REFLECTIONS

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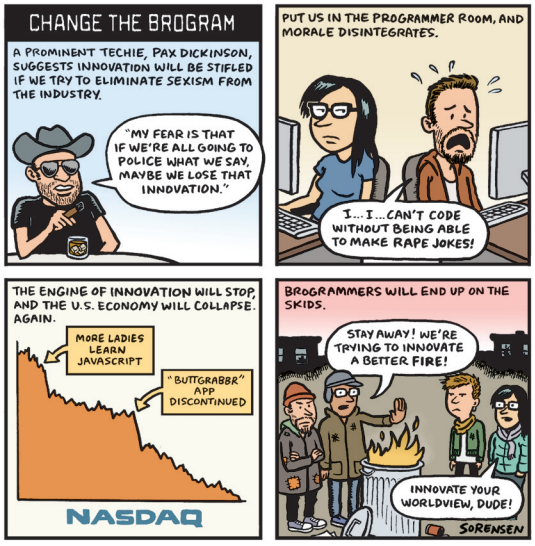


Disrupting the Cultural Capital of Brogrammers

THE PREDOMINANTLY MALE CULTURE poses serious concerns for women in the technology workplace and is a phenomenon that we as instructors of future generations of computer scientists can and should do something about. In his Turing award lecture in 1972 Dijkstra, pleading about how the conceptual importance of problems should override the debates over features of programming languages ("Can you code this in less symbols?"), was making the case to approach the programming task as one of tremendous difficulty and to respect the intrinsic limitations of the human mind and, therefore, aspire to be humble programmers [1]. It seems that, in the past three decades, not only have we lost sight of these forewarnings but seemed to have crept into the evolution of the so called *brogrammer* phenomenon [2,3,4,10]. It is the arrogance of the modern day programmer satirically recognized in the tech industry as a person who embodies technical prowess combined with machoness stereotyped in frat-boy behavior and other despicable attributes that are further amplified by the drive to become rich fast (see insert). It is the attitude commonly found in small technology startups and has been depicted in several recent mainstream movies (e.g., *The Social Network*, *The Internship*), television shows (e.g., HBO's *Silicon Valley*, Amazon.com's *Betas*), and written about in popular media. One description is provided by Gavin Belson (played by Matt Ross) in HBO's *Silicon Valley*, Episode 1 (2014).

> "It's weird — they always travel in groups of five, these programmers. There's always a tall skinny white guy, a short skinny Asian guy, a fat guy with a ponytail, some guy with crazy facial hair and then an East Indian guy. It's like they trade guys until they all have the right group."

Fictionalized caricatures aside, there has been plenty of coverage in real-life blogs and reports of several recent incidents of harassment at tech companies considered newsworthy by national media [5,12]. While it may have started as a bad joke, the brogrammer meme has come to symbolize the subtle yet deeper problems that symbolize a male-oriented corporate culture that infests the companies that many of our graduates aspire to work for, or create. In the computing academia, we have now spent decades addressing the issues of broader participation and diversity in our programs. Yet, in the tech industry, the number of women seems to be declining much faster than we can graduate female computer scientists. Over the years, I have had many conversations with my past students (since I teach at a women's college, most of them are female) about aspects of working in the tech industry that relate to the issues alluded to here.

Being a target of sexism in the tech workplace turns out to be just one of the several other issues women face. Zenyep Tufekci, an assistant professor at UNC who specializes in the interaction between technology and society lucidly explains, in one of her blogs, that women in tech industry have to not only endure gendered insults or sexist jokes from male colleagues they often have to pretend to not take notice, or take any offense, and to laugh them off as funny so as to be one of the "guys" [12]. Moreover, she writes, the workplace resembles "social spaces that are constructed around interests that were fostered in earlier, mostly-male environments in which business was also done, and from which women aren't excluded by decree but resisted through cultural norms." Even today, even in many large corporations, there is no lactation room for female employees who may be nursing. The humiliation of using the women's restrooms for this still continues. On the other

Defining the "Brogrammer"

From: PC Magazine Encyclopedia [9]
(**BRO**ther pro**GRAMMER**) A macho programmer. A brogrammer is tongue-in-cheek slang for a high-tech geek who works out a lot in the gym, is popular with the opposite sex, likes to party and is admired by his buddies for his flair and super coolness. To affect the look, brogrammers are known to wear sunglasses a lot of the time.

From: Wikipedia [13]
Brogrammer, etymologically a neologism formed as a portmanteau of the fraternity-derived "bro" and "programmer", is the identifier of a subculture that self-describes as aiming to make programmers more sociable. A simpler definition is that a brogrammer is a macho programmer.

hand, even the smallest startups are eager to provide ping pong tables and game rooms for their employees' relaxation.

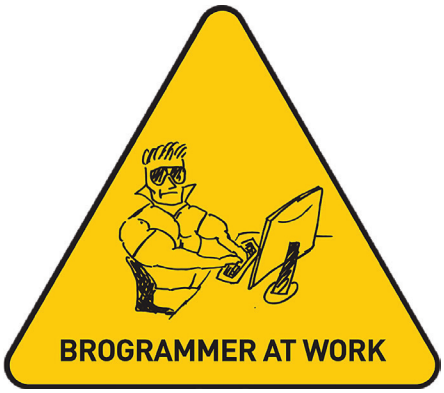
In Tufekci's analysis, where she artfully combines French social theory with Dr. Suess's *The Sneetches*, the behavior of the brogrammers could be partially explained by the exercising of the *cultural capital* the programmers possess (akin to Dijkstra's example above) to *delineate* themselves from the rest of their co-workers, as if they are part of some *distinct* breed [12]. While this may have roots in the revenge of the nerds kind of scenario (where the computer geeks distinguish themselves with pride from the "jocks" in the school gym), intentional or not, it is exclusionary to women in the tech workplace. Some of their behavior may not reflect the machoness but has subtleties (like the design, or lack, of workspaces) that cumulatively result in many women, and even some men, leaving the profession. That is, like Seuss's Sneetches, there is an implicit and at the same time explicit insider/outsider social culture that prevails in the tech workplace [12]. This is captured in another clever dialog between Erlich Bachman (played by T. J. Miller) and developer Richard Hendriks (played by Thomas Middleditch) in HBO's *Silicon Valley* (Episode 1, 2014):

> Erlich: You gotta deliver, like Steve.
> Richard: Jobs or Wozniak?
> Erlich: Jobs.
> Richard: Jobs was a poser, he didn't even write code.

The point is that the so called brogrammers use their delineating cultural capital in the tech workplace that, sexist or not, leads to the alienation of female coworkers and some men. With media attention on the issue, there is a sense in the industry that it hurts recruiting of talent and, in the long run, is going to be further detrimental to the workplace atmosphere [11].

"The tech industry's testosterone level can make the thickest-skinned women consider a different career" writes Gina Trapani, in a CNN story, and ultimately the backlash from it will lead women to seek employment at worthier employers [11]. Publicizing the problems that face the tech industry will ultimately lead to the shaming of its worst offenders. One example is the *New York Times*' coverage of the recent resignation of GitHub's founder Tom Preston-Werner following an allegation of a culture of disrespect and harassment of women by a former employee [5]. The comic strip shown here was based on online rants of ousted CTO, Pax Dickinson in fall 2013.

My intention in writing this piece is to bring more awareness of these issues to the computing academic community, and, more importantly, to urge us all to



consider ways in which we as faculty members, in our classrooms and labs, can provide an environment for the training and acculturation needed to disrupt the brogrammer effect in its formative stages. After all, many of the future star developers are our students. Right?

What can the women already in the tech workplace do? Try to bring down the defenses of the organization is a good first step, says Tufekci [12]. And, try to change the system from within. The National Council for Women in Technology (NCWIT) has been studying these issues and has published several short brochures to address these in many different ways and at many different levels [6,7,8].

While many larger tech companies generously sponsor the NCWIT studies, most small startups do not even have a human resources department to address workplace issues. GitHub, as an example, founded in 2008, did not have a human resources department until 2013 [4,5]. For years, my advice to fresh graduates has been to seek jobs at larger companies, avoid small startups, unless they are their own, or owned by women. I have learned to make time in my upper-level courses to bring awareness to the state of the tech industry, to the kinds of jobs they might be seeking, and to the workplace culture that they are likely to find. I try to connect them to our network of alumnae in the industry, bring them back to the campus, watch the shows and movies about the tech industry together, and promote open discussions as a follow-up. **lr**

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