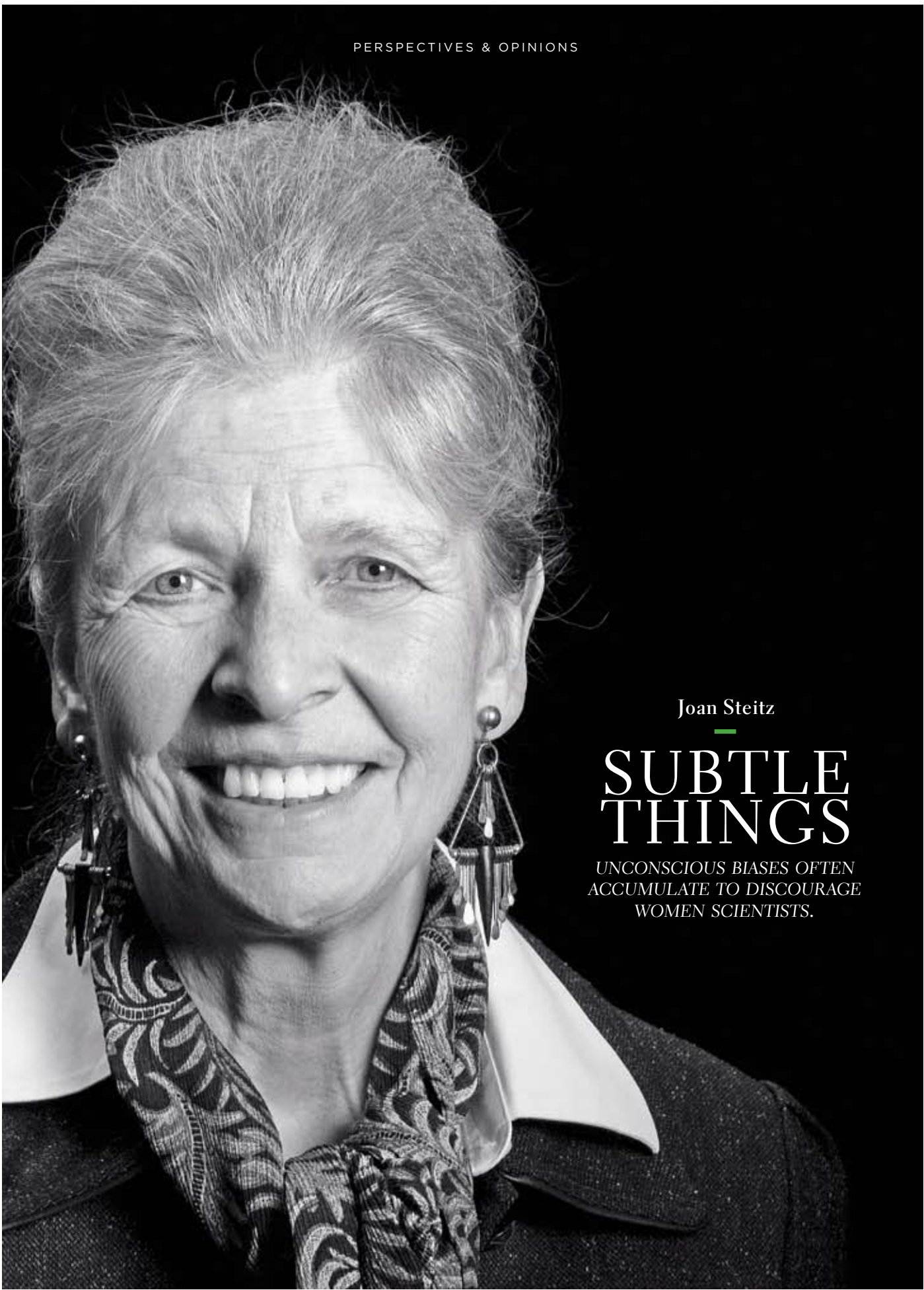


PERSPECTIVES & OPINIONS

Joan Steitz

SUBTLE THINGS

UNCONSCIOUS BIASES OFTEN
ACCUMULATE TO DISCOURAGE
WOMEN SCIENTISTS.



Paul Fetters

Joan A. Steitz has been a principal investigator, a department chair, a teacher of undergraduates—and a role model for women in science. As a member of a National Academy of Sciences committee on the barriers women face in academic science, she became much more aware of the sometimes-subtle reasons why the ranks of women at high levels are so sparse.

When we think of a scientist, 99.9 percent of us picture a male. It's one of the many unconscious biases—on the part of men and women—that impedes women's desire to move forward in science. It is these unintended biases, much more than any overt offenses, that hold women back.

We women scientists have been agitated since Larry Summers made comments about women and science early in 2005 that eventually cost him his job as president of Harvard University. He listed three reasons why women couldn't succeed in science. Loosely put: Their brains aren't very good at math, they don't want to work hard enough to be scientists, and maybe a small bit of adverse cultural influence plays a role.

Data from our 2006 National Academy of Sciences report *Beyond Bias and Barriers: Fulfilling the Potential of Women in Academic Science and Engineering* convincingly show that women have both the ability and the drive to be high-level scientists. So that leaves us with the (not-so-small) cultural influence. It's quite amazing how extensive this is—a large number of small disadvantages that add up to the proverbial 800-pound gorilla.

One of the most fascinating studies I read was from Wayne State University, where researchers evaluated some 300 letters of recommendation for people who successfully applied for faculty positions within a medical school. Multiple statistically significant differences emerged between letters written about women and those about men—regardless of whether the letter writer was male or female!

One stunning finding: Family situation was mentioned six times more frequently in letters for women than for men. When I first read that result, I thought, “Have I unintentionally fallen into this trap?”

The most important thing that all of us can do is recognize such unconscious biases and help bring them into the light of day. Unless people are willing to look at the data and say, “this doesn't look right,” we can't begin to fix the problem. But I see encouraging signs that people, including many men, are beginning to accept the challenge.

At a recent forum on women in science at Yale, nearly 20 percent of the audience was male. One of the men, a graduate student in computer science, asked, “What can I do to help?” Meg Urry [a professor of physics and astronomy at Yale], who often has just the right answer ready, responded

with one concrete suggestion: “Have you ever been in a group discussion when a woman expresses an idea, then a man makes the same point later and gets credit for it?” The grad student nodded. “You, as a man, could point out that the woman made the suggestion just moments ago.”

Women, on the other hand, also need to overcome their own biases. For example, though it is undeniable that many women are paid less than men who do comparable work, women are less inclined to be confrontational on issues like salary. Women's traditionally collegial style—often, a good thing—can work against them. When a submitted paper is rejected by a scientific journal, is a woman lab head as likely as a man to fight back and somehow get the manuscript published? I have talked to several editors who say those data are available and could be examined if someone had the time and inclination to do so.

Somebody should do that study. More important, women need to be willing to confront adverse situations when they arise. The principal investigator is *supposed* to fight. How hard you fight, whether over an inappropriately rejected paper or some other injustice, and whether gender-related or not, can make a huge difference.

Much would be gained if universities reassessed their own policies. They haven't changed much since the 1930s, when virtually all faculty were men with wives at home supporting their needs. Times have changed, however, for men and women alike, and universities need to change as well. They must review their procedures, major and minor, on such things as promotion criteria, the nature of people's jobs, and even the time of day that meetings are held. If the academic system indeed becomes more family friendly, both sexes will benefit.

I am very encouraged by the February selection of Drew Gilpin Faust as the next Harvard president. When I started as a faculty member in 1970, women were barely represented on the faculties of research universities. The appointment of a woman to such a position was unthinkable. But today, according to the search committee, she was simply the best-qualified candidate for the job.

INTERVIEW BY CORI VANCHIERI. *Joan Steitz is an HHMI investigator at Yale University School of Medicine. For more on the report, see “Blinding Bias” (inside back cover).*