Athena Unbound: The Advancement of Women in Science and Technology


Why are there so few women in science and technology? Variations on this question, asked by the authors of Athena Unbound: The Advancement of Women in Science and Technology, have been posed for at least 30 years, from Alice Rossi’s 1965 query—”Why are there so few women scientists?”—to Evelyn Fox Keller’s (1983, 1985, 1992, 2000) two decades of reflections on gender and science, to Margaret Rossiter’s (1993) naming of the “Matthew–Matilda effect,” which drew attention to the systemic and systematic exclusion of women in science and in histories of scientific achievement. Recent publications addressing the issue include Virginia Valian’s Why So Slow? The Advancement of Women (1999) and Londa Schiebinger’s Has Feminism Changed Science? (1999), both reviewed in BioScience last year (Zuk 2000, Zuk and Gershman 2000). Moreover, advocacy groups such as AWSEM (Advocates for Women in Science, Engineering, and Mathematics) and WISE (Women in Science and Engineering) also continue to sponsor projects aimed at increasing the number of women in scientific and technological fields. Nevertheless, the problem persists. Why?

One answer may be lack of balance. Many attempts to address the “women in science problem,” despite success in providing historical analyses of the development of gender-based disparities, do not give detailed recommendations for reducing ongoing inequities. Valian and Schiebinger’s books are a case in point. Valian (1999) successfully argues that “gender schemas” (a result of cultural socialization) operate to create biases against women in science, leading to an “accumulation of advantage” for men. However, beyond offering general support for affirmative action and changes in the social environment, Valian provides few details for programmatic transformation. Schiebinger (1999) offers further evidence of the failure of affirmative action and other strategies to increase women’s participation in science. For her, the inequity results from the historical development of the social structure of science. She points to the need for broad changes in the way we conceptualize scientific work. From a policy standpoint, however, a critical failure of the book is Schiebinger’s inability to provide tangible recommendations for reducing sex-based inequities. Translating Schiebinger’s work into reforms remains difficult.

Athena Unbound, in contrast, aims to address “policy for women in science.” Throughout the book, Etzkowitz and colleagues present their explanations for the