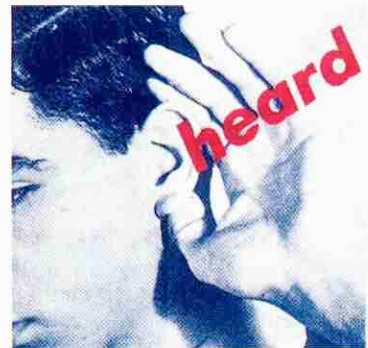
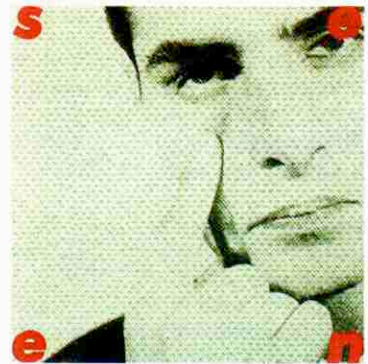
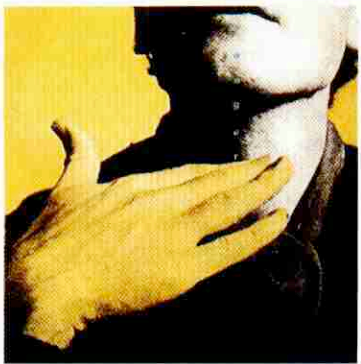
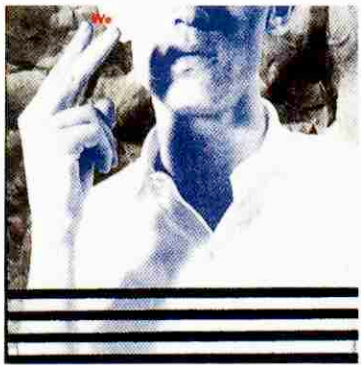


RUNNING IN PLACE

After thirty years on the fast track, women are still hobbled by the cumulative effects of sexual stereotyping—a bias that begins in infancy and persists even among the most enlightened employers

BY VIRGINIA VALIAN



Barbara Kruger, *We Will No Longer Be Seen and Not Heard*, 1985

IN 1980, AS PART OF A SCHOOL ECONOMICS project, a group of fifth and sixth graders bought six shares of stock in the Mohasco Corporation, a carpet and furniture manufacturer then based in New York City. The fledgling investors later attended a Mohasco shareholders' meeting, where an eleven-year-old girl asked the company's president and chief executive officer: "What are you doing to improve the role of women in your company?"

"Learning very young, isn't she?" the CEO replied. "As a company we have promoted—that didn't come out quite like I intended—we have encouraged the expanded use of young ladies in various parts of our company. We have no officers who are young ladies, though we have them moving up the ranks. We have very brilliant young ladies in management roles, in the area of computer programming. We'll have a place for you in a few years."

Whatever one might think about the ingenuousness of the CEO's response, his company's subsequent record of promoting women to upper-management jobs cannot be examined. Mohasco suffered several financial setbacks in the 1980s and is now a privately held company. One can, however, look at the overall figures for corporations in the United States. In 1978, two years before the eleven-year-old asked her question, there were two women heading Fortune 1000 companies; in 1994 that number had not changed. In August 1996, sixteen years after the question, there were four. Perhaps even more telling, a 1996 review of the 1,000 largest firms in the United States showed that only 1 percent of the top five jobs in those corporations—sixty posts out of 5,000—were filled by women.

The story is similar in academe. According to a major study published in 1996 by the National Science Foundation, 60 percent of the women in science and engineering in 1993 had tenure or tenure-track positions, compared with 77 percent of men. And women were overrepresented in non-tenure-track positions: 14 percent held those jobs, compared with 8 percent of men. (The remainder of each sex held jobs to which tenure does not apply; women were more likely to find themselves in that category as well.)

The women in the study also lagged behind in salary. The median income of women from all scientific disciplines combined—including mathematics, computer specialties, psychology, the social sciences, physics, chemistry, biology and engineering—was 78 percent of the men's: \$48,400, compared with \$61,500 for men. And within each of those fields, women earned less: from 93 percent of men's salaries in mechanical engineering to 76 percent in environmental science.

In virtually every profession I have examined—business, academe, medicine, law, sports—the picture looks the same: men earn more money and achieve higher status than women do. After more than three decades of struggles for gender equality, the progress of women continues to be slow and slight. Differences in education and experience sometimes explain part of the disparity in pay and rank, but

gender always explains another, more subterranean, part.

From the first day women set foot on a career path, they are required to meet a higher standard.

AT A RESTAURANT IN MANHATTAN NEAR THE end of the lunch hour I sit watching the manager's child, not quite two, toddling among the mostly empty tables. The child is wearing a jacket and pants of bright red, blue and yellow fabric. A baseball cap worn back-to-front partly covers the child's ear-length curly blond hair. Is the child a girl or a boy? The baseball cap and pants suggest a boy, but the hair length suggests a girl. The toddler's adventurousness might signal a boy, but its looks are androgynous and I cannot make up my mind.

The first thing adults want to establish about a child—even a newborn—is its sex. But what does sex, which is largely independent of a baby's behavior, tell an adult about the child? The answer is that the label "girl" or "boy" gives the adult a starting point from which to interpret the child's behavior, even its physical features. The label allows the adult to categorize an attractive baby as pretty, if it is a girl, or handsome, if it is a boy. The label brings into play the adult's preexisting beliefs about differences between the sexes. Those beliefs—some conscious and some not—make up an intuitive concept or schema of gender.

In white, Western, middle-class society, the gender schema for men includes being independent, assertive and task-oriented. Men act. The gender schema for women is different; it includes being nurturant, expressive and concerned about others. Women take care of people and express emotions.

The social consensus about basic differences between males and females can be gleaned from the greeting cards people send to congratulate parents on a new baby. A 1993 study by the psychologist Judith S. Bridges of the University of Connecticut in Hartford found, as expected, no pink ones for boys and no blue ones for girls. Pictures of toys, rattles and mobiles appear more often on girls' cards, and balls, sports equipment and vehicles show up more often on boys' cards. Female babies are pictured sleeping or immobile more often than male babies are, whereas boys are shown more often in active play.

Decorative elements on the cards show gender biases, too. Frills, lace, ribbons, flowers and hearts are all used more for girls than for boys. Verbal descriptions of infants also differ; the term *sweet*, for instance, crops up far more often for girls than for boys. The most striking difference is that expressions of happiness or joy are found more often on cards for boys—64 percent of cards—than for girls—49 percent of cards. People expect parents to be happier about the birth of a boy than about the birth of a girl. Greeting cards thus project babies as already embodying gender schemas. One class of babies is decorative; the other is physically active—and brings the greater joy.

Men and women carry around similar gender schemas for both sexes. In one study investigators asked college stu-



Joe Brainard, *If Nancy Was a Boy*, 1972

dents to rate the behavior of a baby who had been videotaped crying. Some students were told that the baby was a boy and others that it was a girl. Regardless of their own gender, students described the baby labeled as male as angrier than the same infant labeled as female.

In another study parents were asked to rate their newborns on several different attributes when the babies were no more than twenty-four hours old. By objective measures, there were no differences in weight, height, color, muscle tone, reflex responses, heart rate or respiratory rate between the girls and the boys. Yet the parents of the baby boys saw their sons as bigger than the parents of daughters saw their baby girls. Furthermore, fathers of sons judged their babies to be better coordinated, more alert, stronger and harder than did fathers of daughters. Knowing a child's sex skews perceptions.

BUT DO SUCH FAULTY CONCEPTS OF GENDER have any real consequences? To answer that question, ask another one: Which baby seems better suited to an active and successful professional life—the baby who is better coordinated, more alert, harder and stronger, or the one who is less coordinated, less alert, less hardy and weaker? Which baby is better suited for housework and child care? Just as it is unfair to picture one child as less capable than she is, it is also unfair to see the other as more capable than he is. From the first child too little will be expected; from the second too much.

As children grow up, they learn the gender schemas of their parents. Those schemas will affect their own perfor-

and professional choices are worth less than men's are.

A bachelor's degree, for instance, contributed \$28,000 to men's salaries but only \$9,000 to women's. A degree from a high-prestige school contributed \$11,500 to men's salaries but *subtracted* \$2,400 from women's. Not holding back one's career for the benefit of a spouse's was worth \$21,900 a year for men but only \$1,700 a year for women. Being designated "fast track" added \$10,900 for men but only \$200 for women. Experience living outside the United States added \$9,200 to men's salaries but, like high-prestige education, subtracted from women's—\$7,700 a year. Similarly, deliberately choosing international work added \$5,300 for men but subtracted \$4,200 for women. Finally, speaking another language added \$2,600 for men but took away \$5,100 for women.

Egan and Bendick conjectured that the assets of speaking another language and having lived outside the United States are interpreted differently for men than for women. A man is seen as choosing to live abroad or learn a language not for fun but for the professional benefits such activities can bring. The choice signals a commitment to his career. In the gender schema for women, on the other hand, a woman goes abroad or learns a language simply for pleasure. Such a woman telegraphs indifference to her career.

GENDER SCHEMAS ARE USUALLY UNARTICULATED. Their content may even be disavowed. Most men and women in the professions and academe explicitly, and sincerely, profess egalitarian beliefs. But conscious beliefs and values do not fully control the

EXPERIENCE LIVING OUTSIDE THE UNITED STATES ADDS \$9,200 TO THE SALARIES of male U.S. professionals in international business—but subtracts \$7,700 from women's.

mance as professionals, not to mention their expectations of other men and women, and their evaluations of other people's work. The most important consequence of those gender schemas for professional life is that men are consistently overrated and women are underrated. Whatever helps people focus on a man's gender gives him a small advantage, a plus mark. Whatever accentuates a woman's gender results in a small loss for her, a minus mark.

That consequence emerges in sharp relief in the results of a 1991 survey of U.S. professionals working in international business. The economists Mary Lou Egan and Marc Bendick Jr. of Bendick & Egan Economic Consultants in Washington, D.C., analyzed the contributing factors in determining men's and women's salaries: number of graduate degrees, range of occupations pursued, number of years' experience, kinds of strategies used for career advancement, whether or not the person is designated "fast track," number of hours worked per week and the like. The investigators found that favorable marks on such factors typically helped both men and women make higher salaries, but they helped the women to a lesser extent; fourteen of the seventeen factors examined benefited men more. The result is just what gender schemas would lead one to expect: women's achievements, qualifications

workings of gender schemas. Egalitarian beliefs help, but they do not guarantee objective and fair evaluation and treatment of other people.

A true story about a science department at a prestigious university, circa 1990, illustrates how expectations that arise out of gender schemas can drag down a woman's career. A newly hired young woman Ph.D. has a conference with the chair of her department, a man, about the courses she will teach. She is eager to teach a large introductory lecture course. The chair refuses, saying the students will not accept a woman instructor in that role. The woman presses a bit, saying she thinks she can do it and would like to try. The chair does not want to take a chance, and he assigns her instead to a laboratory course. The woman is not happy with the substitution, because laboratory courses eat up time. As a young faculty member, she needs to spend as much time as possible developing her research and writing for publication, so that she will be able to earn promotion and tenure. And as circumstances have it, the competition for such promotion will be both direct and unfair. A male peer, also a new Ph.D., is assigned to the lecture course, and he will thereby have more time for research than she will.

The example captures the many different forces—particularly the gender expectations—that merge to put a woman

on swampy ground. The chair thinks he is being objective about the students' preferences and is shielding an important course from risk. Nothing about the meeting causes him to think his decision might have been unfairly guided by gender schemas. The conference has also set a bad precedent. It has activated the chair's nonconscious views about women and tied them to the new faculty member. In the future he is likely to reactivate those views whenever he evaluates her. In a way, she has already failed, because he has already labeled her to himself as an unacceptable lecturer.

THE GLASS CEILING—THE POPULAR TERM FOR subtle biases that keep women from reaching the top levels of organizations—is held up in part by gender schemas. But another force is also at work keeping the glass intact: the long-term buildup of small differences in the evaluation and treatment of men versus women.

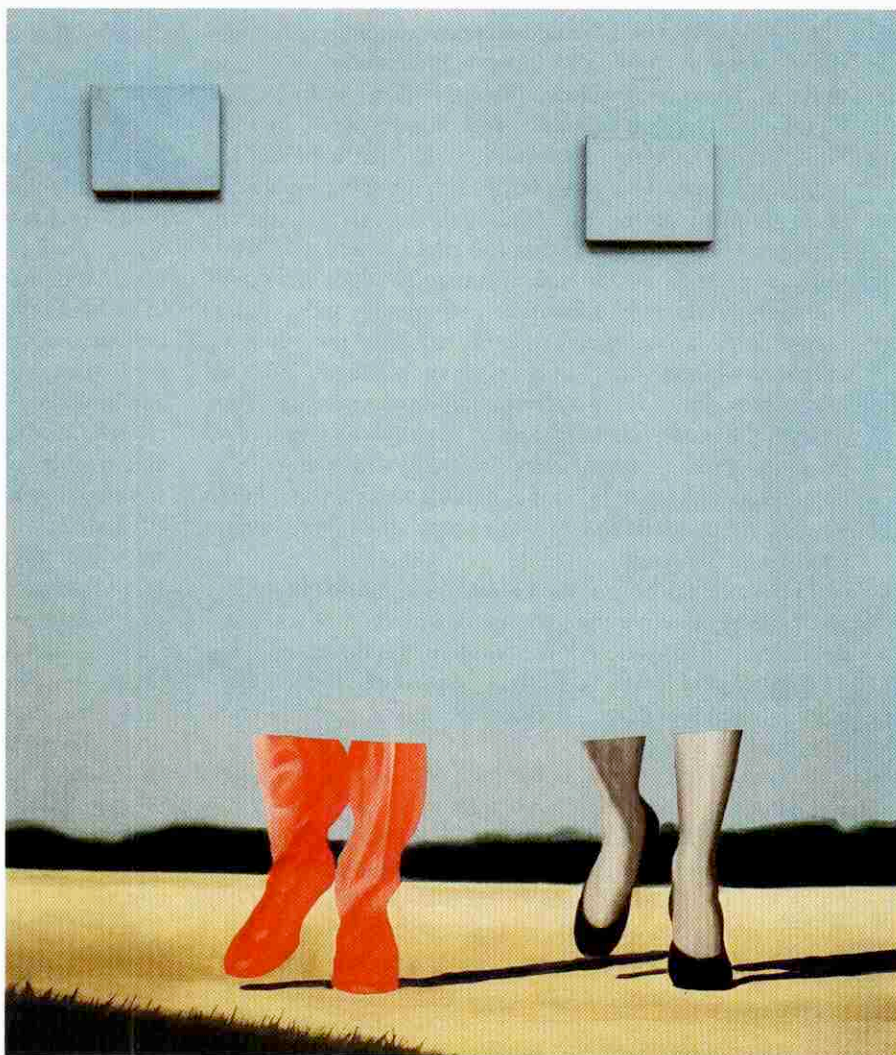
A useful concept in sociology is the accumulation of advantage and disadvantage. It suggests that, like the interest on invested capital, advantages accrue, and that, like the interest on debt, disadvantages also pile up. Very small differences in treatment can, over time, give rise to large disparities in salary, promotion rates and prestige. It is unfair to neglect even minor instances of group-based bias, because they add up to major inequalities.

A computer model of promotion practices at a hypothetical company convincingly shows the powerful cumulative effects of even small-scale bias. In 1996 the psychologists Richard F. Martell of Columbia University in New York City, David M. Lane of Rice University in Houston, Texas, and Cynthia Emrich of the University of Otago in Dunedin, New Zealand, simulated a company with an eight-level hierarchy staffed at the bottom level by equal numbers of men and women. The model assumed that over time a certain percentage of employees would be promoted from one level to the next. It also assumed a minuscule bias in favor of promoting men, a bias accounting for only 1 percent of the variability in promotion. After many series of simulated promotions, the highest level in the hierarchy was 65 percent male.

Statistics on women's progress in the professions back up the idea that a series of small setbacks, such as not getting a good assignment, results in widening chasms in advancement. Women at each rank of academe, regardless of their subject, have lower average salaries than men do. Moreover, the inequalities are progressive: the disparity is smaller at the assistant professor level than at the full professor level.

IN ACADEME, AS WELL AS IN BUSINESS AND LAW, the interaction between salary and rank can lead to fuzzy comparisons between men's and women's earnings. A more informative picture would compare peers. But if male full professors—like male law partners—are on average older than female full professors, they will have more experience and earn higher salaries. Comparisons within the upper ranks, therefore, can overestimate income disparities.

In junior ranks, however, comparing apparent peers can have the opposite effect: it can cause an underestimation of income disparities. Since male assistant professors are pro-



James Rosenquist, Untitled (Blue Sky), 1962

moted at a faster rate than female assistant professors, the people in a lower rank will include not only young men and women but also older women who should have been promoted out of that rank. Data on the incomes of men and women who are the same number of years post-degree, or who have the same number of years' experience, regardless of rank, make the fairest comparisons.

The 1996 National Science Foundation study tabulated such data from 1993. It found that among the newest Ph.D.'s in science and engineering—those with degrees earned in 1991 or 1992—women scientists at universities

WOMEN ACADEMICS IN SCIENCE *lose their salary equity as early as*

and four-year colleges earned 99 percent of the median salary of their male counterparts. For more experienced women, though, the slope got icy. Women academics whose degrees were awarded between 1985 and 1990 earned 92 percent of men's salaries; women with degrees from between 1980 and 1982 earned 90 percent; and those with degrees from between 1970 and 1979 earned 89 percent. Thus the most recent female graduates start out on a roughly equal salary footing with their male counterparts, but are likely to lose that equality as early as three years after earning their Ph.D.'s.

A different sample of male and female scientists, intended to represent those who show high achievement early in their careers, was followed from 1987 to 1990 by the sociologist Gerhard Sonnert and the physicist Gerald Holton, both of Harvard University. The participants had won postdoctoral fellowships from either the National Science Foundation or the National Research Council between 1952 and 1985. Because those national fellowships are prestigious, the men and women who earn them are roughly equal in education, experience and performance at the start of their academic careers. Nevertheless, except for biologists, women with such fellowships had less success climbing through the ranks than men did. For example, women who had earned their doctorates in the physical sciences, mathematics and engineering after 1978 languished almost a full rank behind their male peers; women in the social sciences were more than three-quarters of a rank behind.

The women in Sonnert and Holton's sample were somewhat less productive than the men, but even when productivity was considered, the women (again, except the biologists) held lower ranks than comparable men. Thus, even women who have a prestigious credential profit from it less than men do.

Why young female and male biologists fare equally well is not known. One possible explanation comes from a 1995 study by Sonnert, in which senior biologists rated a small group of junior biologists on a four-point scale. Although not asked to do so, the senior biologists implicitly took quality, as well as quantity, of publications into account. Their ratings of the women were slightly higher than those of the men, a difference that vanished when citation rates were not considered. Taken together, the data suggest that biologists' assessments are more sensitive to quality than those of other scientists and that the difference helps women gain equal ground.

WHAT IS TRUE FOR ACADEME HOLDS EVEN more strongly in the corporate world. A 1990 *Fortune* magazine survey of 799 of the largest U.S. industrial and service companies showed that only nineteen women—less than one-half of 1 percent—were listed among the more than 4,000 highest-paid officers and directors. In business as in academe, women earn less than men (two of those nineteen women had cash compensation under \$85,000 a year), are promoted more slowly and work in less prestigious institutions.

On the positive side, women's earnings have improved. In a 1996 survey of the twenty highest-paid women in U.S. corporations, the lowest total compensation was \$833,350. But 615 men earned more than the twentieth woman on the list. And again, as in academe, to the extent that performance can be accurately measured, men and women appear to perform equally well. Independent of all other factors, gender appears to play a key role in people's ability to get ahead.

THE INEQUALITY IN STATUS BETWEEN MEN and women professionals will not go away by itself. It will not be smoothed by normal economic tides or by women's acquisition of more and better work skills. Excellent work skills are necessary for success, but they are not enough to guarantee equality.

So where do we go from here? Affirmative-action policies, legislation and court action remain important roads to change in the workplace. But the elusive nature of gender schemas demands more subtle remedies as well. The most important remedy is learning about gender schemas in the first place: how they develop, how they work, how they are maintained and how they skew hopes and expectations. With that knowledge, men and women can begin to find ways to neutralize them.

One successful long-term program was developed recently at the Johns Hopkins University School of Medicine in Baltimore, Maryland. At medical schools throughout the United States, women are underrepresented in the top professorial rank. After an internal report documented lower pay and slower rates of promotion for women faculty in the Johns Hopkins department of medicine, the (male) chair of the department appointed a committee to design procedures for improving women's status.

The committee members found that women were put up for promotion later than their male peers. The problem seemed to have many facets, ranging from the failure of evaluators to identify qualified women, to ignorance on the part of the women themselves of the criteria for promotion. The solution aimed to change all those facets. Each female faculty member (and later, each male faculty member) was evaluated annually and given an explicit progress report. A monthly meeting was established to give women faculty concrete information about how to move through their professional careers and



three years after earning their Ph.D.'s.

how to handle problems that might arise. Those meetings were needed in part because mentors of male junior faculty were more likely to pass along that advice informally than were mentors of female junior faculty.

Another change was to teach senior faculty how to act as mentors, in an effort to level unequal treatment of junior men and junior women. The committee members had learned, for instance, that mentors invited male junior faculty to chair conferences (and thereby receive public exposure) six times as often as they invited female junior faculty.

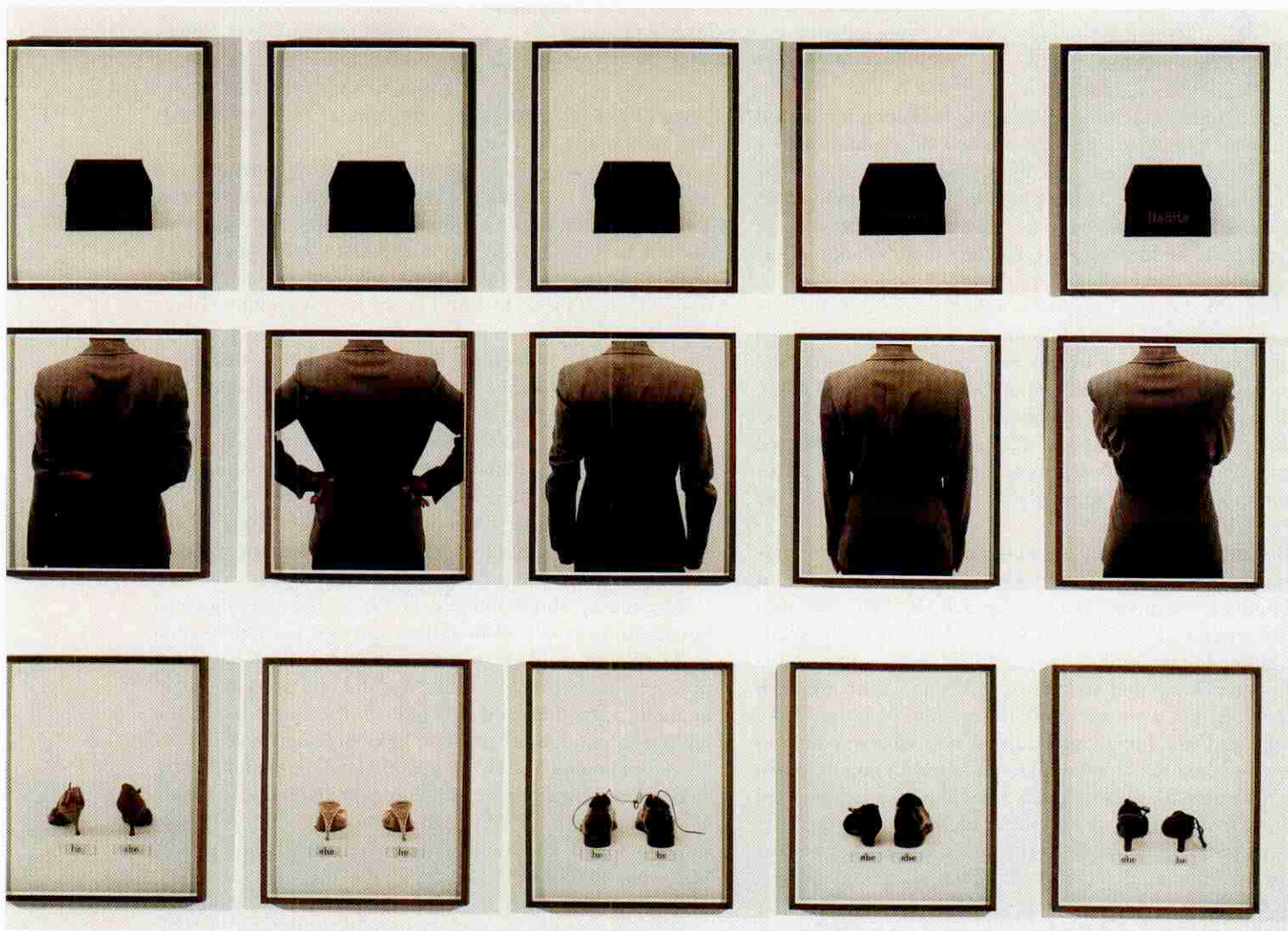
Within five years, the program became extremely successful. In 1990 there were only four women associate professors; by 1995 there were twenty-six. The improvement did not spring from changes in promotion criteria. What did change was women's knowledge of what was required for promotion. In 1990 only 26 percent of the women reported that they were advised about the criteria, but in 1993, 46 percent reported being advised. It is likely that knowledge of promotion requirements helps candidates mold their behavior accordingly. One must notice too, however, that slightly more than half the

women still had not gotten the facts about how to climb through the ranks.

THE JOHNS HOPKINS PROGRAM SHOWS THAT institutions can, with major efforts, keep their female employees from getting stuck in the marshy bottoms of their professions. Yet the limits of the program also suggest the need for remedies that take more direct aim at gender schemas, such as those that would train evaluators in reasoning and judging.

Unless everyone—women and men alike—understands how gender schemas hobble women professionally, women will not get the positive evaluations their work merits. They will get less than their fair share—and their progress will continue to be painfully slow. ●

VIRGINIA VALLAN is a professor of psychology and linguistics at Hunter College and the City University of New York Graduate Center in New York City. This article was adapted from her forthcoming book, WHY SO SLOW? THE ADVANCEMENT OF WOMEN, which is being published in January by MIT Press. The New York Academy of Sciences will sponsor a conference on women in science called "Choices and Successes: Women in Science and Engineering," to be held in New York City on March 12 and 13.



Lorna Simpson, *Untitled*, 1992