

Epistemic Injustice in Big Tech: Knowledge Production, Representation, and Invisibility

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EXTENDED ABSTRACT

One important role for businesses, employees, and other stakeholders is as epistemic agents—those who know things, circulate knowledge, and are recognized (or not) for their knowledge. In addition to practical significance, this role also has moral valence. In this essay, I build on the work on epistemic virtues and vices in business, bringing in more of the burgeoning philosophical literature on epistemic injustice. I then connect this theory to voluminous literature critiquing big data and big tech—spaces where knowledge practices are particularly helpful in illustrating the importance of epistemic justice and organizational accountability.

In laying out key epistemic virtues in business, de Bruin (2013) identifies “love of knowledge, epistemic courage, temperance, justice, generosity and humility” (p. 583). These virtues are all commendable, but they could be taken even further to identify important ethical issues around knowledge in the workplace. Theories of knowledge must acknowledge that some people are taken more seriously than others as knowers, and demographic factors such as race, ethnicity, and gender frequently matter in ways they should not.

The burgeoning literature on epistemic injustice or epistemic oppression helps identify the demographic components to epistemic justice (Anderson, 2012; Dotson, 2012, 2014, 2018; Fricker, 2007). For instance, prejudicial stereotypes (including implicit prejudice) contribute to testimonial injustice, in which some witnesses are treated as more believable than others based on their identities (Dotson, 2012; Fricker, 2007). This can create situations such as prominent legal scholar Patricia Williams’ experience of racial profiling being dismissed as non-credible and even (according to some) entirely fictional. For Williams this illustrates a symptom of a “greater issue... the overwhelming weight of a disbelief that goes beyond mere disinclination to believe and becomes active suppression of anything I might have to say” (Williams, 1991, p. 242, cited in Dotson, 2012).

Fricker (2007) also identifies what she calls “hermeneutical injustice,” or the tendency for available language to favor the worldview of the powerful (p. 147), whereas the vocabulary of the experience of oppression often comes later and is less widely adopted. Her example is the concept of sexual harassment, which was not introduced to the popular vocabulary until journalist Lin Farley used it in 1975 during testimony before the New York City Human Rights Commission.

Dotson (2012) observes a third kind of epistemic injustice, “contributory injustice,” which “is caused by an epistemic agent’s situated ignorance, in the form of willful hermeneutical ignorance, in maintaining and utilizing structurally prejudiced hermeneutical resources that result in epistemic harm to the epistemic agency of a knower” (p. 31).

The US technology sector provides many examples of epistemic injustice—so many that the theory is essential to understanding the sector’s many social harms. In particular, the development “big data” is illustrative; the term refers to “a way of thinking about knowledge through data and a framework for supporting decision making, rationalizing action, and guiding practice” (Barocas & Nissenbaum, 2014, p.

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46). It is largely built on “convenience samples analyzed by data mining techniques, [which is problematic because] these data are often used as the basis for public and private policy and action. At the same time, the term ‘large-scale’ suggests completeness, while ease of collection and analysis suggest that little else need be done” (Busch, 2014, p. 1727). These convenience samples include problematically non-representative sources—such as Reddit and Wikipedia—mostly created by young, white men from the Global North. This population’s experience and worldview then form the basis for many more people’s online experience. Big data conflates these outputs with truth, and everyone else’s lived experiences are rendered suspect.

These firms’ problematic epistemology is amplified by the lack of a diverse, inclusive, and international workplace—a strategic exclusion of those who might unsettle the dominant norms. “Employment in the tech industry... is overwhelmingly dominated by white and Asian men. Efforts to diversify the industry have moved at a glacial pace,” and some (such as at Google) have even been rolled back (Glaser, 2020). Despite offices around the world—mostly across the Global North—homogenous engineering teams in their US headquarters control their core products. The staff who bring gender and racial/ethnic diversity are frequently exiled to less-consequential teams—and even there, often chased out.

There is perhaps no better example of exiling and discrediting those who are inconvenient to big tech firms than the story of Timnit Gebru. A refugee from the Eritrean–Ethiopian War, she earned a PhD from the Stanford Artificial Intelligence Laboratory. Gebru started studying algorithmic fairness, landing at Google on the Ethical AI team created by Margaret Mitchell—a team that was already marginalized within the company. In late 2020, after Gebru pushed back against the company’s Kafkaesque process for editing/limiting her scholarship (Bender et al., 2021), they fired her—and fired Mitchell soon after. “To researchers, it sent a dangerous message: ... insiders who are forthright in studying [AI’s] social harms do so at the risk of exile” (Simonite, 2021).

Excluding or pushing out disfavored kinds of people and forms of knowledge enables material injustices. The domestic harms alone are substantial. “As a result of the lack of African Americans and people with deeper knowledge of the sordid history of racism and sexism working in Silicon Valley, products are designed with a lack of careful analysis about their potential impact on a diverse array of people” (Noble, 2018, p. 66). Building algorithms on top of the white male worldview helps spread “misrepresentative and even derogatory information about people who are [already] oppressed and maligned” (p. 124). The global picture is even scarier. Companies deploy products despite little local knowledge, accelerating social ills—including political violence and genocide (Frenkel & Kang, 2021). Internal critics who object are often shunned or fired. Their testimony is not seen as credible, thanks to unjust lack of faith in diverse viewpoints. Harms are obscured by the limited vocabulary for identifying negative effects, especially relative to the highly detailed vocabulary measuring profitable effects such as user engagement. This is all exacerbated by the willful hermeneutical ignorance among company leadership, who mostly ignore critical scholarship and surround themselves with demographically similar executives and engineers—keeping critical thinkers trained in humanities and even the social sciences at more than arm’s length.

These epistemic systems are not just incapable of predicting these harms; they are designed to shelter core decisionmakers from seeing them. They exile disfavored kinds of people and forms of knowledge—treating all people outside of the inner circle as objects rather than as credible witnesses, and translating epistemic injustice into material injustice.

Keywords: epistemology, epistemic injustice, epistemic virtues, big data, ethical theory, technology sector

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