The MIT Faculty Newsletter

Vol. XI No. 4 **March 1999**

Special Edition

A Study on the Status of Women Faculty in Science at MIT:

How a Committee on Women Faculty came to be established by the Dean of the School of Science, what the Committee and the Dean learned and accomplished, and recommendations for the future

Members of the First and Second Committees on Women Faculty in the School of Science

First Committee (1995-1997)

Sallie W. Chisholm - CEE and Biology
Jerome I. Friedman - Physics (department Head)
Nancy Hopkins - Biology (Committee Chair)
Daniel Kleitman - Mathematics (former department Head)
June L. Matthews - Physics
Mary C. Potter - BCS
Paola M. Rizzoli - EAPS (served 7/95-)
Leigh Royden - EAPS (served 2/95-7/95)
Robert J. Silbey - Chemistry (department Head)
JoAnne Stubbe - Chemistry and Biology

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Introductory Comments

President Charles M. Vest

I commend this study of Women Faculty in Science to all of my faculty colleagues. Please read it, contemplate its messages and information, and act upon it personally and collectively.

I learned two particularly important lessons from this report and from discussions while it was being crafted. First, I have always believed that contemporary gender discrimination within universities is part reality and part perception. True, but I now understand that reality is by far the greater part of the balance. Second, I, like most of my male colleagues, believe that we are highly supportive of our junior women faculty members. This also is true. They generally are content and well supported in many, though not all dimensions. However, I sat bolt upright in my chair when a senior woman, who has felt unfairly treated for some time, said "I also felt very positive when I was young."

We can take pride in the candor of dialog that these women have brought to this issue and in the progress that we have made, but much remains to be done. Our remarkably diverse student body must be matched by an equally diverse faculty. Through our institutional commitment and policies we must redouble our efforts to make this a reality.✣

[Charles M. Vest can be reached at cmvest@mit.edu]

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Introductory Comments

Dean Robert J. Birgeneau

This article in the *Faculty Newsletter* describes the efforts of an extraordinary group of women faculty in the School of Science to understand and ameliorate the long-term effects of discrimination in academia. I believe that in no case was this discrimination conscious or deliberate. Indeed, it was usually totally unconscious and unknowing. Nevertheless, the effects were and are real. Some small steps have been taken to reverse the effects of decades of discrimination, but we still have a great deal more to accomplish before true equality and equal treatment will have been achieved.

Currently, our undergraduate body at MIT reflects reasonably well the remarkable diversity and richness of the American population. Our faculty, on the other hand, remains overwhelmingly white male. This, of course, means that we are not taking advantage of the tremendous talents of the absolute majority of the population in filling our faculty ranks. This is to the detriment of the students, the faculty, and MIT as a whole. Correcting this extreme imbalance is one of the major challenges that MIT faces as we enter the next millenium. This report is a critical first step in that process. I congratulate our School of Science women faculty for their courage and conviction in initiating this process.✣

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From The Faculty Chair

Momentum of Report Needs to be Extended to Entire Institute

Lotte Bailyn

This report on the work of the Committees on Women Faculty in the School of Science and the response of the Dean to their findings, describes a model that can be used by the Institute as a whole to decrease the inequities that still exist, both in terms of numbers and in treatment. And though these data refer to women, the methods used and recommendations made can and should be adapted to faculty from under-represented minorities.

The key conclusion that one gets from the report is that gender discrimination in the 1990s is subtle but pervasive, and stems largely from unconscious ways of thinking that have been socialized into all of us, men and women alike. This makes the situation better than in previous decades where blatant inequities and sexual assault and intimidation were endured but not spoken of. We can all be thankful for that. But the consequences of these more subtle forms of discrimination are equally real and equally demoralizing.

The women who worked on these issues over the past five years are all gifted scientists, themselves convinced that gender had nothing to do with their careers: if they succeeded it was on the basis of their competence, and recognition would certainly follow; if they didn't it was based on something they lacked and rewards weren't warranted. During their earlier years, this belief was continuously reinforced, but then something seemed to change. It was only when they came together, and with persistence and ingenuity, that they saw that as their careers advanced something else besides competence came into play, which for them meant an accumulation of slight disadvantages, with just the opposite for their male colleagues. Their ability to identify the inequities that resulted and the Dean's willingness to respond, have changed the environment for their work and enhanced their ability to contribute productively to the institution.

The key conclusion that one gets from the report is that gender discrimination in the 1990s is subtle but pervasive, and stems largely from unconscious ways of thinking that have been socialized into all of us, men and women alike.

In order to keep the momentum of this effort, and to extend it to other parts of the Institute, we need to implement Institute-wide means of continuously tracking progress and to find ways to keep senior faculty women involved in the process. This is hard work. Our first instinct is to deny that a problem exists (if it existed, it would surely have been solved by now), or to blame it on the pipeline or the circumstances and choices of individual women. None of these, however, explains the inequities surfaced by the Committee. To ensure an equitable faculty environment, we need committees such as these (including also, as in the present case, male faculty with administrative experience) in all Schools of the Institute. Their task is not only to track and monitor, but also to keep under-represented faculty closely tied to the administrators who make the Institute's critical decisions. As both President Vest and Dean Birgeneau emphasize in their comments, we have made progress, but there is still a long way to go.✣

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Abstract

In 1995 the Dean of Science established a Committee to analyze the status of women faculty in the six departments in the School of Science. The Committee submitted a report of its findings in August, 1996 and amended reports in 1997 and 1998. The Committee discovered that junior women faculty feel well supported within their departments and most do not believe that gender bias will impact their careers. Junior women faculty believe, however, that family-work conflicts may impact their careers differently from those of their male colleagues. In contrast to junior women, many tenured women faculty feel marginalized and excluded from a significant role in their departments. Marginalization increases as women progress through their careers at MIT. Examination of data revealed that marginalization was often accompanied by differences in salary, space, awards, resources, and response to outside offers between men and women faculty with women receiving less despite professional accomplishments equal to those of their male colleagues. An important finding was that this pattern repeats itself in successive generations of women faculty. The Committee found that, as of 1994, the percent of women faculty in the School of Science (8%) had not changed significantly for at least 10 and probably 20 years. The Committee made recommendations for improving the status of senior women faculty, addressing the family-work conflict for junior women faculty, and increasing the number of women faculty. The Dean of Science took immediate actions to effect change and these have already resulted in highly significant progress including an increase in the number of women faculty. *This collaboration of faculty and administration could serve as a model for increasing the participation of women, and also of under-represented minorities, on the faculty of other Schools at MIT.* This is an important initiative since, even with continued effort of this magnitude, the inclusion of substantial numbers of women on the Science and Engineering faculties of MIT will probably not occur during the professional lives of our current undergraduate students. The inclusion of significant numbers of minority faculty will lag for even longer because of the additional problem of a shortage of minority students in the pipeline.

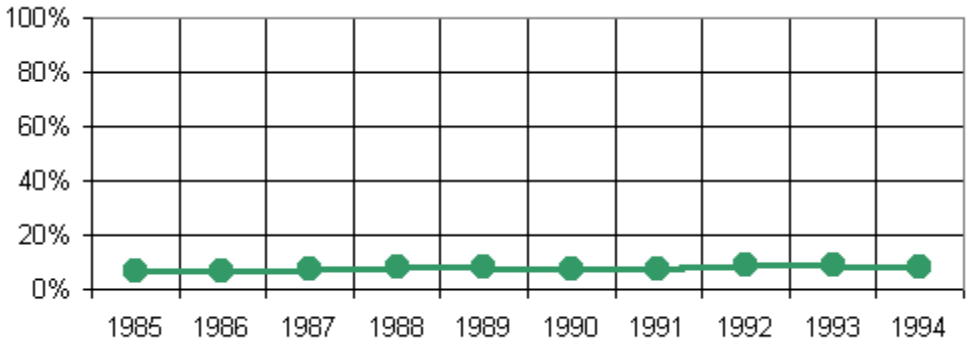
Introduction

In the summer of 1994, three tenured women faculty in the School of Science began to discuss the quality of their professional lives at MIT. In the course of their careers these women had come to realize that gender had probably caused their professional lives to differ significantly from those of their male colleagues. Interestingly, they had never discussed the issue with one another and they were even uncertain as to whether their experiences were unique, their perceptions accurate. This situation was about to change dramatically. It was soon clear to the women that their experiences formed a pattern. Curious to know whether other women in the School of Science shared these experiences, they drew up a list of all the tenured women faculty in the School of Science in order to conduct an informal poll.

The three women faculty were surprised to discover how easy the polling would be. This was because in the summer of 1994, there were only 15 tenured women faculty in the six departments of the School of Science, vs 194 men. These numbers had remained essentially unchanged for 10-20 years. In a formal study conducted the following year, the graph and table shown below were obtained from the Planning Office at MIT. The data show the numbers of men and women faculty in Science for each year in the decade from 1985-1994.

Figure 1 and Table 1

% Women Faculty in the School of Science at MIT - 1985-1994



Gender	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994
Female	18	18	21	24	23	22	22	24	24	22
Male	257	255	273	272	265	267	261	253	253	252
Grand Total	**275**	**273**	**294**	**296**	**288**	**289**	**283**	**277**	**277**	**274**
%Male	93.5%	93.4%	92.9%	91.9%	92.0%	92.4%	92.2%	91.3%	91.3%	92.0

With a list of tenured faculty in hand, the three women set out to poll the 12 other tenured women faculty in Science, plus 2 women faculty with primary appointments in the School of Engineering and secondary appointments in Science, to determine if these women would join in a discussion of the status of senior women faculty. They were warmly received. Recognition that there was a problem and an understanding of what the problem was proved to be instantaneous with almost all the women they spoke with. Within a day, the tenured women faculty in Science comprised a group with a common purpose.

Discussions with women faculty from the other Schools at MIT soon revealed that the gender-based experiences that had negatively impacted the professional lives of women faculty in Science were not unique to that School. The problems were universal regardless of School or academic discipline. Rather than form an MIT-wide group to study the problem, however, because of the very different cultures and needs of different disciplines and Schools, the women realized that solutions were most likely to be found if the problem was addressed within a single School. Since the women who first became interested in the issue were from Science, the initiative took shape in that School.

Establishing a Committee on Women Faculty in the School of Science

In August, 1994, 16 of the 17 the tenured women faculty in Science sent a proposal to Bob Birgeneau for an initiative to improve the status of women faculty in the School of Science. They wrote as follows:

"This proposal has been developed by the tenured women faculty in the School of Science. It speaks to our serious concerns about the small number of women professors at MIT, and about the status and treatment of the women who are here. We believe that unequal treatment of women faculty impairs their ability to perform as educators, leaders in research, and models for women students...

We believe that discriminatory attitudes operate at the time of hiring junior faculty and influence the experiences of the women who are hired. Most discrimination at MIT, whether practiced by men or women, is largely unconscious. Often it is difficult to establish discrimination as a factor because any one case, no matter how disturbing or aberrant, can usually be ascribed to its special circumstances... Thus, we need to develop safeguards to prevent, detect, and promptly correct the experiences that together constitute gender discrimination...

We believe that unequal treatment of women who come to MIT makes it more difficult for them to succeed, causes them to be accorded less recognition when they do, and contributes so substantially to a poor quality of life that these women can actually become negative role models for younger women...

The heart of the problem is that equal talent and accomplishment are viewed as unequal when seen through the eyes of prejudice... There is a perception among many women faculty that there may be gender related inequalities in distribution of space and other resources, salaries, and distribution of awards and other forms of recognition. Currently, a glass ceiling exists within many departments...

We request that a committee be established... to deal with the status of women faculty in the School of Science... The role of the Committee would be to review space, resource distribution, salaries, and teaching assignments for women faculty to guarantee that they are fair relative to those of their male colleagues. When inequities are detected, there should be a mechanism to initiate prompt action to correct these inequities."

It is important to realize how difficult this effort was for the senior women faculty at that time. Driven all their professional lives to achieve at the highest possible level, to many it seemed they were putting a life-time of hard work and good behavior at risk. They feared being seen as radical trouble makers, as complainers. But the feeling of an injustice, the anger that accumulates from this recognition, and the strong desire to change things for themselves and for future generations of women, propelled them forward.

In response to their request, the Dean undertook a quick study of his own and immediately recognized that a serious problem existed. He became a strong champion of the women's cause. Some administrators resisted the notion that there was any problem that arose from gender bias in the treatment of women faculty. Some argued that it was the masculine culture of MIT that was to blame and little could be done to change that. With the support of President Vest, the Dean won the approval of the department Heads in Science to allow the women faculty to establish their Committee as requested. A pre-committee that included department Heads was appointed to write a charge to the Committee to ensure that the terms would be acceptable to all.

Committee membership and how the Committee operated

The Committee was composed of a single tenured woman from each of the six departments in Science (except Mathematics since there were and still are no tenured women faculty in math) plus three senior male faculty. The three men were or had been department Heads. This was important as their knowledge and administrative experience proved to be invaluable to the work of the Committee.

To analyze the status and equitable treatment of women faculty the Committee collected two types of information - data and interviews with women faculty and department heads.

Data

Data were collected pertaining to the allocation of resources that impact the professional success of faculty, compensations and awards that reflect the administration's valuation of faculty, and obligations that impact the professional quality of life of faculty. Although the Committee was not initially charged with addressing the question of the very small number of women faculty, the issue is so important that it could not be ignored so pipeline data were also studied. Thus, data for men vs women faculty were studied concerning salary, space, resources for research, named chairs, prizes, awards, amount of salary paid from individual grants, teaching obligations and assignments, committee assignments - departmental, Institute, outside professional activities and committees, and pipeline data: numbers of women/men students and faculty over time. Most data were obtained from the Dean's office, some from the planning office at MIT.

Interviews with women faculty and department heads

All but one senior woman faculty in the School of Science either served on the Committee or was interviewed by the Committee. All department Heads in the School of Science either served on the Committee or were interviewed by the Committee. A difficult decision was whether to interview junior women faculty as the Committee did not wish to place them in a possibly awkward position. In the end interviews were conducted with most of the junior women faculty since these women considered the initiative important and wished to contribute.

A particularly important aspect of how the Committee operated was that no substantive letter, memo, or report was written, and no important action taken without seeking the participation and advice of all the tenured women faculty in Science. As discussed below, exclusion and invisibility proved to be the common experience of most tenured women faculty. The Committee's purpose was to be the voice and opinion of all the senior women faculty. A great value of the Committee also lay in sharing the data collected with all the tenured women faculty, since most women had been excluded from this type of information throughout their careers, often with negative consequences for their professional lives.

What the Committee learned

From data

Given the tiny number of women faculty in any department one might ask if it is possible to obtain significant data to support a claim of gender differences in terms of the distribution of resources and rewards to men vs women faculty. The answer to this question is unequivocally yes. The key to a meaningful review is twofold:

1) It is essential to review primary rather than processed data, and

2) It is essential that the review be done by senior women faculty who are deeply knowledgeable about the particular department, discipline and area of research.

Data reviews revealed that in some departments men and women faculty appeared to share equally in material resources and rewards, in others they did not. Inequitable distributions were found involving space, amount of 9-month salary paid from individual research grants, teaching assignments, awards and distinctions, inclusion on important committees and assignments within the department. While primary salary data are confidential and were not provided to the committee,

serious underpayment of senior women faculty in one department had already been discovered and corrected two years before the Committee formed. Further possible inequities in salary were flagged by the Committee from the limited data made available to it.

The Committee sought data to try to determine whether the number of women faculty was increasing. The data, shown in Table 2 and Figure 2 for the six departments in the School of Science, reveal that there are very significant numbers of women students in the sciences at MIT, but, as has been found in studies of many academic institutions, the pipeline leaks at every stage of career. It was apparent that overall the percent of women faculty had not changed for at least 10, and probably 20, years and there was no indication that there would be any change in the foreseeable future.

Table 2

Number of women (F) vs. men (M) – undergraduate to faculty in the School of Science, MIT 1994*

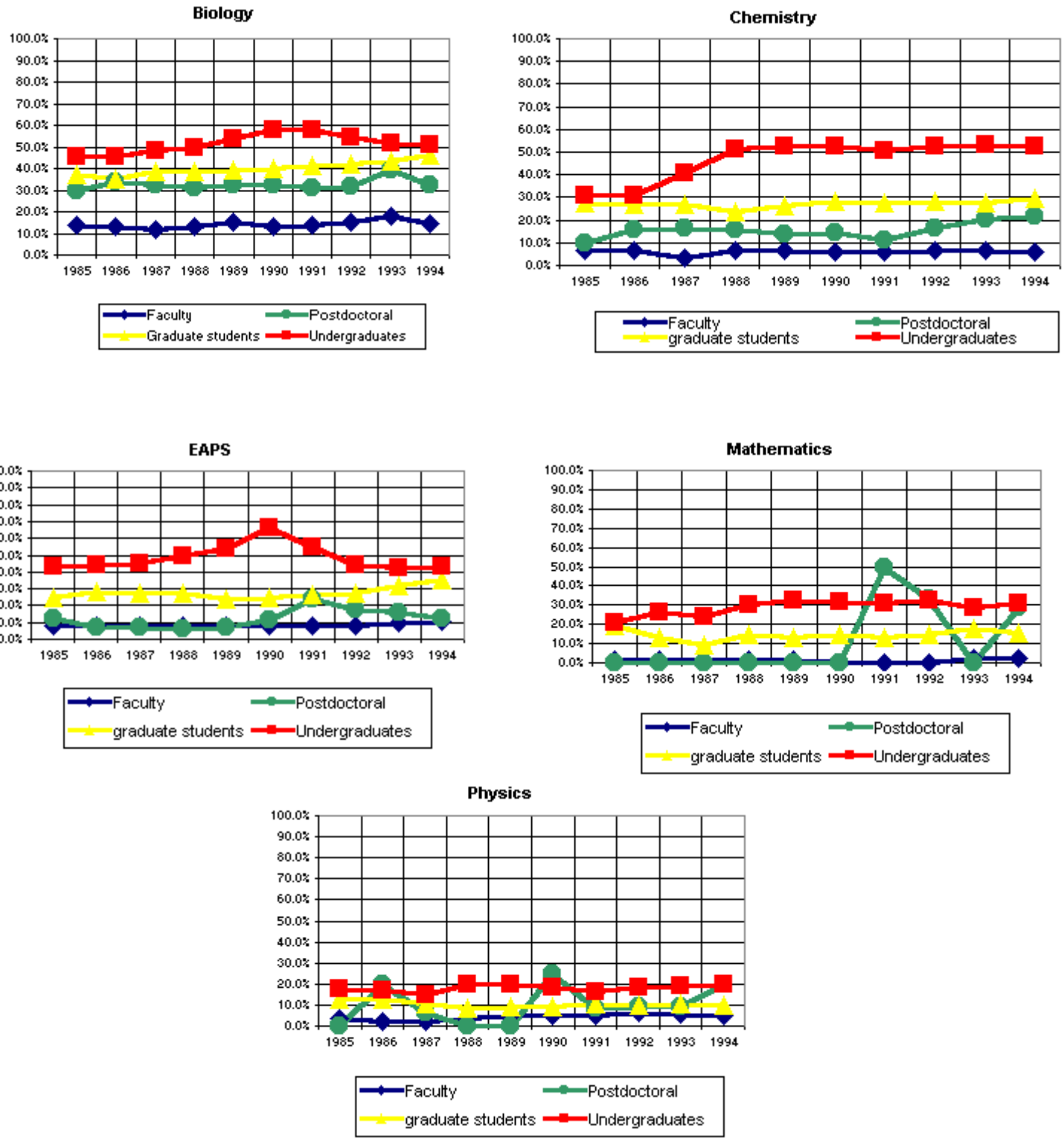
	Biology		Chemistry		EAPS	
	F	M	F	M	F	M
Undergraduates	147	142	59	53	7	9
Grad. Students	101	118	73	176	67	121
Postdocs**	27	57	20	71	3	21
Faculty	7	42	2	30	4	35

	Brain & Cog.		Mathematics		Physics	
	F	M	F	M	F	M
Undergraduates	28	23	53	123	40	160
Grad. Students	17	36	17	95	30	267
Faculty	4	19	1	47	4	77

*Data taken from tables provided by Lydia Snover, Planning Office, MIT
**This category not included for three other departments.

Figure 2

Percent Women at Each Stage of Career in Five Departments in the School of Science at MIT in the Period 1985-1994



*Data not shown for Department of Brain and Cognitive Sciences which was formed during this period. But see data in Table 2 for BCS for 1994.

From interviews

The Committee documented women faculty's perceptions about their status and that of their female colleagues. These interviews were invaluable and provided a compelling picture of the lives of women faculty in the School of Science at MIT and the necessity for change. While there was variation between departments, a common finding for most senior women faculty was that the women were "invisible", excluded from a voice in their departments and from positions of any real power. This "marginalization" had occurred as the women progressed through their careers at MIT, making their jobs increasingly difficult and less satisfying. In contrast, junior women faculty felt included and supported in their departments. Their most common concern was the extraordinary difficulty of combining family and work.

An important finding to emerge from the interviews was that the difference in the perception of junior and senior women faculty about the impact of gender on their careers is a difference that repeats itself over generations. Each generation of young women, including those who are currently senior faculty, began by believing that gender discrimination was "solved" in the previous generation and would not touch them. Gradually however, their eyes were opened to the realization that the playing field is not level after all, and that they had paid a high price both personally and professionally as a result.

Interviews with department Heads were invaluable for providing insight into some of the reasons for the isolation of senior women faculty as well as for the difficulty in hiring women faculty. The Committee's findings were summarized in their report as shown on an accompanying page.

What the Committee recommended

To address the problems it had documented, the Committee and the tenured women faculty in Science made a set of proposals to the administration for achieving equity and improving the status of senior women faculty, for improving the quality of the professional lives of junior faculty and for preventing the possible future marginalization of junior women faculty, and for increasing the number of women faculty. These recommendations were summarized in the Committee's report as shown on an accompanying page.

Real progress: What the Dean did to improve the status and equitable treatment of senior women faculty and to increase the number of women faculty in Science

Upon receiving an interim report from the Committee in the summer of 1995, the Dean took immediate steps to redress inequities to senior women faculty. Individual issues of space, resources, equipment, previous underpayment of pensions, and responses to outside offers were rapidly addressed. Through discussions with department Heads, the inclusion of women in significant departmental activities was increased. Working with department Heads the Dean also made great effort to identify and recruit exceptional women at all faculty ranks. It is impossible to state too strongly how important these actions have been for improving the morale and the professional and personal lives of many senior women faculty and for increasing the number of women faculty.

One senior woman faculty described the outcome of this collaboration as *"more progress for women faculty at MIT in one year than was accomplished in the previous decade."*

Another woman, describing the change in her professional life, noted, *"I was unhappy at MIT for more than a decade. I thought it was the price you paid if you wanted to be a scientist at an elite academic institution. After the Committee formed and the Dean responded, my life began to change. My research blossomed, my funding tripled. Now I love every aspect of my job. It is hard to understand how I survived those years - or why."*

Also impressive is the change in the percent of women faculty as a result of these efforts. As shown in Table 3 below, the percent of women faculty in Science exceeds 10% in 1999, a first for MIT. This year alone there will be a remarkable 40% increase in the percent of tenured women faculty in the School of Science.

Table 3

Number of Men and Women Faculty in Science at MIT in 1994 and 1999

	1994	1999
Men	252	235
Women	22	31

The events described above raise two important questions: 1) How did this problem come about in the first place? and 2) Given the striking success of the collaboration between the women faculty and Dean Birgeneau is the problem solved now?

How did inequities come about? "Gender discrimination" in 1999

Given the tiny number of women faculty and the fact that they are essentially irreplaceable, one would have assumed that all tenured women would be treated exceptionally well-pampered, overpaid, indulged. Instead, they proved to be underpaid, to have unequal access to the resources of MIT, to be excluded from any substantive power within the University. How did this surprising state of affairs come about?

First and foremost it is essential to set aside the issue of whether these women were badly treated because they were simply not good enough. It must be understood that for these particular women the opposite was undeniably true. Despite discrimination, most of these women achieved at an outstanding level within their professions. Forty percent of the tenured women faculty are members of the National Academy of Sciences and/or the American Academy of Arts and Sciences. Only people above the average MIT faculty could have succeeded at this level despite the many obstacles the senior women faculty encountered in their careers. Indeed, it should be almost obvious that the first women, the first blacks, the pioneers who break through despite enormous barriers must be exceptional. Once and for all we must recognize that the heart and soul of discrimination, the last refuge of the bigot, is to say that those who are discriminated against deserve it because they are less good. While the term "affirmative action" is sometimes used to mean letting people in simply because they are women, minorities, that is the opposite of what affirmative action means at MIT and most emphatically, to women faculty at MIT. The tenured women faculty in Science are interested only in equity for women who are at least as good as their male colleagues, and, as the Committee learned, women are often the harshest critics of other women they deem less than better than most faculty for fear that they will reflect badly on all women.

How else might we explain what happened to the senior women faculty in Science? While the reasons for discrimination are complex, a critical part of the explanation lies in our collective ignorance. We must accept that what happened to the tenured women faculty in the School of Science **is** what discrimination is. It defines discrimination in the period from the 1970s up till today. But we, including for a long time the women faculty themselves, were slow to recognize and understand this for several reasons. First, *it did not look like what we thought discrimination looked like*. Most of us thought that the Civil Rights laws and Affirmative Action had solved gender "discrimination". But gender discrimination turns out to take many forms and many of these are not simple to recognize. Women faculty who lived the experience came to see the pattern of difference in how their male and female colleagues were treated and gradually they realized that this was discrimination. But when they spoke up, no one heard them, believing that each problem could be explained alternatively by its "special circumstances". Only when the women came together and shared their knowledge, only when the data were looked at through this knowledge and across departments, were the patterns irrefutable.

The tenured women faculty, acting as a group through the Committee, together with the Dean, made a discovery. They identified the forms that gender "discrimination" takes in this post-Civil-Rights era. They found that discrimination consists of a pattern of powerful but unrecognized assumptions and attitudes that work systematically against women faculty even in the light of obvious good will. Like many discoveries, at first it is startling and unexpected. Once you "get it", it seems almost obvious.

Do other elite Universities "get it" better than MIT? No, and indeed, a common defense for MITs small number of women faculty is that "Cal Tech and Harvard are doing just as badly". But to be as bad as these unenlightened institutions is not a defense we should take! Given its particular strengths in fact-finding and problem-solving, MIT should lead in this area, not settle for the unimpressive record of the more traditional institutions.

Long term solutions - "Affirmative actions " for 1999: Ensuring equity for women faculty in all Schools at MIT, improving the quality of life for junior faculty at MIT, and expanding this initiative, and others as well, to increase the number of minority faculty at MIT

Now that we have a better understanding of gender discrimination, and now that many specific issues have been fixed for our current senior women faculty in Science, can we go back to business as usual and expect that the problem has gone away? Clearly not. The number of women faculty in Science is still tiny (the percent of faculty who are women is even smaller in Engineering) and the number of administrators who have participated in this effort and understand it is even smaller. The success of this initiative was the result of the unusual dedication and effort of a tiny group of faculty and a single administrator, Dean Birgeneau. But progress that depends on a small number of specific individuals is unlikely to be maintained. Unless actions are taken to install mechanisms to prevent gender discrimination, we can be certain that it will recur in the near future. Furthermore, despite the increase in the number of women faculty as a result of five years of effort by Dean Birgeneau and many department Heads in Science, the proportion of faculty who are women will remain small for decades to come. Even if we continue to hire women at the current increased rate in Science, it will be 40 years before 40% of the faculty in the School of Science could be women! Finally, we must address the issue of family and work for our junior faculty since MITs current faculty system is built around a one-career family, while many of our junior faculty today are part of a two-career family structure.

To solidify the gains we have made, we need to implement the recommendations of the Committee on Women Faculty as soon as possible and we can extend this effort to other Schools at MIT. Critically important are 1) to establish a continuing review of primary data to ensure that inequities do not occur and 2) to establish close communication between the senior women faculty and department Heads, Deans, and the higher administration both to prevent marginalization of women faculty and so that senior women faculty's unique knowledge of gender issues becomes integrated at the level where academic power resides. The latter will remain critically important until women faculty routinely occupy positions of academic power. We must remember that, as of 1999, there has never been a woman department Head, associate Head, or center director in the School of Science in the history of MIT.

It also seems imperative, now that we better understand the unexpected forms that discrimination can take and better understand how to address them by a collaboration of faculty and administrators, that we should take steps to make greater progress in addressing the serious under-representation of minority faculty at MIT. Few issues are as important for a University as the inclusion of women and minorities at the faculty level. To remain at the top academically we must seek out and nurture the best talent available, and half of that is female, much of it in under-represented minorities. We have a great opportunity now to take advantage of the tiny number of women and minorities that we have finally accumulated in the past 25 years, and to use their knowledge of these problems to help ensure MIT's excellence and competitiveness into the future.

SUMMARY FROM THE FIRST REPORT OF THE COMMITTEE ON WOMEN FACULTY IN THE SCHOOL OF SCIENCE – 1996

The Committee reviewed the status and equitable treatment of women faculty in the School of Science and addressed the related question of why there are still so few women faculty. We used interviews with women faculty and Department Heads to obtain information about both tenured and untenured women faculty, and, in the case of tenured women faculty, we collected data pertaining to salary, amount of salary paid from grants, space, resources, teaching assignments, and outside professional activities for women vs men. We also obtained pipeline data on the number of men and women students, postdocs, and faculty in the School of Science at MIT to determine whether the number of women shows any signs of increasing.

The Committee learned that untenured women faculty feel that men and women faculty are treated equally in terms of resources, salary, and other material benefits. Most feel supported by their departments in their scientific endeavors, and feel included in departmental activities and in the types of intellectual networking needed to succeed in science. While the Committee did not collect equity data, nothing we learned contradicted the accuracy of this perception, and information obtained from interviews with department Heads supported it. While some junior women faculty experience what they suspect may be gender bias in their own treatment or in that of other women faculty, almost none believe that gender bias will impede their careers. Junior women faculty who have children believe, however, that the demands of family are a potential obstacle to success that may impact their careers differently from those of their male colleagues. The Committee believes that institutional changes could help to alleviate this inequality.

After tenure, many senior women faculty begin to feel marginalized, including those who felt well supported as junior faculty. They sense that they and their male colleagues may not be treated equally after all. Incidents in their own professional lives or differential treatment of their male and female colleagues may open their eyes to this reality. The Committee obtained strong evidence to support their perception, although considerable variation in departments was found. One department has no tenured women faculty, one had only one at the time of this analysis and she had not experienced difficulties, while a third department has several tenured women who feel involved and represented, although they have seen or experienced problems of marginalization and exclusion of women faculty from time to time in the past. Within three departments the Committee obtained evidence of subtle differences in the treatment of men and women faculty, evidence of exclusion, and, in some cases, evidence of apparent discrimination against women faculty. The Committee documented differences in salary in the recent past, in amount of 9-month salary paid from grants, in access to

space, resources, and inclusion in positions of power and administrative responsibility within departments or within the broader MIT community. Differences resulted in women having less or in their being excluded from important professional opportunities. Interviews with women faculty revealed the tremendous toll that exclusion and marginalization take on their professional and personal lives. Problems appear to increase progressively as women approach the same age as their administrators. The Committee believes that problems flourish in departments where non-democratic practices, including administrative procedures whose basis is known only to a few, lead inevitably to cronyism and unequal access to the substantial resources of MIT.

The Committee learned that the percent of women faculty in the School of Science has not increased for at least a decade. As of 1994 there were 22 women faculty, 252 male faculty.

After the Committee submitted an Interim Report on its findings, the administration moved swiftly to improve the status and equitable treatment of senior women faculty and to increase the number of women faculty. These efforts have already significantly improved the professional lives and morale of many of the tenured women faculty. While considerable effort will be needed to sustain progress, success to date demonstrates that a collaboration between committed faculty and administrators can help to solve the long standing problem of integrating significant numbers of women into the faculty of MIT. Based on suggestions from the women faculty, the Committee prepared a set of recommendations to further improve the status and equitable treatment of women faculty.

RECOMMENDATIONS MADE TO THE MIT ADMINISTRATION
IN THE FIRST REPORT OF THE COMMITTEE ON WOMEN FACULTY IN THE SCHOOL OF SCIENCE - 1996

To Improve the Status of, and Ensure Equity for, Senior Women Faculty

- Make the Committee on Women Faculty a standing committee. The Committee should:
  - Maintain and open channels of communication between Department Heads and women faculty
  - Collect equity data each year for inclusion in a written report, and disseminate a summary of the report to the MIT community
  - Raise community consciousness about the need for equity

- Seek out women for influential positions within Department and Institute administrations, including as Heads and as members and Chairs of key committees. Involve tenured women faculty in the selection of administrators, and consult with women faculty to ensure the continued commitment of administrators to women faculty issues.

- Review the compensation system, which has been shown to impact differentially on salaries of men and women faculty in recent years. In particular, review the reliance on outside offers. Review salary data and distribution of resources annually for gender equity.

- Replace administrators who knowingly practice or permit discriminatory practices against women faculty. Promptly end inequitable treatment of women faculty, and make appropriate corrections for inequities when they are discovered.

- Watch for, and intervene to prevent, the isolation and gradual marginalization of women faculty that frequently occurs, particularly after tenure.

To Improve the Professional Lives of Junior Women Faculty

- Take proactive steps, via department Heads and via the Committee on Women Faculty, to promote integration, and to prevent isolation of junior women faculty.
- Address the childbearing issue for junior women faculty:
  - Make the policy on maternity leave and tenure clock uniform throughout the Institute, and make the policies widely known so that they become routine
  - Take steps to change the presumption that women who have children cannot achieve equally with men or with women who do not have children

To Increase the Number of Women Faculty

- Advise Department Heads to place senior women faculty on appropriate search committees.
- When hiring faculty do not overlook women candidates from within MIT, particularly in the fields of Mathematics and Chemistry where the number of women candidates is small.
- Inform Department Heads each year that conscious effort is needed to identify and recruit outstanding junior and senior women faculty from outside MIT.
- Address the family-work conflict realistically and openly, relying on advice from appropriate women faculty, in order to make MIT more attractive to a larger pool of junior women faculty, and to encourage more women students and postdocs to continue in academic science.