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Sandra L. Hanson. *Lost Talent: Women in the Sciences.* Philadelphia: Temple University Press, 1996. xii + 220. $39.95 (cloth), ISBN 978-1-56639-446-8.

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In a detailed statistical study, Hanson focuses on the loss of talented young women from science, math, and engineering education and occupations. In 1994, women held only 22 percent of jobs in those areas but were 46 percent of the U.S. labor force. The lack of women in science helps continue gender inequalities and means considerable lost talent. She gives many specific examples of the gender gap and finds valid the generally-accepted belief that girls do not begin with low achievements in science but that many leave science in the early high school years. She asks why talented women exit the sciences and how the lost talent process works.

Hanson uses the concept of fluid science pipelines for science achievement, access, attitudes, and activities, with individuals exiting and entering those trajectories. She studies multiple causal factors such as gender, race, and social class along with the interaction of those factors with family, school, and individual resources, following large national samples of students over a six year period, looking for those factors that lead to success and those that lead to loss. She discusses ways in which teachers, parents, and peer groups communicate different science expectations for young men and young women, using such examples as cultural norms which define mathematics as male and the belief that a career in science is incompatible–for women but not men–with home and family.

She used three large data sets, selecting from one, High School and Beyond, information gathered over six years from 58,000 students who were sophomores or seniors in 1980 in 1,015 high schools, supplemented by additional information about teachers in those schools. From the second set, the National Educational Longitudinal Study, she used data, collected in 1987-88 and 1989-1990, about 26,200 eighth graders in one thousand schools. The third, the Longitudinal Study of American Youth, made between 1987 and 1990, followed sixty students in their seventh through tenth grades with a special focus on attitudes toward science and math.

Hanson's work includes extensive research in the relevant literature. She used the data sets to develop numerous graphs and tables illustrating her points. Her study supports many conclusions of earlier researchers, yet she also finds that, in eighth grade, girls have more positive math and science attitudes than boys and that gender differences occur in science in earlier grades than they do in math. While young men have more resources in the home favoring science, young women have more general school resources, especially peer groups valuing education. Hanson looked at class and race and found that African-American women have more positive attitudes toward science than any other subgroup. The picture she paints is complex; equally qualified young women are, she finds, more likely than men to end up in the sciences, yet women are disadvantaged in science access and attitudes.

Hanson's carefully constructed statistical tables may be perplexing to the non-specialist and her discussion at times repetitive, but her work is thorough and her analyses sound, though one might wish for data from the 1990s rather than the 1980s. Her detailed study will be of more interest to statisticians, sociologists, and educators than to historians, but the complexities which she discusses and the factors influencing women's choices and experiences in the sciences are those which all Americans, concerned about the vast amount of lost talent, need to consider and to act upon.

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