination against female faculty at Salk (Chory et al. 2003). However, as this discrimination persisted, these women were faced with the risks of legal action against Salk. Suing an institute as renowned as Salk would jeopardize the women’s employment opportunities there and at other research facilities, and could ruin the women’s reputations in the scientific community. A difficult choice faced them: whether they should continue to endure the hostile environment at Salk until they achieved change from the inside, or file a lawsuit against Salk, risking their secure positions as tenured researchers at the institute and potentially losing their voices in the scientific community.

The Chilly Climate Hypothesis

At the heart of the dilemma facing the female scientists is a phenomenon known as the “Chilly Climate Hypothesis” (Sandler and Hall 1982). The Salk Institute is one of the hundreds of STEM institutions characterized by this theory, which posits that STEM companies have a culture of discrimination against women and minorities marked by “exclusion, devaluation and marginalization” of women, especially pertaining to grants and leadership (Maranto and Griff 2011, 140). Researchers have found that the “chilly climate” disproportionately affects women and other minority groups in academia because the working environment emphasizes professional networks and collaboration. The organizational conditions of academia, specifically pertaining to interpersonal conflict and access to information on research opportunities and departmental decisions, place female STEM faculty under greater stress than their male peers, thus leading to markedly higher attrition rates for women in STEM (Pedersen and Minnotte 2016).

The Tenure Trap

The Tenure Trap is an illustration of this inherent bias against women. In universities, the critical years of commitment to secure tenure eligibility overlap with women’s peak childbearing years (Mason 2013). This forces women to choose between starting a family and advancing in their careers. Other contributors to an inhospitable environment include devaluation of female research, aggressive or isolationist treatment from male peers, and exclusion from professional networks (Mason 2006). Combined with the Tenure Trap, poor STEM working conditions lead to a persistent cynicism in female scientists. This perpetuates the reluctance of new generations of women to enter STEM fields (Pedersen and Minnotte 2016). Emerson, Lundblad, and Jones all emphasized the tenure process as the primary mechanism of discrimination at Salk. It is no surprise that Salk, which models itself as a university, has been plagued by a hostile environment and has suffered high attrition rates of female faculty. As a consequence of years of employment in Salk’s inhospitable climate, Dr. Emerson claimed “humiliation, embarrassment, loss of enjoyment of life, emotional distress, and mental anguish” (Emerson v. The Salk Institute 2017, 26).

The Leaky Pipeline Hypothesis

The Chilly Climate Hypothesis and “Tenure Trap” are not the only explanations for high attrition rates of women in STEM. Advocates for gender equity in the STEM fields also assert that there is a “leaky pipeline” of girls entering science. The “Leaky Pipeline” theory examines causes

of poor retention of women in STEM and classifies them as either biological, psychological or social. For example, proponents of a biological explanation have claimed that women do not have the mental acuity to perform mathematical and spatial analysis on par with their male peers (Hyde 1996). In response, in his 2005 study, Blickenstaff posited that women are not less biologically or psychologically equipped to excel in STEM studies, but rather that the social environment they are raised in determines their field of preference (Blickenstaff 2005). Blickenstaff contends that “the degree to which men outperform women in spatial ability could explain a two to one ratio of males to females in engineering, but not the twenty to one ratio that is observed” (Blickenstaff 2005, 372-373).

Other research attributes this discrepancy between men and women in STEM fields as a consequence of psychosocial factors, particularly self-efficacy, outcome expectation, and interest, all of which influence retention of women in STEM (Aryee 2017). One study concluded that a 24% correlation exists between these psychosocial factors and STEM retention, highlighting the importance of initial interest in STEM fields to women remaining in those fields (Aryee 2017). This interest is socially discouraged in many female STEM students, and thus contributes to the poor retention of female STEM professionals in subsequent years (Aryee 2017).

The leaky pipeline also applies when analyzing retention of female professionals in STEM careers (Pedersen and Minotte 2016). This is particularly visible at the Salk Institute. While the number of women obtaining PhDs had increased from 8.1% in the 1970s to 50% in 2003, Salk’s rate of female recruitment decreased in the same timeframe (Riley and Griffith 1995). Between 1970 and 1990, Salk recruited eleven female faculty members and fifty male faculty members (Chory et al. 2003). However, between 1991 and 2003, only three recruits were female (Chory et al. 2003). Though the gender distribution of Salk’s job recruitment was inequitable, (nine employment offers for male candidates versus five for female candidates), job acceptance was even worse. While 78% of male candidates accepted a position at Salk, not one of the five female candidates accepted Salk’s job offer (Chory et al. 2003). This reflects the growing reputation of Salk as an inequitable working environment, and more broadly illustrates the increasing unwillingness of female scientists to enter inhospitable STEM fields. According to Dr. Lundblad, “while the Salk Institute claims to be ‘where legacies begin,’ there are and never have been the same opportunities for legacies for female scientists” (Jones v. The Salk Institute 2017, 2).

Sexual Assault At The Salk Institute

The more sinister manifestation of the “chilly climate” and hierarchical structure of STEM is a culture conducive to sexual harassment and assault. The collaborative dynamic and hierarchical structure of most research settings have led to the endemic harassment of female scientists. The hierarchy of laboratories puts women in a position where they are vulnerable to abuse, especially considering the intimacy of one-on-one research projects (Sekreta 2006). Further, approval from senior researchers in a scientific institution is vital to the success of newly recruited scientists, as it gives them access to grants and networks. STEM leaders are disproportionately male and often over 45 years old, leading to imbalanced, outdated power structures in science institutions (Blau and Weinberg 2017). This creates an opportunity for “quid pro quo” sexual harassment, wherein a new recruit endures sexual misconduct from her superiors for the sake of the employment opportunities these superiors can provide (Sekreta 2006, 119). Even when women accuse their harassers of misconduct, the research institution is often unwilling to take action against accused researchers because of their contribution to the institution’s reputation and grants (Sekreta 2006).

The Salk Institute has exemplified this issue through its ongoing defense of Dr. Inder Verma, a senior Salk faculty member and grant chair, against reports of sexual harassment and assault. From 1976 to 2016, Salk received at least two formal complaints and three reports on Verma's misconduct, alleging that he "grabbed [women's] breasts, pinched their buttocks, forcibly kissed them, [and] propositioned them" (Wadman 2018, n.p.). According to Monica Zoppè, a former post-doctoral student in Verma's lab at Salk, "it was on everyone's mouth that he was a harasser" (Wadman 2018, n.p.). Yet when Zoppè formally complained about Verma's harassment to the Salk board, administrators told her "not to speak to anyone about the incident" (Wadman 2018, n.p.).

Even if Verma was punished for his misconduct, the distribution of power at Salk would continue to favor older male faculty who had garnered the Institute's acclaim. Eliminating one harasser would not change a system conducive to harassment. The risk of sexual harassment for female faculty placed Emerson, Lundblad, and Jones in a bind. As the three tenured female faculty members at Salk, they felt a responsibility to advocate for hiring new female faculty to give other women access to the resources of the Institute. Yet any attempt to attract new female hires to Salk would place these women at risk of exploitation and harassment.

Female Laboratories At Salk

The "Chilly Climate" and "Leaky Pipeline" hypotheses of STEM converge around Emerson, Lundblad, and Jones' dilemma at the Salk Institute. In advocating for a greater presence of female scientists at Salk, Emerson, Lundblad, and Jones risked contributing to the "leaky pipeline", given the inhospitable conditions new female recruits would have to face at the Institute. This would reinforce the pre-existing notion that STEM fields are incompatible with women. In the words of former Salk President Dr. William Brody to Dr. Lundblad shortly before her nomination to the National Academy of Sciences¹, her research was "in a downward spiral... and the field had passed her by" (Lundblad v. The Salk Institute 2017, 12). This sentiment was frequently used at Salk to deride female researchers. Grant chairs at the Salk Institute used similar claims to justify defunding female-run laboratories, perpetuating a downward spiral of female-led research.

The Salk Institute claims that 100% of its tenured female professors do not generate research commensurate to their male colleagues (Lundblad v. The Salk Institute 2017). Concurrently, Emerson, Jones and Lundblad all reported continuous pressure from the Salk administration to downsize the women's laboratories. Since 2011, Dr. Lundblad's research group consisted of five to six full-time researchers, but by 2017 she had only four scientists in her group (Lundblad v. The Salk Institute 2017). In response, the Salk Institute determined this number to be "non-sustainable," and used the small size of Dr. Lundblad's lab group as justification to withhold donor support and institutional opportunities for her research (Lundblad v. The Salk Institute, 6). The withheld funds and resulting low productivity of female-led labs at the Salk have contributed to a downward spiral of productivity and promotion for women in the Institute. This cycle allowed the propagation of a belief echoed through the STEM fields; as Dr. Verma, a senior faculty member at Salk, stated, "women do not belong" in science (Lundblad v. The Salk Institute 2017, 8).

¹ The National Academy of Sciences (NAS) is a private, non-profit association of leading researchers in America. Outstanding scientists are recognized and promoted through nomination to NAS membership, and membership is considered one of the highest honors a researcher can receive.

Dr. Blackburn: A Compromise For Equality

One solution to the purported downward spiral of female science is to promote women to positions of power, from where they can redistribute funding and foster equitable access to resources. Despite its internal strife, the Salk Institute has made strides toward gender equity in its leadership. In 2015, Salk board members hired Nobel Laureate Elizabeth Blackburn as Salk's first female president. Her discovery that telomeres provide protection to the genetic material of a chromosome was groundbreaking for research on cancer and aging, and set a precedent for women (including Lundblad) to dominate this field of research (Salk 2015). Like Lundblad, Blackburn is one of the 7% of women admitted to the National Academy of Sciences. Blackburn claims her education in women-only institutions before her graduate work at Cambridge "insulated [her] from [gender] stereotyping" (Orenstein 2002, n.p.). When asked about the root of her success as a woman in STEM, Blackburn responded "I disguised myself as a man" (Orenstein 2002, n.p.). The strategy involved pushing back the birth of her only child until Blackburn secured tenure, and meeting STEM work expectations that were inconsiderate of her disproportionate domestic responsibilities as a woman. In a 2002 interview on sexism in STEM, Blackburn reflected "I was oblivious [to discrimination] for a long time...as a defense mechanism and way to cope" (Orenstein 2002, n.p.).

Blackburn's conformity to the gendered tenure track of STEM research made her an ideal candidate for leadership at Salk. She would be the compromise between the Institute's biased work practices and Emerson, Lundblad, and Jones' calls for equity in the Institute's leadership.

Dr. Blackburn's Failure To Create Change

After her appointment as President of Salk, Blackburn herself commented on her difficulty breaking into the "old boys' club", and reported experiencing:

Situations where I could tell that I was not included in the same kind of old boys' club networking... I think decisions were being made without my participation because I wasn't really in those networks and [was] not accepted into them (Turk 2016, n.p.).

However, Lundblad suggested that Blackburn remained willfully oblivious to the bias of the Institute, asserting that Blackburn "[knew] about this discrimination, yet [had] done absolutely nothing to stop it or right the wrongs perpetrated against [Salk's] equally talented and decorated female Full Professors" (Emerson v. The Salk Institute 2017, 2). Rather than supporting the scarce female faculty at Salk, Blackburn seemed to integrate herself into the old boys' club.

In 2016, Blackburn commissioned a White Paper² on the gender-biased mechanisms of Institute resources. However, upon receipt of the 2016 White Paper, Dr. Blackburn not only failed to investigate the complaints of discrimination outlined, but also failed to distribute the White Paper to the Salk Board of Trustees for review (Jones v. The Salk Institute 2017). To Emerson, Lundblad, and Jones, Blackburn's refusal to acknowledge the issue of gender inequity to donors suggested that Salk's goal of 'diversity and inclusion' was an empty promise. Salk's deeply ingrained power structures favored male faculty, and even as President, Blackburn did not have the influence to overturn the numerous male-dominated committees that maintained Salk's influence in STEM. However, although Blackburn's compromise with the "old boys" may have appeared to be a betrayal, but it was also an alternate pathway to the change from within that

² A White Paper is an internally generated report or guide on the organization's beliefs regarding a complex issue. The White Paper describes the issue and highlights solutions.

Emerson, Jones, and Lundblad wished to engender. Having a female representative positioned inside the committees that repeatedly shut all women out was a small step toward garnering some respect and funds. However, the divergence of Blackburn's strategy from Emerson, Jones, and Lundblad's prevented these women from joining to reshape Salk, and it remains unclear which pathway might have facilitated change.

The Old Boys' Club

Despite Blackburn's election as president, in the past 30 years there has been no female leadership in the Salk Cancer Center, leading an External Advisory Board (EAB) member to characterize the Institute as an "old boys' club" (Emerson v. The Salk Institute 2017, 11). Salk's leadership structure has had dire consequences for funding distribution to female faculty. Currently, Salk's process for allotting funding opportunities is "heavily influenced" by a small group of male senior faculty at the Institute in a non-transparent process (Lundblad v. The Salk Institute 2017, 7). In most scientific institutions, this process is transparent, involving institution-wide, peer-reviewed applications for funding and an effort to allot grants based on the objective merit and relevance of research (Gurwitz, Milanesi, and Koenig 2014). However, Salk lacks written policies for how faculty eligibility is determined for restricted funds (Faculty Issues Subgroup of the Community and Culture Committee 2016). As a partially government-funded institution, Salk's non-transparency is unethical, allowing a small cadre of faculty to distribute public money inefficiently or in service to their personal gain. The consequence of this maldistribution of power was exemplified in 2016 when Salk received a \$42,000,000 grant from the Helmsley Charitable Trust (Helmsley Trust 2018).

Emerson, Lundblad, and Jones were all working in the specific areas of research covered by the Helmsley Grant, yet all three were denied funding from the grant; instead, eleven laboratories run by male faculty received the majority of the funding. Dr. Lundblad proposed that 100% of the tenured female faculty were denied the Helmsley grant because Dr. Verma, who has repeatedly denied support to the Institute's female faculty, was given control of the Helmsley Grant distribution. This is in contrast to the common practice of other research institutions, which are mandated to follow a transparent, democratic process for distributing faculty funding (Jones v. The Salk Institute 2017).

The Faculty Retreat

In addition to Salk's inequitable distribution of grant funding, Emerson, Lundblad, and Jones also faced reduced networking opportunities to connect with donors. Dr. Lundblad points to Salk's annual faculty retreat as an explicit example of gender discrimination at Salk. The retreat is hosted as an opportunity for scientists to present their unpublished work to Salk colleagues, but more importantly, as an opportunity for the Salk board to match donors to the presenting faculty. This opportunity for individual funding is crucial, as Salk requires all scientists to raise 50% of their salary from external sources (Emerson v. The Salk Institute 2017). On average, sixteen to eighteen faculty members have presented at the retreats since their inception, yet Lundblad recounts that, of the presenting faculty, "only one or two women faculty members [were ever included] as speakers" (Lundblad v. The Salk Institute 2017, 5). Dr. Lundblad herself has only presented twice in the past fourteen years, and other tenured female professors have expressed a similar dearth of opportunities to present their work. In contrast, Dr. Lundblad said "numerous male faculty have presented year after year" (Lundblad v. The Salk Institute 2017, 5). This disparity means fewer women at Salk, especially tenured female faculty, are given opportunities

for peer recognition, collaboration with colleagues and, perhaps most crucially, connections to donors who could fund their laboratories.

Dr. Emerson: Income Inequality

The economic disparity between male and female grant awards at Salk is evident in the gap between their respective salaries. Dr. Emerson, for instance, is a reputable scientist whose accolades include her invitation at the age of 34 to join the Salk Institute as an Assistant Professor of cancer epigenetics. In 1999, Emerson was promoted to Full Professor. Her laboratory focused on transcriptional and epigenetic control of human cancer, and received 94% of its funding from extremely competitive NIH grants, along with newly created grants from the California Institute of Regenerative Medicine and from the National Cancer Institute (Emerson v. The Salk Institute 2017). Despite these accolades, her promotion to Full Professor took nearly five years longer than the average male faculty member at Salk, and it was only after this promotion that she was eligible for tenure. Additionally, Dr. Emerson was only awarded an Endowed Chair after 27 years of service to the Institute. While institutional reports have not provided a comparison of financial compensation for male and female faculty, Emerson's IRS forms revealed that over her entire career at the Institute, she earned less compensation than any of her male counterparts. By 2014, Dr. Emerson's compensation was 50% lower than a similarly qualified male Full Professor, Dr. Verma. In fact, Dr. Emerson's base salary was lower than the lowest paid male Full Professor, a man 10 years her junior.

Dr. Jones: Promotional Discrimination

Emerson was not alone. The Salk Institute held back the promotion of many female faculty, including Dr. Katherine Jones, who joined Salk in 1986. Jones, currently sixty-five years old, took a similar path to Salk, and suffered similar circumstances. She joined Salk as a cancer researcher after appointments in the NIH, the National Cancer Institute and the UCLA Cancer Center. Over her 30-year career at Salk, Dr. Jones was awarded two full NIH grants and holds several patents for her discoveries in oncology. She was promoted to Full Professor in 1998, a year before Dr. Emerson. However, alongside Dr. Lundblad, they were the last female scientists to receive this promotion at Salk. Despite being one of the longest tenured professors, Dr. Jones has never been awarded an Endowed Chair. In 2014, when she formally complained to then-president Dr. William Broody, he justified withholding the endowment by explaining, "Salk does not provide an endowed chair to your scientific area of expertise" (Jones v. The Salk Institute 2017, 6). However, in the following two years, Drs. Alan Saghatelian and Reuben Shaw, two junior oncology researchers with "significant expertise overlap" to Dr. Jones, were awarded Endowed Chairs (Jones v. The Salk Institute, 7).

The 2003 Report

It is unsurprising that Dr. Lundblad also encountered untenable "levels of discrimination, humiliation and hostility" (Lundblad v. The Salk Institute 2017, 3). In response to the discrimination pervading their work at Salk, Emerson, Jones, and Lundblad made efforts to elicit change in the Institute. In 2003, Dr. Jones worked with a committee to develop the "Report of the Faculty Development Committee on the Status of Women Faculty at Salk" (referred to hereon as the '2003 report'). The report, commissioned in 2001 by then-president Richard Murphy as part of an effort to identify and improve the status of gender equity at the Institute, examined thirty years of data on hiring and promotion rates of women in the institution.

The results reflected a startling trend: of the fifty-two active faculty members, only seven were women. While 15.6% of the Professors and Distinguished Professors were female, there was only one Associate Professor and one Assistant Professor, demonstrating a decrease in female recruitment for the rising generation of senior faculty at Salk (Chory et al. 2003). The 2003 Report also addressed promotion rates, and found that female faculty took 1.7 years longer than men to receive promotions on every level, controlling for qualifications (Chory et al. 2003). While 70% of male faculty members were promoted ahead of the guidelines for Faculty Appointments and Promotions, only one woman in Salk's history has been promoted ahead of schedule (Chory et al. 2003).

This disparity is common to STEM employment across the world and, among other phenomena like the chilly climate, leaky pipeline, and tenure trap, also reflects a maternity penalty on young female scientists who take time off to care for their children. As noted, the first female Salk president, Dr. Elizabeth Blackburn, waited until she was thirty-eight to have a child in order to secure "the safe haven of full professorship" (Orenstein 2002, n.p.). However, postponing childbirth this much can prove dangerous to both mother and child's health, sometimes causing postnatal health complications for the mother and developmental disorders for the offspring (Orenstein 2002).

Aside from promotion statistics, the 2003 Report made several recommendations for improving gender equity at the Salk Institute. These recommendations include a specific fund for recruitment and retention of female faculty and the establishment of a female Endowed Chair. Further, the Report recommended flexible hiring practices and involvement of Salk itself to find nearby, viable employment for a candidate's spouse or partner.

Despite the vigor of the 2003 Report, Emerson believes Salk "completely ignored the damning evidence of gender discrimination" (Emerson v. The Salk Institute 2017, 8). The Institute defended itself by pointing to new initiatives for increasing support and retention of female faculty, including a provision of childcare services and the hiring of a chief scientific officer to review diversity of job applicants (Wadman 2018).

The failure of the 2003 report to bring about progress reminded Emerson and her colleagues of the alternative route. If they could not elicit change from within the institute, they could still fight for equity through legal action. However, filing a lawsuit would not be a perfect solution, and Emerson, Lundblad, and Jones had to consider the tremendous negative ramifications.

Pao v. Kleiner Perkins: A Cautionary Tale

A parallel case of sexual discrimination in Silicon Valley revealed the possible negative consequences of fighting inequity through the law. In 2012, venture capital executive Ellen Pao filed a lawsuit for gender discrimination against Kleiner Perkins, her employing firm. Like Emerson, Jones, and Lundblad, Pao contended that the firm promoted men of equal or lower qualification over herself, and that a "culture of exclusion" prevented her and other women at Kleiner Perkins from having input on pertinent company decisions (Pao v. Kleiner Perkins 2012). While Pao ultimately lost the suit, her case created an opportunity for other women in the technology industry, and eventually across the STEM fields, to expose the rampant gender discrimination they had experienced. Inspired by what is now called the "Pao Effect," attorneys reported a noticeable increase of lawsuits alleging workplace sexism in prominent tech companies, including Tina Huang v. Twitter and Chia Hong v. Facebook (Giang 2015). Over two hundred similar cases were compiled from women in tech by technology professionals Trey Vassalo and

Ellen Levy in their suitably named “Elephant in the Valley” project (Vassalo and Levy 2015). While Pao’s case served as an inspiration for women in other fields, it alienated her from the venture capital system and prevented her from engendering change from within that system. Filing a lawsuit against the prominent Kleiner Perkins firm cost Pao employment offers from other venture capital companies, who didn’t want to risk their reputation or connection to the firm.

In their first years at Salk, Emerson, Lundblad, and Jones navigated a similar dilemma to Pao. Had they pursued legal action to combat Salk’s discriminatory policies at an earlier stage in their careers, these women would have risked removal from the Institute’s widespread network of STEM opportunities (Wadman 2018). They would also have relinquished the opportunity to reform Salk’s inequitable policies from within. However, all three women were sixty-five. Being near retirement age afforded them the risk of losing their employment at the Salk and future STEM job prospects. Younger female scientists at the Salk could not afford this risk.

Still, a lawsuit, even late in their careers when it posed less personal risk to the women, would undermine the current female president, Dr. Blackburn. Suing the Salk for gender discrimination would weaken the image of the first female leader at the Institute, and possibly suggest that female leadership was not an effective step towards equity at Salk. Female leadership has historically been undercut by a phenomenon known as the glass cliff, wherein women are only appointed as leaders when their organization is in crisis (Ryan and Haslam 2005). Legal action might further Emerson, Blackburn, and Jones’ efforts to create justice for women in STEM, but in the process, they would have to sacrifice one of the few female leaders at Salk to this glass cliff.

The MIT Report

The 2003 Report was not unique to Salk, and a similar report at another STEM institution suggested that, with persistence, Emerson, Lundblad, and Jones could see their solutions for equity come to fruition at the Institute. In 1999, female faculty at the Massachusetts Institute of Technology presented a similar report on the professional marginalization of women at the university, titled “A Study on the Status of Women Faculty in Science at MIT”, to their president. The report highlighted discriminatory hiring and promotion practices, gendered hostility from colleagues, and poor representation of women in leadership at MIT (Chisholm et al. 1999). Though it took over a decade, MIT followed the recommendations of this report and nearly doubled the number of female faculty at the Institute. A 2011 follow-up study gained input from nearly all female STEM faculty at MIT and found that “the Institute is a much friendlier and supportive environment than perceived from the outside” (Gillooly 2011, 5).

The 2016 White Paper

In contrast to MIT’s success, by 2016, Emerson and her colleagues did not view the Salk as a “friendlier” or “supportive” environment. Despite the failure of the 2003 Report to elicit action from Salk administration, Emerson and her female colleagues persisted in their efforts to improve the culture of the Salk for female scientists to come. Thirteen years later, Emerson chaired a 2016 committee White Paper on the poor diversity and inclusivity in Salk’s distribution of resources. The White Paper reported that for every female faculty appointment, 3.75 male faculty were hired (Faculty Issues Sub-Group Community And Culture Committee 2016). The paper noted that “the labs headed by all of the senior female faculty are in the bottom quartile of lab size, despite higher levels of NIH funding in one of these labs ... and the mechanism for distribution of Institute resources may not be gender-neutral” (Emerson v. The Salk Institute, 8).

In response, the Salk called the White Paper “a draft document containing opinions and self-titled ‘findings,’ many of which are misguided or we disagree with or dispute” (Wadman 2018). The Institute’s continued resistance to Emerson, Lundblad, and Jones’ efforts to catalyze change was a difficult blow to their confidence as activists for women in STEM. Further, these efforts had cost valuable lab time for the scientists. With their work divided between science and advocacy, Emerson, Lundblad, and Jones suffered lower lab productivity, which was punished as grants and promotions were withheld. After a combined seventy-six years of employment at the Salk Institute, Emerson, Lundblad, and Jones had still not shifted the discriminatory practices they first encountered thirty years ago (Emerson v. The Salk Institute 2017).

Legal Action or Internal Reform?

The repeated failure of these women’s attempts to reform gender inequity at Salk had degraded their confidence in the capacity of female scientists to shift the culture of STEM. If an internationally renowned institution like Salk was so inhospitable to tenured female scientists, was it right to encourage more young women into vulnerable positions as female scientists in order to shift STEM’s notorious ‘chilly’ culture? Was this even an effective fix? Dr. Lundblad posits that she was hired expressly to change this culture, but suffered “mental suffering, loss of enjoyment of life, anxiety, humiliation and emotional distress” as result of the discriminatory and demeaning environment of the Salk (Lundblad v. The Salk Institute 2017 p. 3). Yet a lawsuit against the Institute would overturn every effort Lundblad and her colleagues had made to make Salk an equitable institution. The Institute’s network was vast, and legal action could jeopardize the women’s credibility with every other reputable STEM employer. Further, a lawsuit would undermine the leadership of Dr. Blackburn by suggesting that female leadership at Salk could not induce gender equity. Pushing Dr. Blackburn, the first and only female president of the Salk, off of a glass cliff would potentially undermine any future effort by Salk to promote female scientists to leadership. For these women, science truly seemed to be “a field [that] has passed [them] by” (Lundblad v. The Salk Institute 2017 p. 12). Perhaps, for the wellbeing of prospective women in STEM, it would be better that this leaky pipeline burst.

Epilogue

In response to the unremitting discrimination of the Salk Institute, Drs. Emerson, Lundblad, and Jones ultimately chose legal action rather than to continue their unsuccessful efforts to instigate change from within the institution. Lundblad reflected that the toll of her time at Salk had degraded her belief that she “could change the system to be equitable” (Lundblad v. The Salk Institute p. 12). In July of 2017, the scientists filed independent lawsuits against Salk, claiming “discriminatory practices” and subsequent “intentional infliction of emotional distress” (Jones v. the Salk Institute 2017 p. 20). In January of 2018, Salk terminated Dr. Emerson’s contract, citing that she had not raised 50% of her salary from external sources per institutional requirement (Emerson v. The Salk Institute 2017).

Eight additional women have accused Dr. Inder Verma of sexual harassment since Emerson and her colleagues presented their lawsuits. Verma denies all accusations, claiming “I have never inappropriately touched, nor have I made any sexually charged comments, to anyone affiliated with the Salk Institute. I have never allowed any offensive or sexually charged conversations, jokes, material, etc. to occur at the Salk Institute” (Robbins 2018). The Institute opened a formal investigation of Verma in early March 2018, and on April 21st, Verma was placed on administrative leave from the Salk (Robbins 2018).

Dr. Elizabeth Blackburn responded to Emerson, Lundblad, and Jones' lawsuits in a statement saying she is "saddened that an institute as justly revered as the Salk Institute is being misrepresented by accusations of gender discrimination. . . . I would never preside over an institute that in any way condoned, openly or otherwise, the marginalizing of female scientists" (Wadman 2018). Following this sentiment, Dr. Blackburn resigned from her position as the first female president of the Salk Institute, just two years after her election.

While their cases remain in court, Emerson, Lundblad, and Jones have drawn support from the scientific community. Dr. Nancy Hopkins, an MIT professor who led the university's successful 1999 Report, rebuked Salk, stating "The fact that an institution would treat its own distinguished faculty in this way is very disturbing" (Wadman 2018, n.p.).

The mistreatment Emerson, Lundblad and Jones have faced at Salk offers insight into the sexist working conditions for women in STEM. Further, their efforts to combat Salk's chilly climate reveal the consequences of commonly suggested solutions to STEM's 'chilly climate'; Emerson lost her contract with Salk, and all three scientists' achievements in research are now overshadowed by their cases against Salk. The hierarchy of the faculty-based structure at Salk was conducive to the misogyny and harassment female researchers reported. Considering this structure is common to many research institutions, the Salk cases illustrate mistakes research organizations should avoid when designing their programs; in particular, these cases demonstrate the need for conscientious mentorship programs to avoid 'quid pro quo' harassment, a transparent grant allotment process, and a clear procedure for faculty promotion. In retrospect, Dr. Blackburn's strategy to integrate herself into the "old boys' club" at Salk and elicit change from within did not succeed. The consequences of this choice suggest that female leaders in similar, male-dominated institutions might find more success by dismantling the "old boys' clubs" and replacing such structures with more democratic organization. However, this strategy requires enormous work and could disrupt the purpose of the organization; in this case, scientific discovery.

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Appendix A: Salk Promotional Structure (Emerson v. The Salk Institute 2017)

Assistant Professor: Salk initially appoints scientists as Assistant Professors for a period of six years. After this period, a group of resident faculty and non-resident fellows reviews the Assistant Professor's performance and a majority vote determines whether she is promoted to Associate Professor.

Associate Professor: Salk appoints scientists to Associate Professor for no more than 6 years, after which she is reviewed for promotion to Full Professor. On average, Associate Professors are reviewed for promotion at the end of their 5th year. Salk has shortened this period to 1 year for several male Associate Professors, but has never accelerated the promotion of a female Associate Professor.

Full Professor: Full Professor is the highest-ranking professor at Salk. Full Professors with exceptional performance are eligible for consideration for an Endowed Chair.

Endowed Chairs: Endowed Chairs are chosen by Salk's senior administration to honor outstanding faculty members. The award pays a substantial portion of the scientist's salary, which is otherwise the responsibility of the scientist. Endowed Chairs are supported by private donors or foundations. The process of awarding Endowed Chairs is non-transparent, and though there is no written timeline for this award, the 2016 Report noted a gender bias in the timeframe for this award.