

Unseeing Ourselves

In his farewell address at the 2017 Joint Meetings Francis Su describes how math enriches human life. Enriching math is not the boring, routinized stuff like times tables and trigonometric formulas. Rather, he refers to the playful, beautiful, truthful, just and loving facets of math. Let us call the routine sort *laymen's math* and the virtuous sort *researcher's math*. Us mathematicians know these are not disjoint, but the latter is unknown to most. So, for many, they might as well be.

Professor Su challenges us to tear down the unjust barriers surrounding researcher's math. Reoccurring throughout the speech is the excerpt from the French philosopher Simone Weil, "Every being silently cries to be read differently." We misread potential and steer those unlike the typical mathematician away. This is unjust. However, equal access to researcher's math should not be conflated with the needs of students. Believing they should resonate with researcher's math is also one of Weil's misreads. We are trying to see ourselves, and, as a result, will push many away. For this reason, *unseeing ourselves* must occur alongside the other biases Professor Su asks us to face.

The speech opens with a story about an inmate, Christopher, seeking access to more advanced mathematics. His interest in math is stirring, because we are drawn to those like us. It is easy to forget that for every inmate like Christopher there are manifold others trying to get a diploma, or improve their algebra for community college. These are people who could experience the virtue of researcher's math, but have more immediate concerns. Too often our good intentions amount to throwing a drowning man both ends of the rope. A stark example of this occurred at an algebra program I ran at the Washington Corrections Center for Women. While working with a student on adding fractions, she told me she understood. Enthused, I explained a deeper reason why it works. She reproached me, "Why do you have to go and confuse me when I said I got it?!" She stopped coming after this. It still is painful to think about. A juncture is often reached where the student is sidelined as the instructor indulges what they hope to see. We need to catch ourselves at this juncture, choosing instead to steer towards the students' needs.

A professor at the University of Victoria once told me that laymen's math is quickly forgotten. What actually sticks are glimpses at the beauty of math. For example, realizing the integral as a limit of rectangles. He called these *mathematical moments*, and argued that creating them is what we are here for as teachers. Unfortunately, mathematical moments are not what most students are here for. Of course they benefit from insights of depth and clarity, but they do not need them. Students understand themselves and their needs better than we give them credit. Most are in class to fill a requirement. Laymen's, not researcher's, math is the gatekeeper to their ambitions. Students have a right to transparent teaching with clear paths to success. Mathematical moments are part of this path, but ought not be the focus. We misinterpret the ubiquity of math as a license to imbue our way of thinking. This is seeing ourselves.

To the same extent that we must avoid misreading a lack of ability, we need to avoid reading a latent resonance. We cannot project the four nodding, interested faces onto the twenty blank stares. To do so is to falsely see ourselves. Still, there is a remarkable unity with students. We all desire agency, respect and happiness. We all desire to flourish. The flower of researcher's math is the one us mathematicians felt inclined to pick in a boundless garden. We need to unsee ourselves and embrace the whole spectrum of students we serve.