

Review of

THE ONLY WOMAN IN THE ROOM; WHY SCIENCE IS STILL A BOYS' CLUB

Eileen Pollack

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“Science is Still a Boys’ Club”, the tail end of this book’s title, is a valid, and important, beyond-a-reasonable-doubt theorem, and the book itself is a valid beyond-a-reasonable-doubt proof. While this “proof” contains ample arguments, quotes, references, and statistics, the emphasis is on anecdotal evidence depicting the more subtle goings on -- things so entrenched within our culture that, no matter how many laws and policies get changed, it could be generations before they disappear.

THE BOYS’ CLUB

Eileen Pollack’s upbringing had little to offer her STEM-wise, and that had a lot to do with gender. Her parents, to some extent, didn’t buy her the STEM-type toys she wanted, and her high school did not permit her to take calculus nor, despite her qualifications, skip ahead to the more advanced and less boring math courses, “because girls never completed programs in science or math” (p 19). So when she first entered Yale as a physics major, she felt vastly under-prepared and overwhelmed. And her gender continued to be a handicap. P. 54: “... more than a few of the 118 boys in that... class had trouble keeping up. But I didn’t know that then, any more than I knew most of the boys worked on their problem sets together...” No, she didn’t yet know about the existence of the boys’ club, in particular that this club sometimes actually held meetings.

She gradually found out, more and more consciously. She was certainly aware of being “the only woman in the room” as well, sometimes, as the only woman *outside* of the room. On page 129 she describes a social event attended by the physics community at Yale. “...the barbecue... at the home of my division head... where I had felt sorry for the man’s wife and retired with her to the kitchen while the men continued their discussion in the backyard, the male interns acquiring a list of researchers they could contact when they applied to grad school...” This was a circumstance that one might say was “nobody’s fault” but simply a consequence of our societal habits, but they’re habits which need to be broken or altered or analyzed.

P. 127, about her male professors, gives one less obvious example: “I had crushes on them all. My attraction to my professors kept me working to please them... Yet that same attraction made me too self-conscious to ask them for guidance and, in some cases, may have made them too wary to provide.” An analogous phenomenon for male students is much more rare.

P. 52, about one of her physics texts, describes something much more recognizable and controllable. “[It was] even more sexist than I recall. The scientists in the photos are all lab-coated males... The problems at each chapter’s end involve bats and balls and bombs. Even the disembodied hand that illustrates the right-handed rule by which to find a vector’s [sic, vector] product is hairy and thick...” Indeed, so much of science is depicted as male, and that makes it difficult for a woman to identify as a scientist.

Many other boys’ club “activities” are described, some embarrassing or insulting. Indeed, when a woman becomes a scientist, she has to witness these activities much too often and is forced to work in a male environment -- in rooms where, for example (p. 200): “...the men in the class had pasted the head of a female physics professor on the cutout of a nude body, and the men couldn’t understand why the women got upset.” Indeed, boys will be boys, even as some of them strive to admit women into their club.

CRAVING ENCOURAGEMENT

For Pollack the bottom line is two-fold: (1) Women aren’t given enough encouragement and (2) women *need* encouragement more than men – for many possible reasons. For example, women have fewer role models (meaning fewer women scientists than men), women are more in touch with their vulnerability, and compliments given women are very often for their non-intellectual attributes such as beauty and deportment – and criticisms given women are often for their intellectual attributes, as in “No wonder you got that job. They had to hire a woman.”

Throughout her book Pollack observes and laments this lack of encouragement in her own undergraduate life. She was given grades of summa cum laude caliber, asked to present at conferences, and singled out in other ways that could be listed on a CV, but not one professor ever came straight out and praised her, told her in so many words that she was great or even good in physics. And that mattered. Pp. 79-80: “[The professor] had no idea how desperately I needed his encouragement... He didn’t understand that the list of eighty-eight male and two female Nobel Prize winners printed on the inner covers of our book, combined with the absence of a single female faculty member in physics or math... made me feel as if I had no right to be in his class.” And p. 127 concerning her senior paper: “... I wanted desperately for my advisor to acknowledge what I had accomplished... I was dying to ask if my ability to solve the problem meant I was good enough to make it as a theoretical physicist. But that would have been like asking a lover if I was pretty; if you needed to ask, you weren’t.” Or so it felt. And so it affected the rest of her life.

Indeed, discouragement in the form of omission is very often the heart of the matter. When it comes to calling a spade a spade, professors and colleagues can be extremely coy. It’s these absences – the no-comments – that can hurt most and have the most

devastating consequences. In Pollack's case, it resulted in her ending her physics career upon graduation.

Much of this book is memoir. Some Amazon reviewers have criticized this but, as the author of two memoirs (about spousal chronic illness), I know that there are things memoir can express that other genres can't. And consider this from p. 254: "Examples of discrimination can prove discriminations exist in ways that examples of women or people of color being treated fairly cannot prove discrimination does not exist. Some aspects of human behavior can be understood only by means of narrative – that is, the detailed communication of the particularities of an experience that illuminate the psychology and actions of a group." Consider also the work of Patricia Clark Kenschaft. In her book, "Change Is Possible: Stories of Women and Minorities in Mathematics" appears the chapter, "Skits Tell What's Happening Around 1990." Beginning that year in Louisville, the "skits" were an annual occurrence at the Joint Meetings. They were just that, short plays about the "micro-inequities" that still go on in the math community, the subtle societal glitches, and these skits changed the mindsets of many non-minority mathematicians. As an example of a skit plot: man mathematician meets woman mathematician at a faculty party. No matter how much the woman talks about her research, the man insists on conversing about teaching or family matters -- until a man mathematician joins them. He then steers the conversation towards research. Thus, to me it seems totally appropriate, almost necessary, that "The Only Woman in the Room" consists largely of memoir and anecdotes.

Emotions seem to have a lot to do with all of this, and the phenomenon of emotions is something with which the math and physics communities have not, until very recently, concerned themselves. That's why Pollack found what she wanted and needed in her writing classes rather than in her math and physics classes. P. 11: "...unlike my physics classes, where I needed to leave who I was as a person outside the door, in my writing seminar, who I was a person became the subject of my work." And that's why, once getting her undergraduate physics degree, she went on to become a novelist and not a theoretical physicist, as was her dream.

Recently, and fortunately, the math world has become more interested in emotions. On p. xix Pollack observes, "Even as women have published memoirs about being sexually abused, addicted to crack... too beautiful... too depressed. no woman seems willing to confess in print to loving science or math too much." But there is a community of "math poets" and more than half of them are women. There is also The Journal of Humanistic Mathematics [2], which publishes poetry, poetic prose, and articles about the math community. Every late-July Bridges Math/Art Conferences [3] meet in various locations throughout the world, and "art" includes visual art as well as literary. Conventional math journals publish poetry, and universities offer across-the-curriculum math courses. JoAnne Growney has a math poetry blog[4], and Alex Kasman keeps very current his site [5] on mathematical fiction. This acknowledgement and validation of emotions will, I

hope, help iron out some of the shortcomings of the science world described in Pollack's book.

MESSAGES FROM THE GIRLS' CLUB

This book is full of significant girl-talk about the boys' club, by not only Pollack but other STEM women. It begins with childhood. P. 170 describes an aspect of home life. "I didn't get a microscope for Christmas. My brothers did. I didn't get an Erector Set – my brothers did." And p. 166 describes school life: "Her classmates teased her mercilessly. 'You're a girl, we don't need to listen to you. Girls can't do physics.' She kept expecting the teacher to put an end to the teasing, but he didn't..."

This kidstuff escalates in adolescence. Boys don't usually date girls who are good in STEM fields. I remember how hurt I felt back in high school.

And it continues throughout adulthood, taking increasingly complex forms. P. 223: "Leslie was asked to review a younger colleague's presentation, and she offered him some suggestions, which he totally blew off. Two weeks later, a male colleague made the same suggestions, and the younger guy told him, 'Oh, absolutely!'" I recently read an article in which the author made an informal study; when she spoke to audiences about women in science, she asked for a show of hands whether anybody had had anything similar happen to them. Half of her audiences held up their hands.

Attempts at affirmative action are often half-hearted. P. 157: "...someone has tacked a poster of 'Famous Women in Math' beside the restroom, but the larger poster of famous male mathematicians is still given pride of place on the main floor."

And finally, inevitably, comes the deeper, more intimate girl-talk. P. 247: "... the sexual assault she had suffered as a graduate student doing fieldwork in Turkey caused her to change the focus of her research..." I know a young woman who quit her math major because every time she went into a (male) math professor's office, he made a pass at her. I also know a woman who was told by her math chairman that he would give her interesting math courses to teach, as she'd requested, "but there's a price..." his exact words. And just yesterday a friend told me of yet another case.

Boys' club, girls' club, the twain do meet, and not always meet-cute.

HARD-WON AND INCOMPLETE CLOSURE

Thirty-two years after graduation from Yale's undergrad physics department, Pollack made return visits to her high school and to her college. She interviewed former teachers

and classmates for this book, and in doing so re-visited her own past. She discovered just what had changed and what hadn't, in particular with respect to encouragement of female STEM students. Indeed, despite many efforts made by the faculty, several such students still spoke of feeling essentially like "the only woman in the room".

Pollack also hoped to gain some personal closure. P. 158: "I want to ask if he thought I was any good at math, but I am afraid of what I might hear.." and p. 159: "I come straight out and ask Roger how my project compared to all the other undergraduate research projects he must have supervised..." On p. 160 we learn that her professor gave her a fair amount of closure when he answered, "... I would have to say that what you did was exceptional..." Later, on the same page, she sits wondering what turn her life would have taken had she heard those words 'way back when.

So her hard-won closure was not complete. However, interviewing other woman who'd given up on having science careers (as well as some who had not given up) gave her additional assurance that she was not alone. In particular, she wasn't alone in craving encouragement. P. 207: "As a graduate student, I needed my advisor to motivate me, and he wouldn't. I wouldn't just take his word for it that the project would work, and he got really angry and yelled at me that I was a graduate student and he shouldn't need to motivate me." The advisor kept yelling at her and she started to cry. "It was just a reaction I couldn't control." And the advisor couldn't deal with that crying.

One of the most poignant passages in this book depicts a woman who had wanted to become a chemist but didn't. She still kept reading scientific articles and, she said (p. 238), "something in me hurts a little when I do."

IN THE LONG RUN

Pollack admits that it isn't only women mathematicians and scientists who crave encouragement. The issues involved are complex, and plug into many other issues besides feminism. Several men are quoted. Also, much of what the book says holds for fields other than STEM. Further, often the enemies have been and still are actual policies and decisions rather than the absence of encouragement in our culture. A couple years into the twenty-first century I received a rejection letter from a local college saying that, although they were very impressed with my job talk and interview, they were concerned that my family responsibilities would be too stressful for me if I held a faculty position in their department. (I had not told them about my husband dying in a nursing home; I had mentioned only my youngest son, age 16.) Yes, it is still true that every woman mathematician or scientist suffers at least some long-term effects, emotional and otherwise, of years spent on the sidelines of the boys' club. On p. 233 the author wonders, "Maybe if I had received the support I needed to become a physicist, I wouldn't now feel special for having achieved all that I had achieved despite the obstacles in my way. Then

again, maybe I would feel more special. Maybe I would take pride in my actual achievements instead of my endurance in the face of so many obstacles.” In a sense, the presence of the boys’ club bequeaths to women the need to continually and eternally process unfinished business, to redefine ourselves, and to ease self-doubts.

Ultimately, though, in writing this book as well as a New York Times article [6] on which the book is based, our author has come full-cycle and is happy and satisfied with her life. P. 232: “...in one of the universes running parallel to the one in which this Eileen Pollack lives, there lives an Eileen Pollack who did become a theoretical physicist. In which case, I hope that Eileen Pollack loves her life as much as this Eileen Pollack loves hers.” But it’s not a simple love, and the happiness she achieved is also not simple.

REVIEWER BIO: Marion Deutsche Cohen’s math Ph.D. is from Wesleyan University. She is the author of “Crossing the Equal Sign” (Plain View Press, TX), poetry about her passion for mathematics. She teaches math and writing at Arcadia University, where she has developed the course, Mathematics in Literature. However, as with Eileen Pollack, her math career didn’t take off to the extent that she long ago expected; instead, her publications and accomplishments lie more in poetry and memoir writing. A chapbook of poetry about the interaction among students and teacher in her “Math/Lit” course is forthcoming from WordTech Communications.

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