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**The Rajender Consent Decree and Women in the Institute of Technology:
Discrimination and Institutional Response at the University of Minnesota
in the Last Third of the Twentieth Century**

Report to the Institute of Technology, Office of the Associate Dean for Academic Affairs

by

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The Rajender Consent Decree, which took effect in August of 1980, became a significant marker in the movement to counter sex discrimination and enforce affirmative action in higher education.¹ This action by a district federal court provided a wide-ranging protocol intended to insure oversight of faculty hiring practices for the University of Minnesota (UMN) system that included a streamlined process for submitting grievances as well as a set of procedures to guide equitable hiring and salary readjustments. Over the next two decades, these procedures and guarantees changed the university by increasing the number of women and people of color, empowering the women faculty and administrative staff, and changing attitudes and behaviors throughout the campus, usually positively but also generating the unintended consequence of negative, even ugly backlash. The irony of the highly visible and controversial case was that Minnesota had a reputation as a progressive state and that its research university had been the first to file an acceptable affirmative action plan with the Department of Health, Education, and Welfare (HEW).

Women charged other universities with discrimination during the 1970s, but it was the relatively short but highly detailed Rajender Consent Decree that was not only a catalyst for action at the University of Minnesota but also became an inspiration to women at other institutions as well.² Dr. Shyamala Rajender's initiative and the events leading up to the establishment of the Consent Decree were symptomatic of the rising expectations of women and the changing legal environment during a decade when a national Equal Rights Amendment was nearly enacted. Those who followed the hearings and motions, whether with her or against her, knew how much was at stake in this case that became a marker for affirmative action advocacy.

During its enforcement, from 1980 to 1991, the Consent Decree provided critical support that enabled a group of smart, dedicated, and determined faculty women at the University of

Minnesota to assist their colleagues in challenging decisions about their hiring, promotion and salaries. Although the Consent Decree provided recourse for particular complainants and established processes intended to insure greater equity for women in the future, change did not come easily and the initial decree was, in fact, extended for two years to insure compliance in the matter of salaries. The longer-range consequences for the University of Minnesota, with particular reference to the Institute of Technology, where an aspiring woman chemist had first encountered problems, are still in process.

Affirmative Action in the 1970s: Shyamala Rajender and the Department of Chemistry

In 1966, before her name had become a shorthand for her sexual discrimination lawsuit, Shyamala Rajender accepted a postdoctoral fellowship in chemistry at the University of Minnesota. Six years earlier, she had left her native India to pursue her Ph.D. in chemistry at the University of Wyoming at Laramie, and on its completion she accepted a position as assistant professor there. She took a leave of absence from Wyoming to do research at the University of Minnesota, and, when her postdoctoral work with Rufus Lumry at the UMN in biochemistry seemed promising, she returned for another year in his laboratory. She and her family moved to the Twin Cities, and her husband accepted a faculty appointment in business at St. Cloud State University. In 1969 Dr. Rajender was appointed a temporary assistant professor at the University of Minnesota, and in 1970 she was again contracted to teach for a year when the department fell short of the number of teaching faculty needed for undergraduate classes.

The academic workplace is a location where sexism has particularly potent effects because of the high degree of faculty and departmental autonomy.³ Shyamala Rajender entered a

chemistry department which had hired only one woman in its one-hundred-and-two-year history, and no women at all for the previous forty years. The Institute of Technology (IT) included eleven departments in the physical sciences including chemistry, physics, and geology and geophysics, as well as six engineering departments plus computer science and mathematics. IT had only two tenure-track women among about four hundred faculty members in the late 1960s.

Before the events, lawsuits, and new legislation in the 1960s and early 1970s, American universities rarely conducted open hires. A network of professors would recommend their students to each other. These students were assumed to be white, and male, as were their professors. In 1969, for example, the chair of chemistry at Dartmouth sent a letter to the UMN's Chemistry Department, advising his disciplinary colleagues of an open position, adding that he hoped the UMN could help him find "the right man for the job." Dr. Rajender and her female chemistry colleagues (three of them; all temporary hires) complained of the wording. Robert Hexter, the chair of the department, sent a letter back to Dartmouth saying that a few of his "local ladies" had made a fuss and required clarification.⁴ Their concerns were grounded in local realities at Minnesota although discrimination was a problem at other institutions as well. During her several years of one-year appointments as she conducted research and taught introductory chemistry courses, Rajender applied for tenure-track professorships as they became available in the Department of Chemistry; but she was never invited to apply and never offered an official interview.

By 1971, even though she had received good evaluations of her teaching and had by then published an appropriate number of articles, she had never received more than year-by-year contracts. In the meantime, because she spent considerable time teaching rather than in the

laboratory, her scientific collaborator, Lumry, had turned to other post-docs for assistance. Nearly every year, too, as a temporary employee, she was moved from office to office. She began to feel that her treatment in the department and her inability to obtain a tenure-track position was a result of discrimination. However, she feared that if she pressed her case, there would be repercussions, and she had not yet been offered a contract for the academic year 1971-1972.

The climate on campus, like that across the nation, seemed to be changing. A Council for University Women's Progress led women like Rajender to anticipate that important new networks among the women faculty would provide mutual support and work to create more favorable administrative policies and practices for women faculty.⁵ Urged on by such campus women's groups and a sympathetic junior administrator, and with the firm support of her family, Rajender submitted a formal grievance to the UMN's Senate Judicial Committee, the body established to handle faculty and staff grievances. This committee consisted of three administrators or faculty members who operated under semi-judicial procedures. Their rules indicated that if the grievant could not afford a lawyer, the university agreed also not to bring in legal counsel; both sides (i.e., Rajender and the Chemistry Department) instead brought in 'advisors.' Charlotte Striebel, associate professor of mathematics, agreed to serve as Rajender's faculty advisor. The head of the Chemistry Department reacted angrily to Rajender's charge of discrimination. Robert Hexter sent a letter to Frederick Lukermann, then Assistant Vice President for Academic Affairs, suggesting that if Rajender was permanently hired, there would indeed be a lack of collegiality in the department--toward her.⁶ After deliberation, the special committee assigned to review the Rajender complaint concluded that Dr. Rajender was, in fact, not qualified for a tenure-track job at the University of Minnesota and thus had not been discriminated against.

Even as she constructed a legal case and was no longer employed at the university, having not been hired for the 1971 academic year, Rajender continued to search for a positive resolution for her grievances. She directly appealed to the UMN President, Malcolm Moos, for a hearing before the Board of Regents. Moos responded with some candor in a letter of January 31, 1972: “Within the context of historic recruitment of women into academic life, the fact that the Chemistry Department has not had a regular appointment held by a woman for thirty years seems to confirm the generic pattern of discrimination against women in academic life that is all too familiar to us. It is clear that the Chemistry Department at the University of Minnesota is no more immune than any other unit from the consequences of recruitment practices (that begin with entrance into graduate study, may I say) that have their roots in a period that pre-dates all of us....However, I cannot fairly conclude that you were discriminated against because of your sex in the appointments made in the Chemistry Department since 1968.”⁷ Moos essentially admitted the widespread nature of sex discrimination in higher education and, in particular, at the University of Minnesota, though he denied that Rajender herself had a case.⁸ However, Moos’ comments would provide ammunition for an eventual class action lawsuit and persuaded Rajender that she needed to take her grievance outside the university.⁹

Dr. Rajender, having found no relief within the university, queried other state and federal agencies about her rights. In 1973 the Minnesota Human Rights Department issued a formal finding of probable cause indicating issues related to her sex and national origin. After an attorney’s intercession, the local Equal Employment Opportunity Commission office issued a right-to-sue letter, based on recently passed federal legislation, the 1972 amendments to the 1964 Civil Rights Law, Title VII of which prohibited sex discrimination in hiring and specified

education as a workplace. A number of other court suits were also being brought by women and minorities at universities, citing Executive Order 11246, which had forbidden any contractor with the federal government to discriminate.¹⁰ On September 5 1973, Rajender filed a formal complaint. Rajender decided to find a lawyer who was particularly skilled in discrimination cases and turned to Paul Sprenger, a Minneapolis attorney who had recently won a significant discrimination case in Chicago.¹¹ Though she and her attorneys intermittently proposed settlements in order to hold off a costly court case, the University of Minnesota, sure of its position, would not agree to settle.¹² In September, 1975, Sprenger suggested the claim be turned into a class action, on behalf of all female academic non-student employees at the University of Minnesota. Judge Miles Lord certified the class in February of 1978. By this time, too, data on hiring, firing, and salaries, although often difficult to obtain, provided material expressions of sexual discrimination at the University of Minnesota, as elsewhere. Harassment, demeaning attitudes, and hostile practices would be harder to prove in court.

Judge Lord, one of four federal judges in Hennepin County, Minnesota, was a former Attorney General and also known as an activist judge who was liberal in politics, very involved in the courtroom debate, and a champion of the underdog.¹³ His ruling in favor of miners and their families in the lawsuits over taconite mine tailings had cemented his reputation as a progressive.¹⁴ He was not hesitant to express his position: "It evens out the sides if I look out at the litigants and I ask are they rich or powerful, or are they poor and oppressed?"¹⁵ His presence on the bench in *Rajender versus University of Minnesota* certainly helped the plaintiff gain a serious hearing. In 1979 he decided to begin a 'pilot trial' of the case for the subclass of female non-student employees in the chemistry department, namely Shyamala Rajender's case.

In the eight years since Rajender had filed her original grievance against the university, she received only limited support from campus women's groups, although individual women had encouraged her to file a grievance and to pursue a legal case. In an on-film interview in 1985, she suggested that most women colleagues were afraid of repercussions in their own jobs. She also pointed out that her sole persisting supporter through the 1970s, besides her family, was Charlotte Striebel, whose specialty in statistics was invaluable in the case and in its subsequent implementation.¹⁶ In December 1979, as the Rajender outcome appeared increasingly positive, five women – Sylvia Azar, Florence Gleason, Carol Gold, Bertila Herrera, and Phyllis Kahn – came forward as interveners in the class action suit. Each of these women clearly believed she had been a victim of sexual discrimination and that the university had failed to act to protect her.¹⁷

The pilot trial, in which the subclass consisting of Department of Chemistry female non-student employees (Rajender) was to assert its case, lasted eleven grueling weeks, spread intermittently over the course of nearly two years. The department had still not hired any tenure-track women faculty. In the seven years since Dr. Rajender had first filed her case, despite great financial and emotional hardship, she had completed law school at Hamline University and passed the bar.¹⁸ By 1978, established as a patent lawyer in California, where her husband had found a position, she was well positioned to assist Sprenger in building a strong case against the department. For its defense, lawyers for the Department of Chemistry attempted to reverse the case and put Rajender on trial herself, attacking her credentials in an effort to prove that she would not have been hired in the department as permanent faculty even if she had been a white male. To that end the department found former students who offered critical testimony about Rajender's teaching skills while former colleagues from the chemistry faculty portrayed Rajender

as borderline incompetent. The criticism took on a racial slant when testifying students claimed they could not understand Rajender's Indian accent. Widely known as an activist judge, Miles Lord, through his own questioning of Rajender and others showed his sympathy to the plaintiff's case.¹⁹ Legal analysts George LaNoue and Barbara Lee suggest that the testimony of Lillian Williams, the head of the Equal Employment Opportunity Office at the University of Minnesota, was crucial in suggesting to the court that the University of Minnesota's current affirmative action plan (which held department heads responsible for hiring in their departments) was not effective.²⁰ The lead lawyer, Paul Sprenger eventually persuaded Lord to subpoena the entire Board of Regents as a group to testify in the case. At that point the UMN administration, although it could afford to continue litigation, decided the embarrassing publicity would be too much, and the university lawyers agreed to a settlement.²¹

The Rajender Consent Decree

The Rajender Consent Decree, signed April 1980, went into effect on campus with the start of the academic year in September of 1980.²² The settlement specifically put no blame on the university and did not find the UMN guilty of a violation of Title VII. The outcomes, however, were specific, procedural, and sweeping when compared to other university cases in the period.²³ Dr. Rajender was awarded \$100,000 and her lawyers charges were handled separately.²⁴ The consent decree stated that "the Court found as a prima facie matter that Dr. Rajender (1) 'was qualified for a job'...and (2) 'had established a prima facie case of violation of Title VII'".²⁵ The decree established guidelines for future judicial action in sexual discrimination suits. The five interveners were invited to move forward with their claims.²⁶ The University was required to establish a program of affirmative action for female non-student academic employees that

included the development of an applicant pool, hiring within this pool, timetables for hiring more women into positions, and the generation of sex-neutral hiring criteria. Open positions were to be widely advertised.²⁷ The Consent Decree required the university to establish a Senate Committee on Equal Employment Opportunity for Women, two members of which would be elected from the class of female non-student academic employees. The entire committee was charged to serve as a watchdog for the University's developing affirmative action programs.

Importantly for women on campus, the Consent Decree established procedures for the resolution of past and future individual discrimination claims against the University. Any member of the class who believed she had been discriminated against after March 24, 1972 (when Title VII was passed) might file her claim with a body of three specially appointed judges called Special Masters. The Special Masters would defer cases up to 180 days to allow the University to act to resolve them. If no resolution was reached, they would then allow cases to proceed to litigation. The Special Masters were also required to establish a group of faculty to serve as advisors to claimants. The details of the Consent Decree were to be published widely in order to track down any women who might have a claim. The University was required to pay up to \$6,000 in legal fees per claimant. Broad discovery was allowed: women establishing claims were to have access to documents and information on other applicants in their hiring pool and on faculty in their department. The petition process allowed for individuals and for groups to present their cases. The Consent Decree was to expire January 1, 1989.

Though the Consent Decree placed no blame, it vindicated Dr. Rajender's sexual discrimination suit and paved the way for many others. One satisfaction that helped offset her painful memories was the pride she took in her accomplishment suggested by her comment, "I

opened up opportunities for my daughter, for my granddaughter, that I didn't have."²⁸ The price for Shyamala Rajender in bringing the suit was very high, however. She was forced to change careers largely because chemistry departments throughout the country now branded her as a 'troublemaker.' She and her family encountered financial problems as they struggled to pay her law school tuition and attorneys' fees, although in a later court decision, the University of Minnesota was forced to pay her attorney's fees, which were tripled by the court to two million dollars. She found herself cut off by friends and colleagues who objected to her lawsuit and was surprised by the evaporation of support from those who had encouraged her to move forward in the early 1970s.²⁹ The notoriety that followed her to California had an impact on her employment in a law firm there, as well, as she managed the outcome of her case. Eventually she found a comfortable position as patent lawyer at Lawrence Livermore Laboratory. The effort changed her, as she reflected, because she had been naive in thinking her case would be handled reasonably, that people who had encouraged her would stand beside her, and that her initiative would be seen as one of advocacy for fairness. Her conclusion was that "from my personal point of view, it was a terrible price to pay" even as she pointed to the enormous impact the case had in higher education.³⁰

The infrastructure constructed under the Consent Decree allowed future claimants some financial assistance, and over the next decade these procedures would be put to the test. Implementation of the case on campus, however, would also establish and sustain a cadre of knowledgeable women dedicated to equity and justice, even as it alerted the UMN administration of the depth of discontent among women on its campuses.

Implementation of the Consent Decree, 1981-1991

The celebration over a successful settlement was short-lived, as the plaintiffs understood it would still be complicated and time-consuming to get satisfaction for grievances. Each woman filing under Rajender, whether for salary, promotion, harassment, nonhire, benefits, or any other grievance, had to follow a number of steps. First, with the powers of discovery granted under Rajender, the woman and her lawyer would gain access to salary and hiring information to establish her equivalence with male colleagues. Then they must bring the grievance to the Special Masters, three Minneapolis attorneys appointed by Judge Lord, who would allow the university to decide to act on the grievance and, if appropriate, arrive at a settlement. If no settlement was reached, the case could proceed to trial. Because the Consent Decree covered only \$6,000 in lawyer fees; women had trouble finding competent representation.³¹ This meant an enormous amount of personal time spent gathering information and in litigation. Moving forward often involved financial, emotional and professional hardship. A voluntary group, the Faculty Advisory Committee on Women (FACW), was certified by the Special Masters and served as an information clearinghouse and support team for the ten years and more that the Consent Decree was in effect.³²

The Consent Decree also required the establishment of an internal group within the faculty governance system. The Committee on Equal Employment Opportunity for Women (EEOW) was created as an independent committee of the Senate to work toward more representation of women (and minorities) on the campus. Two of the seven member committee were to be elected by the members of the class, and they elected Patricia Faunce of Psychology and Laura Cooper of the Law School. The EEOW worked with the University to determine the procedures for internal tribunals, for forms and paperwork, and for developing statistical materials. The EEOW worked

closely with the Equal Opportunity and Affirmative Action Office, headed by Patricia Mullen after the death of Lillian Williams. Hiring decisions were to be approved by this office with attention to the national pool of appropriate Ph. D. candidates, male and female, available in individual disciplines. The EEO office began to require data on minorities as well, although race was not officially scrutinized under the decree. According to the Consent decree, the percentage of women interviewed was to match the percentage of women in each academic pool or show cause as to why that was not possible. This oversight was important in raising awareness among department heads and members of search committees about university rules and legal requirements but also demonstrated very quickly the prevalence of Ph. D. women available in most academic disciplines. These bureaucratic changes were intended to ensure the presence and safe passage of women at the University in the future. However, working to improve the conditions of women already on the faculty and making up for past injustices met with resistance and required attention and leadership from the women themselves.

The Faculty Advisory Committee on Women (FACW) had its origin with an informal group of faculty women and men interested in shaping the practices outlined in the Consent Decree. The key leaders were three women faculty members, Clare Woodward of Ecology and Evolutionary Biology, Patricia Faunce of Psychology, and Laura Cooper of Law. They held a workshop on February 20, 1981 to equip faculty advisors with the expertise they would need. They presented a petition about their role during the clarification period of the Consent Decree, and the Special Masters responded with language establishing the FACW as one of the players in its implementation.³³ Though supported by the Special Masters, the FACW was remained basically a 'grassroots group' of women and men who gave their time freely to guide potential claimants through the mire of regulations and data gathering.³⁴ Requests for help poured into

FACW members homes and offices, and Professor Faunce's secretary, Kathy Olson, would later be reprimanded for spending time working with the FACW.³⁵ No one – neither the women involved nor the university administrators – had anticipated the deluge of claims that came forth.³⁶ Publicity increased the traffic because the University had been required to advertise in every conceivable publication that a class action suit was underway. Members of the FACW helped decide whether to take cases to court, assisted women in discovering and recovering information, and provided an important support group for those who moved ahead. This voluntary effort was draining on the participants, and, after another petition and a direct appeal to the regents, the administration was required to grant FACW “temporary” funding for a secretary and an office in the Law School.³⁷ This funding lasted only two years, and women continued to advise their colleagues, file claims and petitions, and attend meetings and court sessions well after this support ran out. In explaining her persistence and that of her colleagues during this period, Clare Woodward suggested that “anger gives you some energy.”³⁸ As Debra Hartley observed in conducting her oral interviews with FACW leaders, the women became increasingly disillusioned with the administration's apparent lack of commitment to provide justice for employees who had faced discrimination and its willingness to spend literally millions of dollars in disputing well-supported claims.³⁹

Who were the women filing? Three hundred and twenty-eight women filed paperwork arguing that they had experienced sexual discrimination by the time the Rajender Consent Decree expired in 1991. Women in studio arts and in classics, women in nursing, women in agriculture, education, and at the coordinate campuses in Duluth, Crookston, Morris and Waseca all came forward with grievances of various sorts. A group of women from the library system filed collectively, and forty-seven School of Nursing faculty members filed together, claiming not only

they, but their profession, had been discriminated against.⁴⁰ Professional and administrative employees (P&A) filed as a class.⁴¹ Some of these cases were settled, but many went to court and were duly covered by the *Minnesota Daily* (the University's student newspaper) and the *Minneapolis Star Tribune*.⁴² Women filed because they had not been hired for positions at the UMN, had not been promoted or granted tenure, had not received equal benefits, or had been subject to great harassment and hostility. Those who were successful received money, lawyer fees, and sometimes a position or advancement. The cap of \$6,000 on lawyer fees was lifted in 1983 but subsequently reinstated under challenge from the university.⁴³ As part of a settlement based on an internal petition, the university later created a temporary Academic Staff Assistance Office to work with women looking to settle salary grievances and appointed Charlotte Striebel to the position.⁴⁴

The Consent Decree also allowed for the filing of petitions on behalf of the entire class. In late 1981, Judge Lord certified a petition on retirement benefits. According to a report drawn up by mathematician and statistician Charlotte Striebel, the university's logic had been that since women live longer on average than men, women were to be given lower retirement benefits each year in retirement so that their total actuarial result would be the same as men in their age cohort.⁴⁵ Her challenge to that logic and data led to new equity in retirement benefits, implemented in July 1982, but other changes came much more slowly. Maternity leave and a university day care center, also the subjects of petitions, were not implemented until the late 1980s. A salary petition, filed in 1988 after extensive data gathering and efforts to create comparables that would satisfy all parties, resulted in a three million dollar settlement paid to women faculty in the class, based on individual assessment of their salaries and the loss of salary accumulation.⁴⁶ Here, again, sophisticated statistical data prepared by Charlotte Striebel showed

how inequity in starting salaries and in smaller raises compounded over time. Her regression analysis demonstrated the cumulative effects of increasingly unequal raises over multiple years in an institution that often provided raises as a percentage of salary.⁴⁷ The Rajender Salary Settlement Committee read claims and allocated the funds. Leonard Kuhi, the Provost, had to send out a memo “reminding deans that Rajender salary adjustments are not to be considered when granting annual salary increases. In other words, there should be no ‘retaliation’ against individuals who have received Rajender increases.”⁴⁸ His memo served as a recognition that individuals who filed under the Consent Decree settlement continued to face hostility and retaliation from peers and administrators. Patricia Faunce believes that the program she headed, the Measurement Services Center, was disbanded due to her activism.⁴⁹ Some of the women faculty who filed and lost their cases could not get jobs elsewhere.⁵⁰ Moreover, they faced hostility in their departments as their cases dragged on, and they had less time for professional activities, including research, while conducting their cases.

In the Institute of Technology, Charlotte Striebel filed but subsequently withdrew her claim.⁵¹ An applicant to the History of Science and Technology program, Margaret Rossiter, filed for nonhire, but her claim was turned down by the Special Masters.⁵² The only discrimination claim in IT, beyond that of Shyamala Rajender herself, was that of another nonhire, Kathlyn Parker, an applicant to the Department of Chemistry. Her case made national news, and the weekly *Science* magazine quoted a member of the 1972 search committee as observing: “I think she would have problems because she is a woman.”⁵³ Parker asserted that she must be the woman referenced because, since 1968, the department had interviewed only one woman out of ninety-six applicants. Though the discriminatory behavior had taken place before March 24, 1972, the University gave her a settlement of \$32,500, for back pay and attorney’s fees.⁵⁴

The Department of Chemistry continued to be a hostile place for women. The Consent Decree specifically required that two of the next five hires in chemistry had to be women. By the time of the Decree announcement, the department had already hired four men. They had to change one to a temporary appointment when they hired Marian Stankovich and Essie Kariv-Miller in 1981. Both women faced enormous reaction and isolation. In 1987 the departmental Promotion and Tenure Committee recommended against tenure for Stankovich and against promotion of Kariv-Miller, but IT's Promotion and Tenure Committee reversed both recommendations. Roberta Humphreys of Astronomy was the only woman on that committee and recalls that the two women's records were fine but that the cover letters were overtly hostile with no substantial reasons for their denial of tenure at the departmental level. As a result, the IT Promotion and Tenure committee unanimously agreed to overturn the departmental decision.⁵⁵ Dean E. F. (Jim) Infante agreed and forwarded a position recommendation. At that point the harassment of the women in the department continued and, in fact, temporarily escalated. Kariv-Miller was accosted in the halls by a colleague, and animal feces was smeared on her desk.⁵⁶

Such egregious behavior catalyzed women faculty members in the Institute of Technology to band together to challenge this hostile behavior directly and collectively. They drew up a petition to Dean Infante, calling for the hiring of an independent affirmative action officer for IT, responsible directly to Patricia Mullen as director of the Office of EEOAA. In addition, they asked for an open letter from the Dean saying he would not tolerate harassing behavior, a retreat for the dean and department heads to discuss the problems faced by women scientists and engineers, a symposium for women faculty, an end to the "glass ceiling," and increased professional recognition and visibility for women including appointments to administrative posts, including departmental chairs.⁵⁷

Feeling that Dean Infante was moving too slowly, women in IT and in the College of Biological Sciences, including two Regents Professors, met with the Provost, Roger Benjamin, in December of 1987. He responded to a number of their recommendations and stated his strong commitment to affirmative action. In a letter to Infante regarding negotiations with the head of the Department of Chemistry, Benjamin made it quite clear that the sexually harassing behavior was not to be tolerated, and that “the real question is how quickly, not whether, we can adjust explicit and implicit codes, norms, and values between men and women in the workplace of the academy so that creating and maintaining a comfortable and productive work environment for women will no longer require internal or external oversight committees.”⁵⁸

This pressure from the Provost pushed Dean Infante to action. Before IT women could send off their petition, Infante announced the creation of a new position on the Associate Dean level with the responsibility to develop programs and increase recruitment and retention of women faculty in science and engineering. The IT women modified their petition to advocate for a woman hire in this position, one who would have responsibility to monitor the treatment of women and minorities in IT. The letter was signed by nearly all of the tenured women in IT: Phyllis Freier in physics, Lisl Gaal in mathematics, Roberta Humphreys in astronomy, Emi Ito in geology, Essie Kariv-Miller in chemistry, Julia Robinson in architecture (then a part of IT) Marian Stankovich in chemistry, and Charlotte Striebel in mathematics.⁵⁹ None of these women were appointed to the search committee for the new position. It was chaired by Priscilla Grew who headed the Minnesota Geological Survey and was a member of the School of Geology and Geophysics but did no teaching on campus. Charlotte Striebel applied for the position but was treated with such hostility by the search committee, which included department chairs, that she withdrew. Other candidates were interviewed in the spring and fall of 1988, and they met with

the search committee as well as separately with the women faculty. In the fall of 1988 all of the women in IT signed a letter to Grew recommending Sally Gregory Kohlstedt, a historian of science and scholar in women's studies from Syracuse University, for the position. They also deplored the behavior of the department heads who behaved badly toward Striebel.⁶⁰ Kohlstedt was hired to start in the fall of 1989.

Working with the faculty, Kohlstedt developed a Program for Women in the Institute of Technology, dedicated to the recruitment and retention not only of faculty but also graduate and undergraduate students in the physical sciences, mathematics, and engineering. Her job description was enhanced in 1991 to allow her to oversee promotion and tenure processes as the Associate Dean for Academic Affairs. The Rajender Consent Decree was initially set to expire January 1, 1989, but FACW advocated for an extension because the salary settlements were still not completed.⁶¹ The Board of Regents voted to extend the decree for two years, apparently without a great deal of controversy.⁶² Once the Rajender Consent Decree had expired in 1991, the momentum and infrastructure created for oversight of hiring and the treatment of women at the University of Minnesota continued, but institutional support for continuing other projects would prove inconsistent and the gains less dramatic.

The Post-Consent Decree Decade with Particular Reference to IT

In 1992, some results of the consent decree were more measurable than others. University-wide, over 300 women had sued, and 180 had received monetary or professional settlements; perhaps another thousand or so women had been granted pay increases intended to create equity through direct negotiation within their departments and colleges. The salary equity resolution had distributed over \$3,000,000 to women faculty. The University paid about \$7,000,000 to lawyers in addition to that to claimants, and the office of the General Counsel had grown to include a

stable of lawyers. More than any other markers, the University faculty looked different: more women had been hired. However, the number and proportion of women taking advanced degrees and being hired at research and other universities had also grown, making it difficult to claim that the Rajender Decree was responsible for the changes at UMN.

Charlotte Striebel's statistics had shown that once any employee begins to receive smaller raises, the pay gap between that person and her peers grows quickly, so the women wanted to insure that there was ongoing scrutiny. Indeed a post-Rajender review indicated that while the all-university disparity had been eliminated by 1991, there were still particular departments with substantial disparities between men and women.⁶³ Despite administrative assurances in late 1990, however, there have been no subsequent campus-wide efforts to evaluate the relative salaries of men and women and thus no way to test the perception of some women that their salaries have again slipped behind those of men with comparable credentials.⁶⁴

In November of 1992, after the Rajender consent decree had expired, the Faculty Advisory Committee for Women organized a conference with the goal of summarizing the effects of Rajender and looking to the future of women and minorities at the University of Minnesota. Impressions among this activist group were mixed about just how much change had occurred.⁶⁵ At that point a Commission on Women, initiated by the university in 1988 and under the direction of anthropology professor Janet Spector, had coalesced strong, diverse faculty support and was enhancing the lives of women on campus in a variety of ways, training them in negotiation and leadership skills among other projects under a Minnesota Plan II Initiative.⁶⁶ In most colleges, search committees continued to follow the practices established under the Decree and were scrutinized by various officers in a serious effort to insure that women and minority candidates were identified and treated fairly. But the numbers of women had not grown as quickly as many

had anticipated, and some UMN departments and colleges made fewer gains than other national research universities.

A lingering issue, not directly addressed in the final Rajender settlement although hovering around the edges of the initial case, was the issue of minority representation on the faculty and administrative staff. The Rajender-based affirmative action policies of the 1980s were specifically targeted toward women. Dr. Rajender's original suit was brought claiming discrimination based not only on sex, but on national origin and, by implication, color as well; but when she and her lawyer Paul Sprenger filed to establish the case as a class action, the class was to consist of female academic non-student employees.⁶⁷ Perhaps this decision was one of choosing one's battles, bringing a precisely pointed suit rather than a broader one. In any case, the sweeping powers of the Consent Decree applied specifically to women, although the University did put affirmative action hiring procedures in place with additional reference to people of color as well. In their final discussion, 1992 Rajender conference participants brought race to the forefront, highlighting discriminated-against faculty who had been left out of the suit.⁶⁸ This coincided with the goals of many feminists in the 1990s, as they interrogated the feminist movement's racism and argued that feminism, as a search for equality in human relationships, was for everyone.⁶⁹ The deeply committed faculty women acknowledged that because the Rajender Consent Decree made no special provisions about race and its financial provisions only specified women, it arguably enforced the divide between "race issues" and "gender issues," ironically putting minority women in limbo.

Over a decade later, it is useful to reflect on just what occurred in the Institute of Technology, in which the Rajender case had its origins and which did, statistically in terms of the national pool of candidates, face the largest challenge. In the post-Rajender period, IT continued

its administrative discussion of issues relating to women and minorities and developed a number of women-focused programs and projects. The IT Program for Women, established by Associate Dean Kohlstedt and directed, from the fall 1993 to 1995, by Wendy Grebner, served as an umbrella organization coordinating many of the programs involved in outreach and recruitment for women undergraduate and graduate students as well as attending to faculty concerns. The Commission on Women also sponsored a project with the name and acronym WISE (Women in Science and Engineering) to address pipeline issues; this same name was commonly used for national level programs working to stem the loss of girls and women from the sciences and mathematics at nearly every level of education from middle school to graduate school. The IT program held fall and spring on-campus programs for girls interested in science, worked with the campus chapter of the Society of Women Engineers (SWE), introduced a variety of activities intended to recruit more women into graduate programs and assist them to achieve once they arrived, as well as actively coordinated retreats and other activities for women faculty.⁷⁰ The IT Program for Women also drew on skills developed by a team of thirty women from IT and other colleges who attended the Committee for Institutional Cooperation's 1992 Big 10 Conference on Women in Science and Engineering. This meeting highlighted best practices in mentoring and communication networks even as it brought university women together to work on shared issues, including retention of students and faculty and maintaining a healthy work environment.⁷¹

The IT Program for Women program participated in a 1995 conference at the UMN which sought to address "The Women Gender and Science Question: What Do Research on the History of Women and Science, and Research on Gender and Science Have to do with Each Other?" The goal was to begin to integrate the research that documented the number and roles of women

in science with the gendered knowledge communities in which they worked. Organized by Kohlstedt, Helen Longino, a philosopher of science, and Nina Lerman, an NSF post-doctoral historian of technology, the conference attracted over four hundred attendees and included speakers from thirty-two states and thirteen countries.⁷² A number of publications resulted from the meeting, and the event helped maintain attention to the issues faced by women in science and engineering.⁷³

The Institute of Technology had made some progress during the 1980s, hiring a few women most years, although not every year (Figure 1). The small number of women entering IT meant that even dramatic statistical change (i.e. 100% increase when a second woman joined a department) did not signal a substantial change in its departments of physical science, engineering, mathematics and computer science. Applicant pools were limited by the relatively smaller numbers of women taking Ph. D.s in these areas, and recruiting was undoubtedly compounded by the lingering reputation that the University of Minnesota had been implicated in sex discrimination.⁷⁴ Nonetheless, by the standards being reached in some other departments, IT may have remained below national averages in its hiring.⁷⁵ During the early 1990s, the emphasis shifted to retention as well as recruiting, even as women faculty, the IT deans including a sympathetic Associate Dean Gordon Beavers, and other men on the faculty worked to transform the climate and to create a “critical mass” of women who could meet and support one another. Figure 2 provides a list of the women who were hired to tenure track positions between 1965 and 2003, showing their length of stay at the University of Minnesota and indicating those who are still on the faculty. Summarized on a line graph, with nowhere to go but up, the increases are striking, as suggested in Figure 3. The increasing density of women is also demonstrated in Figure 4, indicating, somewhat ironically, that the Mathematics Department, which had been in

the vanguard of departments in IT in the early years has slipped far behind by the early twentieth century, particularly striking because it remains one of the largest faculties on campus with over sixty-five tenure track faculty members.

Some of the gains in IT reflect the growing number of women with advanced degrees in the field, while in general terms the Institute has barely kept pace. In 1996, for example, the percentage of women nationally who were taking Ph. D.s in mathematics and computer sciences had grown to 18% women, in the physical sciences to 22% women, and in engineering to 12% women.⁷⁶ A graphic depiction of the pattern of men's and women's advanced degrees in 1966 and 1996 (Figure 4) shows that even as the numbers of women increased, so did the numbers of men in a numerically parallel way. Data on Ph. D. employment in 2001 indicates that in combined four-year colleges and universities, women with recent degrees were 23% of those faculty in computer and information science, 25% in mathematical sciences, 23% in physical and related sciences, and 17% in engineering.⁷⁷ Given these significant increases in the production of Ph. D.s and their employment in higher education, Minnesota's gains are important but may or may not be keeping up with trends in comparable research universities. With about 400 total faculty members in the Institute of Technology and 36 women currently on the faculty, at an overall percentage of 8.5%, IT should be able to hire more talented women. It would be helpful if the Big 10 universities through their Committee on Institutional Cooperation (CIC), or perhaps the Association of American Universities, would undertake a study of faculty patterns, noting sex and minority status, among departments their institutions.

Numbers are not, of course, the only issue that concerns women in these under-represented areas. A round-table discussion with some of the women faculty in the summer of 2003 revealed issues that remain, perhaps exacerbated by the hiatus in active programming for

women between about 1996 and 2002, when Roberta Humphreys became Associate Dean. Their smaller numbers often required considerable informal advising of women students and disproportionate numbers of committee assignments as departments and indeed the colleges and university appropriately seek to have representation of women on key committees responsible for admission, hiring, and promotion. Most of the women faculty have taken up these tasks because they believe that they have been helped by the women who worked to increase opportunities for women and because they want to assist in making their fields welcoming for women. Some of the women at the roundtable felt isolated in their departments, not invited to lunch or included in informal faculty groups among the men, and not chosen for genuine leadership positions - and indeed there has never been a woman department head in IT.⁷⁸ They were concerned that the numbers of women in IT were growing so slowly and several indicated that women applicants still needed to be viewed as better than men candidates to get the job. Like the women in a recent study at Massachusetts Institute of Technology, the women faculty have informal impressions about unequal treatment but would like a more systematic study to determine their relative position.⁷⁹ Long-standing and more recently hired faculty members are currently invigorated by the revival of the women's faculty activities under Roberta Humphreys. Some faculty women report that they are well supported by the faculty members and administrators in their departments although others still note intermittent patterns of exclusion. While the glass is still not full, it is edging past the half-way mark in terms of support and collegiality.

In retrospect, the women who had been here during the Rajender Consent Decree were convinced that, while the case had fostered a litigious atmosphere on campus, the initiative Shyamala Rajender had shown and subsequent commitment made by other women during the implementation of the Consent Decree had forced important cultural changes. Those women

remain convinced that without the Rajender Consent Degree, whose scope was evaluated by one team of lawyers as “unprecedented in higher education,” change at the University of Minnesota would have come much more slowly.⁸⁰ Some administrators continued to maintain that change would have happened anyway. University President Nils Hasselmo, quoted in *The Chronicle of Higher Education*, suggested that “the court forced upon the university policies it would have developed in good faith anyway. Because of the university's progressive tradition, and a heightened sensitivity to issues of equity on campuses across the country, changes were bound to take place.”⁸¹

Reviewing the evidence in 2004, historians can document that important changes did occur and that they seldom came easily. Both inertia and active resistance were evident in the administration during the 1980s, and elements of reaction continued for more than a decade after the Consent Decree was completed.⁸² Moreover, the promised regular review of comparative salary data did not happen and the still modest increases in faculty hiring in most departments leave open the question of whether significant and fundamental gains have been lost through inattention. An off-campus observer early in the twenty-first century looked at the number of women in the chemistry department and concluded that, with the current number of women in chemistry at the UMN still below 10%, it is “brutality against the women involved” to conduct systematic challenges on a department by department basis.⁸³ Issues of discrimination are difficult to eradicate and genuine acceptance of women in some areas is still as much a goal as a reality.

Nonetheless, Shyamala Rajender's persistence resulted in a Consent Decree whose impact reverberated far beyond the University of Minnesota campus. The FACW leaders helped many women address their problems, sustaining them through periods of discrimination and hostility

while providing very specific help in developing their cases. Men and women faculty members alike were shaped by the revelations of the case and the decree, which somehow made it possible to discuss more openly the issues that confront not only women faculty but also the graduate and undergraduate women students. With the appointment of Roberta Humphreys as Associate Dean for Academic Affairs in 2002, IT seems poised to build further on the legacy of the Rajender Consent Decree.

1. Rajender v. University of Minn., 730 F.2d 1110, 1115 (8th Cir. 1984). A copy of the decree is in the University of Minnesota (UMN) Archives, Minneapolis, Minnesota and also published in "Consent Decree from Rajender v the University of Minnesota," *Journal of College and University Law* 8 (1981-1982), pp. 219-53.

2. George R. LaNoue and Barbara A. Lee, *Academics in Court: The Consequences of Faculty Discrimination Litigation* (Ann Arbor: University of Michigan, 1987) has an appendix that lists cases from 1969-1984, pp. 253-261. Part of what made the Minnesota case so powerful was that the university was the seventh largest in the nation and highly ranked when the case was heard.

3. This is a primary theme in Margaret Rossiter's two-volume account of women in science, which investigates professional women's experiences in higher education, government, and private corporations; see *Women Scientists in America: Struggles and Strategies to 1940* and *Women Scientists in America: Before Affirmative Action* (Baltimore, Johns Hopkins University Press, 1982 and 1994, respectively). On UMN see Clare Woodward comments, Rajender Conference Tapes (1992), UMN Archives.

4. Robert Hexter to Thomas Spencer, January 9, 1970, in LaNoue and Lee, *Academics in Court*, p. 181. The letter was clearly sarcastic in noting that "in these days of protest" he had been visited by "three female post-doctoral fellows, as self-appointed defenders of their sex."

5. Stanford Lehmborg and Ann M. Pflaum, *University of Minnesota, 1945-2000* (Minneapolis: University of Minnesota Press, 2001), p. 126, and Don Opitz, "Three Generations in the Life of the Minnesota Women's Center, 1960-2000." <http://www1.umn.edu/mnwomen/mwchistory.html> (January 13, 2004).

6. The eight page letter from Robert Hexter to Frederick Lukermann, December 27, 1971, became a part of the Hexter Deposition, EEOWC Papers, UMN Archives; cited in LaNoue and Lee, *Academics in Court*, p. 186.

7. Malcolm Moos to Shyamala Rajender, January 31, 1972, entered as evidence in the case; a similar opinion was also expressed in a press release on the matter, cited in LaNoue and Lee, *Academics in Court*, p. 187.

8. The Board of Regents apparently urged Moos to settle on the Rajender side of the dispute but he felt he would lose face among the faculty; somewhat ironically, the outcome of the incident apparently contributed to the Regents' loss of confidence in him. Lehmborg and Pflaum, *University of Minnesota*, p. 131.

9. Some of the immediate outcomes are outlined in Lehmborg and Pflaum, *University of Minnesota*, p. 187.

10. These cases in the mid-1970s were brought against a number of schools, including Syracuse University, the University of Pennsylvania, the University of Pittsburgh, and Illinois Institute of Technology. Rajender brought her case under Title VII and its amendment in 1972, able to cite evidence of discrimination in the intervening years.

11. On Sprenger's earlier and subsequent litigation in this area Clara Bingham and Laura Leedy Gansler, *Class Action: The Story of Lois Jenson and the Landmark Case that Changed Sexual Harassment Law* (New York: Doubleday, 2002), esp. pp. 145-148; also see LaNoue and Lee, *Academics in Court*, pp. 188-9.

12. Rajender was becoming fatigued with the case but determined to get redress. Dresselhuis had offered to settle for \$35,000 and Sprenger for \$50,000 (in 1975). Once the final offer was ignored, Sprenger moved to make it a class action suit, although he made yet another settlement offer in 1977 when it proved difficult to get other faculty women to join the suit.

13. He authored milestone opinions on the environment, civil rights, women rights, administrative abuse of power, and is perhaps best known for his work on the Reserve Mining pollution case and the Dalkon Shield litigation.

14. Bingham and Gansler, *Class Action*, pp. 146-147.

15. LaNoue and Lee, *Academics in Court*, p. 193.

16. Lisa Hawley, director, *The Rajender Decree: Evolution of a Class Action*, Film (1985), UMN Archives. Striebel also took a J. D. degree from UMN in 1981.

17. Sylvia Azar won both tenure and a large salary increase in the medical school when she agreed to settle out of court; Florence Gleason was the first person to win her claim under the Special Masters; and Carol Gold subsequently accepted a position at the University of Alaska.

18. Hawley, *The Rajender Decree: Evolution of a Class Action* (film).

19. LaNoue and Lee, *Academics in Court*, pp. 205.

20. LaNoue and Lee, *Academics in Court*, pp. 205-206.

21. The university was also being investigated by the Office of Federal Contract Compliance Programs in the Department of Labor, which had recently reached a settlement with the University of California, and that may have also had some impact on this decision. See Nils Hasselmo to C. Peter Magrath, October 27, 1980 and Eugene E. David to C. Peter Magrath, February 7, 1979, both letters in President's Papers, 1942-1975, Equal Employment Opportunity of Women Committee (EEOWC), UMN Archives.

22. The case was precedent-setting in that it was the first employment discrimination class action ever tried, and the United State District Court in Minnesota established the first class of female academic employees. During the eleven weeks of trial, Sprenger made relatively novel use of statistical evidence to convince the Court that the University's hiring and tenure practices had an adverse impact against class members.

23. In the ten cases cited in law reviews between 1983 and 2002, the Rajender Consent Decree is most typically cited briefly with reference to the centralizing effects of the class action sui; its parameters that kept a tight focus on class; and efforts, some successful and some not, to modify the decree. Because it was a consent decree rather than a case that went to court, it is difficult to judge the extent to which it served as a model for other university hiring programs. Class action suits were important in a variety of institutions during this period and did receive considerable attention, and the Rajender case is mentioned, for example, in George Rutherglen, "Notice, Scope, and Preclusion in Title VII Class Actions," *Virginia Law Review* 69 (February 1983): 11 ff.

24. She had in the meantime sold her precious gold jewelry brought from India and borrowed money in order to pay for her legal defense during the 1970s. See LaNoue and Lee, *Academics in Court*, pp. 195-196.

25. Rajender Consent Decree, p. 16.

26. For a summary of their outcomes, see Saetre, "Slow Burn," pp. 20-21.

27. Kenneth Keller, as Vice President for Academic Affairs, circulated a detailed memo about implementation of affirmative action and with a list of "Recruitment Practices that are Discriminating" in order to make clear that informal as well as formal actions needed to be monitored by administrators. Memo dated July 14, 1980, Presidential Files, EEOWC, UMN Archives.

28. Hawley, *The Rajender Decree*.

29. The EEOW Committee reported that implementation had gotten off to a "rocky start" and they took the high ground, arguing that Decree was designed "to produce changes that will serve the ends of justice; good faith effort on the part of all concerned will make it possible to complete the task." EEOWC, Annual Report to the Senate, November 11, 1981. EEOWC, UMN Archives.

30.LaNoue and Lee, *Academics in Court*, p. 216.

31.The women at the UMN campus in Duluth fought their union in order to hire a lawyer with expertise in sexual discrimination litigation. For discussion of these issues see correspondence with Carol O'Toole, a lawyer for Rajender claimants in the mid-1980s. FACW Papers, UMN.

32.A thorough account of the formulation of this group and its subsequent work is found in Debra Hartley, "Strength, Spirit, and Shattered Illusions: A History of the Faculty Advisory Committee for Women at the University of Minnesota," unpublished paper (read November 2003).

33.Rajender Consent Decree, Clarification #5. For a detailed history of the establishment and work of the FACW, see Hartley, "Strength, Spirit and Shattered Illusions" From the outset they were concerned with the imbalance of power, with the administration having expert staff and lawyers, access to data about salaries and hiring, and paid staff to help compile paperwork needed, while the women who submitted initial claims inside the university were left to their own devices without funds for photocopying, long-distance calls, office supplies. The FACW members were also operating with out any support or space, typically doing this work on personal as well as professional time that might otherwise have been used for research.

34.Sara Saetre, "Slow Burn: The Rajender Consent Decree Changed the University's Hiring, Promotion, and Tenure Practices and Ignited a Fire that Still Smolders Today," *Minnesota Alumni Association Magazine*, (July-August 1988), p. 14. Despite its endorsement, the FACW had little money and was almost completely dependent on the voluntary efforts of a few key members.

35.Debra Hartley interview with Patricia Faunce, 4 September 2001. FACW Papers, UMN Archives

36.Saetre, "Slow Burn," p. 13.

37.Hartley, "Strength, Spirit, and Shattered Illusions," pp. 10-11.

38.Debra Hartley, Interview with Clare Woodward, September 11, 2001. FACW Papers, UMN. This hour-long interview touches on many details in the legal history of claim procedures and offers insight into Woodward's perceptions of the general climate at the University, then and now.

39.Hartley, "Strength, Spirit, and Shattered Illusions," p. 15.

40.On the librarians case see "Librarians win \$905,000 in Sex Discrimination Case at University of Minnesota," *American Libraries* 14 (June 1983): 337. The case of Linda DeBeau-Melting gained considerable attention and was finally handled directly by the Board of Regents; see case file in the EEOWC, UMN Archives.

41. Hartley, "Strength, Spirit, and Shattered Illusions" provides an in-depth account of the P&A court case and settlement.

42.Then called the *Star and Tribune*, the paper seemed to some strongly anti-university, and published a great deal of news relating to the Consent Decree. Charlotte Striebel, lamenting the lack of public oversight of the university, was glad to have the newspaper performed a watchdog role, ready to disseminate information that would otherwise have been suppressed. Rajender Conference Tapes, "Final," November 1992, FACW Papers, UMN Archives.

43.See FACW 1983, FACW Papers, UMN. The EEOC Committee argued to increase the limit, but it was subsequently revised on appeal by the university, as indicated in the document written by Charlotte Striebel, "University Appeal of the DeBeau-Melting Decision" [May 1984]. Faculty Support of DeBeau-Melting File, EEOWC, UMN Archives.

44.EEOWC Report, 1986-1987, EEOWC, UMN Archives.

45. Striebel had a Ph. D. in mathematical statistics from the University of California at Berkeley.
46. The salary settlement was difficult to finalize, and the FACW relied on Carolyn Chalmers and Andrea Rubenstein to help with negotiations. Hartley, "Strength, Spirit, and Shattered Illusions," p. 37-38.
47. Her report on 'Differences in Salary between Men and Women on the Faculty and Academic Staff at the University of Minnesota' is a masterful analysis. The EEOC Committee Chair, Laurie S. Hayes wrote to the university administrator handling these matters, Jennifer S. Oakley, December 10, 1990, to argue that such analysis should be continued and noting "Minnesota is the only University in the Big 10 without a systematic effort in place to monitor salaries and prevent inequities." EEOC, UMN Archives.
48. Leonard Kuhl, Response to the Rajender Salary Settlement Committee Report, December 13, 1990. Roberta Humphreys, Private Papers.
49. Debra Hartley interview with Patricia Faunce, 4 September 2001. FACW Papers, UMN Archives. On a pattern of harassment of Faunce, see Hartley, "Strength, Spirit, and Shattered Illusions," p. 12-13.
50. Sara Saetre, "Slow Burn," makes this point, but no one has done a systematic study of the outcomes.
51. Charlotte Striebel file, in both Rajender Case Papers and FACW Papers, UMN Archives.
52. Margaret Rossiter file, Rajender Case Papers, UMN Archives. Rossiter was a well-respected scholar with a prize-winning book on agricultural chemistry and was already working on the history of women in science. She subsequently has published two books on the latter subject.
53. William Broad, "Ending Sex Discrimination in Academia," *Science*, 208 (6 June 1980): 1120-1122. Edward Leete, the committee member, had added to the comment quoted in the text, under the "weakness" section of the evaluation sheet, "I guess I am a male chauvinist pig."
54. Kathlyn Parker file, 1981-1982. FACW Papers, UMN. By 1988, the University had spent more than \$6 million in legal fees and settlements, including \$2 million to Rajender's attorneys who had pursued the class action suit.
55. IT Women Faculty Roundtable Discussion, July 22, 2003.
56. Saetre, "Slow Burn," p. 18.
57. Women in IT (unsigned) to Infante, September 11, 1987. Draft, Roberta Humphreys, Private Files.
58. Roger Benjamin to E. F. Infante, January 27, 1988. Copy, Roberta Humphreys, Private Files.
59. Phyllis Freier, Lisl Gaal, Roberta Humphreys, Emi Ito, Essie Kariv-Miller, Julia Robinson, Marian Stankovich, and Charlotte Striebel to E. F. Infante, September 30, 1987. Copy, Roberta Humphreys, Private Papers.
60. Tenure track faculty Diana Brehob, Lisl Gaal, Catherine French, Roberta Humphreys, Marion Stankovich, Essie Kariv-Miller, Margaret Etter, Emi Ito, Martha McCartney, Hae Ok Lee, Susan Wobolohde (architecture), Maria Gini, and Haesun Park wrote to Grew, September 30, 1988. Copy, Roberta Humphreys, Private Files.
61. Once in place the EEOC Committee requested that the data should be persistently gathered in the future. EEOC Report, 1990-1991. EEOC, UMN Archives.
62. Saetre, "Slow Burn," p. 14.

63. This review indicated that of the 102 academic departments, 7 had a 14% difference in favor of men and the next 8 departments with differences showed a 1.5% difference in favor of women (not considered significant for the issue of discrimination, which accounted for the overall impression of balance). EOW Committee, Minutes of Meeting, December 5, 1991. EOWC, UMN Archives.

64. Leonard Kuhi, "University of Minnesota Response to the Rajender Salary Settlement Report" December 13, 1990. Rajender Case Papers, UMN Archives.

65. See Hartley, "Strength, Spirit, and Shattered Illusions," p. 40.

66. The short-term institutional impact of consent decrees is suggested in a close analysis of the Louisiana circumstances about this same time. See Marie Mitchell Carter, "The Effect of Implementing the 'Consent Decree' on Academic Programs in Louisiana Colleges and Universities (A Survey of the Perceptions of Administrators, Faculty, and Students)" (Ph.D. dissertation, University of New Orleans, 1985).

67. Consent Decree, p. 3, and subsequent language. The first paragraph of the Introduction states that Rajender's original complaint alleged "the Defendants were engaged in employment discrimination based upon sex, national origin and color in violation of Title VII..." Race is never again mentioned, and the affirmative action policies set out in the Consent Decree state that they apply specifically to women.

68. Rajender Conference, Final video tape. FACW Papers, UMN. One participant claimed minority positions at the UMN declined by one third during the period of the Consent Decree.

69. Sara Evans, *Tidal Wave: How Women Changed America at Century's End* (New York: Free Press, 2002), pp. 230-232, and Cherrie L. Moraga, et al., eds., *This Bridge Called My Back: Writings by Women of Color* (Berkeley: Third World Press, 2002 [1981]).

70. See Annual Reports on the Program, produced from 1991 to 1995. Also, Lynn Schmidke Lyng and Kohlstedt, "Recruiting and Retaining Women Graduate Students: Supporting Efforts at the Departmental Level" *Women in Engineering Conference: Is Systemic Change Happening?*, WEPAN Conference Proceedings (1995).

71. "Advancing Women in Science, Engineering, and Mathematics," *Proceedings of the 1992 CIC Conference on Women in Science and Engineering*.

72. The conference was broad in its attention to scholarly work on the question but also attention to activities for those who were teaching women and girls or otherwise concerned with recruiting and retention issues. The registrants identified themselves, sometimes in multiple categories, as scientists, social scientists, humanists, teachers, administrators, and simply interested public.

73. In addition to articles that appeared in various professional journals, two books were based on papers given at the conference or at a small seminar that immediately preceded the conference, namely, Sally Gregory Kohlstedt and Helen E. Longino, eds., *Women, Gender, and Science: New Directions* published as *Osiris 12* Chicago: University of Chicago Press, 1997), and Mary Lay, et al., eds., *Body Talk: Rhetoric, Technology, and Reproduction* (Madison: University of Wisconsin Press, 2000).

74. This opinion continues to be expressed, as Associate Dean Roberta Humphreys reported after attending a conference on women in physics in the summer of 2003. Private communication.

75. Measuring this difference is complicated and not part of this current project. Measured by the comparative data on the proportion of women Ph.D.s produced annually, every department is behind; but perhaps the right measure is the total proportion of all women faculty in a discipline, the total proportion of women hired in other major research universities or perhaps a combination of such categories. The perception of many women in IT is that their departments are behind.

76. From *Science and Engineering Degrees: 1966-1996* (NSF 99-330), tables 11, 18, and 15.

77. National Science Foundation/Division of Science Resources Statistics, *2001 Survey of Doctorate Recipients*.

78. In most departments, the major roles are department or school head or chair, with sometimes an associate head, and the director of graduate studies. In the 1980s and 1990s, no heads or associates were women, and only three women directed graduate studies, in Maria Gini in Computer Science, Ellen Longmire in Aerospace Engineering and Mechanics and Kohlstedt in the History of Science and Technology. The faculty women's letter to E. F. Infante, September 30, 1987, made it clear that the issues of leadership opportunities and of academic recognition were important – but little has changed in nearly twenty years.

79. *A Study of the Status of Women Faculty in Science at MIT*, MIT Faculty Newsletter (Special Issue, 1999).

80. Clare Woodward on Rajender Conference Tapes (1992), FACW Papers, UMN. The assessment is in LaNoue and Lee, *Academics in Court*, p. 207.

81. Debra E. Duer, "10 Years Later, Questions Abound over Minnesota Sex-Bias Settlement," *Chronicle of Higher Education* 36 (June 13, 1990): A13.

82. Thus Ian Maitland, a faculty member in the Carlson School of Management created a counter-suit claiming that the university has discriminated against him when it settled the pay-raise dispute with about fifteen hundred female academic faculty members. In a settlement on June 13, 2003, the university agreed to pay \$225,000 to his attorneys who would then pay him and themselves for their fees in a case that had gone to the U. S. Court of Appeals three times. *Star Tribune*, June 24, 2003.

83. Deborah R. Rolison, "'Title IX for Women in Academic Chemistry: Isn't a Millennium of Affirmative Action for White Men Enough?'" in Commission on Physical Science, Mathematics and Applications, *Women in the Chemical Workforce: A Workshop Report to the Chemical Sciences Roundtable* (Washington: National Research Council, 2000), pp. 76-77.

FIGURE 1

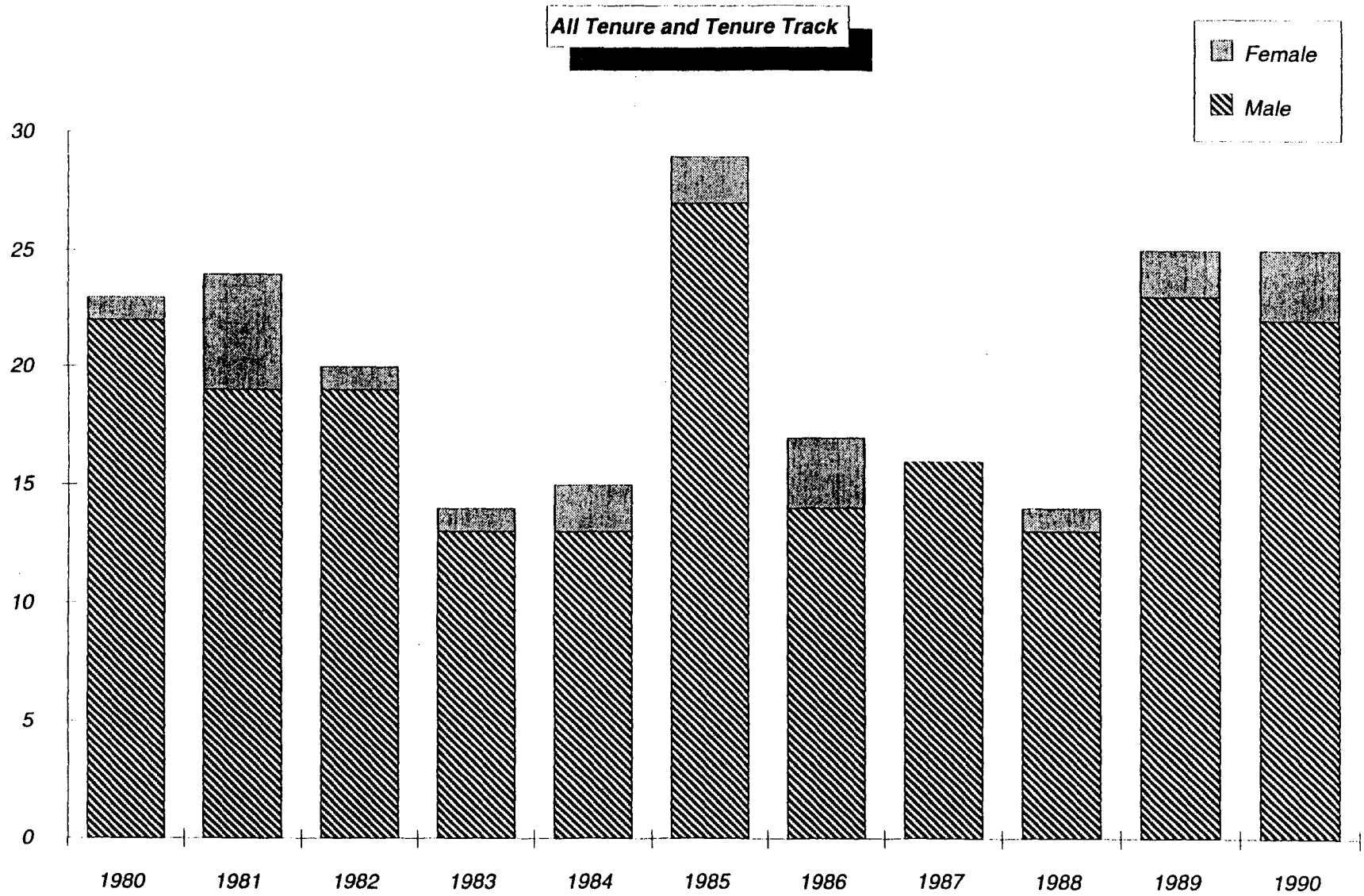


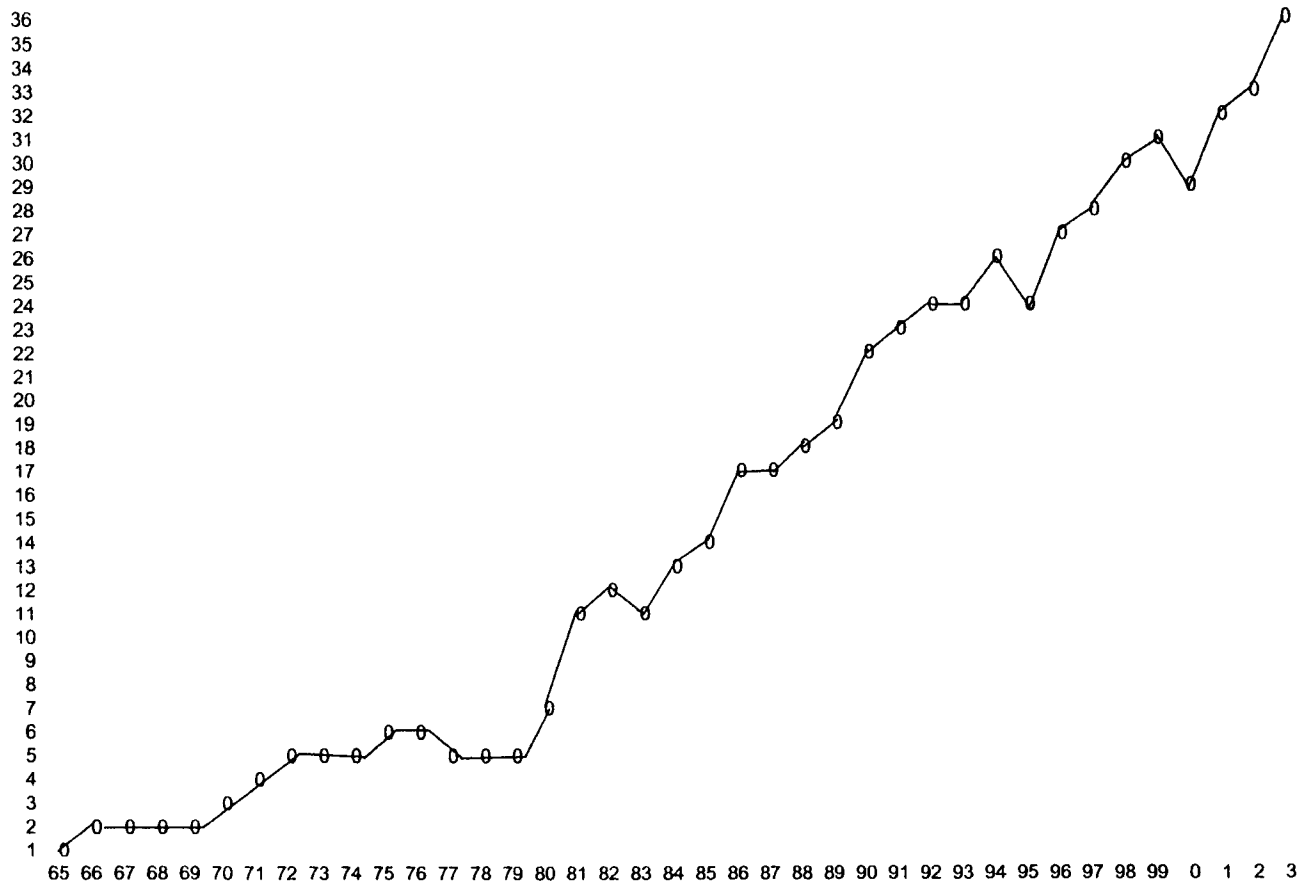
FIGURE 2

Women Hired to the Tenure-Track Faculty in Engineering and Physical Sciences, 1965-2003

Women Tenure-Track Faculty Members (in chronological hiring order) = 53 total

Ref. #	Name	Position – current or when leaving	Arrival	Departure
1	Pour-El, Marian	Professor	9/64; Math	retired 5/00
2	Striebel, Charlotte	Assoc. Prof.	9/66; Math	retired 6/95
3	Gaal, Lisl	Assoc. Prof.	9/70; Math	retired 6/98
4	Freier, Phyllis S.	Professor	9/71; Physics	12/90 (deceased)
5	Humphreys, Roberta	Professor	9/72; Astronomy	
6	Silberstein, Esther	Asst. Prof.	9/75; Math	resigned 6/76
7	Rees, Susan Mary	Asst. Prof.	9/80; Math	resigned 6/85
8	Vanderhorck, Anita Crews	Asst. Prof.	9/80; Geology	resigned 6/83
9	Stankovich, Marian	Professor	1/81; Chemistry	
10	Kariv-Miller, Essie	Assoc. Prof.	9/81; Chemistry	retired 6/98
11	Ito, Emi	Professor	12/81; Geology	
12	Triantafillou, Georgia		9/81; Math	resigned 10/88
13	Gini, Maria	Professor	11/82; Comp. Sci.	
14	French, Catherine			
15	Etter, Margaret	Professor	9/84; Chemistry	6/92 (deceased)
16	Mecartney, Martha	Assist. Prof.	9/85; Chem. Eng.	6/93 UC Ivrine
17	Lee, Hae Ok	Assoc. Prof	3/85; Mech. Eng.	6/93 to NASA
18	Brehob, Diana D.	Asst. Prof.	3/86; Mech. Eng.	resigned 6/90
19	Leopold, Doreen	Professor	9/86; Chemistry	
20	Grew, Priscilla C.	Professor, Director, MN Geo. Survey	11/86; Geology	8/93 to Provost, U Neb., Lincoln
21	Park, Haesun	Professor	1/88; Comp. Sci.	
22	Foufoula-Georgiou, Effie	Professor		
23	Kohlstedt, Sally Gregory	Professor	9/89; HST/Geo.	
24	Alving, Amy	Assoc. Prof	9/90; Aero. Eng.	6/00 to DARPA
25	Longmire, Ellen	Professor	9/90; Aero. Eng.	
26	Francis, Lorraine F.	Professor	12/90; Chem. Eng.	
27	Shield, Carol	Assoc. Prof.		
28	Mantell, Susan C.	Professor	9/91; Mech. Eng.	
29	Petzold, Linda	Professor	9/91; Comp. Sci.	6/30/97
30	Musier-Forsyth, Karin	Professor	9/92; Chemistry	
31	Lucke, Lori	Asst. Prof.	12/92; Elec. Eng.	resigned 9/97
32	Davidson, Jane H.	Professor	9/93; Mech. Eng.	
33	Cushman, Priscilla	Professor	9/93; Physics	
34	Wentcovitch, Renata	Professor	9/94; Chem. Eng.	
35	Cattell, Cindy	Professor	9/94; Physics	
36	Nelson, Laurie B.	Asst. Prof.	1/95; Elec. Eng.	resigned 9/97
37	Subramanian, Anuradha	Asst. Prof.	9/96; An. Eng.	resigned 2001

38	Neuhauser, Claudia	Asst. Prof.	9/96; Math	to Ecology 3/01
39	Whitney, Donna L.	Professor	6/97; Geology	
40	Novak, Paige	Assoc. Prof.	9/97; Civil Eng.	
41	Kuske, Rachel	Asst. Prof.	9/97; Math	resigned 8/03
42	Erdal, Merve	Asst. Prof.	12/97; Mech. Eng.	resigned 06/00
43	Hayes, Caroline C.	Assoc. Professor	2/98; Mech. Eng.	
44	Interrante, Vicki	Asst. Prof.	7/98; Comp. Sci.	
45	Maziar, Chris	Professor, Provost	9/98; Elec. Eng.	
46	Drayton, Rhonda F.	Asst. Prof.	9/98; Elec. Eng.	
47	Alexander, Jennifer K.	Asst. Prof.	8/99; HST/ ME	
48	James, Ashley	Asst. Prof.	9/00; Aero. Eng.	
49	Stadler, Bethanie	Asst. Prof.	7/01; Elec. Eng.	
50	Penn, R. Lee	Asst. Prof.	7/01; Chemistry	
51	Calderer, Maria-Carme	Prof.	8/01; Math	
52	Williams, Liliya	Asst. Prof.	9/01; Astronomy	
53	Hubel, Allison	Assoc. Prof.	8/02; Mech. Eng.	
54	Perg, Lesley A.	Asst. Prof.	8/02; Geology	
55	Kokkoli, Efrosini	Asst. Prof.	6/03; Chem. Eng.	
56	Miller (Evans), Lisa	Asst. Prof.	8/03; Mech. Eng.	
57	Maynard, Jennifer	Asst. Prof.	9/03; Chem. Eng.	



Faculty Women Hired in the Institute of Technology, 1965-2003

FIGURE 3

FIGURE 4

	Year																																																
	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	00	01	02	03										
Math	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X												
	[2]	X	X																																														
					[3]	X	X	X	X																																								
Physics								[4]	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X										
AeroEng																																																	
CompSci																																																	
Astro																																																	
Chem																																																	
MechEng																																																	
CEMS																																																	
Biosys/Ag. Elec.Eng																																																	
Geology																																																	
Civil Eng.																																																	
no BioMed)																																																	
Year Totals	1	2	2	2	2	3	4	5	5	5	6	5	5	5	5	7	11	12	11	13	14	17	17	18	19	22	23	24	24	26	24	27	28	30	31	29	32	33	36										
Year	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	00	01	02	03										

Faculty Women Hired in the Institute of Technology, 1965-2003

FIGURE 5

Women as a percentage of science and engineering bachelor's, master's, and doctor's degree recipients, by major field group, in 1966 and 1996

	Bachelor's degrees		Master's degrees		Doctor's degrees	
	1966	1996	1966	1996	1966	1996
Total	24.8	47.1	13.3	39.3	8.0	31.8
Engineering	0.4	17.9	0.6	17.1	0.3	12.3
Earth, atmosphere, and ocean sciences	9.4	33.3	5.9	29.3	3.0	21.7
Mathematical and computer sciences	33.2	33.9	20.3	30.3	6.1	18.1
Physical sciences	14.0	37.0	11.5	33.2	4.5	21.9
Biology and agriculture	25.0	50.2	20.8	49.0	12.0	39.9
Social sciences	34.3	50.8	20.2	50.2	10.5	36.6
Psychology	40.8	73.0	32.9	71.9	21.5	66.7

SOURCE: Hill (1999a), *Science and Engineering Degrees: 1966-96* (NSF 99-330), tables 11, 18, and 25.