Ethics of Representation

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The Problem:

"Top universities turn out black and Hispanic computer science and computer engineering graduates at twice the rate that leading technology companies hire them" reports *USA Today*.[1] In and of itself, representation in the tech industry sounds easy to solve; hire more people from diverse backgrounds. Of course, it never is *just* that easy. The representation problem in tech, rather the lack thereof, is present in our everyday lives. The real world analysis of the representation problem in the tech industry in *Technically Wrong: Sexist Apps, Biased Algorithms, and Other Threats of Toxic Tech* authored by Sara Wachter-Boettcher brings to light several examples of one overarching truth: **there is no one size fits all in tech**. This truth is further emphasized when the creators of a product differ from the product's target audience. Take Fatima's experience with creating a smartwatch designed for women as an example. During a product design meeting, the primarily male team pushed their own narrative of what a women's smartwatch should be. Utilizing first-hand experience and market research, Fatima advocated for the smartwatch's target audience but her voice and research were disregarded by her male peers as they continued to brainstorm what they *thought* women wanted. In the end, the smartwatch campaign did not make it to completion. Despite diverse backgrounds and capable engineers, the lack of adequate representation on the women's smartwatch team ultimately led to the product's

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[1] Elizabeth Wiese and Jessica Guynn, "Tech Jobs: Minorities Have Degrees, but Don't Get Hired," USA Today, October 12, 2012, https://www.usatoday.com/story/tech/2014/10/12/silicon-valley-diversity-tech-hiring-computer-science-graduates-african-american-hispanic/14684211/, quoted in Sara Wachter-Boettcher, *Technically Wrong: Sexist Apps, Biased Algorithms, and Other Threats of Toxic Tech* (New York: W.W. Norton & Company, Inc, 2018).

failure – because instead of knowing what their target customers (women) wanted, they relied on stereotypes.[2]

Stereotyping is one of the major problems in the tech industry, stemming from the lack of diversity. Stereotyping involves placing people into broad labels and targeting products towards them based on their assigned label. However, stereotypes are not always reflective of reality, and thus the results are typically subpar products. Stereotyping relies heavily on average values, or what is considered "normal", and products are based on stereotypes. What is not considered to be "normal"[3] is considered to be an "edge case"[4] – and is hence deprioritized. One example of average values creating subpar products is the creation of a fighter jet's cockpit. When constructing the cockpit of fighter jets, the average value of each body part across a test group was intended to be used to create the cockpit mold. It was then discovered that using the average value of each body part to create a universal mold, ended up creating a mold that fit *nobody*. This is why there are adjustable seat configurations on fighter jets – because there is no one size fits all.[5]

The conclusion that can be drawn from the above examples is that representation matters, at least from a strictly economic and logistical perspective. Companies have a very real incentive to make a product that sells well, so representation in their companies- as Fatima's example illustrates- would only aid in their endeavors. We can explore this through different philosophical perspectives as well.

Philosophical Case for Representation:

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[2] Wachter-Boettcher, *Technically Wrong*, 14-15.
[3] Wachter-Boettcher, *Technically Wrong*, 31-48.
[4] Wachter-Boettcher, *Technically Wrong*, 38-50.
[5] Wachter-Boettcher, *Technically Wrong*, 38-39.

While there can be several justifiable philosophical strands for our problem, we have identified two of the most compelling ones: egoism and utilitarianism. Egoism is the one we briefly discussed above: it appeals to companies' sense of self-interest. Fatima's company has a compelling, self-interested reason to increase representation in its company as well as to support policies that aid them in doing so. By acting within their own self-interest, Fatima's company would know more about their customers, and hence make products better tailored towards them.

However, what happens when representation does not benefit a company? What if striving for more representation and diversity actually *harmed* it? The case of Nextdoor illustrates this perfectly: Nextdoor is an app that is designed to facilitate connections between neighbors, and one of its features includes the ability to report 'suspicious activities' or 'sketchy people'. The feature originally contained just one text box into which users could type in whatever they wanted about a thing or person that they found suspicious. The problem: superfluous racial profiling, neighbors would report otherwise unsuspicious people on the basis of race – particularly black and hispanic people. To combat this, the Nextdoor's CEO, Nirav Tolia, joined forces with activists to improve the feature and made significant changes to it. First, rather than just one unrestricted text box, several prompts were added that directed the report towards the person's outward appearance such as clothing, scars, or tattoos. The prompts also heavily discouraged race-based reporting, and made flagging racially-motivated posts easier. The result: racial profiling decreased significantly- by about 75%. However, so did the number of users- around 50%. This was a problem, since fewer users meant less engagement, and less engagement meant advertisers were less likely to work with you and pay you. Hence, Nextdoor's good samaritanism cost the company money, and while Nextdoor did not revert back to the old regime of reporting suspicious activity, other companies are less inclined to do the right thing in

the future if it meant the same fate as Nextdoor.[6] This applies to every current issue in tech, not just representation (maximizing engagement by making apps addictive, for example, which have a whole host of consequences outside of the scope of this paper). So, while Egoism is a good philosophical approach towards incentivizing *some* companies towards increasing representation themselves, it is far from being universally persuasive, and puts the burden on individual companies which may or may not do the right thing, especially if doing so incurs loss upon them.

This is where utilitarianism comes in. It is not based on companies' own self-interest, but rather, upon the idea of the commonwealth: the greatest amount of happiness – and least amount of pain – for the greatest number of individuals. But how does representation fit into utilitarianism? It does so through the representation of interests: more representation means more people's interests are recognized and taken into account, which in turn leads to better outcomes. If Fatima's company had only taken into account the *actual* interests of their target demographic – by either taking in Fatima's research, or just having greater number of female engineers who would be more attuned to their fellow tech women's interests – their smartwatch may have just made it to the shelves – instead of being shelved. Representation is not only important for the sake of flashy consumer goods, however, as the case of Nextdoor shows, it can be a matter of life or death. If Nextdoor had more non-white (and non-Asian) programmers, they could have called out the possibility of racial profiling, and could have worked towards preventing it from happening as much as possible. Since all of these concerns center welfare for most people, and not individual companies' capricious sense of self-interest, utilitarianism ultimately takes the mantle for being the most persuasive philosophy for increased representation in tech.

[6] Wachter-Boettcher, *Technically Wrong*, 67-75.

What should be done?

Through egoism and utilitarianism, we explored the benefits for tech to strive for greater representation. It also showed that change towards more representation would have to come from society – rather than individual companies. Going back, once again, to the Nextdoor app example where the company made the conscious decision to slow down suspicious activity reports, resulting in drop in engagement and revenue: it is unfair for us to expect one lone company to do the right thing, and then suffer loss for it – especially if nothing or nobody is helping to mitigate or prevent that loss, and if other companies are profiting by doing the exact opposite (I would be hard pressed to see any *person* doing that); it would be fair, however, to set rules and standards that *all* companies have to abide by. Moreover, lack of representation is part of broader systemic issues, and so demands systemic solutions. Political bodies like legislatures and executive agencies come to the forefront of the mind, and for good reasons, but civil society elements – like civil rights and social justice organizations – are equally important in spreading awareness, advocating for change, and keeping companies in check. None of this is meant to absolve the tech industry of any mistakes – or responsibilities – however, since their own individual (company-level) and collective practices, and culture also contribute to the problem of representation and diversity: their recruitment strategy favors students who, one, went to prestigious universities like Stanford, Carnegie Mellon, MIT, etc. – which are more white and Asian-dominated – rather than, say, historically Black colleges or low-income universities, and two, are socially well connected or know the right people who can give them a positive referral.[7] There is also the "culture fit" – basically a qualitative assessment of how a candidate fits into the existing culture of the tech company; while it is meant to strengthen collaboration and reduce

[7] Wachter-Boettcher, *Technically Wrong*, 22-24.

friction, it frequently ends up forcing employees to conform to a very niche, male-coded culture – and pushes them out when they do not.[8] So, while proper representation is a systemic issue that needs systemic change (on part of society, government, and law), companies also have a role in ensuring a more equitable and diverse workplace. And some companies are leading the way.

Slack:

There was the example of Nextdoor, of course, but the book also mentions Slack – a business messaging app. The book asserts that it is a very user-friendly app that is designed to prioritize user experience in a manner that is not overbearing or inauthentic – "a delight borne of nuance and detail, not shoved-down-your-throat cuteness." Its CEO, Stewart Butterfield, promotes a culture of humility, and empathy that starts with the interview process – one of the questions asked to candidates is whether or not they believe luck – in addition to talent, or hard work – played a role in their success; this is in sharp contrast to the God complex and cult of personality promoted around tech workers and their bosses. The result: as of 2016, women hold around 40% of Slack's managerial positions, and more than a quarter of all engineering roles; black people account for nearly 8% of all engineering roles. It is also a successful company: according to the author, it is the fastest growing business app – tripling its user base in the first half of 2016.[9] This shows that companies do not *always* have to sacrifice success (or profits) to do the right thing, and that there are a lot of things tech companies could – and should – do to increase representation.

[8] Wachter-Boettcher, *Technically Wrong*, 23-24.
[9] Wachter-Boettcher, *Technically Wrong*, 188-191.

Conclusion:

In this essay, we addressed the perennial problem of the lack of representation in the tech industry, using the book *Technically Wrong: Sexist Apps, Biased Algorithms, and Other Threats of Toxic Tech* by Sara Wachter-Boettcher. We first diagnosed and addressed the problem of representation using information and examples from the book, and argued why it was a problem. We then made a philosophical case for increased representation in tech using two concepts – egoism and utilitarianism; egoism appealed to companies' sense of self-interest in increasing representation in order to make better products tailored to their target demographic; however, we also explored why egoism is not a universal case for increased representation using the example of the app Nextdoor from the book, which illustrated how increased representation *harmed* its bottom line, and how that might affect other companies' ability to do the right thing. We then looked into utilitarianism, and made the case for increased representation based on the idea of maximizing welfare ('commonwealth'), and how it is more universal – and hence better – than egoism, which appealed to companies' capricious sense of self-interest. We then explored what could be done, based on our philosophical analysis, to increase representation, and we came to the conclusion that it was up to society and government to establish uniform standards for all tech companies to abide by, and keep them in check. However, that did not mean that tech companies had no role to play in increased representation – or that their hands were clean. We discussed Slack as a model for companies to do the right thing *and* be successful. One thing is clear: it is only when both tech companies and broader society take ethical design seriously would it be possible to build tech that is both innovative *and* inclusive.

Bibliography:

Wachter-Boettcher, Sara. *Technically wrong: Sexist apps, biased algorithms, and other threats of toxic tech*. New York: W.W. Norton & Company, Inc, 2018.