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# Fault Lines

**Shirley M. Malcom**

The steady advance of women's degree production, now approaching parity in the life sciences and medicine, as well as women's movement into the workforce, had lulled us into believing that the gender gap in science and engineering was slowly but surely closing. Yet recent events force us to reassess this conclusion.

Why, despite movement into science and engineering, haven't women advanced more within these fields? How, for example, have even the most senior women faculty in our most prestigious institutions found themselves outnumbered and overlooked? A report on the status of tenured women faculty in science at the Massachusetts Institute of Technology (MIT) revealed their exclusion and unequal treatment, including in the areas of salaries, space allocation, and committee assignments. The release of the report and the admission of discrimination by MIT and its president, Charles Vest, were a wake-up call for the rest of us. How willing are other science- and engineering-intensive institutions in academia, industry, and government to withstand the scrutiny of such a study? How eager are they to compare the number of positions, time to tenure, salaries, adequacy and location of office and lab space, start-up funding, or any other measures appropriate to their sectors? And would they make the findings public?

**Why haven't women advanced more in science and engineering?**

Both the National Academy of Sciences and the National Academy of Engineering have had or will have programs this spring to explore the conditions for women in science and engineering. The ninth biennial status report of the National Science Foundation, *Women, Minorities and Persons with Disabilities in Science and Engineering*, was released recently. The Commission on the Advancement of Women, Minorities and Persons with Disabilities in Science, Engineering and Technology Development, which was created by the 105th Congress, has begun a 12-month study. But for change to occur, all this study must be coupled with action. The global challenges of women in science will be the subject of plenary and working sessions of the World Conference on Science in late June 1999 in Budapest. Hopefully, countries that have made strides in enrollment, participation, policies, and advancement will be able to share their successful strategies with countries that are stuck in neutral or trailing badly. Hopefully, a new resolve to cultivate the talent of the world's women for science and engineering will emerge.

Perhaps most impressive about MIT was its public admission of bias and its release of the study after remedies had begun to be put in place. Although some of the problems women in science and engineering face reflect failures of policies and practices or failures of enforcement within organizations, others result from cultures that have existed or that emerge in fields and institutions. Both old disciplines and new ones can have problems of culture that result in weak participation by women. Physics has found it difficult to move women's participation upward; computer science has found it hard to keep the level of women's participation it once enjoyed.

With an economy so dependent on a steady stream of talent in computer and information sciences, we must wonder why the number of women's bachelor's degrees declined by over 53% between 1986 and 1996, moving downward from 37 to 27% of degree recipients. While demographics lower the overall numbers, departmental cultures gnaw away at the proportions.

Our typical response to a wake-up call such as the MIT report has been to have a special meeting or create a special program for women supported by soft money that falls away when the funding ends. Before we once again seek to restate the problems or put in place strategies to "fix the women," we need to consider that perhaps that is not where the fault lies. It is the structure of our institutions, agencies, societies, academies, and departments that must change. And rather than fixing blame, it may be far more productive to fix the system.

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