

The Earth sciences are predominantly white and increasingly gender balanced; as a white woman I therefore add little to diversity in race or gender. However, I do belong to another underrepresented group in academia—low socioeconomic class—and identifying with this minority definitely shapes how I think about science and academia generally. I was never really aware of just how influential one's socioeconomic class could be before college. Sure my family was lower middle class; my father a carpenter and my mother a journalist, but education and the arts were always valued. I grew up in a strange environment where Pulitzer-prize winning authors and toothless, illiterate rabbit farmers were neighbors and everyone talked to each other and got along fine. I lived near the beach, was encouraged to study and learn about whatever I was interested in at school, at the library, and in the community, and I felt pretty privileged. It never occurred to me that this background might not prepare me for the world of academia.

College, then, was a bit painful. I was initially interested in astrophysics, a purely academic field. Most of my peers were the children of university professors or highly successful professionals, who already understood how the system of academia worked and what they needed to do to make the most of it. They all seemed to already know an insider language and set of customs that were alien to me. The people in my family who had completed higher education had become professionals—doctors, lawyers—working in unglamorous general practice or government jobs and they had no idea how to help me navigate an elite liberal arts institution. The academic advisors assigned to me were equally unhelpful. They were so entrenched in academia they didn't know how to explain it to someone who wasn't.

Hoping to gain a broader perspective, I tried another purely academic field— philosophy. Philosophy teaches that no belief or statement should be taken for granted: we should examine every thought and only after it passes scrutiny is it acceptable to move on. Rationalization is to be avoided. I was quite taken with this ideal, but trying to live up to it engendered a lot of anxiety. I had already been questioning my plans to pursue astrophysics, as I couldn't convincingly argue that it wasn't a selfish thing to do. Studying philosophy was also morally ambiguous. What purpose besides answering my own curiosity did either of them really serve? Do humans really need to understand space or is that a luxury? Philosophical ideals wouldn't allow me to rationalize my study topic choices by saying that all knowledge was good knowledge and that I was helping to expand human intellectual horizons. For six years I volunteered at a camp for the disabled, providing personal assistance to people with Cerebral Palsy and Downs Syndrome. In this

environment I was often asked what purpose my areas of study and potential career paths served and I didn't have an answer. "Human intellectual horizons" seem pretty meaningless when you know people who can't control their own bodies and spend their entire lives struggling to get the rest of society to see them as equal human beings. To study purely academic subjects seemed, therefore, to require a complete disconnect from the worlds of most of the people I knew and identified with.

I have since come to see rationalization (in moderation) as a beneficial part of the human thought process. But I also realized that pure research on questions that have no material impact on human life was not going to work for me. The Earth sciences are much broader than astrophysics. Even though my specific interests within Earth science tend to be as abstract as astrophysics, it is in Earth science that climate change is investigated, natural hazards are forecast and energy and material resources are found. And questions in Earth science are often directly testable and verifiable in ways that many astrophysical questions are not. There is no way to prove if string theory is true and there likely never will be. But it will probably someday be possible to describe the first life-supporting environments on Earth with a high degree of certainty. At least if my purpose is to broaden human intellectual horizons, I can hopefully provide some concrete answers, supported by multiple types of evidence. I chose Earth sciences for other reasons as well, but this is the one relevant here. Academia is still not a perfect fit. I still sometimes question its ethics and my place in it, but these questions no longer give me the pause that they once did. Instead of a reason to avoid academia, I now see this questioning as a valuable check on taking for granted the usefulness and privilege of devoting my time to pure research on academic questions. Reconciling my academic aspirations with my socioeconomic background has, I think, made me a more responsible scientist. I feel a responsibility to be able to explain my work well to anyone who asks and to be able to offer a coherent reason why the work is valuable, even if that reason is not accepted by everyone. I feel a responsibility to try to help other students who struggle like I did, whether it's not knowing the next step forward in academia or questioning the worthwhileness of it all. I hope that my advice has been helpful to students to whom I've offered it in the past and I look forward to teaching and helping students in a more formal capacity as a teaching assistant. I benefitted greatly from TAs invested in their roles as teachers and I view teaching as a component of graduate school equal in importance to research. I do not think I would have developed these views on communication and teaching at this point in my career had

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I come from a different socioeconomic background. Without having to reconcile this background with academia, it is also very unlikely that I would have discovered my passion for the Earth sciences when I did and this unexpected outcome has made me extremely happy.