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Science Must Clean Up Its Act

Our community still struggles with diversity, equity and inclusion issues, including systemic bias, harassment, discrimination and more

• By [Heather Metcalf](#) on May 22, 2017



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As a mathematician, computer scientist, social scientist, and Director of Research for the [Association for Women in Science](#), I've spent much of my life working in and studying the scientific community. I've created mathematical modeling tools, built robots, constructed surveys and interview protocols, designed user interfaces and paper prototyping techniques, written line after line of code, and analyzed countless databases, policy documents, websites, and interview transcriptions. I've attended and spoken at conferences for nearly every scientific discipline.

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If there's one thing the scientific community values most, it's objectivity. Objectivity amounts to a scientist's ability to conduct work that is not skewed by personal, political, financial, emotional, social, and/or other biases or opinions. Often, scientists try so hard to become objective that they come to believe that they *have no biases*.

However, all people, even scientists, have biases. Disregarding our biases or believing that we have none, only means that we are more likely to act on them. The scientific community, riddled with a history steeped in scientific racism, sexism, and toxic colonialism, has continuously struggled with diversity, equity, and inclusion issues, including systemic bias, harassment, discrimination, and more, all while claiming objectivity.

As a small and personal example, as a computer science master's student, on multiple and separate occasions, other students told me I was only admitted into the program because of Affirmative Action, as if it was impossible for me to possess the merit that would warrant a fair admission. These students, trained in objectivity, made a whole series of untrue and uninformed assumptions about me and the admissions process.

Not only did they draw upon popular misunderstanding of Affirmative Action, but they had no idea that I had graduated top of my undergraduate class in both mathematics and computer science, while working two jobs to pay for college. Sure, insulting me wasn't a direct part of their scientific work, but these statements were made in the context of collaborating on a project and certainly had an impact on our ability to work together to solve the problems at hand.

On a larger scale, take the recent March for Science. Nearly two weeks ago, scientists and science supporters gathered in Washington, D.C, and around the globe to stand up for "robustly funded and publicly communicated science as a pillar of human freedom and prosperity" and put forth a vision of science that "serves the interests of all humans, not just those in power." However, in its attempts to remain apolitical and objective, the march focused primarily on funding and communication aspects of its mission while losing sight of the need for a science that addresses human freedom and prosperity for *all*, not just the privileged.

In the three months leading up to the March for Science and in the days since, many in the scientific community engaged in heated debates about how

political science and the march should be, especially around social justice issues. In the early days of its organizing, the march offered up a strong statement of solidarity acknowledging the complacency with which the scientific community as a whole has handled issues that primarily impact marginalized communities: “many issues about which scientists as a group have largely remained silent—attacks on black & brown lives, oil pipelines through indigenous lands, sexual harassment and assault, ADA access in our communities, immigration policy, lack of clean water in several cities across the country, poverty wages, LGBTQIA rights, and mass shootings are scientific issues. Science has historically—and generally continues to support discrimination. In order to move forward as a scientific community, we must address and actively work to unlearn our problematic past and present, to make science available to everyone.”

This messaging was removed and replaced after much pushback, largely from white men, about the need to remain apolitical and objective. These debates resulted in many women, people of color, people with disabilities, LGBTQ+ scientists, and their allies feeling ostracized and even receiving disrespectful and hateful messages about their place in science generally and in M4S specifically.

Rather than standing up for a science that is available to everyone, these conversations and the march itself merely served represent an exclusionary science by reinforcing longstanding, divisive norms within the scientific community, all in the name of objectivity. In aiming to be apolitical and appear objective, M4S and the scientific community blatantly ignored and shirked responsibility for the ways in which science is always already political and further marginalized those already at the margins of science.

Regardless of whether our work is scientific, being objective, then, does not and cannot mean ignoring our biases, assumptions, or background beliefs. Nor does it mean delving into the realm of “alternative facts.” It means claiming responsibility for our biases and the ways in which they impact our work. It means holding ourselves accountable for the decisions we make and the rationales behind them. For scientists, being objective amounts to taking a hard look at our roles and subjectivities relative to each step in the scientific process.

While the March for Science and the scientific community managed to achieve some 2017 budgetary success recently, the vision of a science for all has a long way to go. In an administration that is averse to both

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science *and* disenfranchised communities, the scientific community can and must do better to stand up for those most impacted by harmful policies.

We need a science that turns its critical thinking lens onto itself. The scientific community has an ethical responsibility to address issues of systemic bias impacting who gets to do science, whose questions science answers, which communities benefit from (and are harmed by) scientific discovery, and whose findings get recognized. Otherwise, the pillar science stands upon (or collapses under) will continue to be one of marginalization and disparity rather than freedom and prosperity.

ABOUT THE AUTHOR

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