

## **Taking Action, Making Change**

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A famous professor asked me, during a graduate school interview, if “I was sure I wanted to go to graduate school because I was a girl and might want to go have babies instead”. I stammered a reply of “Yes, I am sure”, and left that interview deeply upset in a way I did not fully understand until much later. Needless to say, I rejected the offer of admission at that school. That was the first real instance of a gender bias based micro-aggression that I had experienced. I had lived a relatively charmed science life until that moment. The spell was broken and that was not the last time I would face such comments and challenges within the scientific field. Since then, the micro-aggressions I have encountered have varied and ranged from directly spiteful to misplaced well-meaning concern and I have worked to develop both passive and active methods for dealing with and changing such occurrences.<sup>1</sup>

I fell in love with science as a high school junior, when I mated fruit flies to illustrate traits of inheritance and dissected fetal pigs to explore anatomy. Encouraged by my high school teachers and parents, I attended Texas A&M University, where I was advised by a brilliant faculty member, Prof. Sumana Datta, who studied links between prostate and brain cancer. Dr. Datta was an invaluable mentor, not just as a scientist, but also as a woman in science. Watching her rise through the ranks at Texas A&M, I silently took notes. One of the things that made the greatest impression on me was her dedication to the truth of who she was, a scientist and a woman. She never appeared to attempt to take on a more traditionally masculine persona, nor did she apologize for her femininity. She appeared to have mastered the art of being perceived as a scientist first and foremost, not as a “woman” scientist.

That distinction may seem absurd to many, and hopefully one day it will truly become so. We like to believe that scientists, as trained objective researchers, judge each individual on their academic merit rather than gender, race, economic status, etc., but that is simply not the case. Unconscious bias still plays a significant role in how the scientific fields approach day-to-day collegial relationships, career paths, teaching, and expectations.<sup>1-3</sup> As Dr. Datta rose through the ranks, she was significantly outnumbered by her male counterparts and statistically less likely to obtain tenure or be promoted.<sup>4,5</sup>

I was one of the relatively few fortunate enough to be encouraged and guided as a fledgling researcher by a woman who dealt with the micro-aggressions of the scientific field with no-nonsense and grace. Dr. Datta is now a Full Professor of Biochemistry and Biophysics and Assistant Provost for Undergraduate Studies at Texas A&M and continues to be both an inspiration and a mentor to me. She taught me by example to approach a scientific career as a complete person, rather than partitioning my scientific identity away from my identity as a woman.

Gender bias and the resulting micro-aggressions remain a prevalent and unfortunate undercurrent in modern academia.<sup>1-5</sup> While gender bias can adopt many forms, it affects women particularly in regards to decisions regarding the balance between research and family.<sup>1</sup> On an individual basis, this can range from women scientists being less likely to be hired if visibly pregnant or being perceived as less productive if she has a family.<sup>1-4</sup> At the institutional level, the lack of paternity leave, full paid maternity leave, and affordable childcare force many women, and, as there is increased gender parity in parenting roles, some men, to abandon academic science, particularly during the postdoctoral phase.<sup>6</sup> Indeed, the number one reason scientists, especially female scientists, leave science is the lack of family friendly

policies and a workplace culture that does not place a value on care, examples of which can include care for aging parents or sick relatives, as well as children.<sup>4-7</sup>

This is significant. Perhaps one of the greatest ways to eliminate gender bias and micro-aggressions that stem from it, is to achieve gender parity in the leadership roles of our perspective academic fields. If we want to reach this goal, we cannot afford the loss of our women scientists out of the academic pipeline.

Academic science is a career path where long hours and rigorous standards are the norm. However, in the current economic climate, particularly in locales such as the Bay Area, Boston, and New York City, where a two-income household is generally necessary, the “traditional” family model wherein one parent remains primarily at home and one is the primary wage earner is no longer feasible.<sup>7</sup> This “two body problem” impacts both hetero and same-sex couples. However, regardless of sexual orientation, women are impacted disproportionately. Men with children are perceived as more stable and dedicated. However, women are impeded by the pervading perception that she cannot be as productive as her counterparts without children because she will be unable to work the long hours considered necessary for success in the American tenure track academic culture due to her “expected” parenting responsibilities.<sup>1,2</sup> And, as men of our generation attempt to find more gender parity in childrearing, they are finding their career paths are similarly negatively affected when they attempt to make use of the resources designed to support childcare.<sup>8,9</sup>

In addition, many academic scientists are finding themselves in increasingly longer postdoctoral appointments before moving into tenure-track faculty positions. This means many more women are spending their early 20s-30s as low paid postdocs (NIH postdoc payscale for a 3<sup>rd</sup> year postdoc is ~48K pre-tax).<sup>6</sup> These are also the years where women scientists are most likely to have or consider having children.<sup>4</sup> However, lack of support from the universities including an absence of affordable childcare, partially paid maternity leave, and a pervasive belief that a woman who becomes pregnant is not dedicated to her academic career contributes to a significant number of women dropping out of academic science during their postdoctoral tenure. Approximately the same number of men and women who begin graduate school do successfully graduate.<sup>4</sup> However, we are hemorrhaging our extremely well trained, bright, and skilled women during the postdoctoral phase due, at least in part, to the lack of support, both financial and cultural, for having or caring for a family.<sup>4,6</sup> This is a significant loss, especially when considering the investment made in our development through graduate school.

The most significant action I have taken to counter a culture of micro-aggressions regarding gender is to become actively involved in processes that promote policy and cultural changes. I currently serve as a Head Steward for the postdoc union at UC Berkeley represented by UAW 5810 where I have and continue to fight for more family friendly working conditions for all postdocs within the UC system. With the help and encouragement of Prof. Mary Ann Mason, whom I connected with at last year’s Expanding Potential Workshop, and the testimonies of female and male postdocs/parents, the UC system and UAW 5810 will be forming a joint committee to explore options in regards to childcare subsidies and availability. I was one of a panel of three female postdocs that traveled to meet with our local congressman to ask for support in our negotiations. As we waited for the meeting, we were proud that it was a contingent of active female scientists speaking up for much needed change. However a strong female postdoctoral contingent is not enough.

In order to achieve gender parity in the leadership of our major academic scientific fields, significant workplace cultural changes, supported by university level policy changes, are needed which place an

increased value on childcare and adopt more family friendly policies for all genders (e.g. paternity leave and childcare subsidies for postdocs). We need to support our young scientists of all genders as they balance science and family in a work-life balance more congruent with modern realities of gender balanced co-parenting and co-breadwinning, rather than the 1950s model of a “traditional” family. As mentioned previously, one major goal of keeping young scientists of all genders in the pipeline is to increase gender parity at the top levels of academia and begin to alleviate many of the micro-aggressions that arise from the unexamined unconscious biases prevalent in a non-diverse leadership.

Cultural changes in the academic environment regarding perceptions about gender, expected roles, limitations, and capabilities can also be altered at the “grassroots” level by continual discussion and examination of bias, essential in reducing micro-aggressions and promoting active cultural changes, by the rising generation of young scientists. Thriving in Science, a UC Berkeley based peer support program for graduate students and postdocs, has been influential in facilitating larger discussions on topics such as productive ways to handle workplace conflict, addressing and mitigating bias, alternate career paths, and work/life balance. I am proud to serve on its board.

In these settings I find platforms and forums where all scientists are able to share and respond to the day-to-day challenges of science and, sometimes, the various forms of discrimination and micro-aggressions that occur. Sometimes that is as complicated as implementing policy changes at a contract or university level. Sometimes it is finding support systems and mechanisms and resources that work for the individual. As an individual, the most powerful action I can take day-to-day is to address micro-aggressions on the person-to-person level, and support rising policies that promote positive change.

Discrimination and micro-aggressions occur less frequently when open discussion and candid examination of our own biases are continually shined upon them. When possible, I encourage everyone who is comfortable to speak up and initiate conversations about where such discriminations are encountered and to become active in the formation of policies in their respective academic environments. The culture of the sciences will truly only shift towards equality when gender bias or indeed any bias becomes unacceptable in policy and in practice. And change is happening. As we, the next generation of scientists, grow into positions of leadership, those cultural shifts will hopefully rise with us.

I am a scientist. I am a woman. I am a colleague. I am a partner. I am a daughter. I may someday be a parent. I want to work in an academic environment where value is placed on the many potential roles in any scientist’s life, regardless of gender, and such roles are embraced as the strengths of a whole and balanced person.

But the work is far from over.

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