

Three young women settled onto a couch near the fireplace in Fribley Commons. They glanced occasionally at a group of kung fu students at the opposite end of the room and raised their voices so that they could be heard over the echo of cutlery from the cafeteria below. They had come to discuss the environment for women at Case Western Reserve University in an area where it might be toughest: the sciences, where—along with engineering—female students, instructors, and professors are vastly outnumbered by males.

It wasn't bad, the three told me. They hadn't felt excluded or discouraged by their fellow students or professors. In fact, they knew that some male professors made conscious efforts to include them. Still, there were subtle pressures and pangs about being a handful of women in a crowd of men.

"You're afraid to show any signs of weakness," says Stephanie Bush, a senior majoring in [physics](#). "You're afraid to say you don't get it or that you feel like an idiot. The guys might come out of class feeling stupid, too, but they don't talk about it."

"There aren't a lot of role models in our culture for women in science. Even when I think of a scientist, what comes to mind right away is a geeky old guy in a lab coat. I don't think of a Marie Curie or a Heather Morrison [Case astronomy professor] or any of the other great women in science. I think of a man."

—Cassie Grillot, a sophomore majoring in astronomy

"I want to have a career and a family," says Nicole Sharp, a sophomore double-majoring in aerospace [engineering](#) and German. "I know my mother [a science teacher] had a hard time balancing the two, but the guys don't talk about this kind of stuff. If you say that you want to have kids and have a career in science, they give you weird looks."

"There aren't a lot of role models in our culture for women in science," says Cassie Grillot, a sophomore majoring in [astronomy](#). "Even when I think of a scientist, what comes to mind right away is a geeky old guy in a lab coat. I don't think of a Marie Curie or a Heather Morrison [Case astronomy professor] or any of the other great women in science. I think of a man."

Then the girls shot back to their dorms to get to work.

They're confident of their ability to excel in their chosen fields. Self-proclaimed "science addicts," they are among the leadership core of [WISER](#) (Women In Science and Engineering Roundtable), a group of about a hundred female Case students majoring in science and engineering who get together with faculty for workshops, mentoring, and professional development and give each other a touch of solidarity in the predominantly male world of science at Case.

It's a world they intend to change. "I see it as a challenge," says Ms. Sharp. "We'll get our Ph.D.s and fill some of those faculty positions one day."

A Leaky Pipeline

Someone overhearing this conversation might assume that the issues these women brought up are so particular to Case's science and engineering departments that they don't apply to other women at the University. Or, since they didn't report any overt acts of sexism, the observer might assume that the barriers keeping women from participating fully in academic life have been knocked aside.

However, the observer would be wrong. Many barriers are still in place—they're different these days and harder to spot, but Case women are still stumbling over them and missing some of the success that could be theirs. And the issues that Ms. Bush, Ms. Sharp, and Ms. Grillot discussed are at the heart of the problem.

These issues relate to the culture in academic life—a complex web of habits, behaviors, and often-unconscious assumptions—which itself mirrors the culture of society at large. “In the 1970s, activists worked for changes in the laws,” says Dorothy Miller, director of Case’s new [Center for Women](#), which had its grand opening on October 23. The gala event featured remarks from both Cleveland Mayor Jane Campbell and Pulitzer Prize-winning columnist Ellen Goodman. “Now we’re dealing with changes in the culture, which are much harder.”

At colleges and universities around the country, women—who until the late 1880s were largely excluded from higher education—now swell the ranks of American undergraduates. They make up fifty-five percent of the total undergraduate population nationally, with heavy representation in the arts, humanities, and social sciences, and a small but dogged presence in science, engineering, and business. Since women began to enter the educational flow in large numbers in the 1970s, it seems reasonable to expect that they’d be well represented throughout each tier of academia by now—in tenured positions, as full professors, and in top administrative posts. Isn’t this the undeniable logic of the pipeline, which is supposed to siphon qualified women from this large undergraduate pool to the more rarefied ponds of academic leadership?

In fact, women are glaringly absent in positions of academic authority. When institutions and search committees throughout America are questioned about this, they often suggest that the problem is that there are not enough qualified women in the pipeline. However, research indicates that this is not the case: The problem is that the pipeline “leaks,” and qualified women are blocked and trickle away at each upward turn.

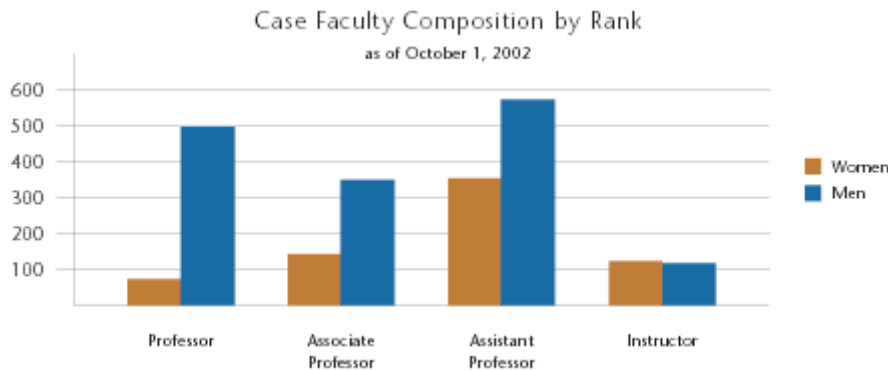
“You would expect by now that we’d be fully integrated,” says Lynn Singer (GRS ’78 and ’79, [psychology](#)), Case’s interim provost and University vice-president. “It takes four years to get your bachelor’s degree, then eight to get your doctorate, then up to nine years after that to get tenure and start advancing. We’ve had plenty of time, but it’s been frustrating for women to advance.”

How wide are the gaps between men and women faculty at Case? According to the University’s 2002 report on affirmative action, there were 2,243 full-time faculty in the 2001-02 academic year. Of these, 31 percent were women. This represents a slow but steady increase over the years, but, still, remains a percentage that lags behind the last available set of figures for the national average—33 percent in 1998—and even further behind the overall percentage of American women getting Ph.D.s.

In certain areas, however, the percentages are much lower: Only seven percent of Case’s engineering faculty are women, and, in the physical sciences—astronomy, [biology](#), [chemistry](#), [geological sciences](#), [mathematics](#), physics, and statistics—only 19 percent are women. According to the [National Science Foundation](#), 37.8 percent of all doctoral degrees awarded in science and engineering went to women back in 1997. So it’s not that the pipeline isn’t producing qualified women candidates.

When you look at the titles held by Case’s women faculty, the gap is even more startling. At every gradation of academic success—as the pipeline continues its upward climb—the percentage of women achieving positions of greater authority drops. In 2002-03, while 38 percent of Case’s assistant professors were women, only 29 percent of associate

professors were women, and 13 percent of full professors were women. In the arts and sciences overall, only 19 percent of department chairs were women. In medicine, only seven percent of the department chairs were women. In engineering, management, and dentistry, all the department chairs were men.



Gender-Tinted Lenses

These gaps have tangible consequences beyond the salaries and vitas of the women involved. Dr. Singer and others worry that the paucity of women faculty and women leadership weakens Case's ability to attract female students, as these students might steer away from an environment that doesn't seem woman-friendly. The ratio of male to female students now stands at fifty-six to forty-four, a ratio that administrators have been trying to change.

And the scarcity of women who are full professors and department chairs and who hold other leadership positions also casts a pall on female students looking for role models. "Without adequate representation of women at every level, women students don't see that there are avenues for them to progress in their careers," says Diana Bilimoria, associate professor of organizational behavior in Case's [Weatherhead School of Management](#). "They might either leave the discipline itself or leave academia."

In fact, it's not just astronomy student Cassie Grillot who pictures a man when she thinks of a scientist. According to the report of Case's [Resource Equity Study Committee](#), released in March 2003, both men and women faculty members who participated in focus groups said that the idealized image of a faculty member is male. "These societal expectations drive our behavior," says Prof. Bilimoria.

And the problem goes beyond image. Since men dominated academia for so many years, the standards for collegiality, professionalism, and advancement have developed around male norms for all these things. Women, viewed through gender-tinted lenses (by both men and other women), might not seem as qualified as their male colleagues.

"For instance, according to research, students generally give men better evaluations," says Beth McGee, Case's faculty diversity officer and an associate professor of theater and dance. "Students will question the women's credentials but not the men's. They expect the women faculty to be nurturing and available, but don't expect the same of the men. And among the faculty: When women get passionate at a meeting, they're being 'hysterical,' but when men are passionate, they're just 'being men.' A lot of women are denied tenure for lack of what's called 'collegiality.' Men are allowed to be more difficult."

In the worst-case scenarios, some science and engineering departments have such entrenched old-boy networks that women faculty despair of moving beyond the junior level. One outstanding woman in a notoriously male-dominated department received an offer at another university. When she went to discuss it with her male mentor in the department, he told her to do what was best for her career: leave Case.

Ingredients for Change

The gender puzzle is tough to piece together. It's a bit less daunting at corporations than at colleges and universities, some of which have traditions and governing paradigms that are centuries old. It's even tougher at a private university like Case, where research is critically important and where diversity mandates from the government—which began spurring progress at public universities a decade ago—don't apply. Still, several factors are coming together at Case that could lead to significant change.

First, gender equity has champions at the very highest levels of Case Western Reserve University. Case's new vision, led by President Edward M. Hundert, includes diversity as one of its core values. And, from the provost's office, Dr. Singer added diversity hiring as an imperative for all of the University's deans. Her office has also created a \$300,000 opportunity fund to give departments extra dollars for hiring outstanding women and minority candidates. The pool, distributed annually, is set to increase to \$700,000.

Second, several initiatives that have been under way for years have finally reached fruition. Among these is the Resource Equity Study Committee's report, which compiles the experiences and opinions of six faculty focus groups from 2001 regarding a range of gender issues at Case. The findings elucidate the many ways that women faculty are frustrated in their efforts to thrive at the University. (The full report is available online, at www.cwru.edu/menu/president/resource.htm.)

Third is the opening of the women's center, an official office. The center serves all women on campus with a wide range of programs: workshops, discussion groups, movies, and seminars. The center hired its own women's health advocate, Dana Blocker. Women can also drop in to discuss whatever is on their minds.

"The center is involved with several advocacy initiatives on behalf of women faculty, including hosting the *Mather Spotlight Series on Women's Research*," says its director, Dr. Miller. Among its other activities, the center hopes to involve men in a campus-wide discussion of gender issues. "We want to be a place where men come, too," says Dr. Miller. "Many women's centers around the country are organizing men to work against violence against women, and that will be a big part of what we do."

Fourth, there is new momentum on the issue of child care. Since the responsibility for child-raising in our society still rests mostly on women, and since academia's mechanisms for advancement were developed to accommodate males without such responsibilities, academic women with children are consistently struggling to keep up. A group called the [University Advisory Council on Women](#) is working to implement recommendations around this issue.

Advanced Solution

Last, but not least, Case has won a highly competitive ADVANCE Institutional Transformation Award from the National Science Foundation (NSF) to help it boost the

stature and numbers of women in science, engineering, and business—and, ultimately, change the way all University departments hire and promote.

A federal agency charged with educating the nation's scientific work force, the NSF noticed that the number of women getting Ph.D.s in science and engineering had grown over the last twenty years, but that the percentage of women faculty remained static. "The NSF put their heads together a couple of years ago and decided that the problem was not the women," says Mary Barkley, the M. Roger Clapp University Professor of Arts and Sciences in the Department of Chemistry. "The problem was the culture of the universities."

Taken all together, these catalysts for gender equity—committed leadership at the top, the opening of the women's center, the ADVANCE grant, and more—could create a dramatically different campus.

The ADVANCE award provides \$3.5 million for a five-year plan that first concentrates attention on four departments—chemistry, mechanical and aerospace engineering, organizational behavior, and physiology and biophysics. The grant will provide executive coaches from within and outside the University to enhance the deans' and department chairs' leadership. The lessons learned in these four pilot departments over the first two years of the grant will be extended to another twenty-six science, technology, engineering, and management departments in the next three years. By signing on to the grant, the deans and chairs are committing to improving the number of women and minority faculty in their areas by at least twenty percent. For women in these thirty departments, from new hires to senior faculty, the grant provides mentoring teams to help

them navigate their careers. In connection with the grant, President Hundert also pledged to raise more than \$10 million to fund five endowed chairs for women faculty.

But the grant won't transform these departments just by mandating changes in the number and status of women: The grant provides training so that department leaders, search committees, and tenure-granting bodies learn how hidden biases and assumptions keep them from recognizing qualified women. The schools and departments can then develop new approaches to hiring, promotion, and faculty development based on gender equity. Best practices will become standard in the four pilot departments—and then will be institutionalized in every department on campus. The Center for Women will also have a role, training women and men in science classrooms with regard to gender assumptions.

Taken all together, these catalysts for gender equity—committed leadership at the top, the opening of the women's center, the ADVANCE grant, and more—could create a dramatically different campus.

"Cultural change takes a long time," says Prof. McGee. "You have to go at it with the view that most people really want to be unbiased. If you talk about the situation and show them the facts, they try to be fair." ■

Kristin Ohlson's last story for the magazine was "Brainstorm," in the summer issue. Her memoir, Stalking the Divine, was published last summer by Hyperion.

Photograph by Janet Century. Graph provided by Beth McGee.

In addition to Case biomedical engineering graduate student Brandy Smith, highlighted in the photo on the cover and the one opening this story, the following members of the University community appear in those images:

Kevin Adams, Kashif Azizuddin, Mary Barkley, Dick Baznik, Jeff Bendix, Marsha Lynn Bragg, Michelle

Carpino, Andrew Cornwell, Denita Fletcher, Tom Fulton, Paul Genda, John Haprian, Creg Jantz, Ken Kesegich, Jim Klar, Jamie Knue, Ben Kramer, Nathan Kundtz, Jerid Kurtz, Monica Leigh, John Longworth, Mariesa Malinowski, Bob McCullough, G. Dean Patterson, Jodi Pratt, Preston Pugh, Tom Rask, Bruce Richards, Roger Richmond, Linda Springer, George Stamatias, Henry Wiggins, Rachel Wilkins, and Melissa Winter

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