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ABSTRACT

This report concludes that the University -- consciously or not -- is practicing discrimination against women as evidenced by the scarcity of women holding academic appointments. The report starts with a series of recommendations to alleviate this situation and a background discussion of the recommendations; the bulk is devoted to 15 appendices dealing with different aspects of the status of academic women. The appendices include: (1) a study of the effect of the nepotism rule on women; (2) percentage of women at diferent academic levels; (3) employment rates of women of different academic levels; (4) number of men and women on active faculty at different ranks and in selected departments through the years; (5) comparative rates of attrition and promotion of men and women, 1920-70; (6) an examination of the insurance system; (7) membership on committees of the Academic Senate; (8) admission to the graduate division; (9) financial support of graduate students; (10) total number of degrees awarded to women by year and field; (11) relative "success" of women in obtaining degrees; (12) award of doctorates in distinguished departments; (13) number of years to obtain doctorates; (14) survey of graduate women students regarding difficulties encountered and suggestions for change; and (15) the status of women in research units. (AF)

UNIVERSITY OF CALIFORNIA

ACADEMIC SENATE
BERKELEY DIVISION

REPORT OF THE COMMITTEE ON SENATE POLICY

TO THE BERKELEY DIVISION:

In its May 6, 1969, State of the Campus Message the Committee on Senate Policy of the Berkeley Division of the Academic Senate of the University of California drew attention to the differential treatment of women by the academic community. It observed, "It is surprising that so few women--only 15 at the present time--achieve the rank of full professor at Berkeley. A relatively small number of women are enrolled in graduate schools on this campus and elsewhere. All too frequently women who intend to pursue academic careers have been forced to adapt themselves to the uninterrupted training and apprenticeship patterns established by men with consequent loss to themselves as women. The recognition of this choice has itself discouraged many able women from seeking academic careers with the consequent loss to the world of scholarship."

In view of these concerns, the Committee on Senate Policy appointed a subcommittee of members of the Division to prepare a factual investigation of the status of women on the Berkeley campus as a prelude to consideration of remedial changes. This subcommittee, consisting of Professors Elizabeth Colson and Elizabeth Scott, co-chairmen, Professors Hebert Blumer, Frank Newman and Susan Ervin-Tripp, has now made its report, which is hereby being made available to the members of the Division.

The Committee on Senate Policy is not prepared at the present time either to endorse or to take exception with any of the substantive recommendations made in the subcommittee's report. We offer the report now as the most detailed and thoughtful study of the status of women on the Berkeley campus that has ever been prepared in the hope that it will serve as the basis for sustained discussions next year by the Berkeley Division and in the hope that it may serve to stimulate similar studies on other campuses.

Sanford H. Kadish

For the Committee on Senate Policy
May 19, 1970

REPORT OF THE SUBCOMMITTEE ON THE STATUS OF ACADEMIC WOMEN ON THE BERKELEY CAMPUS

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REPORT OF THE SUBCOMMITTEE ON THE
STATUS OF ACADEMIC WOMEN ON THE
BERKELEY CAMPUS

Under charge from the Policy Committee of the Berkeley Division of the Academic Senate, the subcommittee has examined the status of the academic woman on the Berkeley campus, paying particular attention to differences in opportunities faced by men and women in making their way in the academic world. The committee has confined itself to enquiring into the conditions faced by women faculty members, women holding comparable positions in campus research units, and women graduate students. The full report of its findings is appended.

The findings confirm the supposition that women face a large number of obstacles in obtaining recognition as members of the academic community in their own right. The recommendations of the subcommittee deal with ways of contributing to equality of opportunity over the course of their training and in finding employment in regular ladder positions entitling them to Senate membership and in obtaining equality in further advancement. The recommendations are grouped by agency responsible for implementation rather than in order of priority. The Senate should consider the recommendations in the light of the fact that at present only 45 women are appointed to ladder positions which carry Senate membership and that the proportion of women in the Senate is less than it has been at any time since the 1920s. This fact alone warrants quick action to ensure that conditions leading to such a situation be rectified.

The subcommittee recommends

to the President:

1) The President of the University be requested to undertake the abolition of the nepotism rule, which has been repeatedly singled out as a major barrier to the employment of qualified women (Appendix I) and to develop appropriate procedural administrative rules to prevent conflict of interest.

2) The President of the University be requested to approach the Regents with a request that provision be made for paid maternity leave, to a maximum of two such leaves per woman.

to the Chancellor:

3) The Chancellor be requested to form a pool of F.T.E. to be available to departments for the recruitment of women faculty and to direct departments which accept women majors or women graduate students to work toward the immediate goal of having women represented on their faculties in regular promotional steps by 1972, with an ultimate goal of having a representation of qualified women faculty at each rank at least in rough proportion to the number of women trained in that field (Appendices II, III, IV).

4) The Chancellor be requested to issue a directive that appointment policies, including recruitment practices at national meetings and the advertisement of openings in appropriate professional newsletters, should reflect the goals of the above recommendation.

5) The Chancellor be requested to appoint a woman member to all ad hoc committees charged with the review of a woman candidate for appointment or promotion (Appendix V).

6) The Chancellor be requested to explore with all possible administrative units, for example the Berkeley School Board, the possibility of developing an adequate program of child-care centers within the community (Appendix XIV).

to the Senate Committees:

7) The Budget Committee of the Berkeley Division of the Academic Senate be requested to ensure that deans and department chairmen are instructed that women faculty be regularly reviewed and every effort made to promote them as rapidly as possible. This is particularly in order since women faculty are less likely to obtain outside offers because of their presumed immobility (Appendix V).

8) The Budget Committee of the Berkely Division of the Academic Senate be requested to undertake the preparation of a document to be considered by the President on methods of adapting the present inflexible system of allocating F.T.E. to meet the needs of academic women, making it possible for them to hold less than full-time appointments if this should be necessary during some portion of their working career without sacrificing eligibility for promotion, tenure, and sabbatical leave, which could be earned at some appropriately diminished rate.

9) The Committee on University Welfare be requested to examine the University of California insurance program with a view to the removal of the present inequities for women employees. It is recommended that the University adopt a system which spreads the risks and benefits, particularly death benefits, over all employees rather than distinguishing between men and women (Appendix VI).

10) The Committee on Committees of the Berkeley Division of the Academic Senate be requested to appoint an appropriate representation of women to Senate committees which have major responsibilities for academic policy (Appendix VII).

11) The Committee on Committees of the Berkeley Division of the Academic Senate be requested to appoint a Standing Committee on the Status of Women, composed of faculty and graduate students, with a charge to report to the Senate on the annual progress of the Campus in achieving equality of opportunity for women.

12) The Graduate Council be requested to instruct deans and chairmen that the following standards should be met in the recruitment and support of the graduate students:

1) If women are admitted to graduate status, a woman must be included on the committee of admissions. In the absence of a woman faculty member, a woman graduate student is a suitable substitute (Appendix VIII).

2) Women applicants are to be admitted on their records in competition with male applicants, rather than on some quota system (Appendix XIV).

3) Fellowship and other support should be allocated on merit with women students being assumed to have the same claim to financial support as men students, regardless of marital status (Appendix IX).

4) Departments and schools should consider admitting mature women, who can compete on their earlier academic records, when these women are prepared to return to school for professional training after they have had their children.

4) Departments and schools consider means to strengthen the advising of graduate students and reduce faculty emphasis upon appeals to competitiveness in encouraging students to excel, since this last produces charges of "aggressive, castrating females" and diminishes the chances that successful women students will be accepted on their merits (Appendix XIV).

13) The Budget Committee of the Berkeley Division of the Academic Senate be requested to review the position of women in official research units, where many academic women are employed, with a view to an improvement of their status through the adoption of the two following measures (Appendix XV):

1) Adoption of regular review procedures to ensure that principal investigators make adequate provision for the promotion and professional recognition of research associates employed on research grants.

2) Adoption of a review procedure to identify and certify qualified research associates who would thereafter be entitled to apply for grants as principal investigators in their own right. Given the previous reluctance of schools and departments to hire women in regular faculty positions, and given the inflexibility of the system which has encouraged women to carry out their research through the research units since they cannot apply for grants as individuals, such a procedure is justified whether or not a similar review is extended to men research associates.

to the Faculty Clubs:

14) The Boards of Directors of the two faculty clubs on the Berkeley Campus be requested to work towards the creation of one faculty club in which men and women members will have equal status. Women faculty members report that they have suffered needless humiliation in the past when they have been thrown out of official functions, including department and committee meetings, held in quarters from which they were banned.

The Background of the Recommendations

The subcommittee has polled department chairmen, faculty women, women in research units holding positions equivalent to faculty positions, graduate women in selected departments, and from these same departments former women graduate students who have either received degrees in the past few years or who have left without a degree. We have asked them about the problems faced by women in obtaining their training and in establishing themselves in professional careers. We have used published records, reports and catalogues, and statistical information collected by the University and other agencies as a check upon opinion and personal experience. Some information (usually confidential) was prepared for the subcommittee by individuals in the Office of the President, of the Chancellor, of several Deans, of many Departments, and of the Berkeley Division of the Academic Senate. Often these offices allowed a member of the subcommittee or one of its assistants to spend many hours collecting information from their files. Both individuals and groups responsible for related or earlier studies made their information and reports available. Members of the subcommittee listened to both male and female colleagues who gave their impressions of the situation, the reasons they saw for its existence, and suggestions about changes which were desirable. A cursory attempt was made to compare the Berkeley situation with that prevailing at other universities. The subcommittee is grateful for the interest and help of many men and women in the collection and analysis of the information for this report.

All sources indicate that the fears of academic women that they will be denied equal opportunities and recognition are grounded in hard fact, although Title VII of the Civil Rights Act of 1964, Section 703, prohibits an employer from discriminating against any individual with respect to his "compensation, terms, conditions or privileges of employment because of such individual's race, color, religion, sex, or national origin..." The University as a state institution is not bound by that act, but its acceptance of federal support in the form of grants makes it subject to federal regulation. Under Executive Order 11246 as amended by Executive Order 11375, it is bound to take positive action to correct discriminatory practice, as evidenced by differential rates of employment, not only in those agencies receiving and administering grants but throughout the University. Currently the legal issue is being raised with respect to other universities. In advance of a test in the courts, the Berkeley Campus should ask itself if it can lag behind other employers in the fairness of its dealings, and forestall possible federal intervention by its own vigilance against inequality.

That the university is practicing discrimination, whether witting or unwitting, is evidenced by the scarcity of women holding appointments in ladder steps. The disproportion in employment has become the criterion by which discrimination against members of ethnic minorities stands confirmed. It seems no less applicable here. The representation of women on the Berkeley Academic Senate was less in 1969 than it was twenty years earlier, or for that matter forty years earlier. The percentage of women professors has gone down to 2% of all professors, though it was more than 4% in the 1950s. The percentage of women associate professors has decreased to 5%. At both steps, the proportion of women is now comparable to that of the 1920s. The decrease in the proportion of women assistant professors is even more striking and more ominous for the future. Only 5% are women, which is half the figure of the early twenties and less than one-third the percentage for the period 1925-1945. At the present time there are only 45 women on the Berkeley Campus who hold positions which entitle them to Senate membership, 90 women are appointed as lecturers, and 58 are teaching associates. This contrasts with the appointment pattern for men: 1204 are in posts entitling them to Senate membership, 215 are appointed as lecturers, and only 141 are teaching associates. There is clearly a disproportionate tendency to put women into the position of lecturer or associate. The majority of women are employed in non-tenured positions from which they have no access to research funds, sabbatical leaves, or the other facilities which are vital to productive scholarly careers. Few departments on the campus have the number of faculty women that could be expected if they appointed in proportion to the representation of women in the pool of Ph.Ds. Even those departments which have an appropriate representation, have this only at the lower level which raises questions about their promotion policies. Departments which in earlier years had one or more distinguished women faculty have made no female appointments in tenured positions for many years (see Appendices II, IV).

The average rate of promotion for women has been consistently slower than that of men since 1921. This finding is difficult to evaluate, but the dearth of women at higher steps and the timing of promotions seems good indicators that women are not being pushed by their departments for promotion at the same rate as their men colleagues (Appendix V).

The University does not balance the slowness to promote or to provide financial reward for women with other forms of recognition. The Administration does not appoint them to positions in the upper echelon of the administrative hierarchy nor are the most influential Senate Committees likely to include women members. Currently women hold posts as associate and assistant deans in the Office of the Dean of Students and in two of the colleges, where they are largely concerned with undergraduate students. Two department chairmen are women. No vice-chancellor or vice-president is a woman. Women rarely hold important positions in the Berkeley Division of the Academic Senate. So far as records show, no woman has ever been elected to the Committee on Committees, the Committee on Educational Policy, or the Committee on Academic Planning. At present there is one woman in the Senate Policy Committee and one on the Committee on Courses of Instruction. Twenty of the 28 Berkeley Senate committees have no women members (Appendix VII).

Women fare somewhat better in graduate school. They have a poor reputation for completing graduate programs, but this appears to be an artifact of the way records are kept and Campus beliefs about the nature of the graduate program. Many women are accepted for graduate programs which lead to a certificate or an M.A. degree, and having completed their programs they leave the University. They are failures only if it is assumed that all graduate students are working for the doctorate. If these women are seen for what they are, then women who come to Berkeley in a doctoral program have a better record (Appendices X, XI, XII, XIII, XIV). On the other hand, some women graduate students believe that they face greater difficulties than men in obtaining admission to the graduate school and that they receive less support while in graduate school. Data on admissions and the limited amount of information on financial support only partially bear out these beliefs for the campus as a whole. Women are admitted to the graduate program in rough proportion to their representation among the formal applicants for admission. They receive again a roughly proportionate share of the funds available for graduate students in fellowships. They are less likely to receive teaching assistantships. A larger proportion of those who complete the doctorate do so without receiving support (Appendix IV). It is more difficult to measure the effect of discouragement prior to formal application, which many women report, or the effect of subtle discouragement which again many report they encounter after entry from both individual faculty members and fellow graduate students (Appendix XIV).

The assembled data therefore point to the fact that women are not yet accepted at Berkeley on an equal basis. There are departments which train large numbers of women undergraduate and graduate students and yet appoint no women to regular faculty positions (Appendix II). Letters from department chairmen, interviews with faculty women and with graduate students, and replies to the questionnaires sent out by the subcommittee also report a variety of other practices which may not be prevalent throughout the university but hinder the development of individual women. There are departments which apparently discourage women faculty from seeking promotion, and few actively push them forward. There are departments where women applicants for graduate admission are told that the preferred candidate is "the highly intelligent young man" or that women stand little chance of admission because they are not expected to complete the degree. There are departments whose women graduate students see themselves as encouraged to undertake graduate training only to the point where they make competent research assistants employed by the (male) faculty on their projects. There are departments where women graduate students find it difficult to interest a major professor in their training. There are departments where women graduate students report difficulties in receiving support while men are regularly provided with assistance. There are departments where women students are told in seminars that women are unable to think objectively or analytically. There are departments where suggestions that women might be dissatisfied with the present state of affairs are met with wit and jibes or with scornful comments about aggressive women. Women employed in research units can cite instances of male colleagues who appear as senior authors on research reports, articles and books although the grant proposal was

written by a woman, much of the research was carried out by a woman, and much of the report on the research was written by a woman, who did not hold a faculty position and therefore could not apply for a grant as a principal investigator.

There is thus substantial evidence that the woman who tries to pursue an academic career at Berkely finds herself facing many of the same problems and barriers that confront members of ethnic minorities. She is less likely to be judged on her own merits than as a member of a category for which there is a highly developed stereotype endowed with characteristics which run counter to academic demands. In many instances women appear to be judged by what they might do, given the stereotype, rather than by what they have done. In some instances male colleagues not only judge them in advance but decide for them what they ought to do. They are told not only that they may marry and drop out, but that they ought to marry and drop out; not only that they may follow a husband to another part of the country, but that custom demands that they do so; not only that they may be unable to pursue more than a part-time career if they have children, but that they must give first priority to family obligations. Men appear to accept without question that some of their number have the ability to pursue a large number of interests simultaneously. They are less willing to give a woman colleague the right to similar competence.

The subcommittee does not question that in many instances women may be faced with a choice between family responsibilities and the pursuit of an academic career, though this seems to be less likely to occur in the society which we now see shaping before us. The crucial fact for the present is that women may not be faced with a choice since the choice is made for them, and because their colleagues are not prepared to make any adjustments which would allow for their needs. Repeal of the nepotism rule, provision of maternity leave and adequate child care centers, and provision of more flexibility in F.T.Es which would allow a woman to earn advancement, though at a slower rate, would offset many of the disadvantages under which academic women suffer. The nepotism rule affects them at a number of different levels. It complicates the granting of teaching assistantships to husband and wife in the same department although many graduate students meet and marry while in training and might well pursue joint or parallel careers to the benefit of the university and their disciplines. The rule may relegate a highly trained professionally competent woman to a part-time appointment, an appointment at the lecturer level, a research appointment, or some other arrangement where she sacrifices salary, job security, and the hope of promotion and access to the normal encouragements for academic excellence. At the present time the ruling may be waived by the Chancellor, but the facts are that even when departments have made strong requests for waiver the appointments have been denied. In any event the subcommittee questions the whole rationale of the rule. It was introduced during the depression of the 1930s. That it is still retained is evidence of the University's adherence to archaic forms. It is the one single practice most commonly raised by the various persons consulted as discouraging the advancement of women in academic life (Appendix I). The provision of maternity leave, with pay, and the provision of child care centers are obvious recognitions of the

fact that academic women may also be mothers and that currently they are penalized professionally for this fact. The argument that employers have some obligation for the provision of maternity and child care benefits is not new, and is now generally accepted in most forward looking communities. Undergraduates, graduates, women faculty, and women employees in general are all vitally concerned with the need for child care centers, and regard their absence as a major handicap to the woman who tries to pursue an academic career or to work within the structure of the university.

The handicaps they currently encounter contribute to the disappearance of women from academic life through the course of undergraduate, graduate and early professional experience. Many women also come to accept the stereotypes about their worth and tailor their goals accordingly, or they find the barriers to professional success too great for the minimal rewards offered to them. Department chairmen, as well as the women polled by the subcommittee, commented on the determination it takes for committed women to rise through the system as it is presently structured.

Appendix II provides information on attrition rates at Berkeley, showing undergraduate majors, graduate degrees awarded, and employment of women faculty, for selected departments. As already pointed out the attrition rate among women who enter graduate school intent on the doctorate is less than expected. It should also be noted that the attrition rate among women who have earned the doctorate is less than expected, and these women continue to work in their professions (Appendix III). 91% of those women who received doctorates from American universities in 1957 and 1958 were still in the labor force in 1965 (Astin, Folger and Bayer). 79% had been fully employed throughout the period, and only 2% had never been employed since receiving the degree. Their rate of employment compares favorably with that of men who received the doctorate in the same period, although they were more likely to hold jobs in less prestigious universities and colleges or outside academia. Appendix V, which refers only to employment at Berkeley, gives further evidence that once embarked upon a professional career, the academic woman pursues it with some tenacity. The attrition rate among women once established on the academic ladder is less than that for men. They remain in academia but they are influenced by the stereotypes about professional women to the point that they are reluctant to push for promotion since they see this as leading to charges of aggressive behavior. They prefer to be pushed forward by their departments, which is a highly unrealistic appreciation of the facts of academic promotion in many departments.

We note also that it is important to remember that the stereotype operates upon women at an early age to direct them away from science and into the humanities and social sciences or into service activities.

It is a waste of time to attack the stereotypes about women as academic colleagues, though we have collected evidence directly relevant to the matter. Again it is a waste of time to raise cries of prejudice and to attempt to cite this department or that department or research unit as guilty of it, though again we have collected

evidence relevant to such situations. Members of ethnic minorities have found the most potent weapon against a stereotype to be a change in the conditions which the stereotype protects. Departments with no women or few women in regular faculty positions, in ladder steps, seem to find the idea of women colleagues more threatening than those which already have a number of women in tenured positions. The status of women on this campus will be improved only by increasing the number of women on the faculty in a substantial manner. We therefore recommend that the Policy Committee address itself to the positive changes necessary to ensure the increased employment of women and the recognition of their academic and professional contributions. We are also recommending a number of minor changes in conditions which women report they find humiliating and invidious.

We are not recommending that the University should lower its standards, but rather that it should broaden its vision. The subcommittee accepts the comment of many department chairmen that able women are difficult to find and to retain. Their suggestions about ways of meeting the difficulty show a thoughtful consideration of the possibilities open to the University, and the subcommittee has drawn largely upon them in their recommendations. In general, it recommends that the University remove the barriers that presently prohibit the employment of some of the best women candidates for academic posts, provide incentives to departments to appoint qualified women, and provide incentives to women to continue in academic careers.

Respectfully submitted,

Herbert Blumer, Sociology
Susan Ervin-Tripp, Rhetoric
Elizabeth Colson and Elizabeth Scott, Co-chairmen
(Anthropology) (Statistics)
Frank Newman, Law

Appendix I

NEPOTISM AT BERKELEY

February 27, 1970

TO: Academic Senate Subcommittee on the Status of Women

FROM: Ruth B. Dixon, Acting Assistant Professor, Department of Sociology, UC Berkeley
Mary Catherine Taylor, Department of Sociology, UC Medical Center

RE: Preliminary report on a brief survey of the effects of anti-nepotism regulations on the careers of faculty wives on the Berkeley campus

Description of the Survey

On January 20, 1970, we sent questionnaires to all male faculty members holding regular positions (as listed in the University Catalogue, 1969-70) in the College of Letters and Science (excluding

Aerospace, Mathematics, Statistics, Physics, Physical Education, Military and Naval Science), in the College of Chemistry, and in the Schools of Education, Social Welfare, and Criminology. In all, 39 departments were included. The purpose of the questionnaire was to try to discover whether the wives of faculty members at Berkeley are underemployed, and to what extent nepotism rules may affect their employment.

Returns

Of 715 questionnaires distributed, 364, or 50.8 percent, were returned by Feb. 24, 1970. Twenty-eight persons had never been married. Among the remaining 336, 58 faculty members claimed that their wives have been affected by anti-nepotism rules (that is, 17.2 percent).

Findings of the Survey

Of the 58 cases of nepotism complaints, 23 wives have Ph.Ds, 16 have MAs or MSs, 17 have BAs or BSs, and 2 have no degree. Thirty-six of the 56 with degrees are in the same field as their husbands. Nepotism complaints were spread across the Social Sciences, Humanities, Physical and Natural Sciences, and Education, and were about equally distributed by the academic status of the husbands across Professors, Associate Professors, and Assistant Professors.

A. Wives with Ph.D.s. This group is most severely affected by anti-nepotism rules, for 22 of the 23 wives with Ph.D.s are in the same, or very closely related, fields as their husbands. Their employment conflicts have been resolved in the following way:

Four are employed temporarily or part time as lecturers in their husbands' departments, at least one without pay;
Three are research associates in their husbands' departments, some by special dispensation of the Chancellor;
Four are employed on the faculty of departments outside their own fields, three as lecturers, one as an assistant professor;
One who was formerly in the above category is now chairman of a new department;
Three are research associates in other departments or institutes;
Five are on the faculty of other colleges in the Bay Area;
Two are currently not working, although one was an Assistant Professor and one an instructor previously.

However, most feel that their talents are not fully utilized in their present positions, and that they are actually qualified for regular positions on the University faculty. Some husbands commented:

"Since we both teach in the same department, she may lose her present position."

"I presume that the University nepotism rules bar her employment here, and so she is consigned to a job vastly inferior in all ways, though her qualifications are equal or superior to my own... and better than many of the people the Department does hire."

"She is employed here, at a lower level than in her previous position and in a 'temporary' position.... She has no facilities for research or support for research here and is forced to use my lab, where she has an established reputation as an independent investigator."

"We have found extreme difficulty in obtaining employment, even though my wife's qualifications equal or better my own. Not only jobs are difficult to obtain under the present system, but so are research funds; without a Departmental position one cannot make application for Federal funds to initiate a research programme."

B. Wives with BAs and MAs. These 33 wives (14 with degrees in their husband's field) are affected by nepotism rules in a variety of ways. Some cannot be appointed as lecturers in their husband's department, even though they are uniquely qualified; others had to resign when their husbands were hired. Several were told they could not be hired as secretaries or researchers in the department, even when their training and qualifications were excellent. But the most frequent complaint was that wives are working as unpaid research assistants or editorial assistants for their husbands, some full time, both on classroom work and on research and publications carried out under grants.

"Despite the obvious qualifications far beyond any in the area or any that might be obtained from other parts and despite the uniform wish of the students to have her teach, the administration finds it impossible to make exception."

"She would very much like to teach...courses in our department...and everyone seems to agree that she would be ideal for the job if it were not for the nepotism rule."

"(She) was discouraged from a job in my division when actually she was the best qualified."

"She has applied for a technician job at Berkeley and has been told that finding one will be difficult because of the nepotism rules. Despite being qualified and having four years' experience she has never even been asked to interview for a job."

"She acts as a research associate of mine...but we can get no NSF or University support for the more than full time work she puts in because of these nepotism rules."

"She has helped me translate a manuscript/do research but was told she could not be paid for her labors. She did it for love, beyond the call of duty."

And from a wife:

"I wanted to be an Acting Instructor... Such a position had been offered to me once before I was married. Now I was told, I could not compete for the position because I'm the wife of a faculty member."

Wives with BAs and MAs also often feel discouraged about continuing in graduate school, knowing that anti-nepotism rules will throw extra obstacles in their path when they try to find employment in the future. As one husband writes, "The rules, of course, are discouraging by themselves."

Implications of the Findings

Although these are only the most preliminary and illustrative findings, there is little doubt that both individuals and the university are being adversely affected by anti-nepotism regulations in hiring. Highly qualified wives must take positions outside their fields of interest, or in less prestigious institutions, or accept temporary or unpaid positions in the department of their husbands. The university, by discriminating on the basis of family relationship, is depriving itself of talent while breeding bitterness and frustration among some of its faculty. The faculty were not asked their opinion of the rules, but many commented spontaneously in favor of their abolition:

> "Although we have never had a problem with nepotism rules, I would be glad to see them abolished. Just because they haven't happened to affect us doesn't mean they're not generally destructive."

> "Although we personally have not been inconvenienced by the existing nepotism rules, we consider them atrocious, damaging to individuals, harmful to the family, and detrimental to society as a result of loss of talent. In science...the policies have deprived universities of capable workers, scholars, and teachers."

> "If you succeed in changing or modifying the rules, you'll have done a great job."

> "Nepotism rules seem particularly restrictive here."

However, the matter is controversial and some favored retention of the rules:

> "I favor retention of anti-nepotism rules. Many powerful faculty men would not hesitate to establish family hereditary empires if they could!"

> "The nepotism rules need to be much more strictly enforced. Their violation has been the source of serious frictions within departments."

> "Regretfully, I think that the nepotism rule is in general the wisest course. I would not want to ask my colleagues to appoint my wife to our department. On the other hand, I think there should be a mechanism for special exceptions."

> "I think nepotism rules are a good thing, although I have heard of some cases where they resulted in inconvenience, and even injustices.... The fact is that nepotism rules affect women much more than their husbands, and that is an injustice. On the

other hand, to have two members of the same family voting on tenure committees, or to have a wife voting on her husband's qualifications or vice versa, seems to be a patent absurdity."

Findings from other Studies

In 1959-60 the American Association of University Women studied 363 public and private colleges and universities, concluding that the employment and/or status of potential women faculty are affected in nearly half of our institutions of higher learning.[1] "The schools that admitted restrictive practices without specific anti-nepotism regulations usually discriminated against the second family member in one or more of the following ways: (a) full faculty status, or tenure was withheld, therefore employment (of wives) has the character of 'temporariness'; (b) when married women were hired they were considered as stop-gap faculty rather than career personnel; (c) on matters of policy decision two member family employees working in the same area may exercise only one vote; (d) fringe benefits, retirement and medical insurance plans, sabbatical leaves, etc. were denied."[2]

Professor Rita Simon, on the basis of returns from 60 percent of all women who received their Ph.D.s in the natural, biological and social sciences, humanities, and education between 1957 and 1963, found that one-third of the married women with husbands employed in academic institutions complained that anti-nepotism rules interfered with their careers.[3] These women shared lower salaries, lower ranks, and less likelihood of being granted tenure with their married female colleagues who did not complain of anti-nepotism rules; they did not share their slightly lower productivity, as measured by publications, but rather exceeded the productivity of men and thus were more likely to complain about their lower status.[4] The conclusion is that "Anti-nepotism rules that were originally enacted in order to protect colleges and universities from the political pressures of having to hire incompetent people with influential connections have, in recent years, been used largely to prevent women who have husbands on the faculty from receiving considerations and rewards comparable to those awarded unmarried females and male colleagues with similar qualifications."[5]

Proposals

There is no reason to assume that anti-nepotism regulations are either natural or necessary. Of the 363 institutions studied by the

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[1] Eleanor F. Dolan and Margaret P. Davis, "Anti-nepotism Rules in Colleges and Universities: Their Effect on the Faculty Employment of Women," Education Record, 41, 285-291.

[2] Rita J. Simon, Shirley M. Clark, and Larry L. Tifft, "Of Nepotism, Marriage, and the Pursuit of an Academic Career," Sociology of Education, 39 (1966), 344-358.

[3] Ibid., p. 346.

[4] Ibid., p. 357.

[5] Ibid.

American Association of University Women in 1959-60, 285 responded, and of these, "26.3 percent replied that they have anti-nepotism regulations, 18.2 percent said that they have no written restrictive regulations but do have restrictive practices relevant to some situations, and 55.4 percent indicated that they have no anti-nepotism regulations or practices."[6] (Italics ours.) Smaller schools had more liberal policies than larger schools, and private universities were more likely than public ones to have no restriction on hiring.

An interesting case that should be investigated is the University of Illinois at Chicago Circle, a large state institution. Three married couples are on the faculty of the Sociology Department this year.

WE PROPOSE that all restrictions on the hiring of near relatives at Berkeley be removed, and that hiring proceed in all cases on the basis of normal qualifications for the position in question.

Departmental integrity can best be preserved by hiring those who are most highly qualified for positions, whatever their relationship to others in the department. Problems of voting on one another's qualifications could be met simply by disqualifying persons from voting on the hiring or advancement of their near relatives.

Obviously the abolition of restrictions on hiring near relatives will not end discrimination against qualified women, but it will remove from the books one excuse for discrimination. The problem is much larger, as this faculty member realizes:

> "My wife, with her ability as a scholar and a teacher in three different areas...could easily get a job at one of the better colleges in the Bay Area...if she were a man. That, more so than nepotism, is the rub."

Appendix II

PERCENTAGE OF WOMEN AT DIFFERENT ACADEMIC LEVELS

Percentage of women among undergraduate majors, graduate majors, doctoral degrees, and active faculty at rank instructor or higher

The percentage of women decreases markedly with the level considered: the percentage is lower for graduates than for undergraduates, lower still for women doctorates, and much lower--often zero--for women on the faculty. The number of men and the number of women, with the percentage of women, at each level are given in Table II averaged for the years 1966/67, 1967/68, 1968/69, the last three years available. The figures are given for selected departments, representative of the various fields with some emphasis on departments awarding many doctorates and/or with more women graduate students. The percentages depend strongly on the field: highest in Design, Nutrition, Social Welfare, languages; and lowest in sciences, Economics, Business Administration, Architecture, Law, Engineering.

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[6] Ibid., p. 345.

Table II

COMPARISON OF NUMBER AND PERCENTAGE OF WOMEN AMONG UNDERGRADUATE MAJORS, GRADUATE MAJORS, DOCTORAL DEGREES, AND ACTIVE FACULTY IN SELECTED DEPARTMENTS

Faculty of rank Instructor or higher (Senate members)
Three Year Average, Berkeley Campus (1966-67, 1967-68, 1968-69)

Department	Undergraduate Major			Graduate Major			Doctoral Degrees			Faculty		
	Men	Wom	%	Men	Wom	%	Men	Wom	%	Men	Wom	%
Anthropology	123.7	230.3	65.1	87.0	56.0	39.2	12.3	3.7	22.9	22.3	4.0	15.2
Architecture	820.7	101.7	11.0	102.0	14.3	12.3	No Ph.D. program			30.7	1.7	5.2
Art	65.7	243.3	78.7	46.3	39.7	46.1	No Ph.D. program			25.7	2.0	7.2
Astronomy	22.0	2.0	8.3	39.0	8.3	17.6	6.3	.3	5.0	9.7	0.0	0.0
Biochem	82.3	30.0	26.7	67.7	11.0	14.0	10.0	2.0	16.7	15.7	0.0	0.0
Biophysics	1.0	.3	25.0	73.0	7.3	9.1	8.0	2.0	20.0	-	0.0	0.0
Bus Ad	448.0	55.7	11.1	543.7	27.3	4.8	11.3	.3	2.9	56.0	0.0	0.0
Chem	408.0	58.3	12.5	258.3	34.0	11.6	52.0	4.7	8.2	44.3	0.0	0.0
Criminology	65.7	38.7	37.1	106.0	26.0	19.7	7.0	1.7	19.2	9.7	0.0	0.0
Design	16.0	106.3	86.9	3.0	20.3	87.1	No Ph.D. program			10.3	4.0	27.9
Dram Art	21.7	47.0	68.4	41.0	21.3	34.2	No Ph.D. program			11.0	0.0	0.0
Economics	255.7	53.7	17.3	198.0	28.0	12.4	25.6	5.0	16.3	40.0	0.0	0.0
Education	-	-	-	459.7	616.3	57.3	48.3	12.0	19.9	36.7	2.3	6.4
Engineering	1389.0	16.0	1.1	1379.0	13.3	1.0	124.3	0.3	0.3	208.0	0.0	0.0
English	250.7	516.7	67.3	237.0	154.7	39.5	15.0	5.7	27.4	68.0	3.3	4.7
French	24.0	143.3	85.7	22.7	64.0	73.8	0.9	1.0	52.1*	19.3	0.7	3.3
German	24.3	46.0	65.4	38.7	48.3	55.6	4.3	1.0	18.75	13.0	3.7	22.0
History	393.3	385.0	49.5	267.3	79.0	22.8	23.0	2.0	8.0	52.3	0.0	0.0
Law	-	-	-	714.3	61.7	7.9	.3	0.0	0.0	28.0	0.7	2.3
Librarianship	-	-	-	50.7	160.0	75.9	1.0	0.0	0.0	8.3	0.3	3.8
Mathematics	198.0	92.0	31.7	272.7	26.0	8.7	41.7	1.0	2.3	78.7	0.0	0.0
Music	34.7	43.0	56.1	38.3	15.0	28.1	1.0	0.3	25.0	18.7	0.0	0.0
Nutrition	3.7	12.0	76.6	18.0	30.3	62.8	3.0	3.0	50.0	9.3	4.0	30.0
Optometry	80.3	11.3	12.4	42.3	3.7	8.0	6.0	0.0	0.0	10.3	0.7	6.1
Philosophy	96.7	46.0	32.2	68.7	14.7	21.4	5.7	0.0	0.0	16.3	0.3	2.0
Physics	183.3	12.7	5.6	328.7	9.3	2.8	53.3	2.3	4.2	64.3	0.0	0.0
Physio-Anat	36.3	21.3	37.0	44.7	15.7	26.0	4.3	1.0	18.75	9.3	2.0	17.6
Poli Science	460.7	235.3	33.8	158.0	37.3	19.1	16.3	1.3	7.5	35.2	1.0	2.8
Psychology	335.3	311.3	48.1	112.0	74.3	39.9	14.7	5.3	26.7	40.0	0.0	0.0
Soc Welfare	14.3	94.7	86.9	108.0	262.3	70.8	2.3	1.0	30.0	14.0	2.7	16.0
Sociology	122.3	249.0	67.1	142.7	41.3	22.5	11.7	3.0	20.5	24.3	0.0	0.0
Span & Port	21.3	79.7	78.9	10.3	19.7	65.6	1.9	0.7	26.1**	12.3	1.0	7.5
Speech	31.0	25.3	45.0	11.3	7.3	39.3	No Ph.D. program			14.7	2.0	12.0
Statistics	13.7	8.0	36.9	64.7	15.7	19.5	7.4	1.0	12.0	19.7	1.0	4.8
Zoology	169.7	63.7	27.3	90.3	39.3	30.3	11.7	3.0	20.5	30.3	0.0	0.0
Entire UCB	10243.7	7458.7	42.1	7570.3	2685.7	26.2	671.0	95.3	12.4	1166.7	47.7	3.8

*1/3 Romance Language and Literature plus French Ph.D. for 1968-69.

**1/3 Romance Language and Literature.

The percentages of women at different levels are shown again in Figure II. The first block (black) for each department shows the percentage of women among undergraduate majors, the second block (white) shows the percentage of graduate majors, the third block (cross-hatched) is proportional to the percentage of doctoral degrees going to women, while the last block (single-hatched) gives the percentage of regular faculty in the department that are women. Note that the percentages decrease as the level increases in almost every case. The only discrepancies are small, such as in Design and Zoology. For many departments the decrease is striking, the last figure is often zero.

Sources for Appendix II

Undergraduate and Graduate Majors: University of California Statistical Summary compiled by Office of Analytical Studies, Vice-President, Business and Finance for 1966, Fall; Vice-President, Planning and Analysis for 1967, Fall; files of Office of Institutional Research (Richard Suslow) for 1968, Fall.

Doctoral degrees: files of Office of Institutional Research (Richard Suslow) for 1966/67, 1967/68, 1968/69.

Faculty from University of California, Berkeley, General Catalogue for 1966/67, 1967/68, 1968/69 (by counting printed names).

Remarks

The breakdown of earned degrees by sex is not published by the University of California for each department, although it is certainly available since the University submits this information to the Office of Education for publication in Earned Degrees Conferred.

The breakdown of faculty by sex is not published for the Berkeley Campus as a whole, much less for each department. Faculty information is also supplied to the Office of Education. The General Catalogue (used by the subcommittee) is not always complete because of its early publication date.

The breakdown of majors by sex for each department was published yearly up to 1967/68 when the format changed and sex information was deleted except for the grand total. The information is now available in files, on typed copy only, even though it is needed for many sorts of planning and studies and must be submitted to the Office of Education.

The subcommittee recommends that the data needed to study the percentage of women at different academic levels be made easily available, preferably published systematically.

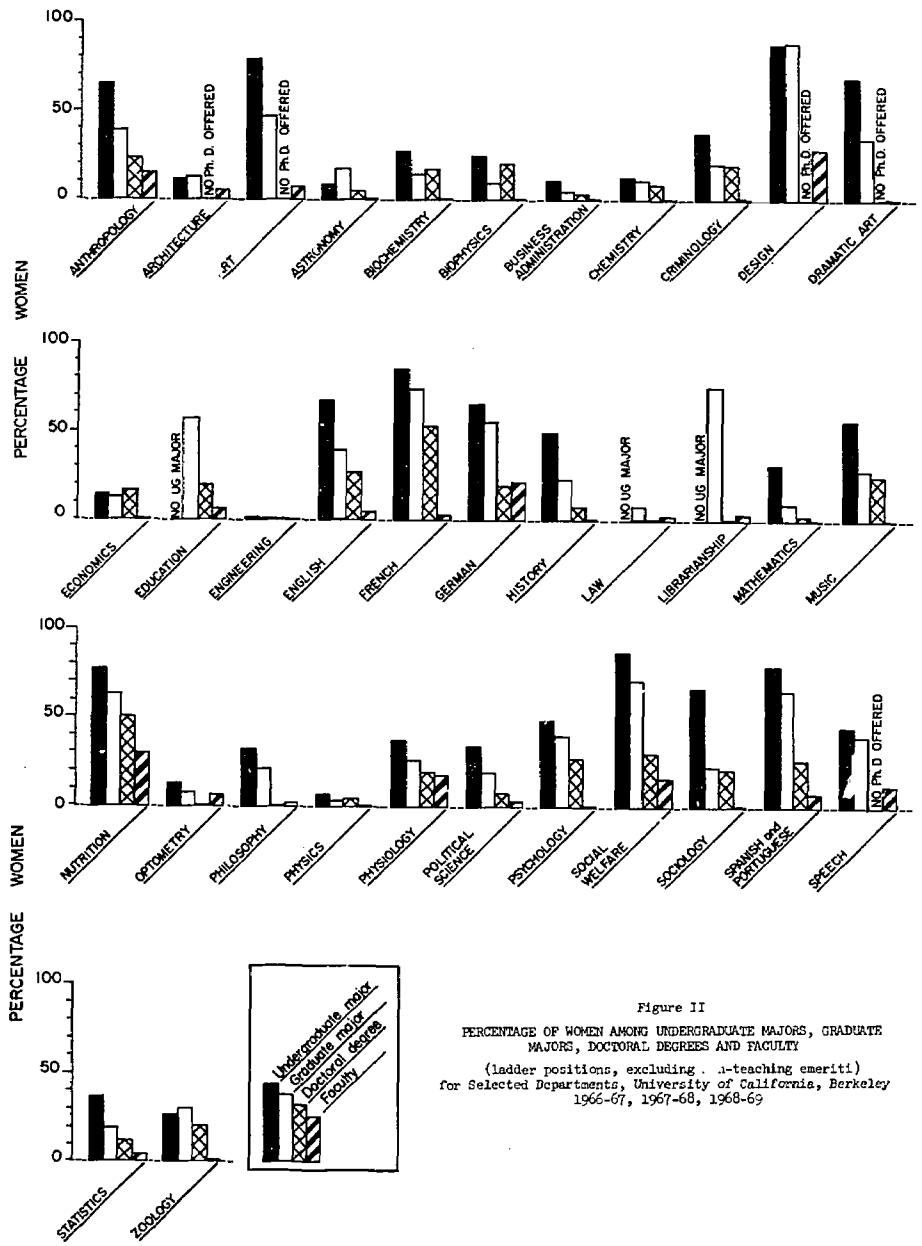


Figure II

PERCENTAGE OF WOMEN AMONG UNDERGRADUATE MAJORS, GRADUATE MAJORS, DOCTORAL DEGREES AND FACULTY

(ladder positions, excluding non-teaching emeriti)
for Selected Departments, University of California, Berkeley
1966-67, 1967-68, 1968-69

Appendix III

EMPLOYMENT RATES OF WOMEN OF DIFFERENT EDUCATIONAL LEVELS

National studies show that the more education a woman has, the more likely she is to be employed. This is true at every age level. In March, 1968, 71% of the women with five years of college or more were working, and 54% of the women with four years of college were working, while only 45% of those with one to three years of college were working. When the figures are broken down by age groups, 86% of women aged 45-54 years who had received five years or more of college education were actively engaged in the labor force in March, 1968. Details are given in Tables III-1 and III-2.

The rate of employment of women doctorates is even higher. Simon, Clark and Galway (Social Problems, Vol. 15, 1967, pages 221-236) surveyed 5370 women who received the doctorate between 1958 and 1963, receiving replies from 1764. Of these women doctorates, 96.3% of the unmarried women were working full time; 87.2% of the married women with no children were working full time and another 3.5% part time; 59.3% of the married women with children were working full time and an additional 24.5% part time. These results are confirmed by the 1965 survey made by Astin, Folger and Bayer of all women who received the doctorate in 1957 and 1958. With a very high response rate (Chapter 9 in Human Resources and Higher Education, Russell Sage-Basic Books, New York, 1970), they show that at least 91% of these women were in the labor force at the time of the survey and that 79% had been fully employed during the entire period since receiving the doctorate while only 2% had never been employed.

Data on the kind of employment and the status of the job are difficult to interpret. It is clear that, on the average, women are receiving lower salaries, lower positions, and tend to be employed in institutions of lesser quality. Only 9% of the assistant professorships in the top quality universities (in the top 10%) go to women doctorates; at Berkeley the figure is now only 5%.

Through the Alumni Census made six years ago (J. Mixer et al), information is available about the employment status, as well as other interesting points, of Berkeley higher degree recipients. (We have not studied holders of bachelor's degrees.) Census questionnaires were sent to California Alumni Association members and to selected samples of non-Association alumni. More than 70% returned the survey for a total of 43,283 returned. Table III-3 shows the number and percentage employed for men and women according to the field of graduate study. For women, the employment rates are also shown separately according to marital status and according to whether the woman has children. We have also examined employment by age group, by family income, and by area of residence. The employment rates for women and men both appear to be slightly lower than the national figures for comparable educational level but the trends are similar. Further study is needed to find an explanation; we suspect the mixture of age groups.

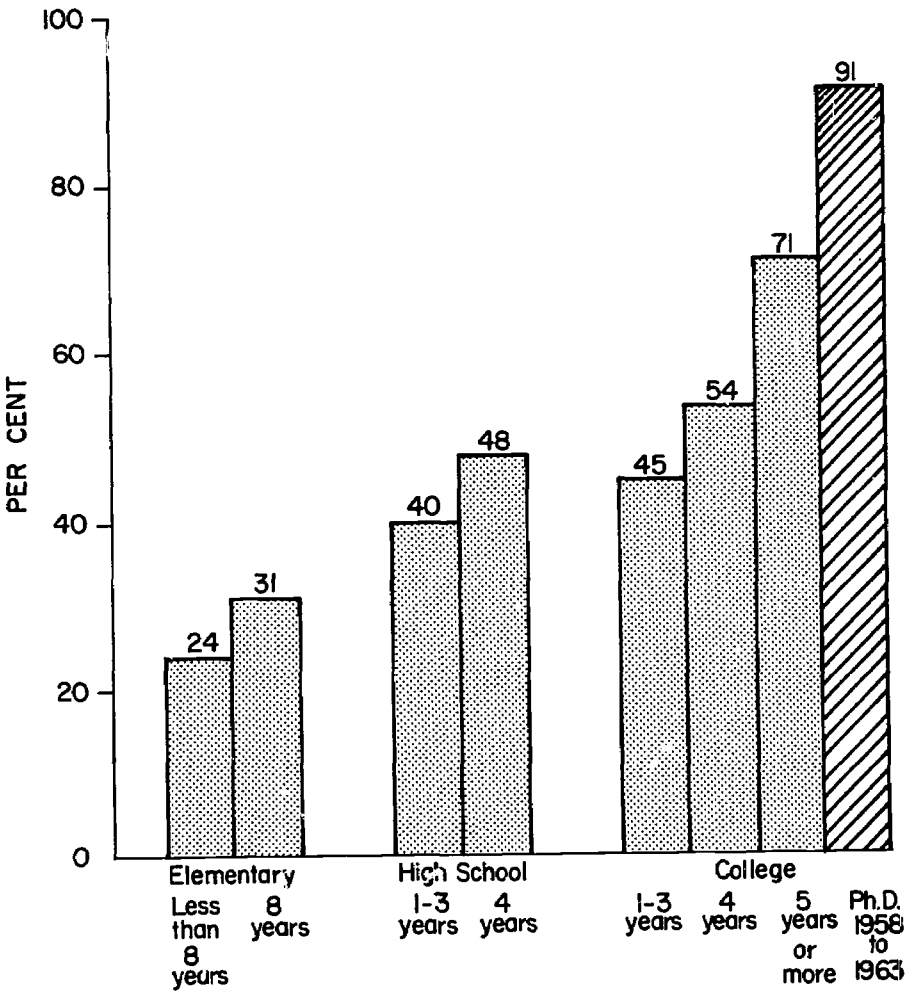


Figure III

LABOR FORCE PARTICIPATION RATES OF WOMEN, BY EDUCATIONAL LEVELS, MARCH 1968

(Women 18 Years of Age and Over)

Sources: Special Labor Forces Report No. 103, U. S. Department of Labor, Bureau of Labor Statistics

except last entry: Simon, Clark and Galway, Social Problems, Vol. 15, 1967, pages 221-236.

Table III-1

LABOR FORCE PARTICIPATION RATES OF WOMEN, BY EDUCATIONAL ATTAINMENT AND AGE, MARCH 1968

(Women 18 years of age and over)

Years of school completed	Total	Age							Age group		
		18 & 19 years	20-24 years	25-34 years	35-44 years	45-54 years	55-64 years	65 yrs & over	18-64 years	18-24 years	35-64 years
Total	42.0	49.5	53.6	42.7	49.0	52.4	43.0	9.5	48.0	52.4	48.5
Elementary school:											
Less than 8 years *	24.4	40.0**	29.5	33.9	41.2	40.7	30.7	6.3	35.9	32.2	36.5
Less than 5 years *	17.4	18.8**	17.0**	18.8	35.2	34.0	28.1	5.1	29.6	17.5**	31.6
5-7 years	28.2	45.6**	32.5	39.1	43.6	43.7	31.9	7.3	38.5	35.8	38.6
8 years	30.8	47.7**	36.5	36.2	46.2	49.2	38.3	8.4	42.8	39.8	44.0
High School:											
1-3 years	39.6	37.3	34.8	41.2	49.1	48.2	42.1	9.9	43.5	35.9	46.9
4 years	48.1	58.4	59.1	41.6	49.5	55.8	47.6	12.4	50.8	58.9	51.5
College:											
1-3 years	45.5	41.7	51.7	44.2	48.4	52.9	48.6	14.8	48.7	49.8	49.9
4 years	54.4	--	82.2**	51.9	50.1	63.0	59.8	12.1	59.1	82.3**	56.4
5 years or more	70.8	--	74.0**	68.6	71.5	86.0	75.7	33.0	74.9	73.4**	77.5
Median school years completed	12.4	12.4	12.7	12.5	12.3	12.3	12.0	10.3	12.4	12.6	12.2

* Includes women reporting no school years completed.

** Base is less than 100,000.

Source: U.S. Department of Labor, Bureau of Labor Statistics: Special Labor Force Report No. 103.

Table III-2

LABOR FORCE PARTICIPATION RATES OF WOMEN, BY AGE AND EDUCATIONAL ATTAINMENT, OCTOBER 1952 AND MARCH 1957, 1962, and 1968
(Women 18 years of age and over)

Age, month, and year	Years of school completed							
		Elementary School			High School		College	
	Total	Less than 5 years*	5-7 years	8 years	1-3 years	4 years	1-3 years	4 years or more
Total								
March 1968	42.0	17.4	28.2	30.8	39.6	48.1	45.5	58.4
March 1962	38.1	19.5	27.8	30.1	37.8	43.2	41.8	57.3
March 1957	36.6	22.0	28.7	31.5	35.6	41.3	42.0	55.3
October 1952	35.6	27.7	27.5	31.2	35.2	40.7	37.5	50.2
18-24 years								
March 1968	52.4	17.5**	35.8	39.8	35.9	58.9	49.8	81.4
March 1962	45.3	17.5**	32.3	32.9	33.1	52.0	43.7	79.5
March 1957	45.5	22.0**	33.7	33.8	33.5	53.7	45.1	76.1
October 1952	46.9	38.6	38.2	36.9	35.7	54.7	38.9	77.4
25-34 years								
March 1968	42.7	18.8	39.1	36.2	41.2	41.6	44.2	55.3
March 1962	36.7	27.4	29.6	32.3	35.2	36.3	38.6	49.1
March 1957	34.8	24.3	31.9	34.8	34.0	33.0	37.8	50.8
October 1952	36.3	39.2	33.1	36.9	36.2	35.5	36.1	43.4
35-44 years								
March 1968	49.0	35.2	43.6	46.2	49.1	49.5	48.4	55.0
March 1962	44.1	35.4	40.7	41.3	43.9	44.4	41.9	57.7
March 1957	42.6	39.3	40.7	40.7	41.4	42.7	40.1	54.1
October 1952	40.7	43.4	35.8	39.0	40.4	41.9	37.3	51.8
45-64 years								
March 1968	48.2	30.7	37.1	43.3	45.5	52.9	50.9	67.7
March 1962	45.1	31.2	36.1	39.0	44.7	50.2	51.3	68.7
March 1957	41.1	30.9	32.4	37.2	40.5	46.7	51.1	62.1
October 1962	36.6	35.0	30.6	34.3	34.7	39.2	44.1	57.6
65 years and over								
March 1968	9.5	5.1	7.3	8.4	9.9	12.4	14.8	17.2
March 1962	10.7	5.2	8.9	9.9	16.5	12.1	16.4	17.9
March 1957	11.5	6.9	9.7	11.7	11.7	16.4	16.2	22.6
October 1952	10.2	7.8	7.7	9.1	14.8	12.6	13.6	18.6

*Includes women reporting no school years completed.

**Base is less than 100,000.

Source: For October 1952 and March 1957, U.S. Department of Commerce, Bureau of the Census: Current Population Reports, P-50, Nos. 49 and 78; for March 1962 and 1968, U. S. Department of Labor, Bureau of Labor Statistics: Special Labor Force Reports Nos. 30 and 103.

Table III-3

EMPLOYMENT RATES FOR BERKELEY ALUMNI WHO HAVE HAD GRADUATE STUDY

	Have U.C. Doctorate						Master's is Highest Degree					
	All Men	All Wom	Single Women	Married No chil Women	Married, Children Women	Total Number	All Men	All Wom	Single Women	Married No chil Women	Married, Children Women	Total Number
Agri, Bio	99.0	89.7	93.1	92.9	88.6	797	98.2	61.8	84.8	53.3	48.4	295
Soc, Psych	98.5	81.2	75.0	100	82.4	230	98.1	63.3	78.4	69.7	53.8	515
Sci, Engin	99.5	71.4	75.0	100	50.0	396	98.6	66.7	93.7	50.0	61.9	630
Hum, Lang	96.6	83.3	75.0	100	100	71	99.0	63.2	77.2	55.6	60.4	391
Prof, Educ	99.5	67.7	87.5	90.0	36.4	218	99.2	76.3	89.5	87.3	64.2	1227
Unknown	98.8	72.2	85.7	75.0	62.5	347	98.8	69.2	88.2	84.6	50.0	347
TOTAL	99.0	81.1	84.5	92.1	77.5	2059	98.8	69.7	84.9	72.7	59.7	3207
	Some Graduate Work, No Higher Degree						Combined					
Agri, Bio	97.6	67.7	82.6	76.2	58.4	873	98.3	71.9	85.5	74.0	64.2	1965
Soc, Psych	96.8	49.7	82.0	70.5	37.5	1201	97.4	54.9	80.3	71.4	42.6	1946
Sci, Engin	97.9	52.6	61.3	100	43.1	1161	98.4	59.0	72.7	81.8	48.7	2187
Hum, Lang	95.2	53.2	80.7	61.6	45.6	969	96.7	55.9	79.6	60.2	48.8	1431
Prof, Educ	97.6	55.6	86.9	65.7	43.9	5645	98.0	58.7	87.5	69.3	46.1	7090
Unknown	98.8	50.7	93.1	74.6	38.0	1146	98.8	53.2	91.9	76.2	39.2	1642
TOTAL	97.5	54.5	85.2	67.3	43.1	10995	98.1	58.0	85.1	69.5	46.2	16261

NOTE: Single includes widowed and divorced not remarried.

Appendix IV

NUMBER OF MEN AND WOMEN ON ACTIVE FACULTY AT DIFFERENT RANKS AND IN SELECTED DEPARTMENTS THROUGH THE YEARS

Last date when a woman was appointed to department and date of next to last appointment

Information on the sex of Berkeley faculty is very difficult to find. The General Catalogue provides no listing of the lower teaching ranks; its listing of Senate ranks may be in error due to its early publication date. The Statistical Summary of Students and Faculty, 1917-18 to 1960-61, prepared by the Office of the Registrar, shows a breakdown by sex only for the years 1923/24 through 1956/57. But these figures include emeritus professors with no indication of their rank, sex or campus. In order to study the number of men and women on the active faculty, these emeriti should be removed. Since women live longer than men and the total number of women is very small, inclusion of emeriti will bias the figures for percentage of women. The removal had to be made on an individual basis (since no other records could be found) and cost the subcommittee about 80 man-hours, even with the help of the Office of the Academic Senate, and of Academic Records, University-wide, to locate the individuals who had been or are emeritus and to ascertain for each one which years were as a non-teaching emeritus.

The Office of Academic Personnel of the Chancellor made a special tally of the number of men and women on the teaching faculty by rank for the years 1964/65 through 1969/70 by means of payroll data. The tally was extended back two more years to 1962/63 by the University-wide Office of Analytical Studies. Payrolls are not useful for tallying before 1962/63 because they do not show a sex code in earlier years. There seems to be no reasonable way to fill the five-year gap 1957/58 through 1961/62. The only possibility would be to count manually in the gigantic University Roster which lists all employees whatsoever on every campus but does show sex and title codes.

Changes through the years by rank

Table IV-1 gives the number of men and the number of women, with the percentage of women, in the active teaching positions professor, associate professor, assistant professor, instructor (acting instructors are included in this position only since 1963/64; otherwise the position disappears), lecturer, associate, teaching assistant (denoted teaching fellows for the years 1923/24 through 1932/33) at five-year intervals from 1923/24 through 1953/54 and yearly from 1963/64 to the present. Figure IV shows the percentage of women in each of the ranks yearly. The irregularities from year to year in the Senate ranks are due to the very small number of women appointed, small changes in the numbers make large changes in the percentages. The irregularities in the plots of lecturers, associates and assistants are due to the uncertain nature of these positions; they are almost always temporary, short-term appointments and often are from emergency funds.

Table IV-1

NUMBER OF MEN AND WOMEN IN TEACHING POSITIONS
University of California, Berkeley

Year	Professor			Assoc. Prof.			Ass't. Prof.			Instructor			Lecturer			Associate			Teach. Ass't.		
	Number Men	Wom	% Wom	Number Men	Wom	% Wom	Number Men	Wom	% Wom	Number Men	Wom	% Wom	Number Men	Wom	% Wom	Number Men	Wom	% Wom	Number Men	Wom	% Wom
1923/24	113	3	2.6	87	2	2.2	111	12	9.8	47	7	13.0	33	6	15.4	51	27	34.6	113	40	26.1
1928/29	149	3	2.0	90	4	4.3	83	16	16.2	30	9	23.1	40	16	28.6	40	24	37.5	142	39	21.5
1933/34	186	4	2.1	92	10	9.8	76	13	14.6	51	4	7.3	40	11	21.6	12	15	55.6	173	31	15.2
1938/39	185	3	1.6	1111	13	10.5	76	18	19.1	66	11	14.3	61	18	22.8	9	13	59.1	253	37	12.8
1943/44	201	8	3.8	124	14	10.1	113	23	16.9	66	24	26.7	105	24	18.6	36	13	26.5	131	80	37.9
1948/49	271.5	11	3.9	170	12	6.6	160	17	9.6	77	3	3.7	233	55	19.1	38	22	36.7	353	80	18.5
1953/54	376	17	4.3	204	15	6.8	244	19	7.2	64	5	7.2	161	37	18.7	64	25	28.1	459	73	13.7
1958/59	(no breakdown by sex)																				
1963/64	507	16	3.1	220	10	4.3	258	17	6.2	68	13	18.3*	179	50	21.8	64	18	22.0	928	258	21.8
1964/65	546	15	2.7	205	11	5.1	285	21	6.9	54	12	18.2	195	47	19.4	61	30	33.0	899	301	25.1
1965/66	546	14	2.5	212	11	4.9	302	20	6.2	44	13	22.8	202	52	20.2	51	32	38.6	852	296	25.8
1966/67	572	13	2.2	212	13	5.8	325	20	5.8	84	21	20.0	201	65	24.4	118	30	20.3	777	214	21.6
1967/68	633	12	1.9	213	16	7.0	320	19	5.6	78	19	19.6	202	62	23.5	140	38	21.3	840	253	23.1
1968/69	651	14	2.1	233	16	6.4	307	13	4.1	64	19	22.9	199	81	28.9	141	51	26.7	790	252	24.2
1969/70	651	15	2.3	248	14	5.3	305	16	5.0	86	20	18.9	215	90	29.5	141	58	29.1	732	269	26.9

*Instructor includes Acting Instructor from 1963/64 on.

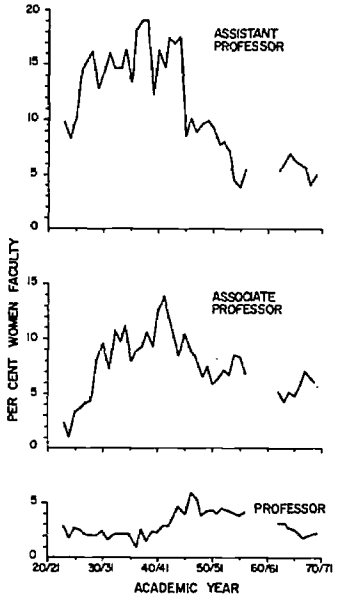
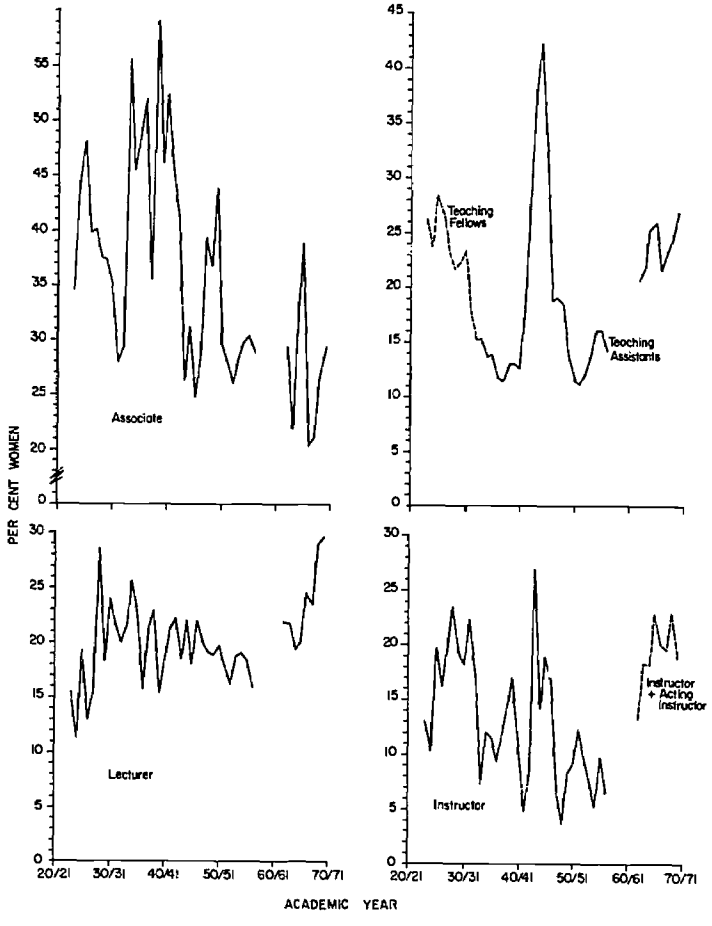


Figure IV

PERCENTAGE OF WOMEN ON FACULTY

University of California, Berkeley
1923/24-1956/57 and 1963/63-1969/70
(missing interval not available)



The percentage of women in ladder positions (Senate members) rose during the twenties and thirties, especially for assistant and associate professors, but has declined during the last twenty years. The percentage of women professors has gone back down to 2%, the same as it was in the twenties, although it was more than 4% during the fifties. The percentage of women associate professors has decreased to 5%, comparable to the late twenties. The decrease in women assistant professors is the most striking--now only 5% are women, which is half the figure of the early twenties and less than one-third the percentage for the period 1925-1945. Indeed, the number of woman assistant professors is now only 16, about the same as it was in the twenties, while the number of men assistant professors is 305, more than three times its early value.

The figures for the lower ranks are not strictly comparable because the meaning of the titles has changed. It appears that the percentage of women associates is declining to below its value in the twenties while the percentage of women instructors, lecturers, and teaching assistants is climbing back up towards their values in the late twenties. All figures here refer to teaching positions.

Changes through the years by department

Table IV-2 shows the number of men and the number of women, with the percentage of women, in selected departments (the same departments as shown in Appendix II). Active faculty of rank instructor or higher were counted at five times, ten years apart. The decrease in the percentage of women faculty at Senate rank is very general. In some of the largest departments the decrease is very striking, namely to zero: Economics, Mathematics, Psychology, Sociology. In some departments, such as Design and Nutrition, the decrease may be partially due to change in emphasis of the department although we are informed that the decrease was purposeful "to improve the image." In several departments the percentage has increased although it is still small: Anthropology, German.

In this connection it is of interest to note when a woman was last appointed to these departments. For some departments none have been appointed (since 1920). In 15 of the 34 departments listed, no woman has been appointed to a Senate level position during the last twenty years. In only 7 departments have there been as many as two women appointed during the last ten years, in only 15 have two appeared during the last twenty years. The employment of women is a rare thing indeed. See Table IV-3.

Appendix V

COMPARATIVE RATES OF PROMOTION AND ATTRITION
OF MEN AND WOMEN ON THE BERKELEY FACULTY, 1920-1970

We consider two issues:

1) Are men and women on the Berkeley faculty promoted at the same rate?

Table IV-2

CHANGES IN NUMBER OF MEN AND NUMBER OF WOMEN ON ACTIVE FACULTY BY DEPARTMENT
University of California, Berkeley (Senate positions)

Department	1928-29 Number Men	1928-29 Number Wom	1928-29 % Wom	1938-39 Number Men	1938-39 Number Wom	1938-39 % Wom	1948-49 Number Men	1948-49 Number Wom	1948-49 % Wom	1958-59 Number Men	1958-59 Number Wom	1958-59 % Wom	1968-69 Number Men	1968-69 Number Wom	1968-69 % Wom
Anthropol	2	0	0	5	0	0	7	0	0	13	0	0	24	4	14
Architect	7	0	0	8	0	0	3	0	0	16	0	0	35	2	5
Art	5	0	0	7	2	22	11	1	8	16	0	0	27	2	7
Astronomy	5	0	0	5	0	0	7	0	0	7	0	0	11	0	0
Biochem	4	0	0	5	0	0	7	0	0	17	0	0	17	0	0
Bus Ad							23	1	4	48	1	2	57	0	0
Chemistry	15	0	0	19	0	0	34	0	0	32	0	0	46	0	0
Criminol										5	0	0	12	0	0
Design	0	2	100	0	5	100	3	3	50	6	5	45	10	4	29
Dram Art							2	1	33	5	1	17	10	0	0
Economics	16	3	16	22	3	12	19	1	5	28	1	3	29	0	0
Education	12	1	8	13	2	13	19	1	5	29	1	3	39	2	5
Engineer	32	0	0	46	0	0	86	0	0	137	0	0	216	0	0
English	24	0	0	21	0	0	29	1	3	36	1	3	67	4	6
French	8	1	11	10	1	9	9	1	10	11	2	15	18	2	10
German	8	1	11	9	1	10	14	1	7	13	1	7	15	3	17
History	13	0	0	17	0	0	21	0	0	30	1	3	55	0	0
Law	11	1	8	13	1	7	9	1	10	13	0	0	29	1	3
Librarian	1	2	67	1	2	67	4	2	33	6	1	14	7	1	13
Math	12	3	20	17	2	11	25	2	7	37	1	3	81	0	0
Music	3	0	0	5	0	0	12	0	0	13	1	7	20	0	0
Nutrition	0	3	100	0	5	100	0	7	100	3	8	73	9	4	31
Optometry							17	0	0	17	0	0	10	1	9
Philosoph	7	0	0	7	0	0	9	0	0	12	0	0	16	0	0
Physics	15	0	0	14	0	0	20	0	0	40	0	0	66	0	0
Physio-An	9	3	25	12	2	14	16	1	6	8	2	0	10	2	17
Poli Sci	9	0	0	11	0	0	14	0	0	26	0	0	36	1	3
Psychol	4	2	33	7	1	13	16	1	6	29	1	3	41	0	0
Soc Welf							7	1	13	7	3	30	13	2	13
Sociology	1	1	50	2	1	33	4	1	20	14	0	0	27	0	0
Span. Port.	9	1	10	10	1	9	11	1	8	11	1	8	14	1	7
Speech	6	2	25	10	1	9	13	0	0	18	2	10	16	2	11
Statistic										11	2	15	20	1	5
Zoology	9	0	0	10	0	0	16	0	0	22	0	0	34	0	0
Entire UCB	352	32	8.3	438	45	9.3	678.5	43	6.0	Not available			1193	44	3.6

Table IV-3

LAST DATE WHEN WOMAN WAS APPOINTED TO DEPARTMENT
AND DATE OF NEXT TO LAST APPOINTMENT

University of California, Berkeley
Senate positions, appointments after 1920

Department	Last Appointment	Next to Last Appointment	Remarks
Anthropol	1966	1965	
Architect	1966	1965	
Art	1969	1967	
Astronomy	(none)	(none)	
Biochem	(none)	(none)	
Bus Ad	1941	(none)	Green-Quire counted as Bus Ad, not Econ
Chemistry	(none)	(none)	
Criminol	(none)	(none)	
Design	1964	1963	
Dram Art	1964	1951	
Economics	1936	1931	
Education	1966	1963	
Engineer	(none)	(none)	
English	1967	1965	
French	1969	1968	
German	1963	1954	
History	1958	(none)	
Law	1964	1926	
Librarian	1947	1934	
Mathematic	1953	1949	Fix and Scott counted as Stat, not Math
Music	1943	(none)	
Nutrition	1964	1958	
Optomotry	1967	(none)	
Philosoph	1961	1953	
Physics	(none)	(none)	
Physi-Anat	1966	1958	
Poli Sci	1966	(none)	
Psycholog	1924	1922	Landreth counted as Home Econ, not Psych*
Soc Welf	1963	1959	
Sociology	1925	(none)	
Span & Port	1948	1925	
Speech	1963	1959	Richardson counted as Speech, not Comp Lit
Statistic	1950	1950	
Zoology	(none)	(none)	

*Professor of Psychology 1962 two years before retirement after 15 years as Lecturer, joint appointment.

Source: General Catalogue. Initial appointment date may be in error by one year due to early closing date of Catalogue.

2) Do men and women stay on the faculty to the same extent?

The first issue is related to the general question of hiring rates, which are reported elsewhere (see Appendix IV). However, once a woman has been employed, we can ask what is the likelihood that she will be advanced to the next step or the next rank in the same time period as a male colleague entering at the same rank in her department, and what is the probability that she will achieve tenure rank.

The second question bears on the common belief that women are less likely to stay on in University employment. Yet it is not obvious that professional women would be willing to surrender regular university positions, if these positions are appropriate to their skills. This appendix consists of three studies.

Study by Budget Committee: Women professors now at Berkeley

The subcommittee requested the help of the Budget Committee in its study of promotion rates and length of service since the confidential records containing the information are in its care. Even though the records are maintained on an individual basis that is not convenient for comparisons, the Budget Committee did undertake a study of advancement. The report of the chairman (Professor D. H. Templeton, Nov. 7, 1969) emphasizes the great variation in the rate of advancement for both men and women. Nevertheless, the Budget Committee compared the salary steps of Berkeley "women full professors with a large sample of men full professors of similar ages, and another sample of men with similar dates for the Ph.D. In each case the women on the average have lower salaries, by about one step on the basis of age, and about half a step on the basis of date of Ph.D. This study ignored departmental affiliation."

Study using General Catalogue: Berkeley regular faculty 1920-1940 and 1950-1969

The subcommittee itself undertook a study of attrition and promotion rates at each professorial rank based on the information printed in the General Catalogue from 1920/21 to 1969/70. The first section is a study of all women appointed or promoted between 1920 and 1938. Each woman is compared with a matched male colleague until 1940/41 as to promotion rate and attrition. In the second section of the study, all new women arriving from 1950 to 1965 are compared to matched new male colleagues for promotion rate to tenure and for attrition, continuing until the 1969/70 Catalogue. The period 1940-1949 is omitted to avoid complications caused by faculty war leaves. In these two studies only catalogue data were available and therefore steps within ranks could not be ascertained. Only active appointments at rank instructor or higher were considered since other appointments are not recorded with any accuracy in the Catalogue. (Senate rank appointments may be recorded a year late due to the early closing of the Catalogue.)

The subcommittee thought it important to study the Berkeley teaching career of all women who have taught here rather than only those who are here today since the relative frequency of separation and the

reasons therefore are of interest. Promotion policies may vary with department and time period; appointments and promotions originate in the department. The subcommittee therefore tried to match each woman with one or more (preferably several) men in the same department who started at the same time at the same rank. Usually there was no good match and we had to be content with taking several men, some a little more advanced and some a little less advanced, trying to obtain a balance. In the early period it sometimes happened that there were too few men in the department to make a precise match possible. In these instances the woman's course listings were examined and men from the same general field were chosen as control. A few cases were lost because matches were not possible.

Each woman was compared as to promotion rate and attrition with the average of her male matches. The first section of the study contains 48 paired comparisons, the second section 60 comparisons. We were able to follow the women in the first section, with their matches, to ascertain whether promotion occurred, sometimes through several promotions. At the time of each promotion, the closest male match (or matches) was selected. Since the data for the second period terminate with the 1969/70 General Catalogue, women in this period are observed for at most one promotion, the promotion from assistant to associate professor.

The average differences in length of stay, men minus women in paired comparisons, are negative which indicates that women stay longer on the faculty, contrary to common belief. The duration for women is longer in both the earlier and the later period (see Table V-1) although the mean difference is tiny for the second period. In this later period, of the nine cases where the men and women stayed different lengths of time at tenured ranks, in six the men left earlier. At the assistant professor level, in eleven out of fifteen sets of paired comparisons beginning together, the male (or average of the males) left before the females. Thus, if there were to be any generalizations, there is no justification for refusing to employ women on the ground that they leave early. The belief that women have a higher attrition rate than men, when if anything they have a lower rate, may arise because women are marked as a minority in the community and their departures tend to be more often noticed and remembered.

Promotion possibilities for women are worse than for men: the proportion promoted is lower at all ranks studied and in both time periods (the difference is significant in the second period) and those women who are promoted wait longer for the promotion (the difference is significant at all three ranks in the first period). The mean differences are shown in Table V-1. The data are not complete for the second period because they terminate in 1969/70: the promotion figures refer to women who have been at the assistant professor level long enough to be considered for tenure. Of these 29 women, 18 had been promoted, 7 were denied promotion, and on 4 no action was in evidence although their controls had been promoted earlier (by as much as four years). There was only one male control in the apparent limbo of delayed decision. The figures include, of course, only the people who stayed in the University long enough that their promotion or disappearance became apparent in the Catalogue. We do not know how many

Table V-1

AVERAGE DIFFERENCE IN LENGTH OF STAY, AVERAGE DIFFERENCE IN TIME TO PROMOTION, MEN minus WOMEN, University of California, Berkeley

Data from General Catalogue, rank Instructor or higher

Period		1920 - 1940			1950 - 1969	
Rank		Instructor	Assistant Professor	Associate Professor	Assistant Professor	Tenure Professor
Total no. of pairs		37	31	10	38	25
Average difference in stay (years), Men - Women		(for all 48 pairs, -4.4 years)			-0.2	-0.1
Percent promoted:	Men	78	64	80	88*	-
	Women	65	52	50	62	-
Average difference in time to promotion, given promoted, Men - Women		-0.96*	-2.24*	-5.0*	-0.7	-

*Significant difference at 0.05 probability level.

of those who left after a short stay did so because they learned that they were not likely to be considered for promotion.

Rank-step promotion study: regular faculty in the College of Letters and Science, 1959-1969

A more detailed study was undertaken for all women in regular faculty positions in the College of Letters and Science during the last eleven years. Miss C. J. Wilson, the Administrative Analyst for regular appointments in the College, kindly provided the subcommittee with information regarding each woman faculty member and her male matches as follows: year of birth, year of doctorate, rank and step for each year in the period 1959/60 to 1969/70 when the faculty member was at Berkeley. Any information, albeit sparse, about the reason for leaving was also provided. All matches were in the same department and of blanketing age, date of doctorate, and date of appointment or promotion. There were 42 women but for 2 of these no match was possible. In one department there were four women to be compared to one man. Thus the total number of comparisons is 37. To preserve confidentiality, all identification and department labels were removed before the subcommittee received the data.

The time period is too short to study attrition but we can make a more careful study of promotion differences. Not only can we study the probability of being promoted to tenure rank but also, since information on steps is available, we can compare the average number of steps advanced per year and the highest step achieved, for the woman relative to the average of her male peers. The sample is large enough to be split into young and old women, according to year of birth. The results of the study are summarized in Table V-2. The observed rate of advancement is lower for women than for men for each of the three measures of advancement and for both age groups (as well as for the combined sample).

The probability of obtaining tenure either before or during the period is less for women than for men, the decrease being 9% (the decrease is 14% for young women, those born after 1920). The average difference in the number of steps advanced per year at Berkeley during the period, men minus women, is -0.14 for young women which is one step less per seven years, on the average. The average difference is only -0.04 per year during the period for the old group but it is -0.10, one step less per ten years, for the combined group of 37 paired comparisons. Stated in terms of salary, a woman can expect a salary differential between herself and her male matches in the same department of about $800 per annum for each ten years at Berkeley. The highest step achieved during the period studied is also lower for women than for men, on the average. For the older group, most of whom were observed at Berkeley during the entire 11-year period, the loss in highest achieved is 1.07 steps. The younger women tended to enter later and were observed about half as long; the average difference in highest step is -0.48, half a step loss.

The significance probabilities corresponding to these measures are all small and often significant. A multivariate test, Hotelling's T^2, was used to consider the three measures simultaneously. This test

Table V-2

DIFFERENCE IN PERCENTAGE PROMOTED, DIFFERENCE IN RATE OF ADVANCEMENT, AND DIFFERENCE IN HIGHEST STEP ACHIEVED, MEN MINUS WOMEN

College of Letters and Science, University of California, Berkeley, 1959/60-1969/70

Age group	Young (born after 1920)	Old (born 1920 or before)	Combined
Total number of comparisons	22	15	37
Percent promoted to tenure by 1969/70: Men	62	96	75
Women	48	93	66
Difference	-14	-3	-9
Significance probability	0.10		0.10
Average difference in number of steps advanced per year	-0.14*	-0.04	-0.10*
Significance probability	0.03	0.22	0.02
Average difference in highest step achieved	-0.48	-1.07*	-0.71*
Significance probability	0.08	0.01	0.005

*Significant difference at 0.05 probability level.

Note: For 10 of the 15 "old" comparisons, tenure had already been reached in 1959/60. For some of the "young" comparisons, tenure can be expected after 1969/70.

rejects the hypothesis that men and women advance at the same rate, with significance probability 0.07. Since 15 of the 37 paired comparisons were already at tenure rank at the start of the period, the first measure is not very sensitive. Using only the last two measures, the significance probability is 0.02. Men and women do not advance at the same rate, as judged by the study of the regular faculty in the College of Letters and Science. Women advance more slowly.

Recommendations for further study

A much more exhaustive study, using at least the detailed personnel folders of the matched pairs would be required to try to understand the reasons for the observed differences in promotion rates. Several persons familiar with the personnel records have informed the subcommittee that there are evidences of discrimination in promotion at the department level, but they believe these do not account for all the differences observed. We recommend that further study be undertaken.

Studies at the national level have raised some of these issues but have not contained the controls necessary to clarify completely why women tend to be at lower ranks and in less prestigious institutions. In one study (Simon, Clark and Galway, Social Problems, Vol. 15, 1967, pp. 221-236) of 1764 women and 492 men, matched on the field and degree date, receiving Ph.D.s between 1958 and 1963, the full-time academic professionals in the sample (670 unmarried women, 148 married women with no children, 234 with children, 354 men) were compared for various measures of professional productivity and commitment. Women were more likely to be committee members or office holders in professional organizations, and were much more likely to have received at least one post-doctoral fellowship. The women doctorals publish as much as men (married women without children somewhat more than men, unmarried women and women with children slightly less). Yet women are less likely to be employed in the prestige institutions which provide the pressures, stimulation, and lower teaching loads that aid publication rates. In this particular study, women were more likely than men to be hired at colleges rather than universities. Since the type of institution was not controlled in the matching of men and women, the results cannot be evaluated. For this reason, it would be desirable to compare directly pairs matched within departments as we did in the studies above for promotion rates and attrition.

However, suppose one accepts the current publication rates of women as an estimate, presumably conservative, of their potential publication rate, and suppose one assumes that publication rate is the principal basis for employment. Then women are underemployed at prestigious institutions, especially at Berkeley. The top decile academic institutions, on the basis of prestige, employ 29.1% professorial rank persons who have published at least ten articles, 40.1% who have published less than ten, and 30.8% non-publishers.* If these ratios of employment are applied to women, according to their present publication rates, the top decile institutions should have employed 12.7% women in

*D. G. brown, The Mobile Professors, Washington, D.C., American Council on Education, 1967, page 79.

their professorial ranks. Actually, they employ only 8.8% women while Berkeley employs only 3.6% women, meager indeed by this standard.

Conclusions

The three studies of Berkeley women faculty, the study by the Budget Committee, the early and late period study based on information in the General Catalogue, and the study of the faculty in the College of Letters and Science with detailed data for the last eleven years, are all consistent in their indications that, on the average, women advance more slowly than men on the Berkeley faculty. They are less likely to be promoted. On the other hand, they tend to remain on the faculty longer than do their male peers, matched in the same department.

A more exhaustive study, using at least the detailed personnel folders of the matched pairs, is strongly recommended. There is some evidence of discrimination in advancement and some evidence (not conclusive but perhaps conservative) of marked underemployment of women in professorial ranks at Berkeley.

Appendix VI

EXAMINATION OF UNIVERSITY OF CALIFORNIA INSURANCE SYSTEMS FOR POSSIBLE DISCRIMINATION AGAINST WOMEN

Summary: The University of California's Insurance Systems have no discrimination against women, whether academic or non-academic, in the employee life insurance, accidental death and dismemberment, and dependent life insurance policies, or in the Regents' death benefit allowance. However, inequities against women (attributed to traditional family patterns) do exist in the Retirement System's Death Benefit Schedule. Furthermore, the actuarial tables used in the Retirement System and the Short Term Disability Plan depend on sex, with women paying more.

Regents' Death Benefits

The Regents have issued a standing order to pay one month's salary of the deceased employee to the "spouse" or next eligible beneficiary. The wording of the order was changed recently from "dependent." The payment upon death is independent of the Retirement System benefits.

U. C. Retirement System

a. Death Benefits. Under this system the dependency of the husband is required if the wife is the University employee and dies. This is not true if the husband-employee dies. This policy is "traditional in public retirement systems," according to Mr. David T. McKibben of the University Retirement Systems Office. To his knowledge, changing this rule has never been discussed. He feels this policy is archaic because it is based on the idea that men are the sole breadwinners of the family. No difference exists between academic and nonacademic employees in the rules concerning benefits.

b. Difference in Contribution Rates. The retirement system contribution rate is based on actuarial tables. Women tend on the average to live about five years longer than their male counterparts. Actuarial tables are also used for the optional annuity plans. The Retirement System is considering setting one rate only, which will be lower than the women's rate and higher than the men's, but this is several years in the offing.

There is no difference between academic and nonacademic, or male and female in the Regents' contribution. The rate is 8.36% of the employee's gross monthly income. In addition, if the employee is an instructor, professor or equivalent, the Regents contribute 3% of the employee's portion. For example, if the employee's rate (based on age and sex) is 8.88%, the employee pays only 5.88% himself.

c. Monthly Retirement Payments. The University System is different from the State Teachers' and the Federal Systems because the factor used to determine the amount of benefits after retirement is one rate for both men and women. Therefore, the University is more progressive in this respect (because additional contributions make this one rate feasible).

Health Insurance Rates

All University health insurance rates are based on a one-party, two-party, and three-or-more-party basis, according to whether the employee wishes to cover one or more family members. An increase in premiums, along with a corresponding increase in maternity benefits, took place at the beginning of 1970. Two-party coverage now costs more than twice the amount of one-party coverage--regardless of sex or age. But note that the difference in premiums between two-party and three-or-more-party coverage is much less than the difference between one-party and two-party. These rates are probably based on the fact that the second party covered is usually the wife. However, there must be quite a few cases when the second party covered is a child. A woman is more likely to be in a position of having dependent children and no spouse, or she may not want to include her spouse because he can be more inexpensively covered by his own employer. These rates in many cases do make it too expensive for the employed woman to buy basic health insurance coverage for her family.

Other University Insurance Policies

No sex difference exists in the employee life insurance, accidental death and dismemberment, and dependent life insurance policies.

The short-term disability income replacement insurance is more expensive for women. The reason given is in the cost area: the benefits paid to women are greater than to men, on an actuarial basis. The insurance company states that it bases rates on experience in paying claims.

Appendix VII

COMMITTEES OF THE BERKELEY DIVISION OF THE ACADEMIC SENATE

Women rarely hold important positions in the Berkeley Division of the Academic Senate, and this has been the case throughout the history of the Senate. Table VII shows the number of men and women, averaged per decade, appointed to the more important (more visible) Senate committees. The data refer first to the Senate, then to the Northern Division, and since 1957/58 to the Berkeley Division.

So far as the records show, no woman has ever been elected to the Committee on Committees, and no Berkeley woman has ever been appointed to the Budget Committee or to the Committee on Educational Policy or to Academic Planning. At present there is one woman on the Senate Policy Committee and one on Courses of Instruction but 20 of the 28 committees have no woman member.

The 9 women appointed (8 faculty and 1 dean) during 1969/70 amount to 4.1 percent of the 217 appointments to committees. Based on strict representation of the 45 faculty women among the 1249 active faculty in the Berkeley Division, the expected number appointed to committees would be 7.8 which agrees remarkedly well with the 8 faculty women actually appointed. In previous years, particularly throughout the entire thirties and forties, women were grossly underrepresented, often to the extreme of zero appointments.

Appendix VIII

ADMISSION TO THE GRADUATE DIVISION

The Graduate Division allowed the subcommittee to use confidential information on the admission of men and women to the Graduate Division by department. These data refer to formal applications and list the total number of applicants, the number of applicants admitted, the number denied admission, and the number whose applications were incomplete for each quarter of the year 1969 by department and sex. Also listed is the percentage of women in each category.

Table VIII shows the number of men and of women in each category for the various fields (composed of near departments) within the Graduate Division. Also shown is the percentage of women in each category. We note that 31% of the total formal applications were made by women while only 29% of the total admissions go to women. For the year 1969 women are more successful, relative to men, in gaining admission in the agricultural sciences and the biological sciences, while they appear to be less successful by 4% in the arts and in the professional programs.

Figure VIII compares the percentage of admissions with the percentage of formal applications from women for each department, since recommendations for admissions to the Graduate Division actually are made at the department level. If the percentage of admissions who are women were exactly equal to the percentage of applicants who are women, all the points would lie on the diagonal line; if the percentage of

Table VII

NUMBER OF MEN AND WOMEN APPOINTED TO SELECTED SENATE COMMITTEES

Average per decade. 1920/21-1956/57: Northern Division; 1957/58-1969/70: Berkeley Division

Committee	Twenties Men	Twenties Wom	Thirties Men	Thirties Wom	Forties Men	Forties Wom	Fifties Men	Fifties Wom	Sixties Men	Sixties Wom	50-yr. average Men	50-yr. average Wom
Chairman, Vice-Chair	1	0	1	0	1	0	1	0	1	0	1	0
Secretary	1	0	1	0	1	0	1	0	1	0	1	0
Acad Counc Univ Counc	24.7	0	26.0	0	--		4.9	0	5.0	0	15.2	0
Acad Free	--		--		5.0	0	5.0	0.3	5.8	0.1	5.4	0.2
Acad Plann	--		--		--		--		6.0	0	6.0	0
Admiss + B of Admiss	6.9	0.3	10.1	0	7.3	0	4.9	0	5.5	0.1	6.9	0.1
Advisory	--		--		3.2	0	3.0	0	3.0	0	3.1	0
Assem Rep	--		--		--		--		15.2	0.2	15.2	0.2
B Educ Devel	--		--		--		--		8.3	0	8.3	0
Budget	5.4	0	5.0	0	5.9	0	5.5	0	6.6	0	5.7	0
Committees	6.1	0	6.0	0	6.7	0	9.2	0	9.8	0	7.6	0
Counc Grad Div, Grad Counc	17.8	0.5	18.0	0	18.6	0	22.7	0.3	21.4	0.6	19.7	0.3
Courses	8.4	0.4	7.1	0	7.3	0	8.9	0.6	14.6	0.6*	9.2	0.3
Educ Pol	25.3	0	14.8	0	13.1	0	9.3	0	9.8	0	14.5	0
Emerg Exec	--		--		12.2	0	---		--		12.2	0
Library	8.5	0	9.5	0	9.7	0	9.9	0.4	9.7	0.1	9.5	0.1
Priv and Tenure	7.3	0	7.0	0	7.8	0	7.1	0.3	5.9	0.2	7.0	0.1
Research	8.4	0	8.9	0	8.1	0	8.5	0	7.8	0.1	8.3	0.0
Rules and J	4.0	0	3.3	0	3.0	0	3.1	0	3.2	0	3.3	0
Sen Policy	--		--		--		---		8.0	0.5	8.0	0.5
Stud Aff, Stud Welf	4.3	0	--		--		--		4.2	0.6	4.2	0.4
Teaching	--		--		--		--		4.6	1.0*	4.6	1.0
Univ Welf	4.3	0	3.3	0.6	6.4	0.5	8.3	0.6*	6.3	0.3	5.7	0.4

*Woman chairman one year.

Table VIII

COMPARISON OF NUMBER OF APPLICANTS AND NUMBER OF ADMITS, OF DENIES, AND OF INCOMPLETES TO GRADUATE DIVISION

Comparison of Percentage of Applicants Who are Women with Percentage of Admits Who are Women, etc.

University of California, Berkeley, Calendar Year 1969

Field	Applicants			Admits			Denies			Incompletes		
	Number		%	Number		%	Number		%	Number		%
	Men	Wom	Wom	Men	Wom	Wom	Men	Wom	Wom	Men	Wom	Wom
Ag Sci	255	69	21	127	40	32	91	24	21	37	5	11
Arts	205	290	59	94	117	55	89	152	63	22	21	49
Bio Sci	418	211	34	185	107	37	169	78	32	64	26	29
Engineer	2,070	40	2	1,162	24	2	567	8	1	341	8	2
Lang, Lit	694	701	50	420	417	50	220	220	50	54	64	54
Physc Sci	1,599	206	11	906	119	12	549	74	12	144	13	8
Profession	3,575	2,462	42	1,835	1,125	38	1,251	982	44	489	355	42
Social Sci	2,308	950	29	668	264	28	1,467	621	30	173	65	27
Total	11,124	4,929	31	5,397	2,213	29	4,403	2,159	33	1,324	557	30

Source: Graduate Division

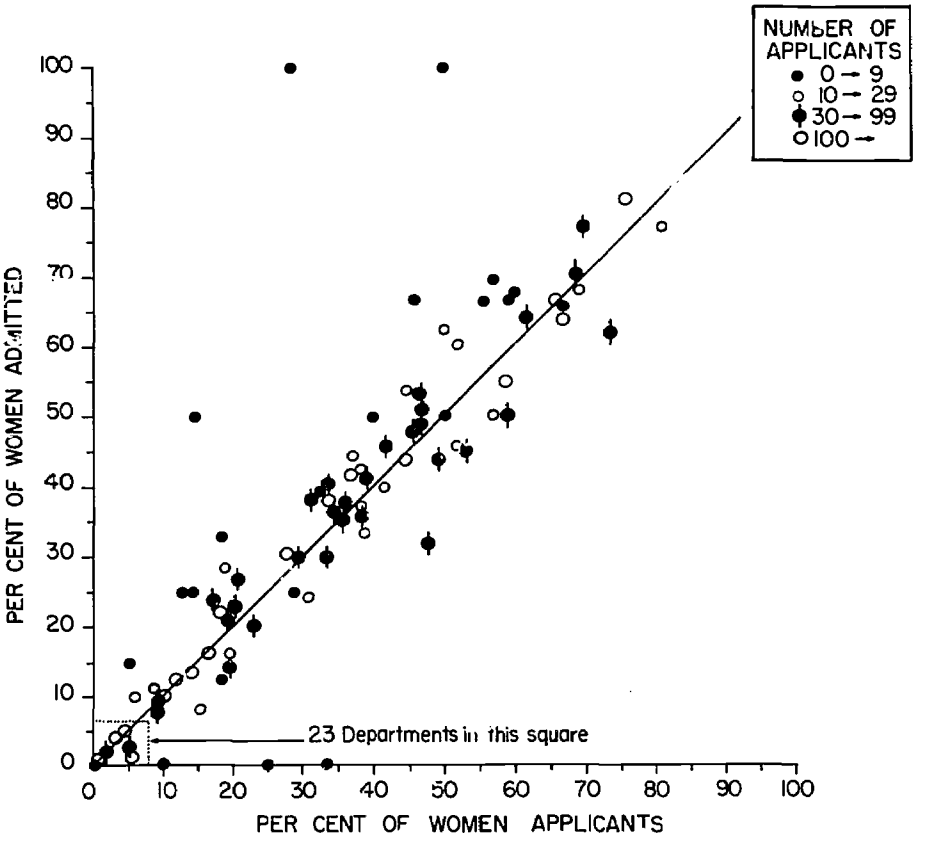


Figure VIII

COMPARISON OF PERCENTAGE OF ADMITS WHO ARE WOMEN
WITH PERCENTAGE OF APPLICANTS WHO ARE WOMEN

Graduate Admissions to Departments
Graduate Division, University of California,
Berkeley, calendar year 1969

women admitted is high, the point will be above the line; and if it is low the point will be below the line. Most of the points are near the diagonal line. The departments with points far from the line all have applicants, less than 10, so that their deviations could be explained by sampling fluctuations. Even though there were discrepencies when we looked at admissions by field, there do not seem to be particular departments that we can point to as the cause of the deviations. It would be useful to have data for more years.

Unfortunately, there is no information as to the ability of the applicants. Granted that admission of graduate students is a complex decision, we recommend a study using some measures of the student's ability, for example, the undergraduate grade point average in the field and the ratings provided by the recommending professors.

We emphasize that Table VIII and Figure VIII refer to formal applications only. We have no reliable data on encouragement or denial by letter or interview. However, there is some evidence of undue discouragement from our questionnaires and interviews with graduate students (see Appendix XIV).

Appendix IX

FINANCIAL SUPPORT OF GRADUATE STUDENTS

The principal types of financial support in which the University plays a role are fellowships, teaching assistantships, and research assistantships. The Graduate Division provided the subcommittee with a summary of the results of the 1969 fellowship competition at Berkeley. There were formal applications for fellowships from 1492 men and 478 women. The results indicate that women have a slightly higher probability than men of receiving a fellowship (out of those who actually apply). Prime awards (definite first-choice awards) went to 48% of the men who applied and to 52% of the women. Alternate awards went to 23% of the men and to 25% of the women. On the other hand, 7% of the men received national awards (in national competition) and only 4% of the women did. Looking at the total picture, 78% of the men applicants received some sort of award, while 81% of the women received something. We have no information as to the field of the applicants nor do we have any measure of their ability. We urge the Graduate Division to carry out a more complete study of fellowship awards, for each department separately, according to the level of the student and, more important, using some measure of the applicant's ability (for example, grade point average in graduate work and in the last two years of undergraduate work in the field combined with the scores marked by the recommending professors). As in the study of admission opportunities (see Appendix VIII), the simple percentage of formal applicants may not tell the whole story. We need to relate the probability of receiving an award to some measures of the ability of the applicant. Likely to be important, the contention that women graduate students are being unduly discouraged from applying for fellowships should be investigated (see Appendix XIV).

The awarding of teaching and research assistantships is at the

department level (actually, departments rank and recommend fellowship applicants in their field to the Graduate Division for later action as to awards). The process is handled differently by different departments. There are no consistent records, and a detailed study would be required by each department. A careful study was made in the History Department by C. Page and K. Strehl and made available to the subcommittee. We summarize the information provided by giving the percentage of women in different categories.

Category	Percentage of women in category	
	1968/69	1969/70
Applicant for admission	?	27
Admitted	24	30
Currently enrolled	21	26
Research Assistant	30	36
Teaching Assistant	24	17
Applicant for Teach. Asst.	21	15
Ford Program Fellow	?	32
Acting Instructor	24	18

If the comparison is to be based on the percentage of women receiving support opposed to the percentage of women currently enrolled in History, we should compare the numbers in the first column with 21%, and those in the second column with 26%. In the first column, none of the percentages presented are less than 21%. Based on percentages, there is no evidence that women did not receive their fair share of support in 1968/69. A glance at the second column shows that the percentage of women out of the Teaching Assistants is too low, 17% compared to 26%, and that the percentage of Applicants for TA is ever lower, 15%. Thus, women appear to be under-represented as Teaching Assistants but the difficulty seems to lie in the low application rate. Further study is needed, including a study of the relative ability of the applicants.

Another source of information on financial support is for persons who have already received the doctorate. Beginning late in 1966, the National Academy of Science-National Research Council Survey of Earned Doctorates at the University of California, Berkeley requested information about the number of semesters of financial support of particular types from each doctorate shortly after the degree was awarded. Such retrospective evidence is difficult to interpret and may be misleading. For example, many students who do not receive financial support, or not enough support, cannot continue with their studies and do not receive the doctorate (and thus do not enter the Survey). Perhaps this difficulty occurs more often for women than men; we do not know. Nevertheless, the subcommittee did compare the distribution of the number of semesters of support for men and for women. As can be seen from Figure IX, the distribution is much the same for men and for women with the exception of those doctorates who received no support whatsoever (zero semesters of support). This is true in each field as well as overall. More women than men received no support and yet went on to receive the doctorate.

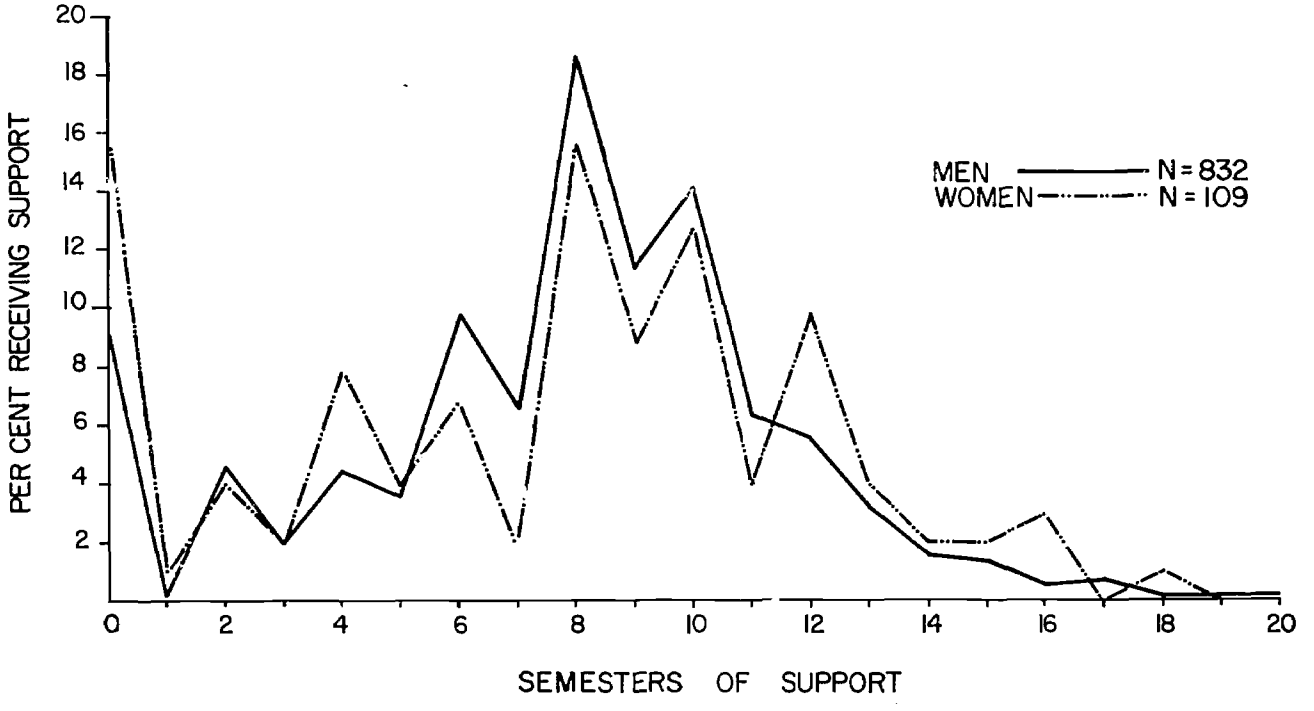


Figure IX

DISTRIBUTION OF NUMBER OF SEMESTERS OF SUPPORT

Percentage of Ph.D.s by number of semesters of support
All fields, University of California, Berkeley
(Retrospective: Students who did obtain degree in late 1966, 1967, early 1968 -- only years reporting)

We examined the percentage of men and women who received no support separately for each field and for fellowship, teaching assistantship and any type of support. The fields here are those reported by the students in the Survey. Ignoring those fields where there are almost no women, there is evidence (see Table IX) that women doctorates are more likely to have received no teaching assistantship and also more likely to have received no support of any kind. The overall percentage of men who received no support as a teaching assistant is 33%, the corresponding percentage for women is 44%, which is 11 percentage points worse. The percentage who received no support of any type is 9% for men and 15% for women, a large difference.

Appendix X

NUMBER OF DEGREES AWARDED TO WOMEN
TOTAL AND BY DECADE AND FIELD

The number of degrees awarded to women is increasing at each level. However, the number of degrees awarded to men is increasing even faster so that the proportion of higher degrees going to women actually decreased markedly from 1930 to 1950 and is now slowly climbing back to its 1930 value. The percentage of Master's and Doctor's degrees going to women in the United States for each ten years from 1900 is shown in Figure X-1 (Source: Department of Labor, Women's Bureau, 1969 derived from Bureau of Census and Office of Education). The number of degrees at each level is given in Figure X-2 on a logarithmic scale for the ten years 1957-1967 in order to emphasize how nearly parallel the plots are for men and women, and thus how constant the ratio of degrees granted to women is. Note, however, that the distance between the male curve and the female curve increases as the level of the degree increases showing that the percentage of degrees going to women decreases as the level of the degree increases.

It is clear from Figure X-2 that part of the increase in the number of degrees granted is just due to the increase in population, say, the increase in 18-year olds four years earlier for Bachelor's degrees, six years earlier for Master's degrees, and nine years earlier for Doctor's degrees. Figure X-3 shows that the increasing population does not begin to explain the increases in the number of doctorates. The plot shows the ratio of the number of doctorates to the number of 18-year olds nine years earlier. For the entire United States production of doctorates compared to the US population for each sex separately, the increase in the percentages is striking, especially for men. Plots are given also for Berkeley (only) doctorates compared to the number of California 18-year olds nine years earlier for the years when the data exist (Source: computed from Office of Education and Bureau of Census data supplied by G. Haggstrom). Here also the percentages are increasing, especially for the men. (Presumably the ratio of UCB doctorates to California 18-year olds is only half as high as the US ratio because no other university is included; this fact certainly explains a large part of the difference.)

Table X lists the number of doctorates awarded to men and to women at Berkeley for each decade, starting with the twenties, according

Table IX

SUPPORT OF MEN AND WOMEN DOCTORAL RECIPIENTS

University of California, Berkeley

Retrospective: Students reporting who did receive doctorate late 1966, 1967, early 1968 (some missing data)

Type of Support	Fellowship						Teaching Assistantship						Any Type					
	Received		Did not receive				Received		Did not receive				Received		Did not receive			
Field	Men	Wom	Men	%	Wom	%	Men	Wom	Men	%	Wom	%	Men	Wom	Men	%	Wom	%
Math, Stat	35	3	22	39	0	0	40	3	11	22	1	25	67	4	3	5	0	0
Physics, Astr	41	1	24	37	0	0	42	1	24	36	0	0	85	3	5	6	0	0
Chemistry	37	3	17	32	1	25	56	4	7	11	0	0	68	5	1	1	0	0
Earth Sci	13	1	5	28	0	0	15	0	3	17	1	100	20	1	1	5	0	0
Engineer	71	1	52	42	0	0	73	1	49	40	0	0	164	1	11	6	0	0
Agric, Biol	68	25	19	22	4	14	52	17	25	32	8	32	95	30	6	6	2	6
Psychology	15	7	5	25	2	22	11	5	6	35	4	44	19	8	1	5	1	11
Social Sci	89	11	43	33	7	39	82	9	47	36	10	53	142	17	17	11	3	15
Arts, Hum, Lang	37	8	24	39	7	47	48	10	16	25	5	33	61	16	10	14	3	17
Education	12	2	31	72	12	86	17	3	29	63	12	81	37	8	17	32	7	47
Total	418	61	242	37	33	35	437	53	217	33	41	44	760	93	72	9	16	15

Note: Possibility of some confusion in data between zero support and missing data on support.

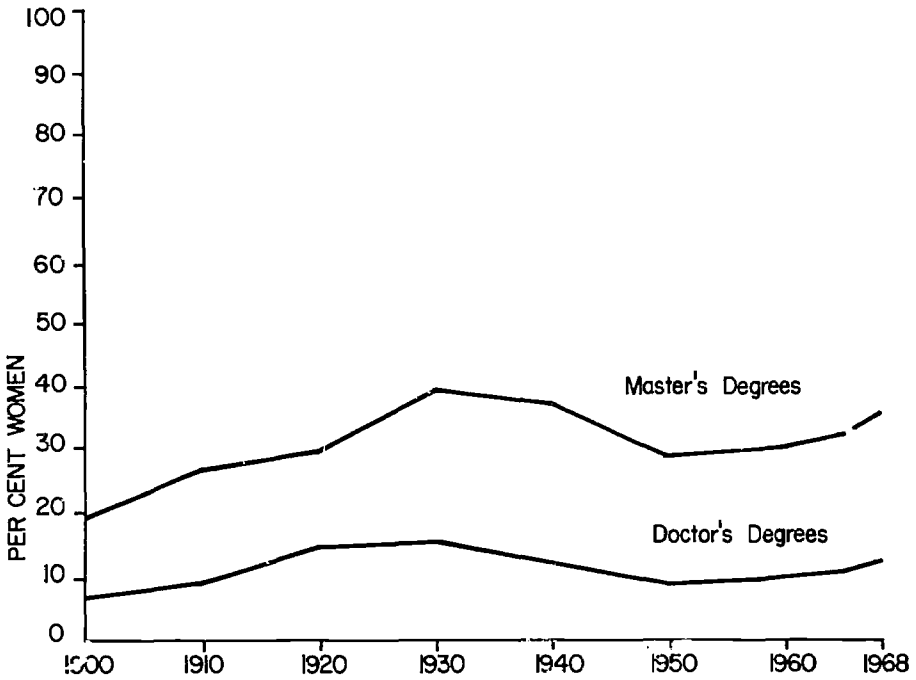


Figure X-1

PERCENTAGE OF ADVANCED DEGREES EARNED BY WOMEN

ALL UNITED STATES

Source: Bureau of Census and Office of Education

Trends in Educational Attainment of Women, Women's Bureau, Department of Labor

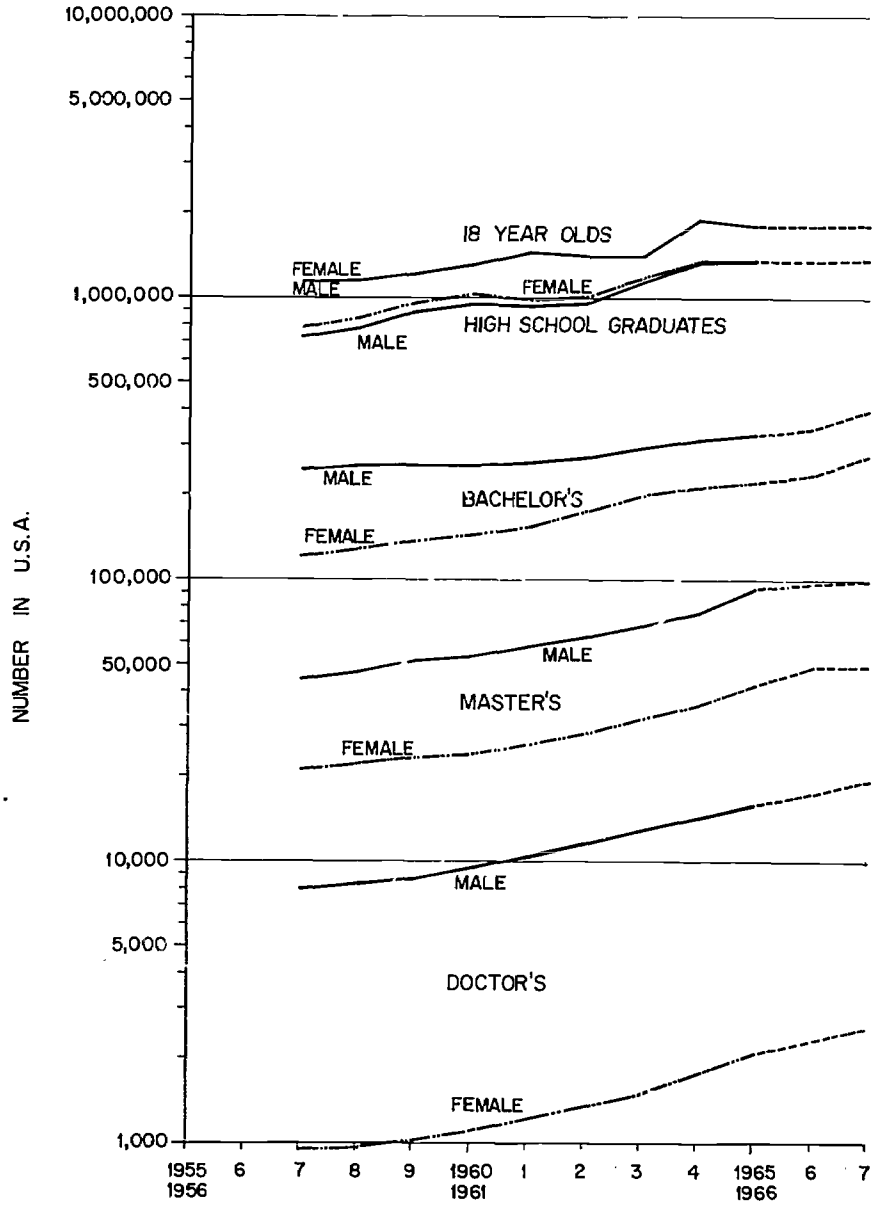


Figure X-2

NUMBER OF DEGREES AWARDED IN UNITED STATES

Increase in number of degrees awarded during the last ten years at each level, with fewer degrees awarded to women.

Note: Number of degrees on log scale. Office of Education

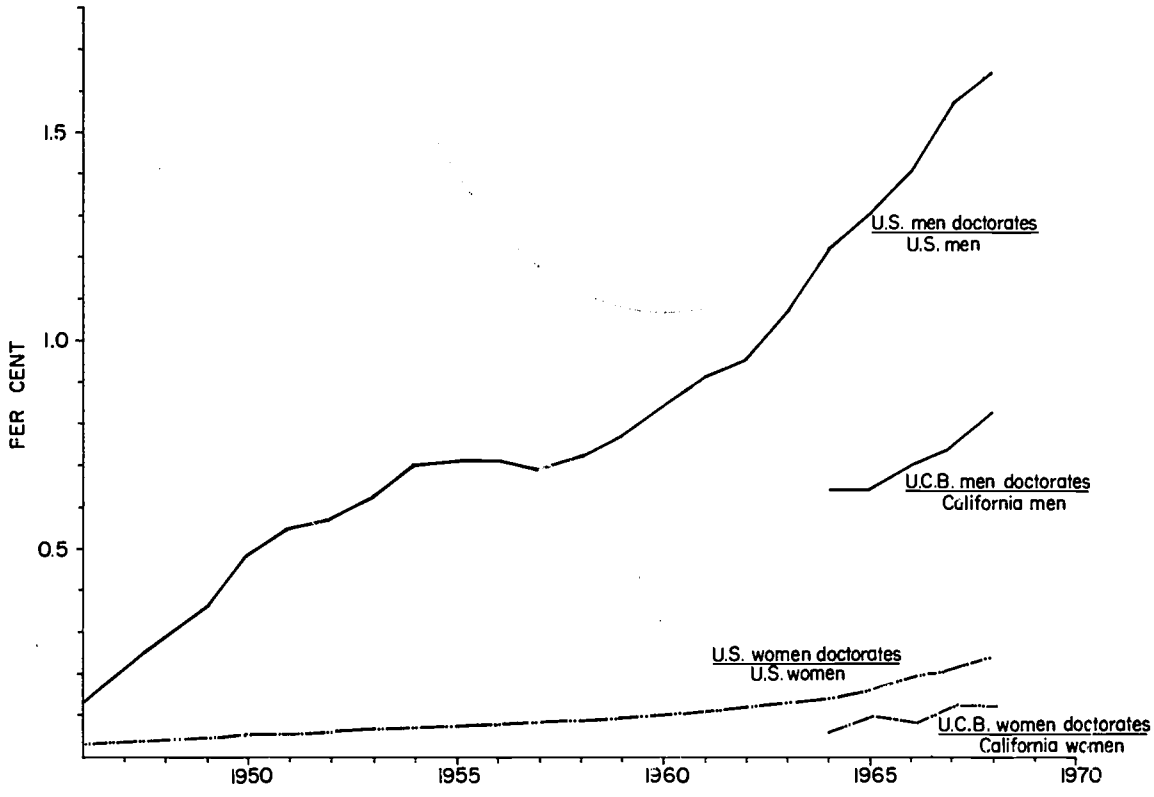


Figure X-3

PERCENTAGE OF DOCTORAL DEGREES TO NUMBER OF 18-YEAR OLDS NINE YEARS EARLIER

Shown separately for entire United States and, for the five years when data available, for University of California, Berkeley degrees compared to California 18-year olds nine years earlier

Table X

NUMBER OF DOCTORATES AWARDED TO MEN AND TO WOMEN BY DECADE AND FIELD
University of California, Berkeley

Field	1920-29			1930-39			1940-49			1950-59			1960-68			Total 49 yrs.		
	No. Men	No. Wom	% Wom	No. Men	No. Wom	% Wom	No. Men	No. Wom	% Wom	No. Men	No. Wom	% Wom	No. Men	No. Wom	% Wom	No. Men	No. Wom	% Wom
Mathematics	18	2	10	24	3	11	39	5	11	96	5	5	274	16	6	451	31	6
Physic,Astr	42	6	12	92	11	11	96	4	4	360	11	3	456	9	2	1046	40	4
Chemistry	89	1	1	107	3	3	143	5	3	328	18	5	369	25	6	1036	52	5
Earth Sci	19	0	0	34	3	8	19	1	5	61	4	6	100	3	3	233	11	4
Engineer	6	0	0	16	0	0	18	0	0	166	0	0	671	4	1	877	4	0
Agricul	19	1	5	13	1	7	24	1	4	27	1	4	32	0	0	115	4	3
Biology	80	18	18	198	33	14	288	34	11	616	71	10	555	107	16	1737	263	13
Psycholog	7	7	50	21	11	34	31	9	22	130	27	17	148	57	28	337	111	25
Anthropol	4	1	20	13	8	38	14	2	13	31	9	23	55	16	23	117	36	23
Economics	29	3	9	65	5	7	37	0	0	186	8	4	218	10	4	535	26	5
History	45	5	10	78	18	19	84	13	13	141	10	7	176	21	11	524	67	11
Geography	3	0	0	6	0	0	8	1	11	24	0	0	24	0	0	65	1	1
Poli Sci	15	0	0	26	2	7	24	4	14	69	3	4	97	8	8	231	17	7
Sociology	0	0	-	2	0	0	1	1	50	26	3	10	63	14	18	92	18	16
Arts, Music	0	0	-	0	0	-	1	0	0	7	3	30	13	5	28	21	8	28
English	8	8	50	23	15	40	29	9	24	69	7	9	93	23	20	222	62	22
Languages	18	6	25	40	12	23	41	9	18	95	16	14	134	30	18	328	73	18
Philosoph	6	1	14	16	2	11	19	2	10	21	4	16	30	1	3	92	10	10
Prof Field	0	0	-	3	6	67	1	0	0	3	0	0	69	9	12	76	15	16
Education	47	6	11	79	14	15	71	20	22	216	51	19	325	79	20	738	170	19
TOTAL	455	65	12	856	147	15	988	120	11	2672	251	9	3905	437	10	8876	1020	10

Source: National Academy of Sciences - National Research Council "Survey of Earned Doctorates" through Graduate Division, University of California, Berkeley.

Note: Field is designated by doctorate--often does not coincide with department.

to field. Also listed is the percentage of doctorates going to women. For quite a few fields, as well as the total for Berkeley, the percentages have decreased through the years and are now well below their values in the twenties: mathematics, physics and astronomy, psychology, economics, English, languages. In education there has been an increase, then a levelling off. Considered as a whole, and for many fields, the percentages of doctorates going to women at Berkeley is less than the national average and less than what it used to be.

Appendix XI

RELATIVE "SUCCESS" OF WOMEN IN OBTAINING DEGREES

The percentage of graduate majors who obtain the doctorate and the number of years required depend very much on the department. The percentage of degrees awarded is high and the time to degree is short, 3 or 4 years, in some of the physical sciences while the percentage is low and the time to degree is long, 7 to 10 years, in most of the humanities and languages. It happens that the enrollment of women graduate students is highest in just those departments where the production rate of doctorates is the lowest and slowest--lowest and slowest for men as well as women. A study (J. D. Mooney, Jour. Human Resources, vol.3, pages 47-62) of a highly selected sample of graduate students, the Woodrow Wilson Fellows elected in 1958 to 1960, shows that of the 57 Fellows at Berkeley in the humanities, only 21% had obtained the Ph.D. eight years later, 22% of the 55 Fellows in social sciences had the doctorate (both of these figures are low compared to other outstanding universities), but 75% of the 56 Fellows in the natural sciences had the Ph.D. from Berkeley. Thus, it is important to compare men and women graduate majors in the same department when we study "success" as measured by obtaining the doctorate.

Figure XI-1 shows comparisons of the percentage of women majors with the percentage of degrees awarded to women for the five-year period 1962/63-1966/67 at the University of California, Berkeley. Each plot refers to different degree information: bachelor, all higher degrees, master only, and doctor only. Each dot corresponds to one of the selected departments studied in the earlier appendices. An open circle is used if the department awarded less than 10 degrees of the type shown during the five-year period, a slashed circle corresponds to 10 to 29 degrees awarded in five years, and a solid dot to 30 or more degrees.

The plot in the upper left compares percentage women undergraduate majors with the percentage of women bachelor's awarded in the same department for the same five years. If the performance of women, as measured by success in obtaining a bachelor's degree, were exactly the same as the performance of men in the same department, the points for each department would lie on the diagonal line. All the points lie close to the line with as many above it (women more successful) as below it (women less successful). And differences could be explained as statistical fluctuations. The indications are that women are as successful as men as measured by the bachelor's degree.

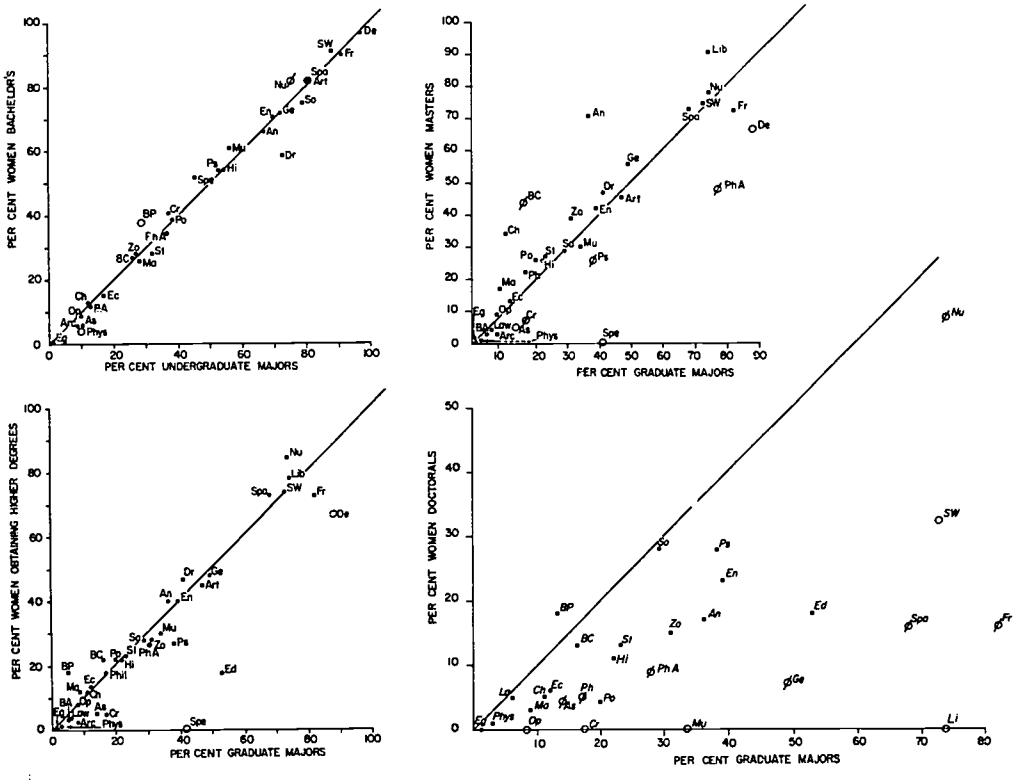


Figure XI-1

RELATIVE "SUCCESS" OF WOMEN IN OBTAINING DEGREES

Percentage of degrees awarded to women compared to percentage of majors who are women. Selected departments, University of California, Berkeley five-year period, 1962/63-1966/67. Open circle: departments awarding less than 10 degrees of that type in the five years. Slashed circle: 10 to 29 degrees in five years. Solid dot: 30 or more degrees.

The plot in the lower right gives similar comparisons of the percentage of women obtaining higher degrees to the percentage of women graduate majors. With a few exceptions, particularly Education and Speech, any discrepencies from the line corresponding to equal performance could be attributed to the small number of degrees awarded in the department (and Speech has very few). The discrepency in Education is probably due to the fact that no account is taken of graduate certificates.

A comparison of the upper and lower figures on the right indicates that graduate women tend to obtain master's degrees rather than doctor's. The symbols in the upper figure, corresponding to master's degrees, tend to lie above the line of equal performance with men, indicating that a larger percentage of master's degrees go to women than to men relative to their percentage of graduate majors. On the other hand, in the lower plot referring to women doctorates, most of the points lie below the line corresponding to equal performance. Note that the scale had to be doubled on this plot because the percentage of women obtaining doctorates is so small that the points would not be distinguishable otherwise. We should emphasize that the term graduate major used here includes all graduate students irrespective of the degree or certificate sought.

It would seem reasonable to compare the percentage obtaining a doctorate with the percentage of those whose goal is the doctorate. Information about the goal of individual students is not available for the years 1962/62-1966/67 for which the degree and major information is available (University Office of Analytical Studies, files of the Berkeley Office of Institutional Research--these data should be published but are not). However, the Graduate Division made a special study for the subcommittee of the graduate students registered in the Winter Quarter, 1970 in order to estimate the percentage with specified goals for each department, making use of data collected by the Registrar from the student for the last two years. For most departments, the percentage of women graduate majors whose goal is the doctorate is smaller than the percentage of men graduate majors with the same goal. This is because many women seek only a certificate or are preparing themselves for high-school teaching. We do not have time to follow these Winter, 1970 students whose goal is the doctorate to determine whether they are successful. However, we can estimate the percentage of advanced graduate students who are women during the five-year period by assuming that the same correction factor applies throughout the period as computed for Winter, 1970 for the department. Figure XI-2 is a redrawing of the lower right plot of Figure XI-1 using the adjusted percent of advanced graduate majors who are women as estimated. The points do tend to shift to the left, which makes them closer to the diagonal line of equal performance. Note especially Education and Social Welfare where there are many women seeking certificates or master's. The points which are still well below the line all correspond to departments with few degrees. The largest deviations correspond to the language departments: French, Spanish and German, all of which have a low production of doctorates.

Even after applying the perhaps crude correction to obtain an estimate of the percentage of women seeking the doctorate in each

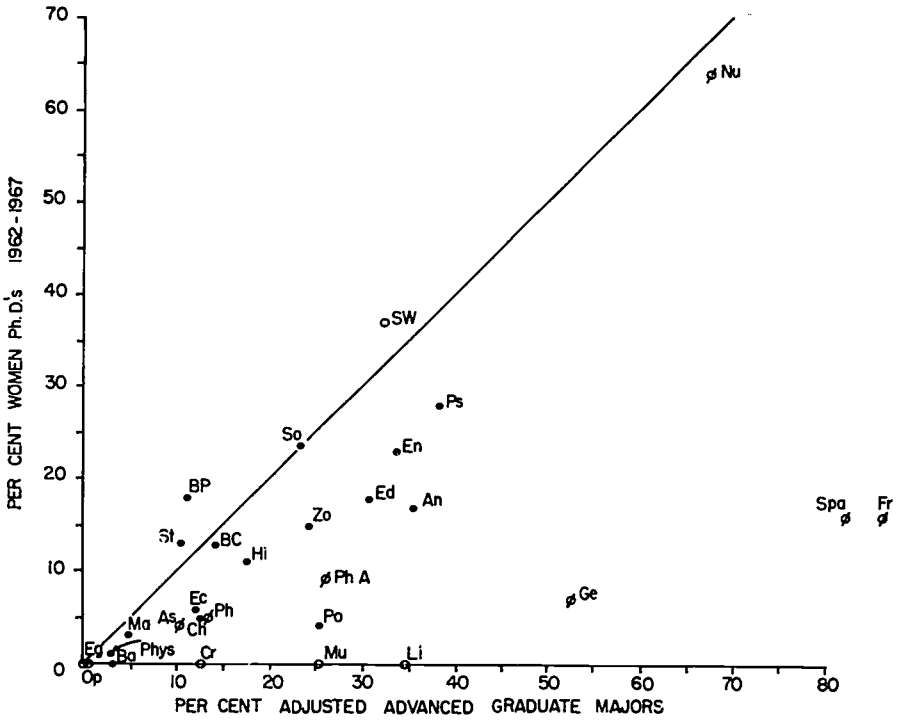


Figure XI-2

RELATIVE "SUCCESS" IN OBTAINING DOCTORATE FOR ADVANCED GRADUATE MAJORS (Estimated)

Percentage doctorates awarded to women compared to estimated percentage of advanced graduate majors. Five-year period, 1962/63-1966/67. Open Circle, departments with less than 10 doctorates awarded in the five years. Slashed Circle, 10 to 29 doctorates in five years. Solid Dot, 30 or more doctorates.

department, the empirical evidence shows many more points below the line of equal performance than above it; women appear to be less successful than men in obtaining the doctorate. The subcommittee thinks that it is important to study whether this apparent difference actually exists and, if so, study the reasons. Some indications of possible reasons are given in Appendix XIV.

The subcommittee's survey of graduate women, reported in Appendix XIV, revealed that many women whom the departments considered as drop-outs actually are continuing their studies, sometimes in a different department or at another institution. Many women who have stopped their graduate studies plan to continue as soon as possible.

Graduate women tend to change their degree goals (as they think of them) while they are in graduate school. Table XI was constructed from replies to the survey. The increase in degree goal for present students is noticeable; equally clear is that many women who wanted a doctorate have stopped, at least for now, with the master's.

Appendix XII

AWARD OF DOCTORATES IN DISTINGUISHED DEPARTMENTS

The percentage of doctoral degrees awarded to women by distinguished departments (rated by quality of graduate faculty) may be used to

1) Compare the performance of Berkeley departments with the performance of other distinguished departments.

2) Serve as a measure of the percentage of available new assistant professors who are women.

The study by A. M. Cartter, An Assessment of Quality in Graduate Education (A comparative study of graduate departments in 29 academic disciplines), American Council of Education, 1966, was used to select the five most distinguished and the ten most distinguished departments on the basis of quality of graduate faculty to be compared with each of the selected Berkeley departments. However, some disciplines are not ranked by Cartter; these are omitted in our tabulation, shown in Table XII. For each discipline that was ranked, we read the number of doctorates conferred on men and on women by each of the distinguished departments for that discipline, and for the three years for which the degree data are available (Earned Degrees Conferred, Office of Education, 1964/65, 1965/66, 1967/68). We used the same conventions that were used in constructing similar tables for Berkeley alone (see Appendix II). In some universities the designation of departments is not the same as at Berkeley. For example, in several distinguished cases there were no doctorates in zoology but there were in biology (and never both); in those cases we used biology.

The data for Berkeley degrees presented in Table II is for a slightly different three years. The percentage of Berkeley doctorates going to women was therefore computed for the same three years as were used for the distinguished departments (which incidentally always include Berkeley). The Berkeley percentages are shown in Table XII

Table XI

CHANGES IN GOALS

Comparison of the Highest Degree Proposed at Entry to Graduate School and the Highest Degree Presently Proposed or the Highest Degree Completed

Degree Proposed at Entry	Present Students: Presently Proposed	Biol Sci	Phys Sci	Hum	Soc Sci	Prof	Past Students: Highest Received	Biol Sci	Phys Sci	Hum	Soc Sci	Prof
MASTERS- - -	Masters	5	4	12	4	53	Masters	13	20	30	11	62
	Ph.D.	9	8	24	11	11	Ph.D.	5	3	4	1	2
	Other*	0	0	1	0	1	Other	0	0	6	1	0
	Undecided	1	1	0	0	0	Undecided	-	-	-	-	-
	None	-	-	-	-	-	None	0	4	8	2	5
PH.D.- - - -	Masters	3	1	4	4	3	Masters	6	10	11	11	4
	Ph.D.	38	25	22	19	4	Ph.D.	18	4	4	0	1
	Other	0	0	0	1	0	Other	0	0	0	0	0
	Undecided	1	1	0	0	0	Undecided	-	-	-	-	-
	None	-	-	-	-	-	None	0	1	3	0	1
OTHER- - - -	Masters	0	0	2	0	1	Masters	0	0	0	0	6
	Ph.D.	0	2	3	1	0	Ph.D.	1	0	0	0	0
	Other	0	0	0	0	0	Other	0	0	1	1	1
UNDECIDED- -	Masters	0	0	0	0	0	Masters	1	1	0	0	0
	Ph.D.	1	2	0	1	1	Ph.D.	0	0	0	0	0
	None	-	-	-	-	-	None	0	0	0	1	0
Total		58	44	68	41	74		44	43	67	28	82

*Other: Teaching credential, certificate, non-degree course work.

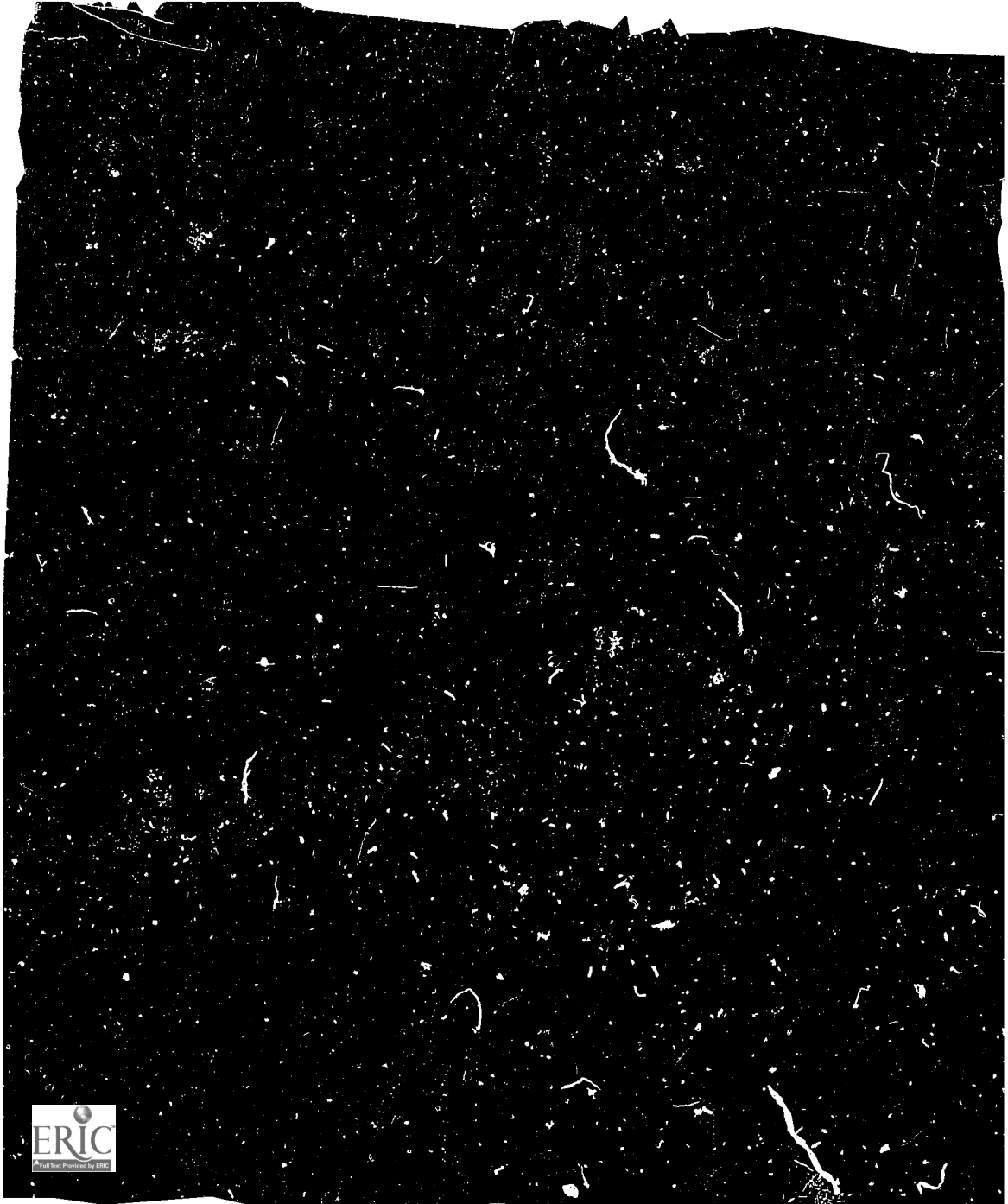


Table XII

NUMBER OF DOCTORATES GIVEN IN 1964/65, 1965/66 and 1967/68 (years available) BY FIELD AND SEX IN THE FIRST FIVE AND THE FIRST TEN DISTINGUISHED DEPARTMENTS (for that field)

Rated by quality of graduate faculty

COMPARISON WITH BERKELEY

	"First Five"			"First Ten"			Berkeley Ph.D's % Women		Berkeley
	Number		%	Number		%	Same	5 yrs	Faculty
Field	Men	Wom	Wom	Men	Wom	Wom	3 yrs	62-67	% Women
Anthrop	100	26	20.6	1155	40	20.5	27.0	17.4	13.2
Architect									
Art									
Astronomy	57	8	12.3	85	11	11.5	7.7	4.0	0.0
Biochem	108	20	15.6	158	34	17.7	14.7	13.3	0.0
Biophysic									
Bus Ad									
Chem	362	27	6.9	814	73	8.2	8.1	4.8	0.0
Criminol									
Design									
Dram Art									
Econ	291	23	7.3	477	35	6.8	11.7	5.6	0.0
Education									
Engineer	1118	2	0.2	1738	4	0.2	0.0	0.0	0.0
English	368	99	21.2	591	176	22.9	25.5	22.5	4.3
French	58	37	38.8	93	50	58.9	19.2	16.1	1.9
German	36	13	25.6	70	21	23.1	0.0	7.0	23.3
History	408	54	11.7	564	91	13.0	6.2	10.8	0.0
Law									
Library									
Math	288	15	5.0	501	31	5.8	5.1	3.4	0.0
Music									
Nutrition									
Optometry									
Philosoph	105	8	7.1	191	16	7.7	7.1	4.8	5.6
Physics	422	11	2.5	819	22	2.6	2.4	1.4	0.0
Physio-An	30	9	23.1	82	24	22.6	22.2	9.1	13.3
Poli Sci	247	34	12.1	356	47	11.7	8.3	4.2	0.9
Psychol	256	81	24.0	443	130	22.7	34.1	27.7	0.0
Soc Welf									
Sociol	116	37	24.2	199	51	20.4	29.2	23.5	0.0
Span&Port	44	16	26.5	66	34	33.9	19.2	16.1	7.3
Speech									
Statist									
Zoology	96	40	29.4	229	70	23.4	21.6	15.2	0.0

for comparison with the percentages from the distinguished departments. In order to obtain a feeling for the stability (actually, lack of stability) of the percentages we show also the Berkeley percentages for the five-year period 1962/63-1966/67. We cannot expect much stability when the number of doctorates is small. Finally, for further comparison, the percentage of faculty at Berkeley who are women is shown in the last column.

Comparing the percentages of doctorates going to women in distinguished departments with the Berkeley percentages, we find that the Berkeley performance is poor in several departments: Astronomy, French, German, Political Science, Spanish and Portugese. The Berkeley performance is weak in Biochemistry, History, Mathematics, Physics, Physiology-Anatomy, Zoology. Berkeley performs better than other departments in Psychology, and probably Sociology and Anthropology.

In all the disciplines where the percentage of women on the Berkeley faculty is small, particularly where it is zero, there is an appreciable supply of women doctorates coming from distinguished departments, either the first five or the first ten highest. There is but one exception to this statement, *Engineering*.

Appendix XIII

NUMBER OF YEARS TO OBTAIN THE DOCTORATE

The number of years needed to obtain the doctorate is listed for each Berkeley doctorate since 1957 on the National Academy of Sciences tape loaned to the subcommittee by the Graduate Division and used in several earlier appendices. We have computed the distribution of the number of years expended for men and women for each field and for several time periods. In several fields the women tend to finish earlier than men, but the average difference, although significant, is less than one semester. In no field do men finish earlier, on the average. Taken overall, the difference is slight. This is true of each time period since 1957.

Figure XIII shows the distribution of the number of years to obtain the doctorate for the period 1957-1962 and the period 1963-68 for all fields combined. There is no significant difference in the curve for men and the curve for women. It is interesting to note that the curves for the earlier period tend to be slightly to the left of the corresponding curves for the later period, indicating that less time was expended in the old period.

The data on the NAS tape refers to students who did obtain the doctorate; it is a retrospective study. The subcommittee recommends that the cohort studies initiated by the Graduate Division be continued to obtain more accurate distributions of the time needed for the degree and to estimate the relative attrition (apparent drop-out) rates.

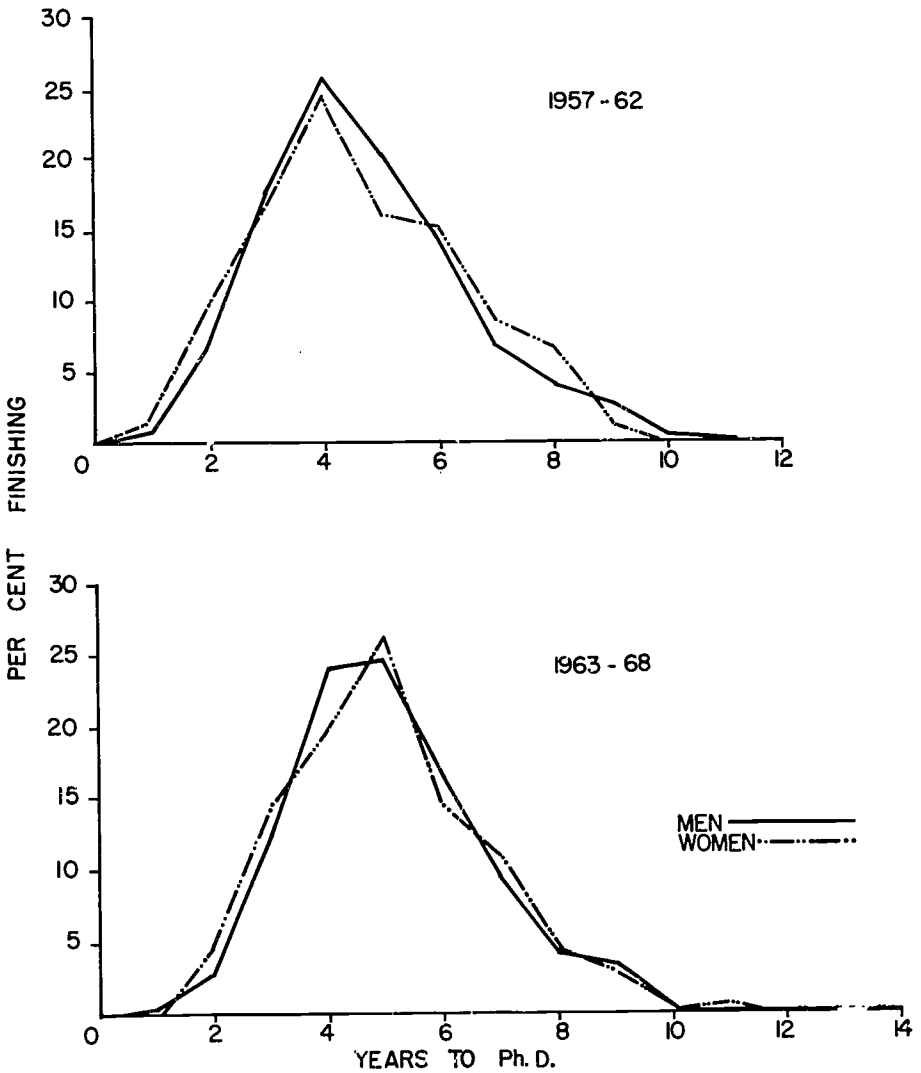


Figure XIII

DISTRIBUTION OF NUMBER OF YEARS TO DOCTORAL DEGREE

Percentage of doctoral degrees by number of years to attain degree. All fields, University of California, Berkeley 1957-1962 and 1963-1968

(Retrospective: Students who did obtain doctoral)

Appendix XIV

RESULTS OF SURVEY OF GRADUATE WOMEN STUDENTS:
DIFFICULTIES ENCOUNTERED, SUGGESTIONS FOR CHANGE

Introduction

The experiences and reactions of women graduate students are extremely varied, ranging from the assertion that any problems are just in the woman's mind (yet this respondent funded a prize to be awarded annually to the best woman student in her field) to claims that "a woman student does not have a chance in my department." The subcommittee has used surveys of graduate women students prepared by four departmental graduate women groups who surveyed their colleagues. The subcommittee itself sent out an open-ended question list (five pages) to women who had been admitted to graduate study in 16 representative departments divided among five fields: biological science, physical science, humanities (including languages), social science, and professional field. Names of women students were obtained from the departments, going back about two years more than the typical time taken to obtain the doctorate in that department. Question lists were sent to current students and to past students who had either completed the degree sought or had dropped out. For the departments with many women graduate students, a random sample was used. In all, 1266 names were obtained. We were able to find addresses for only 1208, of which 187 were bad addresses.

There were 345 replies to the first mailing even though it was sent out during spring finals and the summer. A second mailing went to all who had not replied and 224 more replies came in (a few too late to be tabulated). The two sets were tabulated separately for comparison. Since no appreciable differences were noted, there is some hope that this 45% reply (53% of the presumably good addresses) is representative of the entire population. Members of the subcommittee talked to quite a few women graduate students, particularly those who requested an interview. Some students provided additional information by letter.

The subcommittee tried to obtain information as to why there are relatively few graduate women, what difficulties these women were having, and for what reasons many of them do not obtain the doctorate. A large Berkeley department recently found that two-thirds of its graduate women students and half of its men did not complete graduate studies. Gifted and less able women quit equally often. Ambitious students uniformly praised by that department's faculty evaluations did not stay. Why?

Summary of Difficulties Encountered

Based on discussions with students from several departments and a pilot question list sent to current students in three departments, the subcommittee's questions covered potential difficulties: application and admission to graduate study, financial aid, postponing and

interruptions in graduate study with consequent readjustments, advice on academic progress and future career, restrictions on employment sought, academic career combined with marriage and with children. Table XIV-1 summarizes the replies and Table XIV-2 gives more details about the difficulties encountered, for each of the five fields and for present and past students. Unexpectedly, the replies of past students do not vary with the level of degree (or even lack of degree) so they are shown combined. The replies of all present students were also combined, irrespective of year.

We note that for both present (current) and past students and in each of the five fields, many students were given positive advice to apply to graduate school, some received no advice on this subject, while very few received negative advice (all these students had, of course, applied and were admitted). Almost no students thought they had admission problems (and, as shown in Table XIV-2, few difficulties were connected with being a woman). Also few students think that being a woman made obtaining financial aid more difficult although quite a few said that they did not try (usually because they thought there was little hope but sometimes because they did not need aid). Many students postponed or interrupted graduate study, usually with readjustment problems following.

Generally, the women reported that the counsel given them by advisers in planning academic programs did not seem to be affected by the fact that they were women. Few women received positive advice, some received negative advice, but many more received no advice. Women graduate students limit their own futures, because they decide what kinds of employment they will seek, and in what location, when they complete their studies. Half the women make restrictions, usually based on husband or children. Women in professional schools make fewer restrictions which they explain by the fact that beginning positions of the type they seek are widely available.

The latter part of Table XIV-2 is concerned with the difficulties of combining marriage and graduate study. Again there is a wide range of responses varying from the extreme "a woman must choose one and quit the other" to the opposite extreme "our marriage helped my academic career and that of my husband--we both wanted to study and this brought us closer together." It is clear, however, that careful organization and planning were usually required, and that delays and even cessation of graduate study often occurred, especially when there were small children. Many single women students also stressed the difficulties of their role: they are a minority in their departments, often quite isolated, with no one to whom they can turn for friendly advice and discussion.

The graduate women groups in four departments independently surveyed almost 300 additional women. Their results confirm those of the subcommittee, and have been drawn upon in the descriptive summary of the report.

Table XIV-1

SUMMARY TABLE OF POTENTIAL DIFFICULTIES

	Biol Sci		Phys Sci		Hum		Soc Sci		Prof	
	Pres	Past	Pres	Past	Pres	Past	Pres	Past	Pres	Past
Advised to Apply										
+	45	33	27	25	41	46	26	17	37	36
-	1	0	0	0	4	1	4	0	4	2
No Advice	13	8	16	17	24	21	11	11	31	46
Admission Problems										
Yes	4	1	3	1	4	8	5	2	8	9
No	58	43	41	44	65	62	33	26	65	74
Financial Aid Handicapped										
Said Didn't Try	4	1	1	3	4	11	3	5	8	13
Yes	7	6	4	4	9	9	8	4	10	6
No	46	38	36	31	46	41	26	14	48	49
Grad Work Postponed or Interrupted*										
Yes	28	22	14	23	41	50	25	18	58	56
No	33	22	7	20	26	19	15	10	17	27
Readjustment Problems*										
Yes	12	4	8	9	13	19	10	5	16	25
No	10	12	5	7	30	20	11	8	27	37
Advice on Progress										
+	3	1	1	0	4	5	6	3	1	6
-	20	6	8	9	18	9	13	8	10	5
No Advice	33	34	34	33	41	45	22	15	57	68
Restrictions on Job										
Yes	40	23	32	21	38	28	21	15	37	36
No	16	17	9	18	27	29	16	12	36	46
No. of Questionnaires:	105		89		140		69		160	

*Question not asked of all Astronomy, Mathematics and Statistics students.

Table XIV-2

DETAILS OF DIFFICULTIES ENCOUNTERED

	Biol Sci		Phys Sci		Hum		Soc Sci		Prof	
	Pres	Past	Pres	Past	Pres	Past	Pres	Past	Pres	Past
Advised not to apply	1	0	0	0	4	1	4	0	4	2
Advised not to apply to Berkeley	0	0	0	0	2	0	0	0	0	0
By grad adviser or professors	1	0	0	0	2	0	1	0	3	1
Silly, will only get married	0	0	0	0	0	0	1	0	0	0
Other	0	0	0	0	0	1	2	0	1	1
Difficulty getting into Grad School	4	1	3	1	4	8	5	2	8	9
Grades, requirements not sufficient	0	0	1	1	1	3	1	1	2	3
Berkeley lost transc. or mistake	1	1	0	0	3	1	2	0	2	2
Reconsidered after appeal, letter	0	0	0	0	0	1	1	1	1	1
Other	3	0	2	0	0	3	1	0	3	3
Handicapped in getting aid	7	6	4	4	9	9	8	4	10	6
Male priority (for aid, T.A.)	1	3	2	[illegible]	4	3	5	2	3	2
Afraid to ask, assert self	0	0	0	0	1	1	0	0	0	0
Children, age, husband	2	0	1	0	0	3	1	0	3	1
Other (or don't know reason)	3	2	1	1	2	1	2	0	3	[illegible]
Female not serious enough	0	0	0	0	0	1	0	1	0	1
Female must be more qualified	1	0	0	1	0	0	1	0	0	0
Female will drop male won't	1	0	0	0	0	0	0	1	1	0
Suspected handicap	0	1	0	0	2	1	1	1	0	0
Grad work postponed, interrupted	28	22	14	23	41	50	25	18	58	56
Change, unsure plans, major	5	5	3	1	3	7	6	5	12	13
Application late/decided too late	1	1	0	0	0	0	1	1	1	0
Children, family, marriage	6	4	4	8	12	21	8	5	16	20
Travel, Peace Corps	6	3	2	3	9	10	4	0	3	4
Work-experience	2	2	2	3	7	10	4	7	11	5
Work-financial	6	5	3	10	22	26	13	6	29	20
Other	3	5	3	2	9	5	2	1	5	10
Tired of school	3	3	0	1	11	3	3	0	5	5

Table IXV-2 (Continued)

	Biol Sci		Phys Sci		Hum		Soc Sci		Prof	
	Pres	Past	Pres	Past	Pres	Past	Pres	Past	Pres	Past
Difficulties in readjusting	12	4	8	9	13	19	10	5	16	25
Catching up, new developments	2	1	3	3	2	1	0	0	0	2
Getting used to studying	2	3	2	1	3	5	2	1	5	8
Critical of course relevance	1	0	1	0	2	3	0	1	3	4
Time pressure (marriage/study)	1	0	2	1	2	3	3	0	3	3
Getting into role of student	4	3	2	1	2	4	0	2	3	6
Self doubts	1	0	0	0	0	1	1	1	1	1
Other	4	0	1	2	2	5	5	0	4	5
Unspecified	0	0	0	1	0	1	0	0	0	0
Advice based on female (neg.)	20	6	8	9	18	9	13	8	10	5
Difficult to get good job	5	0	3	3	6	4	7	0	2	1
Get MA first in case drop out	5	0	1	0	0	0	0	0	0	0
Won't need Ph.D.	2	0	2	1	3	1	1	0	3	2
Marry, child, wasted degree	4	1	0	1	3	1	1	0	0	0
Female not serious	0	0	1	0	2	1	2	2	0	1
Get married instead	0	1	0	0	0	0	0	2	0	0
Other	6	5	2	5	6	4	3	4	[illegible]	1
Restrictions on job	40	23	32	21	38	28	21	15	37	36
Near spouse job,home, family	32	23	23	17	27	19	18	11	27	32
Good place for child, care	1	0	1	1	2	1	1	1	1	1
Not high pressure, demanding	2	1	0	0	0	1	0	0	0	0
Mutual restrictions	3	0	8	0	3	2	4	0	2	1
Good intellectual/social area	1	0	0	1	4	2	2	1	0	1
Special hours, half-time	8	8	8	2	1	1	4	2	11	12
Other	4	1	2	3	3	3	0	2	3	2
Marriage affect academic prog.	17	16	9	16	22	26	19	9	25	28
Emotional support, encourage	3	2	1	2	6	5	6	3	6	6
Financial aid	0	0	0	0	1	2	4	2	3	2
Solidified goals or raised	0	0	0	0	0	1	0	0	0	0
Study easier, husband help	1	1	0	1	1	3	0	2	0	3
Other (positive)	2	1	0	0	0	2	0	0	1	0
Unspecified positive	3	1	2	1	2	3	0	0	2	3
Lost time, delay	6	7	1	4	9	6	12	1	7	6
Difficult to study	1	0	0	1	3	2	2	1	2	0
Other (negative)	0	1	1	1	0	2	1	0	1	6
Unspecified negative	2	1	1	4	0	0	0	0	1	0
Can't spend time needed	2	1	4	0	3	0	1	1	4	3
Ended it (at least temporarily)	0	2	1	2	0	4	0	1	0	1

Table XIV-2 (Concluded)

	Biol Sci		Phys Sci		Hum		Soc Sci		Prof	
	Pres	Past	Pres	Past	Pres	Past	Pres	Past	Pres	Past
Marriage affect career	15	14	2	15	20	29	9	12	21	27
Solidified goals, raised	2	2	0	1	3	4	1	2	0	1
Encouraged	1	0	0	1	3	8	1	1	3	4
Made it possible	0	0	0	0	2	0	1	0	0	4
Husband objected	1	0	0	2	0	0	0	0	1	1
Restricted location	4	5	0	2	3	5	3	3	3	3
Lowered ambitions (or limited)	4	6	0	6	9	4	3	3	6	7
Delayed	1	2	1	4	0	3	0	1	7	3
Other	2	1	1	1	0	6	0	2	2	4
Effect on marriage	16	9	6	8	22	19	15	9	15	18
Stimulated life, marriage	1	1	0	1	3	0	0	1	2	2
Complemented, brought closer	4	4	2	1	2	2	2	0	4	5
Husband student-understood	3	6	1	2	4	2	4	0	4	2
Other	2	0	0	0	1	1	1	3	0	0
Crisis conflict only	2	2	1	1	1	0	0	0	6	4
Strain on marriage	2	1	1	1	4	5	2	5	2	4
Required patience, adjustment	0	1	0	0	1	2	0	0	3	2
Less time for family, house	5	1	2	3	4	6	5	0	4	5
Broke it up, final straw	2	0	0	1	2	0	1	0	0	0
Didn't allow affect marriage	1	0	0	0	1	1	0	0	0	2
Delayed children	0	0	0	0	0	1	2	0	0	0
Children affect academic progress	3	4	5	5	8	18	8	3	11	19
Delayed, slowed	3	4	4	4	6	5	4	0	8	5
Restricted study	0	0	0	1	1	5	4	1	8	11
Unspecified negative	0	0	1	0	1	3	0	1	0	0
Try harder	0	0	0	0	0	3	1	0	1	3
Stopped	0	0	0	0	0	4	0	1	0	0
Children affect career	2	7	5	6	6	19	1	6	16	16
Conflict, guilt	1	1	0	0	1	1	0	0	2	1
Half-time, less demanding job	1	1	3	2	2	1	0	1	11	5
Restrict goals (now)	0	3	2	4	3	8	0	0	2	10
Try harder	0	0	0	0	0	3	1	0	1	1
Renewed desire to continue	0	0	0	2	0	0	0	1	1	2
Financial pressure	0	0	0	0	0	2	1	1	1	0
Delayed	0	1	0	2	1	4	0	2	0	0
Unspecified, other negative	0	0	1	0	0	1	0	1	0	1
Other positive	0	1	0	0	1	1	0	2	0	0

Table XIV-3

SUGGESTIONS FOR CHANGE

	Biol Sci		Phys Sci		Hum		Soc Sci		Prof		Total
	Pres	Past	Pres	Past	Pres	Past	Pres	Past	Pres	Past	
1. Elimination of Inequities											
Modify nepotism	4	2	2							1	9
Change attitudes, discrimination	3	4	6	2	2	9	4	9	2	5	46
Improve image of educated woman							1		2		3
How to be a supervisor while female										1	1
Improve or change Placement Center				1	2	1		1	2	2	9
More department job help						2		1			3
More women on faculty	1	2		1	4	4	2	5	1	1	21
Grant rules same: for men and women		1					2				3
Wording in university forms	1		1	1			1	1			5
Publicize results of survey						1	1			1	3
Integrate faculty clubs								1			2
2. Special Assistance											
Child Care	8	8	12	7	11	9	11	11	14	14	105
Birth control clinic at Cowell	1			1	1	3					6
Money, babysitting, home help		2					1			6	9
Special financial aid		1		1		4	3	1	4	2	16
Convenient course time,better light.	3		2						2	1	8
More library hours, etc.									1		1
Flexible leaves,fees,resume grants				1		1	3	1			6
Flexible part-time study	3	3	2	1	4	3	5	3	5	9	38
Flexible requirements, schedule				1	1	1	2	3	2	4	14
Ph.D. for teaching	2		1					2	2	1	8
Part-time regular appointments	2	2		2	1	1	1			7	16
Part-time jobs in department	1		2	2				2	2	2	9
Admission counseling										1	1
Career, grad study counseling	3	2			2	6	2	3	1	10	29
Emotional, marriage counseling	2	2		2	2	2	2		3	3	18
Encourage older women			1	1	2	2			3	1	10
Committee for women's interests				1	1	2		2		1	7
Grievance hearings					1			1			2
U.C. housing for single women				1						1	2
Group housing,communal restaurants					1						1
Co-op living for couples, children		1				1	1				2
Coed swim facilities, year long	1										2
3. General Changes, not Special for Women		1	2	3	4	4	3	3	7	15	42
4. Opposed to Special Treatment				1		1			2	2	6

Suggestions for Change

The subcommittee requested suggestions for change in the academic structure that would advance the graduate study of women, and also asked for any other recommendations. The responses are tabulated in Table XIV-3 and, as was the case with the table of difficulties encountered, they exhibit a markedly dispersed set of categories. Open-ended questions typically do result in considerable diversity, simply because the salience of ideas may vary for many reasons. In the summer of 1969, there was little organized activity on behalf of women in the departments surveyed by the subcommittee, and women knew little about one another's experiences. Furthermore, some grievances affect only part of the population studied and may not be apparent to others. Older women, women with young children, women with financial responsibilities, women at the point of entering the job market encounter special experiences. When responses are divided by department, we could see that graduate advisers were sometimes responsible for particularly bitter memories, especially in two departments. As a whole, reactions to advisers were extremely variable with the emphasis on dearth of advice, yet frequently women spoke wthh gratitude of the help thay had received. Some students interpret as their own fault the same objective conditions that others consider to be the fault of the institution. For all these reasons, low totals for given categories are to be expected. We think these complaints and suggestions are not to be dismissed for this reason. While the difficulties may vary from woman to woman, cumulatively they help us understand why completion of graduate work may be difficult for women, and they suggest how we could have more success in educating women.

1. Problems of women with dependents: The largest single category of grievances or proposed changes was the need for high quality child care facilities for members of the university community. This issue is widely recognized as a major one, for many childless women pointed out the need. Berkeley public facilities are not adequate to the demand for child care. The income ceiling closes public facilities to the families of many students and young staff whose incomes are still not adequate for the very large expenses of private child care. The University of Oklahoma already provides child-care facilities.

Women who are caring for children or who need to work to support their families want flexible programs with courses offered at convenient hours. They also urged that women students should be permitted to take maternity leaves without prejudice to continuing in graduate programs. Several women mentioned that they had felt compelled to continue in graduate work without interruption through child bearing:

> "I was denied a leave of absence for pregnancy and childbirth by being told that I would have to reapply to graduate school if I tried to take a leave of absence. At that point I did not have the strength to battle with the department, hence I continued my studies, taking one week off to have my child and bring her home . . . I was rather exhausted for at least two semesters afterward." (Social Science).

Table XIV-4

NUMBER OF WOMEN MARRIED WHILE IN GRADUATE SCHOOL

NUMBER OF WOMEN WITH CHILDREN WHILE IN GRADUATE SCHOOL

	Biol Sci		Phys Sci		Hum		Soc Sci		Prof		Total
	Pres	Past	Pres	Past	Pres	Past	Pres	Past	Pres	Past	
Number married	27	30	27	27	37	38	26	14	45	39	310
Not married	33	15	18	19	33	32	15	14	31	45	255
% married	45	67	60	59	53	54	63	50	59	46	55
No. with children	5	6	12	7	11	24	8	6	37	26	142
Without children	55	39	33	39	59	46	33	22	39	58	423
% with children	8	13	27	15	16	34	20	21	49	31	25

Whatever one's personal views of the wisdom of becoming a parent during graduate study, the university has started to adapt to the needs of its men students and take into account the fact that men may have dependents. The needs of its women students should be taken with equal seriousness. A large proportion of women graduate students are married and many have children (the details are given in Table XIV-4).

Graduate women who have looked into the job market propose that more part-time employment be available, in regular ladder teaching appointments, for those with special, and often temporary, outside obligations. Lectureships bear many penalties, including heavy teaching loads. In Letters and Science, the Dean's office reports a normal load is six to eight courses; in Education, even well-known scholars have been offered nine-course lectureships.

2. Discriminatory attitudes and advice: Ann Heiss, in a study of graduate students, found both men and women made many complaints about advising. Many women in our survey complained of a lack of advice and a few of what they regarded as prejudiced advice. They cited discouragement of their work, implications that scholarship is unfeminine, indifference to their training, and reluctance to find them aid or jobs.

In a few cases, women in the physical sciences mentioned that social pressures had come from students, family, and high school teachers even more than from University faculty. On the other hand, women in fields like the humanities and social sciences, where there are a large number of women students, and to some extent in the biological sciences, had vivid complaints of faculty prejudice.

(a) Women were discouraged from entering or from continuing. Women reported switching to fields of secondary interest because of discouragement about finding employment in the fields of their first choice. One woman commented that the virtual exclusion of women in some fields distorts applications in others, with the implication that active efforts should be made to recruit women into fields in which they are underrepresented. Women reported difficulties in obtaining acceptance not encountered by male students. An undergraduate student with an honors record compared her success in applying to social science departments with that of a male friend with the same academic record. He was admitted to all ten graduate departments to which they applied, she to none. Others reported specific discouragement by faculty members.

> "My faculty adviser was, and said he was, very much prejudiced against women, and often advised me against graduate work. Besides the discouraging advice . . . my parents were told not to allow me to follow a science major! They were contacted privately and told they were very foolish to allow me to continue a major in physics or nuclear engineering because a woman would 'never' be hired in these fields." (Physical Science)

> "I was told 'I'd never accept a woman graduate student unless she was unmarriageable', etc." (Biological Science)

"'You would be competing with your husband'." (Professional field)

(b) Women are told scholarship is unfeminine. Even if women succeed in entering at each stage of the academic sequence, they receive from some professors continual harrassment about continuing their work.

"I entered UC as a freshman and upon my first interview with an adviser, was advised that it was silly for a woman to be serious about a career, that the most satisfying job for a woman is that of wife and mother, etc. . . The advice was repeated upon several later occasions. . . Now that I'm in graduate school, I am reminded that I am a risk, that I shall probably get married and forget my training, this coming from faculty and advisers. . . " (Humanities)

"I was asked. . . in a formal interview, with two other professors present, whether I felt that my husband and I were competing intellectually. I'm sure he would not have asked such a personal question of a male student." (Social Science)

"People assume a) that I probably won't have much of a career anyhow, since I am married and will hopefully become aware of my 'real desires' to be a mother, homemaker, and careful manipulator of my husband's career; b) that if I really do have a teaching career, I am in some way not being a good wife. This opinion has been given to women grad friends by profs in the department here." (Humanities)

A professor in the life sciences informed a student that women don't belong in graduate school because they didn't use their education; another in the same department suggested that women are intellectually inferior to men. "Women have trouble with science" said another. An adviser in the physical sciences steered women away from a course that only men take, and another spent part of the first class period explaining why women shouldn't get Ph.Ds.

"Several times I've been told it's a disadvantage to be attractive as far as getting a job is concerned." (Humanities)

A woman in the biological sciences was told that for the fieldwork for her dissertation she should "do something in the LSB courtyard 'because women can't go out in the field and do a study.' He also suggested that women aren't capable of mental work on a par with men."

In certain fields it appears that women are allowed to do fieldwork in some parts of the world but not in others, just as they were allowed to do astronomy with some telescopes but not others.

(c) Informal training is less available to women. A critical factor in success in the academic world is the training received outside of classes in the form of advice about articles for publication, grant applications, scholarship applications, where to get a job, and letters of recommendation. Some of this learning comes from other graduate students, some from tutelage of professors who see a trainee as a protégé whose achievements will add to his or her prestige. Women report that men can establish closer intellectual relationships with male professors, and thus obtain better training.

> "There were influential people . . . who either did not like women (would not call on a woman in class, for example, except reluctantly) or thought of women as 'charming additions', decorative, in any case, bright 'in a feminine way' but not scholars except by chance." (Humanities)

> "In the humanities, professors seem to fear that allowing too many women into a field makes it lose prestige." (Humanities)

> "Professors in the department generally took males more seriously--socialized with them, gave them special tasks." (Humanities)

> "I received no help from faculty, other than that associated with courses, in securing a career. One faculty member even refused to review two manuscripts in his field when I asked where they should be sent for publication. I know that this was to the contrary regarding several males. Another told me that 'women do not contribute,' another that 'women seeking Ph.D's must be personally disturbed.'" (Social Science)

(d) Women are advised not to train for academic jobs. Repeatedly, women were told that they should not hope to get jobs in major universities. In many cases, they changed their area of specialization to one that did not require academic employment. "Members of the department frequently told me I did not need a Ph.D. as women did not get university positions" in that field (Humanities). "Women are too temperamental to teach" said a professor in a professional school.

3. Discriminatory hiring: The women advanced enough in graduate study to begin job hunting reported many discouraging experiences; for some it was the first encounter with discrimination against women. Yet both past and present students pointed to the University of California as itself guilty in this respect. Faculty members who advise women that they cannot get university employment have made this a self-fulfilling prophecy by failing to hunt out women candidates, they say. These problems extend to higher administrative positions, and to library employment.

> "Discrimination in the master's program is not overt, as this has traditionally been a woman's field. For this reason, perhaps, what few men are around are pushed ahead.

It is in the field as a professional that the obvious discrimination occurs. Men are favored in administrative positions and as supervisors. Our courses in library school are very open in stating that this is the way it will be and work more with the men students to prepare them."

"I spoke with Mr. X at the library about openings, and the advice was 'Drop dead.'" (Professional field)

"In one interview I had, about 8 women and one man were interviewed for the job. The man got it. And I know positively that nearly all the women, including myself, were better qualified for the job, better teachers, more conscientious, more interested in teaching, etc." (Humanities)

In 1960, an undergraduate student did a systematic study interviewing department chairmen about their attitudes towards women students and the hiring of women. Their replies were very candid and remarkably consistent with the comments of advisers as reported in the 1969 survey of students.

"There are too few really outstanding women in research to make much of an impression."

"If they had to decide between a man and a woman here at UC they would take the man because it's easier to have men around.

"We want to keep it all men because we feel that men understand each other and get along well together and that a woman would be an outsider."

One chairman made explicit the parallel to arguments used against hiring ethnic minorities, towards Jews in the thirties and towards Negroes and other "third world" minorities in the sixties:

"I feel that women and Negroes are in about the same boat when it comes to hiring as faculty members. We are very snooty here. We feel that we have developed a very good department and have good espirit de corps."[1]

The parallel has been seen by some of the graduate students in 1969, who said:

"I would like to see this University carry out a concentrated search for women faculty and administrators such as the search they claim to be carrying out for minority group personnel." (Social Science)

1. Audrey Haynes, A Study of the Attitudes of the Faculty towards Women Students and the Hiring of Women as Faculty Members at the Univ. of California. Unpublished paper, prepared for E. Cheit, Econ 199, Sp. '60.

"There are so few women faculty members that young students cannot set a goal of university teaching . . . Just as UC now, quite suddenly, finds it possible to admit and hire Negroes . . . so it should change its attitude toward women and give them the encouragement needed to make more important contributions to society." (Humanities)

In one department where a detailed analysis was done, 27% of the students suggested spontaneously that more women faculty be hired. The reasons students give for requesting a change in hiring policy are 1) to make better advising available for women graduate students from women faculty with an understanding of their problems; 2) to provide them with "role models": "I'd like to see the few women who've made it make themselves conspicuous to give the rest of us heart." (Social Science); 3) to provide opportunities for qualified women.

The University was not the only institution criticised. A number of women cited instances of bias in industrial hiring, job designations, and promotions. Other educational institutions and libraries were often accused of bias.

Some independent corroboration of their belief that hiring is discriminatory has been found in a study by Dr. Linda Fidell recently summarized in Behavior Today. Dr. Fidell constructed descriptions of candidates for positions in Psychology systematically varying in number of publications, type of experience and other attributes under study. Matched sets of descriptions, differing only in male or female names assigned, were sent to different heads of Psychology departments in 228 universities, in a study purporting to compare their rating of the applicants' job potential with actual jobs the persons obtained. When the ratings for each sex pair were compared, it was found that men were more likely both to be hired and to be hired at a higher level than women with identical qualifications.

4) Problems of returning or part-time students: University arrangements were originally designed for young bachelors. As returning veterans or lowered marriage ages brought more fathers into the system, financial aid has increasingly reflected altered family patterns. In many respects, however, the realities of the age and responsibilities of today's students are not recognized by the University. It should be recognized that many women, whether single or married, have dependents. Many are responsible for the care of children. Without sufficient financial aid, they are forced to work or go to school on a part-time basis, or to drop out of school, until their children are older.

Postponement, or late discovery of intellectual abilities, were characteristics of a large number of women in the sample. The majority of women had delayed or interrupted graduate work. Women returning to graduate school after considerable absence commonly reported considerable hostility on their application for admission, although older women have a good "success" rate in completing studies.

Reentering school is often an ordeal for these women.

"I was made to feel both awkward, overage, and unwanted by several members of the department whose signatures I needed. One man, indeed, was outright rude. I was told that I could never hope to do anything with grad work as long as I was teaching full time (my employment was a necessary part of my family's income)." (Humanities)

A reported interview from a social science department:

"I suppose you went to another college?"
"I attended U.C., Berkeley."
"But you didn't finish?"
"I was graduated with a B.A."
"Your grades weren't very good?"
"I was named to Phi Beta Kappa in my junior year, and was graduated Summa cum laude."
"You have to have 16 to 18 units of X. You don't have that, do you?"
"As my transcript shows, I had 18 units of X, mostly A's, one or two B's."
"I'm going to disallow all 18, because they were so long ago. You understand that, don't you? There's no point in your trying to replace the undergraduate courses in order to qualify. You could not do it part-time; you would have to take 18 units in one year. Then you would probably not get into graduate school. If you did you would meet so much hostility that I doubt if you could stay in. Most women do not finish their work, and we couldn't take a chance on you. We don't want women in the department anyway, and certainly not older women. This may be unfair to you in the light of your record, but we just are not going to chance it."

The woman in the above interview managed to gain entry into a neighboring department. As she said, "I was lucky."

Many women are completing work begun elsewhere and interrupted when the husband found a job at a new place because American patterns assume patrilocal residence. In one department, a study of 16 women who had dropped out for whom follow-up data could be found, showed that 10 continued graduate work elsewhere. These women appear as "dropouts" in the statistics of their first school or department. If many more women than men shift schools, drop-out rates are artificially inflated for women.

5. Financial Assistance: Some women in the survey believe that financial assistance is not given impartially to men and women. This perception is due in part to differences in support available to departments. The humanities receive little government grant or fellowship support. Since more women are in these departments than in the better supported physical and biological sciences, they suffer the financial consequences. They see the results as leading to high drop-out rates and lengthened time in completing the degree. Within departments, they report themselves at a disadvantage. A detailed study

of the financial assistance given the women in one social science department showed that divorced women received more aid than married women, and that least aid went to women with children. Possibly these women applied less often for fellowships and teaching assistantships. The survey provided no data on this point.

A student proposed eliminating sex indications on applications for admission and financial aid, using only initials for first and middle names, and presumably removing gender pronouns from letters of recommendation.

"Some fellowships are restricted to men." (Humanities)

"I was informed by a faculty friend that in the event of equally qualified applicants for fellowships and TAships, the award always went to the male applicant. He served on the committee which decided such things." (Humanities)

"In our department at least one professor cut off funds to a married student when she became pregnant, thus forcing her to TA and increasing the time it took her to finish. He said the reason for cutting off funds was that 'you should be home caring for your family.'" (Biological Science)

Students pointed out that arrangements for financial aid did not include provisions to cover the cost of child care which can be a heavy burden on the woman graduate student, and that dependency allowances do not always cover dependents such as disabled spouses or other adults unable to support themselves.

Suggestions for Further Study

The analysis of the surveys does not provide definitive answers to the questions which the subcommittee raised. Moreover, in the written answers and interviews with students, faculty, and administrators, new questions appear. (Some of these questions have arisen in other studies of the status of women). The subcommittee recommends further study specifically to discover:

1) What are the unusual pressures exerted on women students who want to attain advanced intellectual levels in specified fields--the very early and continuing pressures to accept:

(a) "that a woman's mind is not suited" to many fields, especially not to physical sciences and engineering;

(b) that women must be very careful to maintain "femininity" and, in particular, to study subjects and seek occupations that maintain the feminine stereotype;

(c) that the appropriate intellectual role for a woman is subservient, not only to her husband or prospective husband, but also subservient to the men with her on a research team.

2) What causes loss of able women from many fields, sometimes accompanied by a shift to a field which is clearly second choice? Can we explain:

(a) the early loss of women to physical sciences and engineering;

(b) the apparently sudden loss of some women to the biological sciences just after they have completed the Ph.D. (although this is not the only loss);

(c) the fact that women (and to a lesser degree, men) work on year after year in the humanities and social sciences without tangible recognition in the form of the doctorate and with little hope of high-level employment.

3) What causes the drop out of even brilliant students, both men and women, who are well supported and have every opportunity to complete the degree and go on into a distinguished career?

4) What is it that permits some women to reach graduate school without developing enough self-confidence to take risks and think for themselves, and what encourages them to cast themselves in the role of hand-maids of research, looking to others for inspiration and guidance?

5) How does it happen that women growing up in the United States, and particularly in California, settle for such goals while women in other advanced industrial countries take graduate training in their stride and become scientists and scholars in their own right?

Summary

The results of the various surveys show that conditions vary considerably between departments and between faculty members. Overall, the most frequent difficulties mentioned by the women fall into two categories: rigidity of the system and discrimination.

The women who discussed rigidities of the system pointed out that if the University is serious about training able women, it should examine its institutional arrangements with a view to making them suited to the special needs of women, just as special arrangements have been made to meet the needs of men with families and to encourage the enrollment of minorities. Many very able women enter the system after they have made other commitments. Many women expect to combine a working career with responsibility for children. They asked for more flexible course loads, financial aid which recognizes a woman's financial burden in child care, provisions for child care facilities, maternity leaves, part time faculty jobs in ladder positions, and hiring and job placement facilities honestly recognizing the constraints necessary if patrilocal traditions are to continue. Other women made no request for such provisions. They did ask that the present system deal equitably with both men and women.

Practices that are seen as discriminatory include discouragement on continuing; lack of supportive advice from faculty; lack of aid in getting financial assistance, advice on manuscripts, or placement in jobs equal to that provided men of the same or less competence; lack of women on the faculty.

The subcommittee believes that the statements put forward by graduate women are well founded, and has directed many of its recommenda-

tions towards remedial actions.

APPENDIX XV

The Status of Women in Research Units

Data on the position of women of academic status in official research units comes from three sources. Lucy Sells prepared a report for the subcommittee incorporating statistical data from the survey of non-Senate research personnel carried out by Carlos Kruytbosch in the spring of 1966 and the survey of the status of women at the Lawrence Radiation Laboratory carried out by Miriam L. Machlis in Novermber 1969. The subcommittee sent questionnaires to women in the research units in its survey of women of academic rank on the Berkeley Campus. Subcommittee members had interviews with women from the research units.

Kruytbosch found 42% of the women employed as junior research workers, compared with 23% of the men. Only 10% of the women were employed in the category of full research specialist, compared with 17% of the men. The preponderance of women at the lowest rank is explicable by the fact that the women were less likely to have the doctorate (31% in comparison with 43% of the men). It does not explain the smallness of their numbers in the top rank. Those women who had the qualifications seemed to be involved in the academic exercise of directing graduate students since 27% of the women employed in the units reported that they supervised students in graduate thesis research. They carried a heavier load in this respect than their men colleagues since they supervised a mean number of 5.1 graduate students in contrast to the 3.2 mean number of students supervised by men who reported themselves as involved in the supervision of graduate research. Their competence is thus recognized in the work allotted to them if not in terms of rank and salary. Many of the women in this category had taught in a university or college, since 35% of all the women reported that they had taught a research seminar at some period in the past.

The proportion of women who felt confident of being able to obtain a research grant in their own name was less than that of men. The women were also on average less productive than their male colleagues in the authorship of books, articles and research reports before professional societies. Since these data as reported do not distinguish between women with the doctorate and those with lower degrees only, these facts are difficult to evaluate. If the comparison were made only for men and women with the doctorate, the differences would presumably be less striking. This is indicated by the fact that 25% of the women felt they could obtain a grant in their own name, and 18% reported themselves as having written the proposal for the grant under which they were currently working. It should also be noted that only 30% of the women, close to the percentage holding the doctorate, think a professorship at Berkeley desirable. Data from subcommittee questionnaires and interviews make it clear that not all women with the doctorate want a faculty position with a commitment to teaching duties. Some of the most highly qualified regard themselves as committed to research careers. They do, however, comment on the problems they

face because of the need for a faculty sponsor of their research, the uncertainty of employment, and their inability to earn sabbatical leave.

The Machlis survey shows that only 8% of the women employed at the Lawrence Radiation Laboratory are in the professional category, in contrast to 33% of the men. The women also appear to be subordinated even within the professional category if salary is an indication of status. Women on average receive lower salaries than men in every employment category. The discrepancy in salaries increases with years of service, indicating that rates of promotion differ for men and women.

Distribution of Employees at the Lawrence Radiation Laboratory in Professional and Non-Professional Jobs, By Sex

	Men	Women	Total	%Difference
Professional	33%	8%	22%	-25
Non-Professional	67	92	78	+25
Total	100%	100%	100%	
(Number)	(1724)	(542)	(2266)	

Average Salary by Job Category and Sex at Lawrence Radiation Laboratory

	Men	Women	Total	Differences
Professional	$1156	$966	$1143	-$190
Non-Professional	919	665	842	- 254
Total	$1112	$688	$1018	-$424
Difference	$ 237	$301	$ 301	

The Machlis report is the only source on comparative salaries for men and women in the research units. If it is a good indication of the situation across the research units, then there is good evidence that women of academic stature in the research units are employed at lower salaries and have less opportunity to advance than their male colleagues. Further study should be carried out on the employment practices of the research units.