

BOOK REVIEW

Paths to Discovery: Autobiographies from Chicanas with Careers in Science, Mathematics, and Engineering

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Paths to Discovery: Autobiographies from Chicanas with Careers in Science, Mathematics, and Engineering. Edited by Norma E. Cantú. Introduction by Aída Hurtado. Los Angeles: UCLA Chicano Studies Research Center Press, 2011. Pp. 266. \$19.95 (paper).

A recent study published by the National Academy of Sciences documented the impact of unconscious bias on the career aspirations and success of women in science, engineering, and math (Moss-Racusin et al. 2012). The study revealed “that both male and female faculty judged a female student to be less competent and less worthy of being hired than an identical male student, and also offered her a smaller starting salary and less career mentoring” (16477). Other studies document that these barriers are intensified for women of color who face the combined effects of gender and race/ethnicity.

Paths to Discovery offers first person narratives by ten Chicanas who recount their trajectories from home and community to postgraduate careers. Their poignant accounts identify factors that contribute to resiliency and document the tenacity and *ganas* required to succeed against racism, sexism, and classism.

Divided into three sections, with a preface by Norma E. Cantú, an introduction by Aída Hurtado, and an appendix of Latinas in STEM (science, technology, engineering, and math) fields, this book makes a valuable

contribution to women's studies as well as Chicana/Latina studies. The book consists of master narratives of success, which identify the roles of parents, extended family, and community; the importance of teachers and mentors; and elucidates the ways in which these women negotiated sexism and racism within and outside the home.

The first section, "Abriendo Caminos," includes narratives by scientists who were the first in their families to finish high school and obtain postgraduate degrees. Elma Gutierrez recalls her farmworker family's travels during the summer to "earn enough money to buy the shoes, clothes and supplies to keep us in school for the year. This goal...was to keep us in school as long as possible.... We knew that to stay in school, we had to pull together as a family..." (15).

A central theme in these narratives is family support, particularly in the form of parents who encouraged their daughters to read, who gave them the gift of time away from chores to conduct experiments and explore the world around them. Dr. Maria Elena Zavala recounts how her mother quietly contested the stereotypes she faced in school. When an elementary school teacher said with surprise, "You are Mexican and you can read," Zavala went home and repeated it proudly to her mother, who was sewing, and "without looking up said: 'well everyone in your family is Mexican and we can read. Mexicans are supposed to read.'" The men in her family also told her stories of great "readers and leaders in Mexico." Zavala adds, "my parents countered racist comments not with anger but by showing me how wrong even teachers could be" (39). Zavala also recounts how she had to learn the culture of science as she uncovered the lack of objectivity from professors, whom she had assumed would be fair.

In the second section of the book, “Al Norte,” the authors describe the literal and metaphorical migrations and border crossings often required to pursue an education. Dr. Cleopatria Martinez narrates her migration to study mathematics because “the correct answer is always independent of the teacher’s opinion” (65). The field of mathematics accepted the person she was; however, Martinez discovered early on that grades and success in school were often mediated by the teacher’s bias. Conversely, others note how a teacher, or later a college professor, saw them as capable women and offered just enough mentoring to help them stay on their path. Elizabeth Rodriguez-Johnson posits that for Chicanas to succeed, improving their self esteem is essential. Over time, assaults against their ethnicity and gender can erode the confidence Chicanas bring to their schooling.

The last section of the book, “Pasos con Veredas,” offers testimonies by women who followed paths begun by others: older sisters who had pursued academic careers, parents who had attained higher economic status, and mentors who saw their potential. While their roads may have been less arduous to navigate, these women continued to face the challenges imposed by classism and racism, thus pushing their success through failure (217).

Paths to Discovery concludes with a brief appendix list of Latinas in STEM fields and contributor profiles. This book offers a glimpse into the challenges faced by Chicanas who pursue STEM degrees and the difficult life choices they are often forced to make.

Work Cited

- Moss-Racusin, Corinne A., John F. Dovidio, Victoria L. Brescoll, Mark J. Graham, and Jo Handelsman. 2012. “Science Faculty’s Subtle Gender Biases Favor Male Students.” *Proceedings of the National Academy of Sciences* 109, no. 41 (October): 16, 474–79.