

*Because of the urgency of the issue of coeducation—"the most important question the University as a community has faced for many decades" (page 52)—we have stripped this issue of the PRINCETON ALUMNI WEEKLY of its usual editorial material in order to bring to the alumni the full text of Professor Gardner Patterson's Report.—ED.*

Princeton University  
The Board of Trustees  
Chairman of the Executive Committee

To: Alumni, Faculty, Students, and Friends

At its June, 1967, meeting the Board authorized a searching study of the advisability and feasibility of Princeton's entering significantly into the education of women at the undergraduate level. The study has been completed by Professor Gardner Patterson, and President Goheen has transmitted the Report to the Board.

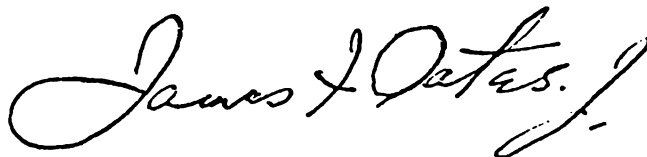
A Special Committee of the Board has been constituted to give careful study to the Report: Messrs. Helm (chairman), L. Rockefeller (vice-chairman), Ailes, Attwood, Armstrong, Coburn, Hough, Kipp, Rea, and Supplee. This committee has held several meetings, and the Board has devoted a special meeting in September to preliminary discussion of the Report. No decision was made pending further expressions of opinions on the important questions involved.

As the Trustees consider the recommendations of the Patterson Report and their relationship to other University programs, we are eager to benefit from the thoughts of alumni, faculty, students, and other friends. To this end, and with the endorsement of T. Henry Dixon, Chairman of the Alumni Council, we are pleased to make this report available through the pages of the PRINCETON ALUMNI WEEKLY. It is planned in collaboration with the Alumni Council to schedule discussion meetings during the early fall in a number of major cities. In addition, we shall welcome written comments and suggestions.

I wish to express, on behalf of the Board, appreciation to Professor Patterson for carrying out this complex investigation so thoroughly. Also, I would like to thank John Davies for his cooperation in devoting his first issue of a new academic year to this topic.

The question of educating women at Princeton is a critical one for the future of the University. Professor Patterson's searching analysis deserves the close attention of all who are concerned about that future.

Faithfully yours,



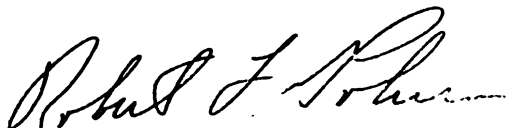
September 14, 1968

Princeton University  
President's Room

To: Members of the Board of Trustees:

I am pleased to submit to you the Report on the Education of Women at Princeton resulting from the study authorized at the June, 1967, meeting of the Board and conducted by Gardner Patterson, Professor of Economics and International Affairs.

Professor Patterson's Report is, I believe, a remarkably fine analysis. I recommend the thoroughness of its investigations and its judicious assessment of the issues. Its principal recommendations carry my firm endorsement.



July 12, 1968

*“The Education  
Of Women  
At Princeton”*

**A SPECIAL REPORT**

**A Report on the Desirability and Feasibility  
of Princeton Entering Significantly  
into the Education of Women at the  
Undergraduate Level**

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### PREFACE

**A** YEAR ago President Goheen asked me to direct a study authorized by the Board of Trustees on the "desirability and feasibility of Princeton's entering significantly into the education of women." It was subsequently agreed that the study would be limited to the undergraduate college.

A Faculty-Administration Committee was formed to assist in the study. The members were:

William G. Bowen \*58, Professor of Economics and Provost

Thomas R. Carver, Professor of Physics

Michael N. Danielson \*62, Associate Professor of Politics and Public Affairs

Arthur J. Horton '42, Director of Development

E.D.H. Johnson '34, Professor of English

William D'O. Lippincott '41, Executive Director, Alumni Council

John P. Moran '51, General Manager, Department of Planning, Plant, and Properties

Thomas M. Scanlon, Jr. '62, Assistant Professor of Philosophy

Edward D. Sullivan, Professor of French and Dean of the College.

Mr. David Kershaw \*66, served as Staff Assistant and Mrs. Barbara MacAdam as Research Aide. (Arthur C. McGill, Professor of Religion, was also appointed to the Committee, but shortly thereafter he accepted a position at another university and did not participate further in our deliberations.)

This committee gave me a great deal of help during the year, and my debt to the members is very great indeed. Many long hours were devoted to the discussion of research methods, to the analysis of reams of data, to the interpretation of findings, and to the discussion of broader issues.

President Goheen also invited the Chairman of the Undergraduate Assembly to appoint an undergraduate committee to assist in the work. The original members were: Ballard Jamieson, Jr. '68, Chairman; Peter Rossiter '70; David Swartling '69; David Wheeler '68. With the election of a new Undergraduate Assembly in the late spring, a new undergraduate committee was appointed, consisting of: Richard Darby, Jr. '69, Chairman; John Pottenger, Jr. '71; Robert Sandfield '71; David Swartling '69.

Various members of these two committees provided ideas, insights, and hard work, which contributed to the Report.

In conducting the study we received generous assistance from many other colleges and universities including: Barnard College, Colgate University, Connecticut College, Douglass College, Hamilton College, Harvard University, Kirkland College, Massachusetts Institute of Technology, Radcliffe College, Sarah Lawrence College, Smith College, Stanford University, Vassar College, The Wesleyan University, Wilson College, and Yale University. Particular thanks must go to the many faculty, students, and administrative officers at Stanford, Radcliffe, and Harvard, on whom we made so many demands during the year. More generally, it was a pleasure to find that at the institutional level the degree of cooperation and freely given help among universities fully matches that which faculty members have long enjoyed on professional matters from their colleagues in other institutions.

The study has also profited from the comments of many individuals—faculty members, students, Princeton alumni, and other friends of the University—who spoke to me personally or wrote in response to articles published in the *PRINCETON ALUMNI WEEKLY*. I regret that it was impossible to answer all of the thoughtful letters I received.

A great deal of detailed financial analysis was necessary for the feasibility part of this study, and for this I am heavily indebted to Ricardo A. Mestres, Financial Vice-President and Treasurer of the University; Wilbur M. Young, Controller; Provost William G. Bowen; and Professor Paul Benacerraf, Associate Provost for Special Studies. In particular, the analysis in Chapter Four owes much to a continuing study of resource allocation being

carried out by the Office of the Provost with the aid of a grant from the Ford Foundation.

Mr. William McCleery, Editor of *University* magazine, deserves the reader's thanks as well as my own for the editorial assistance he provided in preparing the manuscript for publication.

Also, on behalf of the University, I am glad to thank the Carnegie Corporation, which provided funds to meet a part of the cost of this study.

Now, I wish to say just a few words about the Report itself. It is a long document, it contains many tables, and parts of it (especially Chapter Four, which deals with the question of feasibility) are heavy reading. I hope that in trying to present the full range of evidence, and to indicate the assumptions underlying critical parts of the feasibility analysis, I have not put too heavy a burden on the reader. There is a brief "Summary and Conclusions" at the end, but I am afraid it is no real substitute for a careful perusal of the four principal chapters.

Throughout this Report, the word "we" is used extensively. It must be emphasized that this is an editorial "we." It was specified at the outset that the two committees—Faculty-Administration and Undergraduate—were to serve in a consultative and advisory capacity; the responsibility for the research and the writing of the report was to be mine.

It gives me comfort that so many members of the Faculty-Administration Committee have come to support strongly the major conclusions and recommendations of the Report. Mr. Horton, the one member of the Committee who does not believe Princeton should become coeducational, was a most valuable member of the Committee; he raised many issues and problems which might otherwise have been overlooked. On an issue as complex as this one, it is to be expected that there would be differences of opinion, and the value of a loyal minority can hardly be overemphasized. (Brief statements by the majority of the Committee and by Mr. Horton are included on page 55.)

I understand that the members of the Undergraduate committee also agree with the conclusions of the Report. However, the Report was put in final form after most of them had left Princeton for the summer recess, and it did not prove practicable for them to make a formal statement before the Report had to be sent to press.

Finally, I should point out that, having started this study with some skepticism concerning the wisdom of Princeton's becoming significantly involved in the education of women at the undergraduate level, I am now strongly convinced that this step is vital to Princeton's future. While I have made every effort to examine all sides of the many complex questions at issue, to search hard for evidence as well as impressions, and to be fair to all points of view, the "Summary and Conclusions" section at the end of this Report must of course be read as a statement of my own personal position. It is my hope that many of the readers of this Report will be as influenced by the evidence and testimony as I have been.

GARDNER PATTERSON

Professor of Economics and International Affairs

July 12, 1968

## CHAPTER ONE

### THE MATTER OF DESIRABILITY

THE desirability of Princeton's entering significantly into the education of women at the undergraduate level depends on how such a step would affect the many elements which comprise a modern university. In this chapter we examine the likely effects on the number and quality of male applicants; on the faculty and the curriculum; on the intellectual, social, and cultural aspects of undergraduate life; on University-alumni relations. We also discuss the broader effects of such a change on the role of Princeton within this country's system of higher education.

### *Effect on Number and Quality of Male Applicants*

The quality of its student body has a determining influence on the quality, stature, and accomplishments of a university. In recent years Princeton has received, on the average, about five completed applications for each available place in the freshman class. Although experience has taught that Princeton, in anticipation of some turndowns from accepted applicants, must admit approximately three men for every two places in the freshman class, those who do come are a select group. By all the usual measurements—secondary school standings, College Entrance Examination Board tests, extracurricular activities, etc.—most rank high among their classmates.

Yet, all of these students are not as good as we would like them to be. There is, in the words of the Director of Admission "a marked difference between those men we admit early in the admissions meetings and those with whom we fill out the class. The top 500 or so men in our applicant group are absolutely first-rate—tops academically and tops nonacademically. The number of such men in the nation is large. Each secondary school might have at least one of them most years. All too often, we sense that we are seeing very good applicants from a school, but not the top ones." Princeton would be a better university if the pool of truly outstanding applicants—and we mean outstanding in many respects, not just in academic ability—were 1000 rather than 500.

Moreover, too many of the students who apply, whom we admit and whom we would most like to have at Princeton, go elsewhere. The Office of Admission tabulates statistics on many of the characteristics of this group, and makes judgments on the specific strengths of the individuals in it. On all of these measurement scales, the one man in three who is admitted but goes elsewhere often stands higher than the two who choose Princeton. It is reasonable to expect the competition for the outstanding applicants to be severe, but it is disturbing to study the marked difference between the statistics on the

<sup>1</sup> Office of Admission Report to the Faculty, 1966-1967, page 9. The data on which the calculations of the preceding paragraph were based are given on page 23 of this document.

<sup>2</sup> Princeton's experience is not unique. President Brewster of Yale reported recently to the Joint Vassar-Yale Trustee-Fellow Committee that "There is ample qualitative evidence that the absence of a first-rate women's college in the community leads many of our best potential freshmen candidates to choose to go elsewhere." (*Vassar-Yale Report from the Joint Study Committee*, Sept., 1967, p. 3.)

<sup>3</sup> These questionnaires, distributed in October and November, 1967, and a detailed tabulation of the answers are given in Appendix A and Appendix B, respectively.

group admitted and those on the group actually enrolled. Of the 425 men identified in 1968 as "the best" in the applicant group, only 181 (or 43%) chose to enroll. It is not possible, unfortunately, to establish with precision the reasons why an individual applies and then chooses to go elsewhere. An examination of reply cards sent out to the men who declined in the last two years showed that there were three principal complaints,<sup>1</sup> all inter-related:

- (1) The lack of women students.
- (2) Inadequate social facilities and the general social atmosphere of the undergraduate years.
- (3) The problems raised by the Club System and "Bicker."

In appraising the significance of this rejection experience,<sup>2</sup> it is important to keep in mind that applicants were already a self-selected group: They had elected to apply to an all-male college. Presumably applications were not even received from many outstanding individuals with a strong preference for a college with women students.

The Director of Admission reports that he and his staff are continually being questioned, when talking to groups of applicants, about social life at Princeton. He has stated: "There is no aspect of our University more persistently probed by young men making their college plans than our social structure and atmosphere."

The experiences and general conclusions of the present Director of Admission have been confirmed by his predecessor who wrote us:

From an admission point of view, I think it is obvious that Princeton would be more attractive to able boys if it were in some way coeducational. Having visited large numbers of secondary schools and interviewed hundreds of boys, I simply state it as fact that able, sensitive boys take it for granted that they will sit in class with girls. I found this to be true in both public schools and independent schools and all too often found myself falling back on ancient arguments to defend the monastic life at Princeton. The old arguments simply don't sell!

Though it is true that Princeton turns away large numbers of good applicants for lack of space, it is also true that Princeton loses one third of its admitted students to other colleges. These students all too often are the very people we want most. There is no doubt whatsoever in my mind that coeducation is very much a factor in their decision not to attend Princeton. Moreover, I would go so far as to say that many undergraduates at Princeton today are there despite the fact that it is not coeducational. In short, my own admission experience points decidedly to coeducation as a desirable goal for Princeton.

Because of the importance to the University's future of enlarging the pool of highly qualified applicants, and decreasing the percentage of those admitted who choose not to come, we have also searched for information among several groups. Our first queries were to the Princeton faculty and to the present Princeton undergraduates.<sup>3</sup> The results are shown in Table 1-I.

We find that many are tempted to brush aside the results of this undergraduate questionnaire, asserting that students enjoy complaining and are likely to give flippant answers. We believe that in this instance the results are to be taken seriously. The students who assisted us in preparing and distributing the questionnaire gave much time and thought to encouraging responsible replies. The mood of the student body at the time was a somber one. The percentage (65%) of those returning the long questionnaire was very high. A check showed that the replies were internally consistent, difficult to manage if a questionnaire is not answered honestly and seriously. The large number of volunteered comments gave further evidence of thoughtfulness.

TABLE 1—I

FACULTY AND UNDERGRADUATE VIEWS ON THE EFFECT OF  
COEDUCATION ON PRINCETON'S ABILITY TO ATTRACT  
MALE APPLICANTS OF HIGH QUALITY

a) *Faculty Members* (N=454)

"Do you believe that coeducation would enhance the attractiveness of Princeton for the best-qualified students in high schools and private secondary schools, thereby helping us get some of the best young men who, at present, do not apply or decline after being accepted for admission?"

Yes	75%
No	4
Not concerned. We attract, and will continue to attract, enough good students if we remain all male	17
Other and No Response	4
	<hr/> 100

b) *Princeton Undergraduates* (N=2032)

"Do you think having women in the undergraduate college would have a positive or negative effect on Princeton's ability to attract well-qualified male applicants?"

Positive	83%
Negative	7
Would make no difference	5
Other and No Response	5
	<hr/> 100

We then sought the views of those alumni who are professionally engaged in education.<sup>4a</sup> We found that, while only 47% of the nearly 2000 who replied believed the effects would be beneficial—a noticeably smaller percentage than amongst the Princeton faculty and undergraduates—the percentage increased as the respondents were younger. (See Table 1-II).

Our study and analysis had early led us to conclude that probably the most reliable evidence on this critical matter could be obtained from secondary school seniors themselves—those for whom the matter was of the greatest importance since they were then actually making decisions as to where to apply for admission. With the help of Princeton's Admission Office and others in this University, as well as that of some officials from Smith College, we prepared a questionnaire and sent it to over 4600 college preparatory seniors at nineteen superior private and public secondary schools<sup>4b</sup> throughout the country.

This was a "blind" questionnaire—i.e., it did not mention Princeton, and included questions, dealing with issues other than the education of women—all this in an effort to elicit "true" responses.

The results, as shown in Table 1-III below, were impressive evidence that, were Princeton to admit women students, it would increase its attractiveness to a very large portion of the high-talent college applicant "pool" and would decrease its attractiveness to only a very few. Moreover, the presence of both sexes appears to be especially

<sup>4a</sup> This questionnaire, sent out in January, 1968, and the detailed tabulation of the 1918 replies are given in Appendix C.

<sup>4b</sup> The schools and the number of students replying from each were: Bellevue Senior High School, Bellevue, Wash. (445); Columbia High School, Maplewood, N.J. (463); Concord Academy, Concord, Mass. (51); DeWitt Clinton High School, New York City (468); Germantown Friends School, Philadelphia, Pa. (47); Grosse Pointe High School, Grosse Pointe, Mich. (613); Jamesville Dewitt High School, Dewitt, N.Y. (192); John Burroughs School, St. Louis, Mo. (61); Katherine Branson School, Ross, Calif. (33); Kent School, Kent, Conn.

important to the most able students among this already select group.

TABLE 1—II

VIEWS OF PRINCETON ALUMNI IN EDUCATION ON THE EFFECT  
OF COEDUCATION ON PRINCETON'S ABILITY TO ATTRACT  
MALE APPLICANTS OF HIGH QUALITY

"Do you believe that the presence of women undergraduates would enhance the attractiveness of Princeton for the best-qualified students in high schools and private secondary schools, thereby helping it attract some of the best young men who, at present, do not apply or decline after being accepted for admission?"

	By Class (in percentages) (N=1918)							
	Total	1915 earlier	1916- 1924	1925- 1930	1931- 1940	1941- 1950	1951- 1960	1961- 1967
Yes	47	27	30	33	47	45	52	60
No	8	18	14	17	8	9	6	6
Not an important question. Princeton attracts, and will continue to attract, enough good students if it remains all male.	43	49	54	48	44	44	39	33
Other and No Response	2	6	2	2	1	2	3	1
	<hr/> 100	<hr/> 100	<hr/> 100	<hr/> 100	<hr/> 100	<hr/> 100	<hr/> 100	<hr/> 100

TABLE 1—III

VIEWS OF SECONDARY SCHOOL STUDENTS REGARDING THE EFFECT  
OF COEDUCATION ON THE ATTRACTIVENESS OF AN  
EDUCATIONAL INSTITUTION  
(In percentages)  
(N=4680)

"Does the fact that a college has both men and women students (as compared with a college having only students of your own sex):"

	MALE		FEMALE	
	Rank in Class Upper 2/5	Lower 3/5	Rank in Class Upper 2/5	Lower 3/5
Increase its attractiveness	81	74	79	67
Make no difference	15	21	15	26
Decrease its attractiveness	3	4	5	5
No opinion and Other	1	1	1	2
	<hr/> 100	<hr/> 100	<hr/> 100	<hr/> 100

Next we sought the views of Princeton alumni who were serving as Schools Committeemen.<sup>4c</sup> Over 800 of them replied. The group as a whole was less certain than the undergraduates and faculty, alumni in education, or the secondary school students, that a coeducational Princeton would have beneficial effects on male applicants. (See Table 1-V). This response may be partially explained by (136); Laboratory Schools, Univ. of Chicago, Chicago, Ill. (112); Madeira School, Greenway, Va. (56); Myers Park High School, Charlotte, N.C. (519); New Trier East High School, Winnetka, Ill. (660); Phillips Academy, Andover, Mass. (252); St. John's School, Houston, Texas (48); Thomas Jefferson High School, Denver, Colo. (332); Westminster Schools, Atlanta, Ga. (108); Woodberry Forest School, Woodberry Forest, Va. (84). This February, 1968, questionnaire and a tabulation of the 4680 replies received are reproduced in Appendix E.

<sup>4c</sup> This March, 1968, questionnaire and a tabulation of the 850 replies received are reproduced in Appendix D.

the nature of Schools Committee work. A Committeeman usually does not interview a secondary school student until after the student has made preliminary application to Princeton. Because he has taken the initiative in applying, the student will probably be aware that Princeton is not coeducational. The alumnus therefore does not have to "sell" Princeton to him as he would to a person who knew nothing about the University—or to one who would not consider attending a non-coeducational institution. Fur-

TABLE 1—IV

VIEWS OF PRINCETON SCHOOLS COMMITTEEMEN ON THE EFFECT OF COEDUCATION ON THE UNIVERSITY'S ABILITY TO ATTRACT MALE APPLICANTS OF HIGH QUALITY

(In percentages)

(N=852)

- a) "Do you think that the presence of women at Princeton would have helped you in 'selling' the University to secondary school students with whom you have seriously discussed Princeton in the last few years?"

CLASS

	Total	1930 or earlier	1931-1940	1941-1950	1951-1960	1961-1967
Yes, a lot	7	—	7	7	8	8
Yes, a little	38	29	27	38	40	47
No	49	57	59	51	46	37
No, it would have made the job more difficult	3	9	5	3	2	3
No Response and Other	3	5	2	1	4	5
	100	100	100	100	100	100

- b) "Do you believe that, in the past two or three years, the number of young men in your area who showed no interest in Princeton but who might have done so if we had had both men and women students was:"

	Total	1930 or earlier	1931-1940	1941-1950	1951-1960	1961-1967
None	17	26	23	16	14	18
Very small	45	31	41	54	44	41
Significant	7	2	6	4	9	10
No basis for judgment	30	41	30	25	32	30
No Response and Other	1	—	—	1	1	1
	100	100	100	100	100	100

- c) "More generally, does your experience with secondary school students in recent years indicate that the fact a college or university has both men and women students (as compared with colleges having students of only one sex):"

	Total	1930 or earlier	1931-1940	1941-1950	1951-1960	1961-1967
Increase its attractiveness	54	33	48	53	58	62
Make no difference	34	36	28	38	34	28
Decrease its attractiveness	5	16	12	4	2	5
No Response and Other	7	15	12	5	6	5
	100	100	100	100	100	100

<sup>5</sup> W. G. Bowen, *The Economics of Private Universities*, forthcoming.

thermore, secondary school students in interviews tend to concentrate their questions on a college's strong points and ignore the weaker ones. Thus many of the alumni interviewers report to the Admission staff that coeducation is rarely a topic of discussion between themselves and secondary school students. The response of the Schools Committeemen does indicate that only a very small percentage thinks that women at Princeton would make it more difficult to "sell" the University.

The preference shown by secondary school students takes on much greater significance as Princeton looks to a future in which other fundamental forces are at work which will demand that Princeton be much more concerned than it has had to be in the past with its competitive position in attracting outstanding applicants. This is because of two profound developments under way in the field of higher education in the United States:

(1) The quality and number of public-supported colleges and universities are increasing very rapidly, reflecting the nation's growing concern for and interest in education, and the improvements therein made possible by our rapidly growing national income. It is less true each year that a superior education is obtainable only in a handful of prestigious private colleges and universities and a few of the older tax-supported institutions. The most qualified students now have many more attractive options than they used to have and the number of options is steadily increasing.

(2) The gap between the charges (tuition, fees, and room and board) of a private university such as Princeton and those of the great tax-supported universities, which fluctuated within a fairly narrow range from 1928 to 1956, has been steadily increasing in recent years. Thus, in 1966 it cost more than twice as much to attend the average private institution than it cost to attend the average public institution. This is to be compared with a cost of only between 52% and 65% more in the period from 1928 to 1956. Moreover, analysis of the costs of higher education and the economic position of the major private universities indicates that this gap will probably continue to broaden.<sup>5</sup> Faced with increased competition in quality, in quantity and in price, Princeton, as it looks ahead, cannot derive complacent comfort from its past abilities to attract good applicants.

This is all the more true because recent research has shown that the total national pool of college candidates who are bright enough and sufficiently well-trained to do good work at places like Princeton and whose families are prosperous enough to pay all the costs—be it with many sacrifices—is much smaller than generally imagined. Thus, it has been estimated that in the entire United States in 1964-65 there probably were no more than 14,000 male secondary school seniors able to score 600 or better (800 being the highest obtainable score) on the SAT (verbal) tests and whose family's total annual income was \$16,000 or more. If one limits the group to the male students able to score 650 or better, it is estimated the pool for this income group probably falls to around 6,000 men!<sup>6</sup> Princeton does not, of course, demand that all students pay the full charges, but many must if the present scholarship funds are to be adequate.

<sup>6</sup> Humphrey Doermann, "The Market for College Education," *Educational Record*, Winter 1968, pages 49-57.

Thus Princeton must become increasingly attractive to the best men applicants, and we submit that admitting women will appreciably increase that attractiveness. This is not to say that such considerations as family preferences, expenses, easy access to metropolitan areas, etc., will no longer be important in leading some of the best students elsewhere. They will. As just noted, the cost factor may be of increasing importance. But this only strengthens the thesis that we must do what we can to improve our competitive position. We fully share the view of Princeton's Director of Admission who told us: "I believe that there is no single step the University could take that would increase our recruiting potential more than the addition of women students."

Analysis of the *patterns* of answers to our questionnaire suggests that the reasons for these strong preferences on the part of the secondary school seniors are associated with their belief that the total educational experience, including cultural and social life, would be more rewarding in a coeducational environment than in a single-sex one. To these matters we now turn.

### *Effects on the Intellectual Life of Princeton*

To assess or to document the effects on the intellectual life of Princeton of introducing women into the student body is difficult, but it is at the very heart of our question, and one must approach it from various angles.

The ability of women fully to participate in the intellectual life of the University cannot be contested. While scholastic aptitude and scores on achievement tests are very similar for the two sexes, recent studies by the National Merit Scholarship Corporation<sup>7</sup> show that, although at the high-school level more girls than boys receive grades of "A," roughly 50% more boys than girls go to college. More girls than boys who enter college have graduated from secondary schools with A+ to A- grade averages. Moreover, women now attending college, and who represent the kind Princeton might hope to attract, bring with them superior cultural achievements and interests. It is not surprising that many teachers who have both men and women in their classes believe that women are well-prepared, bright and conscientious workers. In those liberal arts colleges whose experience seems most relevant to Princeton (we have in mind particularly Radcliffe/Harvard and Stanford), the average academic records of women often surpasses those of the men (see Table 1-V).

It is also a common observation of those who have worked with both women and men students that the

TABLE 1—V

COMPARATIVE ACADEMIC PERFORMANCE, MEN AND WOMEN<sup>8</sup>

a) <i>Degrees Conferred by Harvard/Radcliffe, 1967</i> (In percentages)		
	Harvard	Radcliffe
Degrees without honors	33.2%	18.9%
Cum Laude	46.3	51.6
Magna Cum Laude	18.4	25.5
Summa Cum Laude	2.1	4.0

b) *Grade Averages, Stanford University, 1967*  
("A"=4; "B"=3; "C"=2; "D"=1)

	Men	Women
Autumn QTR	2.83	3.00
Winter QTR	2.78	2.97
Spring QTR	2.90	3.09
Year	2.84	3.02

women are often more committed to a liberal education than are the men, and less susceptible to the pressures of vocationalism. The explosion of knowledge in recent years has greatly increased the pressure for students everywhere to concentrate, early, in very limited fields. This phenomenon is increasingly evident at Princeton, too, and we believe strongly that forces working against it are to be welcomed.

One fairly prevalent concern uncovered in our study has been that the presence of women would distract men from their studies—in the classroom, library, and throughout the University. That women do "distract" men is to be neither denied nor deplored. Two questions confront us: (1) Would having sizable numbers of women in the student body—with the easier, more accessible social relations thereby made possible—replace existing distractions or add to them? (2) What is the comparative content of the "distraction"?

Our research has not yielded conclusive, quantitatively verifiable answers. The effects doubtless vary greatly among students, but, in general, it can be said that students (both men and women) of the sort admitted to Princeton today have an intellectual motivation higher than used to be the case and so are less easily distracted. As to the first question posed above, we do know that the present Princeton undergraduate, like his predecessors before him, seeks the company of women—at the cost of much time in traveling to where the girls are and in planning and arranging to get the girls to Princeton. It is not uncommon in the latter case, apparently, to devote the equivalent of several days to one weekend. Over half the present undergraduates report (see Table 1-VI) that they spend a third or more of their weekends away from the campus.

TABLE 1—VI

WEEKENDS AWAY FROM CAMPUS, PRINCETON UNDERGRADUATES

a) "Out of ten weekends, approximately how many do you spend away from campus?"

None	4%
1-2	41
3-5	45
6-8	7
9-10	2
No response or Other	1
	100%

b) "If Princeton were coeducational, what do you think would be the effect on the amount of time men undergraduates would spend away from campus?"

	If Ratio 4:1	If Ratio 2:1
All weekends here	3%	24%
Cut in half	48	57
Little effect	46	10
No response or Other	3	9
	100%	100%

<sup>8</sup> Source: Office of the Registrars, Harvard and Stanford Universities.

<sup>7</sup> Charles E. Werts, *Sex Differences in College Attendance*, National Merit Scholarship Corporation, Evanston, 1966.



The table also shows that they believe—and this is supported by experiences elsewhere—that this exodus probably would be reduced if women were members of the student body. It is, therefore, a moot question whether the total amount of time the undergraduate devotes to social affairs with women under the present system is greater or less than the total time he would spend in more frequent, but less prolonged, social activities if women were students here.

It can, of course, be argued that even if the total amount of time spent on such activities were the same, there is a great difference (in the words of one alumnus) between “the necessary change of pace represented by weekend diversions and the continuous dilution of attention which is associated with a coeducational environment.” But many who have taught in both types of colleges believe that much of the apparent “social activity” between the sexes in coeducational environments is not to be categorized as “dilution,” because much of it has a large component of just that sort of dialogue one encourages among students, a dialogue that is easier between persons who share an ongoing educational experience than among those who do not. Those who regard the appearance together of a boy and a girl—fellow students—on today’s campuses as necessarily a “date” situation are often misreading what is happening, underestimating the seriousness of educational purpose among the sorts of young men and women who would qualify for admission to Princeton. A significant part of these encounters has no more “sex” in it than does time spent talking, debating, arguing and discussing between two members of the same sex.

We have found little support for the view that, in the highly selective colleges, women seriously distract men’s attention in the classroom or library. Few of the present Princeton undergraduates (see Table 1-VII) think the presence of women would be inhibiting in the classroom, and many more think they would work harder if women were included in the student body.

TABLE 1—VII

PRINCETON UNDERGRADUATES’ VIEWS  
ON THE EFFECT OF WOMEN ON CLASSROOM PERFORMANCE

(In percentages)  
(N=2032)

“Would you personally find it distracting or inhibiting to have a substantial number of women in your classes?”

Yes	22%
No	76
Other	2
	<hr/> 100%

“Do you think the effect on your classroom preparation and participation, with women present at Princeton, would be:”

To work harder	28%
Insignificant	45
To work less hard	5
No basis for judgment	20
Other	2
	<hr/> 100%

Similarly, as Table 1-VIII shows, a sizable majority of the secondary school seniors queried also believe the quality of classroom discussion is improved by having both men and women participate and few think that they would do better schoolwork in single-sex classes.

TABLE 1—VIII

SECONDARY SCHOOL STUDENTS’ VIEWS ON  
THE EFFECT OF COEDUCATIONAL CLASSES

(In percentages)  
(N=4680)

a) “How do you think having both men and women present affects the quality of classroom discussions?”

	Men	Women
Improves it	64%	73%
Has little effect	20	13
Lowers it	6	5
Do not know	9	9
No response and Other	1	—
	<hr/> 100%	<hr/> 100%

b) “In which type of class do you believe you do, or would do, better school work?”

	Men	Women
Coeducational	45%	42%
Noncoeducational	11	12
Makes no difference	43	44
No response and Other	1	2
	<hr/> 100%	<hr/> 100%

Observations on other campuses, discussions with faculty members and with men and women students in coeducation situations, all confirm that once the novelty has worn off, and provided the ratio of men to women is not too lopsided, the presence of members of the opposite sex usually does not significantly distract either the men or women from the work at hand. Nor, apparently, does the presence of women tend to inhibit participation by men in class discussion. The reverse may occur, however, especially if the number of women is very small. We were able to find a bit of impressionistic evidence that occasionally “bright girls hold back” in the company of men, but this phenomenon is apparently decreasing in frequency. The concern that, in general, neither sex studies as hard or is as productive in a coeducational environment as in one limited to his own sex is doubtless true for some individuals, but one has only to examine the life of the mind at Swarthmore or Stanford, or Harvard-Radcliffe, to name but a few, to negate this as a general proposition. Our findings confirm what President Brewster of Yale reported, “. . . far from being a distraction, the presence of the opposite sex results in more intense participation and study.”<sup>9</sup>

But what could one expect women to contribute to the education now available at Princeton? More than two-thirds of those Princeton University faculty members who have had substantial recent experience teaching coeducational classes found such classes personally more satisfying than all-male classes, and most of them believed (See Table 1-IX) that having women in undergraduate classes results in a helpful increase in the variety of viewpoints expressed and in methods of attacking problems. For ex-

<sup>9</sup> *Vassar-Yale Report*, op.cit., page 4.

ample, young men have a good deal to contribute to young women's understanding of Stendhal's *The Red and The Black*, and young women have something to say about Flaubert's masterpiece, *Madame Bovary*, which would not occur to young men. It is true that in some

TABLE 1—IX  
PRINCETON FACULTY VIEWS ON THE EFFECTS  
OF WOMEN IN THE CLASSROOM  
(In percentages)  
(N=454)

- a) "In your discipline, what effect do you think having both sexes represented in undergraduate classes, as compared with only one, has on: the willingness of students to ask questions and engage in discussion with the instructor and other students, and, more generally, on full and free discussion?"

	Experience with Coeducation			
	Total	Extensive <sup>10</sup>	Some	Little or None
Significantly improves	36	55	31	24
Significantly restricts	2	1	3	3
Little or no effect	58	41	63	68
Other	4	3	3	5
	100	100	100	100

- b) "Do you think that having women in your undergraduate classes at Princeton would result in any helpful increase in the variety of viewpoints, methods of attacking problems, etc.?"

	Experience with Coeducation			
	Total	Extensive	Some	Little or None
Yes	47	69	44	31
No	21	17	24	24
Not relevant				
in my discipline	29	12	30	43
Other	3	2	2	2
	100	100	100	100

fields—mathematics being an example—these factors are not present. It is also true that some who have taught mixed classes believe that the teaching of both men and women suffers. That is, they find that teaching first-class men students requires a constant emphasis on the discipline, technique, and the process of compiling facts and ordering the argument to sustain the ingenuity of speculation; and, in contrast, first-class women students must constantly be urged to depart from the massing of data and to generalize, speculate and synthesize. Other teachers share these conclusions as to the difference in needs, but find they are best met by men students observing how women students work and vice versa.

In appraising the possible contribution of women to the quality of education at Princeton, it is necessary to consider the question of relative drop-out rates. A general view prevails that the drop-out rates for women are substantially higher than for men. Were this true, a dis-

<sup>10</sup> Defined as having taught coeducational classes within the past 5 years in which at least 20% of the students were women.

<sup>11</sup> In the one prestigious coeducational college we studied which had data on marriage and drop-outs our explorations showed that over the past few years only 1.1% of the women students in an average class left college—even temporarily—

proportionate emphasis on the more elementary parts of the college curriculum and a relative overcrowding of underclass courses would result. It would, further, dilute the quality of a Princeton education, because there would be a large component of the student body which would consist of birds of passage, having insufficient educational motivation to maintain, let alone strengthen, Princeton's standards. The most frequently alleged reason for this stated low-survival rate of women is their urge toward early marriage and their view of college as a husband-hunting ground.<sup>11</sup>

Our research on several campuses turned up evidence decisively refuting the alleged "fact" that the drop-out rate for women in recent years exceeds that for men, at least in the case of those institutions with which Princeton is usually grouped—those whose women students are of a quality and motivation comparable to what Princeton might expect were it to admit women. In the College of Arts and Sciences at one institution, for example, 77% of the women graduated on schedule in June 1966 as compared to 75% of the men. At a second coeducational college, for the school years 1950-1960 through 1965-1966, the gross attrition rate—for all reasons—averaged 12.7% for men and 14.7% for women (as measured by students, except seniors, who registered one September and did not register the following September). But, if one excludes those who did not register the following September because they transferred to another institution or studied abroad, the attrition rate for men was 8.8%, for women 7.57%. The records at a third institution present a similar picture. Measured in terms of attrition after four years, the non-survival rate in the most recent years among the men students has exceeded that for women: Class of 1965—women 16.7%, men 18.3%; Class of 1966—women 15.5%, men 19.3%; Class of 1967—women 13.3%, men 19.0%. These findings are the more significant because these were years during which many male students were under the threat of being drafted if they were not enrolled in a college. And yet, women "finished the course" in significantly larger percentages than did the men.

It was common in earlier years for women to drop out of college at a higher rate than men, but this is no longer the case—presumably, yet another reflection of the profound changes in our society that give women more opportunities and more motivation to play important roles outside the home. As President Bunting of Radcliffe—who has had unexcelled opportunities to observe and study today's women college students—has written, "Young women as well as young men see the growing need for trained talent capable of enlightening creativity and leadership in a wide variety of fields. . . . Today's young women see the pattern of their lives [their family responsibilities] determining the pace, not their goals."<sup>12</sup>

We conclude, then, that the quality of intellectual life at Princeton would be improved by the presence of

for reasons of marriage. Data on those who subsequently returned and completed their degrees are not available, but, very probably, some did and this would reduce the percentage.

<sup>12</sup> President Mary Bunting, *Radcliffe Educates for New Challenges*, 1967, Cambridge, Massachusetts (mimeographed), page 2.

both men and women, assuming both were of roughly equal ability. This conclusion is based in part upon the testimony of the faculties on other campuses we have studied that women are a "lively source of competition to men and vice versa," that "bisexual classes promote responses not found in single-sex classes," and that the presence of women reduces the number of men who are or profess to be bored or uninterested in the class discussion. A distinguished former professor at Princeton who, after more than three decades as a student and a member of our faculty, accepted an appointment at a coeducational university told us: "I have found these aspects so important to me as a teacher that I would not consider returning to Princeton so long as it remains all male."

### *Effects on the Structure of the Curriculum and the Faculty*

We believe that Princeton ought to remain a university dedicated to teaching and research in literature, the arts, and the sciences. But the great upsurge in interest in recent decades in the sciences makes it appropriate to consider whether the admission of women would bring about desirable changes in emphasis among the major areas.

Admitting women would result in changes in the relative size and role of the various disciplines as measured by the number of faculty members and the number of students studying in each discipline. In the most general terms, our analysis indicates that, were women admitted, we could expect *relatively* greater emphasis than now on the humanities and *relatively* less on most of the sciences, including engineering.

TABLE 1—X

PRESENT STRUCTURE OF THE COLLEGE AND EFFECT OF  
ADMITTING WOMEN ON RELATIVE SIZE OF DEPARTMENTS

Department	Present Princeton Undergraduate Enrollment	Estimated Female Enrollment <sup>13</sup>	Effect on Relative Size of Departments
(In percentage of total)			
Anthropology	0.5	0.9	+
Architecture	1.4	1.1	—
Biology	3.9	6.3	+
Chemistry	5.0	3.4	—
Classics	2.9	3.7	+
Economics	7.5	2.9	—
Engineering	7.7	1.4	—
English	10.1	14.6	+
Fine Arts	4.5	7.8	+
Geology	0.9	0.9	0
Germanic Languages	1.8	1.9	0
Politics	7.4	5.0	—
History	10.8	11.3	+
Mathematics	7.3	4.2	—
Oriental Studies	1.2	2.2	+
Philosophy	3.8	3.0	—
Physics	4.8	1.3	—
Psychology	3.3	4.1	+
Religion	4.3	7.8	+
Romance Languages	6.4	10.4	+
Slavic Languages	0.8	1.2	+
Sociology	3.8	4.6	+
	100.0%	100.0%	

Table 1-X shows the present structure of the college—as measured by the student course selections in the school year 1967-1968—and our resulting estimates as to which Princeton departments would expand, relatively, and which would decline, relatively. It should be emphasized that we are speaking of relative changes; if women were admitted there would be more students in each department, assuming that women were additional and not replacing men. The actual effects on enrollments would, of course, depend on the absolute number of men and women in the undergraduate body and on the future appeal of the various subject matters and the particular faculty members.

Are these estimated shifts in emphasis desirable from the University's point of view? We believe they are. In this we are supported by nearly three-quarters of the present faculty. Fewer than 10% think they are not desirable, the remainder believing they would not matter. It is interesting that the faculty views on the desirability of these shifts bear little relation to how a given faculty member's department would fare: More believe they would be in the interest of the University as a whole than believe they would be in the interest of their particular departments. In addition to considerations of balance in the University community, we believe these estimated shifts to be desirable from an admissions point of view. Our experience in recent years has been that, as compared with our major competition, our applicant pool of the academically strongest has been relatively overweighted with mathematics and science talent and relatively underweighted with talent that is humanities-oriented.

A concern of some is that certain disciplines would tend to become "women's fields." This concern seems to be based on a belief that the presence of women in large numbers in a classroom would make it unmanly for men to be there. Is there any evidence to support this belief?

As has been noted, we would expect some fields to be particularly popular with women. This is most clear for the following: Anthropology, Music, Art and Archeology, Classics, English, Oriental Studies, Social Psychology, Slavic and Romance Languages and Literatures. Whether these departments would become "women's departments," in the sense of having more women than men in them, would, of course, depend on how many women were admitted to the college. For so long as the number remained less than 1500, and assuming that the male enrollment remained at the present level, it is probable that no existing department would have a preponderance of women.

But a question remains: Would men be driven out of those fields where there would be a substantial number of women at Princeton, even if not a majority?

Comparison of Harvard-Radcliffe and Princeton course selections in recent years shows that in two of the above-mentioned fields (Classics, and Slavic and Romance Languages and Literatures), the percentage of both men

<sup>13</sup> See Chapter Four and Appendix F for a detailed explanation of the method used in making these estimates.

and women taking the subjects at Harvard is significantly lower than the percentage of men selecting them at Princeton. In one field (Oriental Studies), the percentage of women at Radcliffe is very close to the percentage of men enrolled at Princeton, while the percentage of men enrolled at Harvard is well below that of Princeton. In three of the fields (Sociology, Anthropology, and Music), the percentage of both men and women taking the courses at Harvard-Radcliffe is appreciably greater than at Princeton. In two fields (English and Russian), the percentage of men enrolled at Harvard is very close to the percentage at Princeton even though these are both relatively more popular fields with women. In one field (Art and Archaeology), the percentage of women at Radcliffe exceeds that of men at Harvard and the percentage of men at Harvard is below that at Princeton, a situation not unlike that in Oriental Studies. These data suggest no consistent relationship such as that posited.

If one widens the comparison to include seven coeducational schools (Stanford, Berkeley, Harvard-Radcliffe, Cornell, Columbia, Swarthmore, Brown-Pembroke) and four presently all-male colleges (Amherst, Williams, Wesleyan, Yale), and considers departmental majors rather than course selections (because the latter information is not available), it appears that men do find English a bit less attractive in coeducational situations than in all-male ones. There *may* also be a slight tendency in this direction for some of the foreign languages. There seems to be no such effect in the other fields.

The evidence we have, then, strongly suggests that there is no cause for concern that women at Princeton would, to any significant extent, drive men out of certain fields; that enrollments in a given discipline at a given university are affected far more by the quality of the faculty, by the particular courses offered and by the other options available, than they are by the sex composition of the student body.

### *Effects on Princeton's Opportunities for Service*

Admitting women undergraduates would enable Princeton to contribute to the education of a sector of our population containing many individuals whose responsibilities outside the home are increasing rapidly, especially in the professional fields.

Some argue that, with its limited resources, Princeton should restrict itself to the education of men, because in our society women use their education less. This is not true in the personal sense of "using one's education"; and the all-important "use" to which women put their education in teaching the young is rarely challenged. They do "use" it somewhat less in the marketplace, but female participation in the civilian labor force is already high and is increasing. The percentage of women in the labor force increased from 25% in 1940 to 36% in 1966. Since 1940, women have been responsible for the major share of the growth of the labor force, accounting for over 60% of the total increase. Women now constitute almost one-half of all white-collar workers in the nation.\*

\* All data in this section, unless otherwise specified, are from the decennial censuses of the United States.

<sup>14</sup> Data relate to the employed, civilian, noninstitutional population aged 18 and older, and are for March of every year

Looking at the college-educated labor force, we find that in 1966 more than one-third of all the professional and technical workers who had completed four or more years of college were women. The number of female college graduates in the labor force increased one and one-half times in the last two decades. A more comprehensive measure of the extent to which college-educated women participate in the labor force—and have been doing so at an increasing rate—is given in Table 1-XI below.

TABLE 1—XI  
LABOR FORCE PARTICIPATION OF WOMEN WHO HAVE  
COMPLETED FOUR OR MORE YEARS OF COLLEGE  
(In percentages)

Age	1940	By Age, 1940-1966		
		1950	1960	1965-1966 (average)
20-24	65.5	67.8	72.3	79.0
25-34	55.4	45.9	46.6	52.9
35-44	48.6	50.3	52.7	53.5
45-54	46.9	55.9	67.6	68.9
55-64	39.4	48.9	61.5	66.1
55-64	39.4	48.9	61.5	66.1
65+	n.a.	18.3	24.4	23.5

n.a. = not available

Source: Various issues of the U.S. Dept. of Labor, *Special Labor Force Report* and various U.S. Dept. of Commerce, Bureau of the Census reports.

The participation rate today for women aged 45 to 64 with five or more years of college is nearly 80%. Especially significant for us is the fact that college-educated women are moving in significant numbers into many traditionally male occupations. More generally, as Table 1-XII shows, college-educated women who are employed—which we have just seen includes most of them most of the time—are moving steadily upward in the types of occupations they pursue.

TABLE 1—XII  
OCCUPATIONAL DISTRIBUTION OF COLLEGE-EDUCATED WOMEN  
EMPLOYED IN WHITE-COLLAR OCCUPATIONS 1948-1966<sup>14</sup>  
(In percentages)

Occupation	1948	1959	1964	1966
I. Professional, technical and kindred workers	69.9	79.1	77.0	80.3
—Medical and other health workers	—	7.0	8.6	9.8
—Teachers, except college	—	52.0	51.1	48.5
—Other professional, technical and kindred workers	—	20.4	17.2	22.0
II. Managers, officials and proprietors, except farm	4.5	4.1	4.6	4.0
III. Clerical and kindred workers	21.1	11.8	12.1	10.1
IV. Sales workers	—	2.3	2.2	2.2
Total employed as white-collar workers	95.6	97.3	95.9	96.6

The changes in the role of women in our society are further reflected in the fact that, in 1964, 21% of the Federal Government-employed mathematicians and stat-

except 1948 and 1952 (which are for October).

Percentages may not total, due to rounding.

Source: Various Bureau of Census and Bureau of Labor Statistics publications.

isticians, 15% of the chemists and 12% of the psychologists were women. The percentage increases in the number of women employees in each of these groups during the 1954-1964 decade were 47%, 107%, and 68%, respectively. Over the decade, 1950-1960, the number of female college presidents, professors and instructors increased by 46%; physicians and surgeons by 54% and social workers by 32%. The number of women lawyers more than doubled between 1948 and 1963, even though the percentage of the total rose from only 1.8% to only 2.7%.

The table below shows that the number of women scientists in the United States, while still very small as compared with the number of men, has been rising in recent years in both absolute and relative terms. Moreover, the prospects are for acceleration.<sup>15</sup>

The growing size of our economy, its increasing complexity and the resulting changes in the nature of many jobs, the rapidly changing mores of our society, and the great growth in the desire and capability of women to contribute beyond their homes as well as in them—all these forces point to a disproportionate increase in the demand for highly-educated women in the future. As an alumnus has said, "The issue is not *whether* women will or should work—but *where, how* and *for what*. The issue is whether their work will be dull and unimaginative or challenging and creative. The right choice seems obvious. Both women and society as a whole have everything to gain by a positive decision."

One important question before us is whether a national institution such as Princeton is, chartered to serve the public interest, can continue to justify denying access to its resources solely on the ground of sex. This question has moral and philosophical aspects which should be given much weight in the University's decision. We believe these latter considerations constitute still another reason for admitting women. It also has important implications for Princeton's future income (discussed in Chapter Four below).

TABLE 1—XIII

WOMEN SCIENTISTS IN THE UNITED STATES  
BY SELECTED MAJOR FIELDS  
1960 AND 1966

Field	1960		1966	
	Number of Women	Percent of Total (Men & Women)	Number of Women	Percent of Total (Men & Women)
All Fields	12597	7.7	16384	8.3
Chemistry	3346	6.3	4995	7.6
Earth Sciences	418	2.4	654	3.3
Meteorology	66	1.7	129	2.1
Physics	566	2.7	981	3.4
Mathematics	1633	10.5	2395	10.5
Agricultural Sciences	35	—	50	—
Biological Sciences	3139	13.1	3347	11.3
Psychology	3394	22.2	4233	22.2

Sources: National Science Foundation, National Register of Scientific and Technical Personnel, 1966, and National Science Foundation, *American Science Manpower*, 1960, Washington, D.C. 1962.

<sup>15</sup> See Parrish and Block, "The Future of Women in Sci-

Considering the caliber of women Princeton could expect to attract, this would seem to be an opportunity comparable to that which the University grasped two decades ago in responding to the national needs and opportunities for more advanced research and more university-level teachers by deciding to increase greatly the size of the Graduate School.

## Effects on the Social and Cultural Life of the University

Few would disagree with a knowledgeable and thoughtful alumnus who wrote to us, "The atmosphere of a coeducational college is pervasively different from that of a men's or women's college," but there is substantial disagreement (and we have stated some of the reasons earlier in this chapter) with the phrase which followed it, "The day-to-day emphasis is on social activities and not on education. . . ." Obviously, in a coeducational environment, contact between the sexes is more frequent, more varied and less hectic than it usually is in men's or women's colleges. But one need only visit campuses or acquaint oneself with a representative cross section of the alumni of such well-known coeducational institutions as Harvard-Radcliffe, Swarthmore, Oberlin, Michigan, Chicago or Stanford to know that single-sex colleges have no monopoly on either seriousness of educational purpose or on quality of education received during undergraduate years.

Some argue that it should not be Princeton's mission to help young men and women adjust to society. "For heaven's sake," we have been advised, "don't ruin that rare opportunity for people to live for a time the life of the mind—the only chance most will ever have for intensive study of the products of man's mind and imagination—in order to create some artificial society for an experiment in living." But this surely misstates the choices. Women, too, often wish for a time to "live a life of the mind" and the ability of both men and women fruitfully to do so is often enhanced by the presence of other humans, trained, curious and informed, with whom one can talk—regardless of sex. *Indeed, the recognition that this activity is not sex-linked would seem to us an exceedingly important result of a liberal education.*

In today's Princeton, many of the undergraduates' contacts with women are concentrated in occasional big weekends. As a result, some of the men are tempted to regard women of their own age chiefly as "sex objects," as companions for "entertainment only," not as fellow humans, as intelligent, as sensitive, as curious and as courageous as themselves. This patently absurd and degrading view leaves some of the present Princeton undergraduates less well-prepared than they ought to be—or could be—to cope with, and to derive full benefits from, the social and intellectual milieu in which most of them will pursue their lives after leaving Princeton. As another alumnus wrote us: "The present segregated arrangement tends to encourage the view that intellectual activity and the opposite sex are incompatible: Where one starts, the other stops. Princeton graduates will

ence and Engineering." *Bulletin of the Atomic Scientists*, May, 1968.

marry and will work with highly educated and intelligent women who are their intellectual equals. The Princeton system should prepare not hinder their entry into this world."

One of the more interesting disclosures of the recent student poll was that this aspect of life at Princeton today is distasteful and worrisome to many. (Table 1-XIV provides several measures of this discontent.) In addition, students volunteered many thoughtful comments on this aspect of their experience. In the same vein, President Bunting has recently commented: "One of the results of shared classes and extracurricular pursuits in a highly intellectual academic community . . . is a rec-

ognition by its men of the genuine intellectual interests of women and the importance of those interests in their lives."<sup>16</sup>

On the cultural side, the presence of women could be expected to stimulate more interest in, and opportunities for, such activities as the theater,<sup>17</sup> music, painting, sculpture and the dance. This is important because one of the characteristics of the present undergraduate body is a certain "roughness" or "toughness" (unfriendly critics have said "juvenile muscularity")—a series of mannerisms or ways of operating typically associated with a masculine society. This can have a blighting effect on the introspective student who needs support if his own art is to thrive and even on the student who does not regard himself as artistically creative but who wishes to cultivate an interest in the arts.

Some hold that cultural activity is purely creative, and often solitary, but it remains true that certain activities—the theater, much music and the dance—are often group affairs at which the presence of both sexes offers clear advantages. The Princeton Chapel Choir, for example, has recently been drawing members from the "Critical Language girls," and from female graduate students and student wives, with the result that, in the words of the Director of Music, ". . . Our repertory has been expanded immensely, and, because of these new possibilities, rehearsals have been much more interesting."<sup>18</sup> Moreover, facilities even for solitary cultural activities—painting, some music, sculpture, etc.—often hinge on having a minimum number of interested persons and so, even here, the presence of women would contribute to an enrichment of the campus.

We conclude that the presence of women in the student body would greatly enrich the cultural and social life of our students and would tend to mold values and to develop in the undergraduates a sense of responsibility toward one another as well as an appreciation of each other which would be more appropriate to their future lives than is now the case for the Princeton undergraduates.

### Effects on Faculty Recruitment

A university can be no better than its faculty. The overriding considerations in a person's decision to accept or reject an offer to join a faculty are the quality of his new colleagues and students, the research opportunities, the teaching load, and the compensation offered. In many cases each year, however, these major considerations are very similar in several institutions. Then less critical elements, and especially the general milieu, can become deciding ones. That Princeton's student body is all male sometimes becomes a decisive issue because of its implications for social and cultural life as well as for classroom activity.

sibilities within an all-male theatrical format have now been largely exhausted.

<sup>18</sup> The Director has also told us that the presence of undergraduate women and of graduate men and women seems to have given the undergraduate managers a greater feeling of maturity and responsibility.

TABLE 1—XIV

UNDERGRADUATE ATTITUDES REGARDING THE SOCIAL AND CULTURAL ATMOSPHERE AT PRINCETON

(In percentages)  
(N=2032)

a) "Do you think the social life at Princeton is:"

	Total	'71	CLASS '70	'69	'68
Satisfactory	18	23	16	16	16
Tolerable	39	46	38	37	36
Detracts greatly from the Princeton experience	40	29	42	45	46
No response and Other	3	2	4	2	2
	100	100	100	100	100

b) "If Princeton were fully coeducational, do you think the range of your outside activities, both extracurricular and cultural, would be:"

	Total	'71	CLASS '70	'69	'68
Enlarged and enriched	73	72	77	72	71
Diminished and depreciated	6	7	5	6	6
Unaffected	20	19	17	21	21
No response and Other	1	2	1	1	2
	100	100	100	100	100

c) "If Princeton were to remain all-male, would you advise an academically qualified younger brother to accept admission?"

	Total	'71	CLASS '70	'69	'68
Yes	56	76	56	48	43
No, <i>provided</i> he were also accepted at another academically first-rate university	32	18	33	39	41
No, <i>even if</i> his only alternatives were academically weaker universities	9	4	8	11	15
No response and Other	3	2	3	2	1
	100	100	100	100	100

<sup>16</sup> "Radcliffe Educates For New Challenges," Cambridge, Mass., 1967 (mimeographed) p. 2.

<sup>17</sup> A recent meeting of the Triangle Club Board of Trustees approved a motion to the effect that the Club would include women in all aspects of the organization if Princeton were to become coeducational. This action reflected a growing concern among those interested in the Triangle that the creative pos-

The former aspect takes on added weight because the town of Princeton is small and offers, apart from the University, limited cultural or social attractions for faculty members. As for the latter aspect, a majority of the present Princeton faculty who have taught mixed classes find them "personally more satisfying" than all-male classes; and as Table 1-XV shows, the percentages of those who are of this opinion increases with their experience.

TABLE 1—XV  
PRINCETON FACULTY TEACHING PREFERENCES  
(In percentages)  
(N=454)

"Do you think that for you, personally, teaching coeducational as opposed to all-male classes would be:"

Faculty members who:

	have had little or no experi- ence teaching coeducational classes	have had some experience teaching coeducational classes	have had exten- sive experience teaching coeducational classes
More satisfactory	38	47	69
Less satisfactory	5	6	3
Not appreciably different	56	44	27
Other	1	3	1
	100	100	100

These considerations are most important for junior members—though they influence senior faculty as well—on whom the University depends heavily for its teach-

ing, its research and its vitality. The junior faculty is a group in which, as a matter of major policy, there is a considerable turnover and, therefore, a continuing need to attract new members.

On the direct question of the relationship between the sex-composition of the student body and faculty recruitment, a large majority of the present faculty believes that having women in the student body would add to the attractiveness of Princeton for a "significant number" of persons whom the University wishes to recruit. As Table 1-XVI shows, this belief is noticeably stronger among younger faculty than among the older members and almost no one, of any age, thinks the presence of women would make faculty recruitment more difficult.

### Effects on University-Alumni Relations

Princeton has a unique and, to the University, most valuable relationship with its alumni. This includes, of course, the substantial financial support provided by them. Both the amount of money given and the breadth of participation by Princetonians are the envy of colleges and universities throughout the country. And their support goes far beyond this. The work of the Schools Committees is well-known, and it would be easy to compile a pages-long list of the myriad ways Princetonians help their own.

The loyalty of the alumni has been nourished from many sources. Most often cited by Princetonians themselves is the male camaraderie, the almost unavoidable result of the relatively isolated small-town atmosphere and the all-male student body in which undergraduates come to know one another intimately as men. In the process,

TABLE 1—XVI  
EFFECT OF COEDUCATION ON FACULTY RECRUITMENT  
(In percentages)  
(N=454)

"How do you think the admission of women would affect faculty recruitments at Princeton?"

	Total	Experience with coeducation:			Age:		
		Exten- sive	Some	Little or None	Under 30	30-39	40 or over
It would add to the at- tractiveness of Princeton for a significant number of persons	63	74	59	58	74	67	56
For every potential faculty member who finds this a desirable aspect, there would be another who would find it to be a drawback	32	24	30	38	23	28	36
It would reduce the ap- peal of Princeton	1	0	1	1	0	1	1
No response or Other	4	2	10	3	3	4	—
	100	100	100	100	100	100	100

strong personal friendships and a sense of community develop that are often looked upon as among life's most worthwhile experiences. Moreover, many believe that in this process they found their own identities, and solid clues as to their future roles, more quickly and more surely than would have been possible in a mixed student body. To many, in the words of one alumnus, this aspect of life at Princeton was also important because "I graduated with a stronger sense of my manliness, of the qualities and ideals of manliness and the pride of manly comradeship." It was, for many, an experience unlike anything they had known before or would later, and this distinctiveness itself—though certain aspects were often regarded as miserable at the time—served to create for many a continuing devotion to the Princeton they knew.<sup>19</sup>

There is little reason to doubt that the introduction to Princeton of a substantial number of women would result, for some students, in less strong bonds of male friendship than Princeton has produced in the past. How much less we cannot confidently estimate. Nor can we pretend to know to what extent, if any, such a weakening would result in a parallel weakening of the graduate's identification with and continuing interest in the welfare of the University. We think there would be some. The rather special spirit among Princetonians in the past often has been related to the all-male character of the student body.

We believe, however, that it is easy to overestimate this effect even for the past, because there are other factors too making for loyalty, and, if our appraisal and judgment in the other parts of this section of our report are correct, these other factors might be strengthened. Some of the alumni who have written to us in the course of our study have mentioned that a major factor in their loyalty was the high quality of the formal education they received, together with the gratitude stemming from the knowledge that—expensive as it may have seemed—a substantial part of the cost of their education was a gift, even to those who received no scholarships. We have received word, too, that pride in an institution that is pushing outward the edges of knowledge and that has regularly demonstrated its growth, its unwillingness to

rest on its laurels, its leadership in seeking ways to improve the educational climate also contribute greatly to this loyalty. In other words, the loyalty of the alumni comes not just from what the institution provided them while they were here, nor from their memories of it, but also from their pride in association with an institution that is widely regarded as a forerunner, one prepared, for good cause, to depart from the ways of the past in order to improve the quality of the educational effort.

It has been a recurring, though not expressly stated, theme in our analysis that today's students, and, we presume, even more those of the future, value the components of their college educational experience in somewhat different order than did their predecessors. Among other things, they appear to put more value than did their parents on the consequences they expect to flow from sharing their education with the opposite sex. This was reflected in the responses of Princeton undergraduates to several of the questions noted in previous pages. It also emerges from the totality of the replies of the secondary school seniors.

Perhaps most surprising (see Table 1-XVII) were the striking increases, as the respondents were younger, of those Princeton alumni associated with education who believe that, if it were feasible, it would be in Princeton's long-term interest to enter substantially into the education of women. (It is relevant for present purposes to bear in mind that the largest absolute number of alumni are in these younger groups.)

For all these reasons, we conclude that it would be rash to assume that, if Princeton were to remain all-male, it would be able in the future to maintain the present high levels of alumni support. Loyalty, too, we believe, flourishes best when it is not taken for granted by the recipient, but is carefully and imaginatively nourished. We see no reason for anticipating any major change in these efforts by the University as a result of a decision to admit women.

### *Effects on Diversity in American Education*

A case can be made that, in a nation as large as the United States, the national interest is well served by hav-

TABLE 1—XVII

VIEWS OF PRINCETON ALUMNI IN EDUCATION REGARDING THE DESIRABILITY OF COEDUCATION

(In percentages)

(N=1918)

"Assuming it were feasible, do you believe it would be in Princeton's long-run interest to enter significantly into the education of women at the undergraduate level?"

	Total	1915- earlier	1916- 1924	1925- 1930	1931- 1940	1941- 1950	1951- 1960	1961- 1967
Yes	69	40	48	53	62	65	79	82
No	26	56	43	40	31	31	17	16
No response and Other	5	4	9	7	7	4	4	2
	100	100	100	100	100	100	100	100

<sup>19</sup> One recent alumnus wrote us: "There is a certain camaraderie engendered by the all-male atmosphere that might be decreased if women were admitted, the feeling of 'We've all

been through it together'—similar to what war veterans feel. But, he went on, "... because war veterans often seem to glorify war hardly makes it attractive to those on the outside."



ing diversity in its educational opportunities. No institution can be all things to all students. While a certain minimum coverage of both the arts and sciences may be necessary in most, it is neither necessary nor desirable, for example, that each have a Law School, a Medical School or an Oriental Languages Department. What is important at the national level is that there be enough good Law Schools, Medical Schools and distinguished Oriental Languages Departments.

Would it not be desirable that there remain at least a few major universities for those men who prefer to spend their undergraduate years in a society of men? Most persons seem to prefer, for reasons we have mentioned above, to obtain their undergraduate education in a bisexual society. But some still prefer to work and live during college years in the company of only their own sex. Here it is not a question of whether one temperament is better or worse, or more desirable or less desirable, than the other. It is rather that since both exist, should there not be first-rate colleges and universities adapted to each?

Even when one accepts all this, as we do, there remain two important questions: (1) How large is this group preferring an all-male or an all-female institution? Our secondary school survey (See Table 1-III above) reveals that only 4.5% of present-day students from superior secondary schools have a positive preference for an all-male or all-female college. There simply is much less demand than in the past for all-male colleges. It seems highly questionable whether Princeton would remain as attractive as it now is if, as a matter of high and conscious policy, one of its most distinctive features was that it belonged to that decreasing number of universities one could attend without the presence of women. (2) Is Princeton's future—its aspirations to excellence in the quality of its students, faculty and programs of study and learning—best assured by its being one of those places or, as it well might be before long, *that* place? We have argued above that it would not. Our concern must be not with diversity for its own sake but with future excellence.

### *Can Princeton Do Justice to Women Students?*

It would be a disgrace to Princeton if it were to admit women only because it believed this would serve the interests, however broadly defined, of its male students. Unless the University, its trustees, its faculty and its students are ready to give continuous and serious concern and effort to what it can offer women for their intellectual growth and development; unless we are willing to accept as desirable that women will demand a quality of education in no way inferior to that offered men; unless we are prepared to acknowledge that the restricted roles of women in the past are outmoded, and the intellectual talents of women are "an important personal and public resource to be developed and used with care and courage"; unless we can embrace all of these things, Princeton should abandon all thought of admitting women. *In our opinion, this point cannot be stressed too much.*

In point of fact, we believe that Princeton can meet this charge. The quality of instruction and the other academic resources of the University are worthy of the excellent women students we anticipate would seek admission. Our research also leads us to conclude that no massive curricular changes would be needed, other than the disparate rates of expansion in existing departments discussed above. Beyond this, additional facilities for most, or all, of the creative arts might well prove necessary, but this would also clearly benefit male students. It may well be, too, that the work of the University's Office of Teacher Preparation and Placement would need considerable expansion.

Although it is not clear now that this would be so, further study may demonstrate that the interests of women—who often require somewhat less preprofessional education than men and who are often under less pressure to achieve professional prominence early, and so may be free to use their trained talents in unconventional ways—might profit from greater freedom in the choice of majors and distribution requirements. Perhaps, too, it would prove desirable to establish procedures whereby a certain amount of upperclass work taken at other institutions would be accepted for a Princeton degree. Further study may also show that it would be desirable to introduce a few courses at the introductory level in some disciplines (Art History, Physics and Government come first to mind) with somewhat different content and approaches from those we now have, many of which were designed with a greater or lesser preprofessional emphasis than is appropriate for many women students. If so, the University must be responsive to such needs, and in ways which ensure that such innovations are not indicators of inferiority.

As we have noted earlier, it might also be necessary, in certain disciplines, for the faculty to make a special effort to encourage women students to generalize and to speculate. Careful attention would have to be given to removing unnecessary and disruptive "competition" between the sexes; and, more generally, to providing such facilities and guidance as would help women develop their own identities, and to guard against any exploitation of one group by another. But also, Princeton would have to avoid graduating a group of "little men." Some of these latter concerns become especially relevant in the consideration of where we believe Princeton should settle along the coordinate-coeducation spectrum, and they are discussed further in that section of our report.

None of these "special" needs seems to be beyond the capability of the University to meet. They do require, however, especially from the faculty and the administration, an abiding and understanding interest in the education of women. As the Table 1-XIX indicates, the support among the Princeton faculty for coeducation at Princeton is such that one would have very good reason to expect this kind of interest.

Nonetheless, the "maleness" of Princeton has so many built-in defenses that any effort to bring young women to the campus must be correspondingly vigorous and strong.

TABLE 1—XIX  
FACULTY ATTITUDES TOWARD COEDUCATION  
(In Percentages)  
(N=454)

- a) "Adding a substantial number of women students to the present student body would involve major expenditures not covered by the tuition charges. Would you, therefore, favor the University's undertaking the education of women?"

	Total	Experience with Coeducation			Age		
		Extensive	Some	Little or None	Under 30	30-39	40 or Over
(1) Yes, but <i>only</i> if and when most of the necessary funds could be found from sources not otherwise available to Princeton as it now is	27	22	28	29	17	17	39
(2) Yes, would prefer (1), but, if not possible, would favor making the commitment to admitting women and drawing financial support from such new sources as could be found, making up any differences from Princeton's present resources	64	74	60	60	81	74	49
(3) No, do not favor admitting women under either condition	7	3	10	9	1	8	10
No response or Other	2	1	2	2	1	1	2
	100	100	100	100	100	100	100

- b) "If sufficient additional funds could not be found, do not think admitting women to the college of such importance that it would justify a policy of reducing the number of male undergraduates in order to provide places for the women?"

	Total	Experience with Coeducation			Age		
		Extensive	Some	Little or None	Under 30	30-39	40 or Over
Yes	50	65	47	38	59	55	41
No	44	31	45	55	33	38	54
No response or Other	6	4	8	7	8	7	5
	100	100	100	100	100	100	100

- c) "Is admitting women to the undergraduate college sufficiently important to justify, if there were no feasible alternatives, a large increase in late afternoon, Saturday and possibly some evening classes?"

	Total	Experience with Coeducation			Age		
		Extensive	Some	Little or None	Under 30	30-39	40 or Over
Yes	63	69	62	59	74	70	53
No	30	22	31	36	21	24	39
No response or Other	7	9	7	5	5	6	8
	100	100	100	100	100	100	100

## Conclusion

On desirability grounds, and apart from considerations of size and cost which are dealt with in later chapters, we believe Princeton should admit a significant number of women.

Our confidence in this conclusion—resting as it does on numerous and diverse considerations—has been great-

ly strengthened by two facts: First, 91 percent of the present Princeton faculty favor Princeton's admitting women.<sup>20</sup> Second, nearly 9 out of 10 members of the faculty, persons with detailed knowledge of university-level education, speaking on a matter of great personal importance to them, prefer that their own children attend coeducational colleges and universities.<sup>21</sup>

<sup>20</sup> See Appendix A, Table A—XIII.

<sup>21</sup> See Appendix, Table A—X.

## CHAPTER TWO

### THE QUESTIONS OF RATIO AND SIZE

#### Introduction

WE were asked to make a thorough study of Princeton's entering "significantly" into the education of women, and we were asked to assume that any women admitted at the undergraduate level would be in addition to—not in place of—the present number of men. Within these terms of reference, the question of the ratio of men to women undergraduate students has necessarily given us much concern, because the educational and financial implications are both great.

Many institutions, as Table 2-I shows, have settled on something close to a 60:40 ratio of men to women. This is the goal for the resident student body set by the Wesleyan Trustees in May 1968 and will also be the Hamilton/Kirkland ratio.

Given our charge to explore feasibility as well as desirability, it was our judgment that it was not useful to explore in detail the implications of a 3 to 2 ratio, because it did not seem reasonable to assume that Princeton's undergraduate body could be increased so rapidly in the foreseeable future. The Yale-Vassar Joint Study Committee reported that "strong statements" were made to them by those experienced in coeducation indicating that a ratio of at least one woman for each two men was desirable.<sup>1</sup> Such a ratio would mean a 50% increase in the size of the College. Even this level of increase seemed of doubtful feasibility to us. Our approach has, consequently, not been a search for the "optimal" ratio from an educational point of view. Rather, we have attempted to determine the minimum number of women necessary to reap most, if not all, of the benefits of having both sexes in the student body. It is hardly necessary to stress that this minimum includes doing full justice to women as well as to men students. Our approach was based on the assumption that

this educational minimum would be the only one financially feasible, at least during the initial years, and that, as experience was gained, the University might move above this "critical minimum mass" to what might then be considered an "optimal mix."

#### Lessons From Radcliffe and Stanford

Among those institutions whose experiences we thought particularly relevant to us because of the high quality of their students, faculty and curriculum, and because their broadly-defined educational goals were comparable to ours, the two with the lowest percentage of women were Harvard/Radcliffe and Stanford. Women constitute only about 20% of the student body of the former's College of Arts and Sciences and about 30% of the student body in the School of Humanities and Sciences at Stanford (25% of the combined School of Humanities and Sciences and the School of Engineering).

For several reasons these ratios are considered too low—barely tolerable—by many of those with whom we talked, convincing us that the benefits of coeducation are diminished with these low ratios. For example, there are many fields of study in which there would be only one or two girls in a class or laboratory section. Under such circumstances, the girls tend to take a less active part in discussions than when several are present. This results in smaller contributions by the women to the quality of the educational experience for both men and women than when the ratio of women is higher. Similar considerations are at play in the intellectual, cultural and spiritual life outside the formal curriculum, aspects of life that play an increasingly important part in the total education of undergraduates. It was often emphasized to us that men form their opinions of women as fellow students and fellow human beings on the basis of those whom they see and work with. When the sample is too small, the results tend to be erratic and unreliable.

With as few as 20% of the population women, the

<sup>1</sup> *Vassar-Yale Report from the Joint Study Committee*, September 1967, p. 75.

TABLE 2—I

RATIO OF MEN TO WOMEN AT SELECTED AMERICAN COLLEGES  
AND UNIVERSITIES

#### Full-Time Undergraduate Students

Ratio of Men/Women		Ratio of Men/Women	
Brandeis	53/47	Harvard-Radcliffe	80/20
Brown-Pembroke	71/29	Mass. Inst. of Technology	95/5
California (Univ. of)		Michigan (Univ. of Ann Arbor)	57/43
Berkeley	59/41	Middlebury College	57/43
Los Angeles	62/38	Oberlin	54/46
Riverside	53/47	Pennsylvania (Univ. of)	69/31
Santa Barbara	49/51	Reed	60/40
Chicago (Univ. of)	61/39	Rochester (Univ. of)	60/40
Colorado College	60/40	Rutgers-Douglass	69/31
Columbia-Barnard	60/40	Stanford (School of Humanities & Sciences)	70/30
Cornell (LS&A)	72/28	Swarthmore	54/46
Dennison	57/43	Vanderbilt	70/30
Duke	65/35	Wisconsin (Univ. of, Madison)	56/44

Source: Cass and Birnbaum, *Comparative Guide to American Colleges*, 1968 edition.

underclass male students—especially the freshmen—find themselves at a social disadvantage in relation to senior men. Resentment and unhappiness can result from difficulties in establishing relaxed social contacts with their female colleagues. At the same time, the girls sometimes are more popular than is desirable in the sense that the pressures for social activity are too great. More important, very small numbers make it most difficult for women to do things privately or anonymously—to experiment, to make mistakes, to ask a question that turns out to be a silly one, without being noticed and without having these mistakes follow them. Such probings are a most important part of one's education and should not be discouraged.

When the percentage of women is significantly below 25%, their actual numbers are too small to diminish markedly the exodus of male students for the weekend, a phenomenon that not only detracts from the amount of time and energy expended by the men on their studies, but also from the quality of the extracurricular life on campus.

In view of these undesirable consequences, other universities have found that when the number of women is less than say 25%, it is important for the University to make great efforts to create social, cultural and classroom situations on the campus in which women are not isolated in small numbers, and in which a one-to-one relationship between men and women is neither necessary nor encouraged. This requires that great efforts be made to distribute the women among multiple-section classes to prevent too small numbers in any one class. It also requires that arrangements for housing and social facilities be such that a great many opportunities are easily available for cultural and social contacts which are not oriented toward "pairing off." The coeducational housing experiments at Stanford, for example, are apparently making important progress in this direction. The easy, frequent and diversified contacts—eating together, listening to music, participating in dramatic performances, engaging in discussion groups, studying together—encouraged by this arrangement take the form of small-group, rather than two-by-two, activity. The apparent consequence is less "dating" than would otherwise be the case as well as "a partial moratorium on sex," while, at the same time, men and women see a great deal of one another in a wide variety of rewarding ways.<sup>2</sup>

The conclusion we draw from a consideration of all these factors is that, if Princeton were to admit women, the goal should be—at the end of a transition period—the establishment of a ratio of not less than three (men) to one. It should be anticipated, furthermore, that this percentage would increase; certainly great pressures would exist to increase it. In any event, the University should make special efforts to encourage, by the nature of its residential arrangements and organized social and cultural activities, a wide spectrum of contacts between men and women that do not by necessity lead only to a one-to-one relationship.

### *Lessons From M.I.T.*

Our mandate was to study the question of Princeton's entering "significantly" into the education of women,

<sup>2</sup> *The Stanford Observer*, Stanford University, March, 1968, carries several reports—official and unofficial, faculty and stu-

which we interpreted to mean at least the minimum number of women necessary to achieve for both men and women students a large share of the educational benefits to be derived from a mixed student body. However, we have also considered the possibility of bringing women to Princeton in very small numbers—say 2-3% of the student body in the early years—to be followed by a very gradual growth, but with neither the rate of growth nor the final objective being a part of the initial policy decision. This is an approach followed for nearly a century at M.I.T. Everyone with whom we talked at that institution believed that the present 95-5 male to female ratio was a great improvement over the 97-3 ratio which had prevailed until very recently, and there was virtually unanimous agreement that an increase, say to a ratio of 90-10, would be desirable. Nevertheless, M.I.T. has found satisfactory a much lower ratio than we recommend for Princeton.

In the view of those at M.I.T., however, it would be dangerous indeed to generalize from their relative success with such a small ratio of women. This is so for several reasons: (1) Many of the girls who come to M.I.T. have an almost religious fervor about the importance of science; in applying for admission to M.I.T., many have already gone against the advice of friends, guidance counselors, and often parents. They regard M.I.T. as the center of the scientific world. For all these reasons, they are quite prepared to overlook any disadvantages that might flow from their small numbers. (2) Because of the nature of M.I.T., the girls there quite easily "connect" with a small community—in a laboratory group, as members of a professor's "team," etc. The result of this is that, for an important part of the academic work, the significant male-female ratio is not 95-5 but more in the neighborhood of 80-20. (3) M.I.T. is in the center of a metropolitan area, so that, for all but strictly academic work, the girls are not forced by their small numbers to adjust to that essentially all-male environment. In other words, they do not have to "fit in" to what they themselves accept as a male institution to the same extent that they would have to in a community such as Princeton if their numbers here were so small.

Still, something can be said for Princeton's admitting women in very small numbers. While the additional cost per female student would be very much higher, the total additional cost would be smaller than for 1000 women. Moreover, such an approach is appealing to some who favor coeducation at Princeton because it might permit the University to break its all-male tradition while at the same time avoiding the risk of creating as much opposition as a bolder program could provoke. Some find it attractive because it would accomplish at relatively small cost the important objective of removing any stigma that may come to be attached to Princeton in the future resulting from its discriminatory admissions practice. Perhaps most important is that it would permit experimentation before certain of the larger capital commitments—especially housing—were made.

But, in our view, these benefits are not nearly enough to recommend the policy. Few of the advantages of coeducation discussed in the preceding chapter would accrue if the number were so small. A female component

dent—on the coeducational housing experience. These are all, on balance, highly commendatory.

of 3% to 4% would have virtually no effect on classroom activities, on extracurricular and social life, on the number and kinds of men who apply, on faculty recruitment, on the structure of the curriculum, etc. A much more serious shortcoming of this policy would be the shortchanging of women for a long time, if for no other reason than that the University would find, as M.I.T. did for so long, that it could not afford to improve the facilities and opportunities for women; to do so would be to make financial investments disproportionate to the percentage of the student group represented. Moreover, the minimal approach, according to a Princeton alumnus who is now Director of Psychological Services at a co-educational college, would "... be a doomed experiment in frustration, and one which would seriously hamper the contribution of the women students because of their extreme minority position." Very small numbers would probably also discourage all but the most confident, strong-willed and determined women (as seems often to have been the case at M.I.T.) and, further, would probably result in an abnormally high drop-out or transfer rate. With such a minimal policy, the University could not, in good conscience, encourage secondary schools to send their most gifted girls as well as boys to Princeton.

Whereas small numbers might permit Princeton to reply "not guilty" to the charge of discrimination on the basis of sex, the University would still have to answer to the charge that integration was token only, and that Princeton had settled for mini-solutions, showing an unbecoming lack of courage, confidence and verve. The only answer to these charges might be that financial considerations ruled out any other immediate solution, but that the University was firmly committed to a policy of admitting a substantial number of women when the resources could be found.

In our view, which is shared by a large majority of the faculty and those Princeton alumni professionally engaged in education, should the decision be to admit women, the decision should be unequivocal: It should aim at an undergraduate student body consisting of not less than 25% women; it should provide for the immediate implementation of the initial phases; it should reflect the hope that the transition period would be as short as possible.

### *Would Princeton Become Too Big?*

Our conclusion that Princeton should admit women at the ratio of not less than one woman to three men raises the question of whether the size of the undergraduate college should be increased. One could, of course, achieve this desirable mix by maintaining the present total enrollment, reducing the number of men by 800 and admitting 800 women. The other extreme would be to increase the size of the college from roughly 3200 to 4200 persons.<sup>3</sup> We were, in fact, asked to assume in our study that the number of male undergraduates would not be reduced, and this assumption underlies our feasibility analyses. As our study progressed, we came to

<sup>3</sup> Here, as elsewhere in this *Report* we treat the addition of 1000 women undergraduates to the present 3200 male undergraduates as meeting the recommendation that women comprise 25% of the undergraduate body. Strictly speaking, Princeton would need to add 1067 women undergraduates to satisfy

believe this assumption represented desirable policy because we found no serious educational disadvantages and some significant advantages in a larger undergraduate body.

Generally speaking, there is no "perfect" size of a college or university. As we noted in Chapter One, the Princeton undergraduate body has increased by more than 60% since 1920. Most of those associated with Hamilton College think 800 is an ideal size. Many, today, at M.I.T. believe an undergraduate body of 3800 is just about right. Among those associated with Swarthmore, many prefer 1000. Harvard finds 4800 male undergraduates the most appropriate number at this point in its history. Members of each generation tend to think their institution was at its best size when they were there. And, perhaps it was. The "best" size clearly varies with time and with what a college or university wishes to do and to be, and on what the consequences of a change would be.

Apart from the matter of cost, to be dealt with in Chapter Four, an increase in the size of the Princeton undergraduate body by 25% could have important effects in three major areas or aspects of university life, each of which warrants some attention: (1) The size of classes, precepts and lectures; (2) The "residential principle" and "class cohesiveness"; and (3) Relationship between the undergraduate college and the Graduate School.

As to the first, increasing the number of students would not necessarily affect the size of classes, precepts or lectures. If all of these were to remain the same, it would, of course, follow that the costs would go up more than if the average number of students in each instructional unit were increased. It is our view that little, if anything, is lost in educational terms by adding numbers in this range to the size of lectures, and—with a few exceptions—we would not recommend adding more lectures in existing courses to accommodate an additional 1000 students. In our analysis of the costs that would be associated with admitting women to Princeton, however, we have kept both classes and precepts from increasing beyond the sizes presently judged appropriate. To this important extent, therefore, any adverse effects of larger numbers on the give and take among students and between students and the instructor would be avoided. This is not to say that class size and teaching methods should never be changed at Princeton. Such changes may be desirable no matter what decision is reached on the education of women.

The second aspect has to do with the effects of increased size on the residential cohesiveness of the college. It has frequently been said that one of Princeton's greatest attractions and strengths arises from its size: large enough to provide a desirable diversity in students, yet small enough to permit a student to consider himself, and be considered, a member of a single student body—a class, if you will. This aspect of life at Princeton, it is said, has not only served to help develop a special form of camaraderie but also has contributed to the total edu-

this ratio (assuming the number of men students remains fixed at 3200). However, to recommend the addition of 1067 women would smack of specious precision. Furthermore, in analyzing financial implications, it is much easier to work with the round number of 1000.

cation of each student by ensuring that he was in touch with everything going on.

It is our view, shared by the Office of the Dean of Students, that, as a consequence of the social evolution on the campus in the past decade or so, Princeton has already moved away from this "ideal," if in fact the ideal ever existed. An early response to student interest in smaller social groups was the development of the Woodrow Wilson Society. More recent evidence of the trend is apparent in the decreasing attractiveness of the eating clubs to a growing number of men, resulting this year in a refusal by one-third of the sophomore class to join in the Bicker process. Other examples are the creation of Stevenson Hall and the present plan for Wilson College.

The pressure for limited off-campus living provides yet another example. A further reflection of the changed interest and desires of the undergraduates and changed judgments on the part of the faculty and administration as to the desirable structure of student life is the study currently being given to increased decentralization of residential, dining and social groupings on campus.

In sum, considerations entirely apart from a further enlargement of the college and the admission of women have already seriously eroded the residential cohesiveness aspects so far as the *entire* student body is concerned. The cohesive unit is not the 3200 undergraduates. It is not the 800 members of a class. It is a smaller unit. This cohesiveness of smaller segments of the campus community is an important component of collegiate life. We believe this may have increased in recent years and we think it should. These small units usually revolve around participation and interest in extracurricular activities of various sorts, friendships formed by large-suite or entry living, and, most important, common career, intellectual, and cultural interests. We believe an enlargement of the College to, say, 4200, far from adversely affecting this form of cohesiveness would probably encourage it by adding cultural foci and by providing, in certain cases, a large enough number of persons—a critical mass—to create new areas of cohesiveness. A huge increase in the student body, say a doubling, could easily do damage to the general sense of community, by making

communications more difficult between faculty, students and administration; but growth of the dimensions under consideration would not make this a serious concern.

As to the third aspect of size—the relationship between the College and the Graduate School—the quality of the faculty and the quality of the education available to the undergraduate student has been greatly improved as a consequence of the substantial growth in the Graduate School since the end of World War II. Our study persuades us that with the Graduate School now numbering 1500, and likely to increase somewhat in the future, Princeton now has a faculty and a range of competencies which are capable of meeting, at relatively moderate costs, the more sophisticated and specialized educational demands of a somewhat larger and more diversified undergraduate student body. With the great increase in knowledge and the highly specialized instruction which is now available at Princeton because of the Graduate School, there are many instances in the University where the number of students in an undergraduate body of 3200 is simply too small to warrant offering a course for undergraduates for which the faculty and facilities now exist. One solution to this problem is to permit undergraduates more easily and more matter-of-factly to take graduate courses; but it may also be desirable in some cases to create certain new courses for undergraduates, provided there are enough of them so that the cost per student is not prohibitive.

## Conclusion

To our earlier conclusion that, if Princeton should decide to admit women, it should aim at achieving as quickly as possible an undergraduate body consisting of not less than 25% women, we would now add that these students should be in addition to, and not in place of, the present number of men. We further conclude that this growth in size need not have serious undesirable consequences, and, in certain respects, it would be a source of strength to the University. More generally, we find the many benefits of admitting women would be a handsome trade-off for such unwanted results as would follow from a moderate increase in size.

## CHAPTER THREE

### COEDUCATION OR COORDINATE EDUCATION?

#### Introduction

If Princeton should decide to enter significantly into the education of women, it will have to make a choice—not simply between coeducation and coordinate education but among many variations of the two.

At the “coordinate” extreme would be the establishment of an institution for women, presumably contiguous to the present campus, having its own trustees, administration, faculty, curriculum, degree, physical facilities and financing, with no University-sponsored joint enterprises. At the total “coeducation” extreme would be a policy whereby the sex of applicants would not even be considered in the admission of students. The University would maintain one Board of Trustees, one administration, one faculty, one curriculum, one budget, one set of classroom and library facilities and coeducational housing.

We know of no college in the United States at either of these extremes. Some do approach these limits, others are scattered at various points along the spectrum. Among well-known institutions there are varying degrees of integration ranging from, for example, the Barnard-Columbia complex toward the coordinate end to Douglass-Rutgers, Pembroke-Brown, Harvard-Radcliffe, and, finally to Stanford. It is something of an exaggeration to say that Harvard is now coeducational. True, there is no Radcliffe faculty, there are no Radcliffe courses, and there is only a Harvard degree; but Radcliffe does retain its own trustees and administration as well as control over its own endowment and admission policy. The exaggeration becomes apparent when one examines Stanford, which has not only one degree, one faculty and one curriculum, but also only one Board of Trustees, one Admission Office, no Dean of Women and several experiments in coeducational housing.

What considerations should determine where Princeton wishes to settle along this extended spectrum?

One of the historical justifications for separate education was the fact that, for a considerable time in our national history, higher education along the East Coast of the United States was seen as a luxury, designed for an elite group of young men. Women simply were not admitted to these colleges. “It was a man’s world, a woman’s place was in the home, and that was that.” Those few, often associated with the feminist movement, who believed it important that women should be educated at the college level were forced into a “second-best” choice. Often this took the form of a separate, physically isolated women’s college or seminary, or, sometimes, an annex to a men’s college. This was the origin of Radcliffe, and something very close to that existed here at Princeton for ten years at the end of the last century in the form of Evelyn College for Women.<sup>1</sup> The basic premise in support of complete separation was that women were inferior, at least in matters intellectual. This premise is unacceptable in Princeton’s educational philosophy today.

<sup>1</sup> An account of this timid involvement of Princeton in the education of women may be found in *A History of Evelyn College for Women, Princeton, New Jersey, 1887-1897*, E. P. Healy, Ohio State University, 1967. (An unpublished Ph.D.

There were other justifications offered for separate but equal opportunities. A generation ago, many believed that late adolescence should be a time of moratorium, a pause between childhood and adulthood, a gentle period, a time when shelter was needed. It followed that college should be a protective place. And so we had colleges and universities assuming obligations *in loco parentis*. Elaborate parietals were a respected and honored part of the scheme of things, as were men’s colleges, girls’ colleges and coordinate colleges. But students throughout the country have been taking themselves out of this shelter. The belief that the ages 18-22 are a period of moratorium has almost completely vanished among today’s college students, as we have had ample opportunity to observe in recent years. In the words of President Raushenbush of Sarah Lawrence: “Students are no longer waiting to ready themselves for the world of activity—they are in it. And men and women are in it together, as they have never been before.”<sup>2</sup>

#### The Issue of Distraction and Competition

The justification for greater, rather than less, separation by sex in college education most frequently cited today, which by its nature is difficult to document, is that, at these ages, both men and women can most effectively develop and begin to fulfill their own potential—for leadership, for self-satisfying intellectual lives, for emotional and intellectual independence—in an environment where they need not constantly “compete” with the other sex for grades, campus offices, parts in plays, etc., and where they need not be concerned with how the other

TABLE 3—I  
PRINCETON UNDERGRADUATE VIEWS ON COORDINATE  
VERSUS COEDUCATION  
(In percentages)  
(N=2032)

	Total	By Class			
		1971	1970	1969	1968
Complete coeducation with one administration, one curriculum, one faculty and shared classes	33	26	32	38	37
The establishment of a nearby coordinate women’s college with some, but not all, classrooms and social facilities integrated	49	49	51	51	48
The establishment of a nearby coordinate women’s college without integrated facilities	16	24	16	11	14
No response and Other	2	1	1	—	1
	100	100	100	100	100

dissertation on deposit in Firestone Library.)

<sup>2</sup> Speech given by Mrs. Raushenbush, April 2, 1968, at the State Department of Education Conference on Coeducation, Saratoga Springs, New York.



sex appraises them as fellow students, as "dates," and as potential spouses. This may well be true for some young people. But we have found no real *evidence* that it is so on a large scale; that, in fact, most young men or women are better capable of fulfilling, or even beginning to realize, their potential when more or less isolated from the opposite sex.

For many reasons a very large majority (82%) of our own students favor Princeton's undertaking the education of women, and, as Table 3-I shows, the same percentage of them favor partial or full integration of classes and social facilities if women are admitted.

The bulk of the evidence presented to us on other campuses confirms that college women today, wisely or not, *want* to compete with men on an intellectual level, that they want the same rights—not separate and equal, but the same—and they wish to be respected by men as intellectual peers. Most women students of high academic ability demand to share fully the classroom and laboratory facilities available to men. They tend to be contemptuous

of organizations whose membership is limited to women. They want to compete with men for places on the college newspapers, for class offices as well as for the honor roll. We are convinced that the large majority of the women who would be strong candidates for admission to Princeton would want to share fully and equally with men in *all* varieties of educational experience.

Highly relevant for our purposes are the views of secondary school seniors—those who are now making decisions as to where they will attend college. Although we do not know the reasons, we found (see Table 3-II) that a very large segment of them, particularly the academically superior women, prefer coeducational arrangements.

This trend has been steadily increasing. In the words of President Simpson of Vassar: "These [women] students are used to an open society . . . they want to be able to talk freely and casually with men outside the class and share their intellectual and social interests with them; they believe that men are more likely to respect the female intelligence, and to understand as husbands the aspirations of educated women, if they have gone through their college experience together; they refuse to buy . . . the justifications traditionally offered to women for a separate education."<sup>3</sup>

A closely related and important aspect of this male-female "competition and distraction" argument for separation during these crucial years of development, 18-22, is that these are years when most people must wrestle with their "personal identity crises": "Who am I?" . . . "What do I want to do with my life?" One of the functions of a liberal education is, indeed, to foster such a search. Some believe this critically important self-examination process—which has as its aim the development of self-respect and a satisfactory ordering of goals—can be most profitably carried out in a collegiate society where members of the opposite sex are not present in large numbers most of the time. But many others believe that one of the desirable aspects of a first-rate university education is the testing of one's ideas, beliefs and values against those of one's peers, regardless of sex; that indeed this process can best take place, for most students, only in a coeducational atmosphere. Obviously the male-female relationship is a crucial one to "personal identity." If such relationships are postponed, or maintained at a superficial level for a substantial period of time, many believe the search for identity can only be postponed and prolonged. Is this desirable? We think not.

would tend to isolate socially the freshman and sophomore men and, more important, to a large extent deprive them—and so half the male undergraduates—of the advantages of mixed classes. Women students with only a two-year period of residence would probably be far less active participants in the social, intellectual and cultural affairs of the University than those here from the beginning of their undergraduate careers. We think, too, that this policy would in many respects be an "unfriendly" one *vis-à-vis* the several first-rate women's colleges from which presumably many such students would transfer. This is not to say that, if Princeton admits women, she should not provide a larger role than now for transfers. It may well prove that we should, especially in light of the development of the two-year community college and of the fact that some women's colleges simply are not able to provide upperclass work in all fields for a few of their most able students. It is, rather, to say that we do not believe it would be desirable to base a program of educating women at Princeton on such a foundation.

TABLE 3—II

SECONDARY SCHOOL SENIOR'S VIEWS ON COORDINATE  
VERSUS COEDUCATION

(In Percentages)  
(N=4680)

"If both men and women were to be students in the same institution, would you prefer joint and unified arrangements whereby both groups shared classes, laboratories, libraries, etc. (coeducation); or would you prefer *academically* separate institutions with many opportunities to share in cultural, social and extracurricular activities (coordinate education)?"

	Total Student Body Total Men Women			Upper Two-Fifths* Total Men Women		
Coeducation	72	71	74	74	69	80
Coordinate education	10	11	8	11	13	8
Coordinate education for the first two years; coeducation for the last two years	7	7	8	7	7	7
Indifferent	10	11	9	8	10	5
No response and Other	1	—	1	—	1	—
	100	100	100	100	100	100

\* The students, not the schools, were asked to give standing in class.

<sup>3</sup> *Vassar-Yale Report from the Joint Study Committee*, September, 1967, p. 12.

This may be the place to take note of the suggestion that Princeton should become coeducational by accepting women only as transfer students. The alleged advantage in this is that those students who are admitted will have already proved themselves and so won't "drop out." It would also, some believe, permit a selection of students who would concentrate their work in those areas where the incremental cost of additional students would be the smallest and would give the University greater control over balance in the curriculum. We have already cited evidence indicating that selecting freshmen women who would be serious and who would stay the course is no problem. Our earlier analysis also shows that, by and large, women would so distribute themselves among disciplines that the incremental costs would be about as low as could be "managed" by a policy of admitting only women of junior standing who had already selected their "major" fields.

We also see some important disadvantages to this policy. It



In the professions, women will necessarily have to compete with men. When should they begin examining and developing their potential toward this end? If the process is postponed until the time a woman enters the professional marketplace—either before or after childbearing—she is likely to discover that the competition is stronger, and of a different sort, than she anticipated. The pre-professional years of learning are also a time when men can profitably learn to work with women and accept them as equals. Should they live as students with the belief that women have, and should continue to have, entirely different roles in our society and that it is only the unpleasantly aggressive ones who succeed in outside-the-home careers—and these women succeed more by aggression than by talent—they will be deceiving themselves and will be ill-equipped to benefit from tomorrow's society.

All of this is not to imply that men and women should be constantly subjected to one another. Even those who believe that the search for personal identity and the most relevant education—broadly defined—can best be pursued in a coeducational environment agree that women should be provided some facilities (special libraries, lounges, etc.) permitting them with dignity and grace to retreat, when they wish, from the company of men. Apparently no such special physical arrangements would need to be made for men in a coeducational Princeton, because men are more likely to be left alone by the opposite sex than vice versa, and because, under any plan considered, men would outnumber women at Princeton.

### *Other Arguments for Coordinate Arrangements*

It is often said in support of coordinate as opposed to coeducational arrangements that, for social, historical, biological and cultural reasons, the role of women in our society does and will differ substantially from that of men, and it is, therefore, desirable that female education should differ. More particularly, it is believed by some who have studied the matter with care that the curriculum best suited to women should put "a greater than normal emphasis on self-motivation in order to prepare for later continuation of interrupted training; a flexibility in the traditional time pattern to allow for family responsibilities; a specific program for the student who must discontinue residence because of non-academic factors."<sup>4</sup> While these are extremely important matters, we do not think their solution necessarily hinges on the coordinate versus coeducational arrangement decisions. Rather, they require appropriate decisions within any university structure.<sup>5</sup>

We have also been told that, because of the different roles of men and women, different undergraduate curricula are desirable and that this argues for more rather than less separation. Our research, however, has produced little support for a significantly different curriculum. We find that the independent women's colleges and the institutions coordinated with men's colleges do not, in

fact, provide substantially different curricula from those offered in men's colleges and coeducational institutions. True, certain women's colleges provide a more humanities-oriented, or more classical and general education, than do some men's colleges, and, as we show in some detail in Chapter One, women do distribute themselves among the various disciplines differently from men. We conclude in that chapter that these changes in the curricular profile of Princeton are desirable. It is relevant to record here that the Vassar-Yale Joint Study Committee, in considering the possibility of an affiliation of those institutions, did not find reasons supporting a distinctive curriculum for women. All this, of course, is not to say that even in a fully integrated college there should not be some courses whose content, design and emphasis are determined by interests or preparation that are sex-linked. We believe only that the number of such courses is likely to be small and can easily be incorporated into a unified coeducational system.

A coordinate rather than a coeducational relationship is also favored by some on the ground that this would, in fact, permit and encourage educational reform (instructional methods, curriculum, scheduling, grading, etc.) in a degree not likely to be matched were women simply to be absorbed into an existing men's college. Thus, it is the firm belief of those responsible for Kirkland College—the women's institution now coordinated with Hamilton College—that its mission includes the blazing of new trails and not just the widening of old ones, and that this mission will be facilitated by coordinate rather than coeducational arrangements. We see much merit in this thesis and would deeply regret Princeton's admitting women, whatever the arrangements, and not using that as an occasion for re-examining many of its educational practices.

An important consideration in Yale's interest in affiliating with Vassar on a coordinate basis was the belief that the women's college would emphasize the teaching of undergraduates, and the existence of such an example would have an exemplary effect on attitudes, values, and behavior of the Yale faculty, with its strong focus on research and graduate teaching. Further, some believed that the competition thus created among departments could have salutary effects. As President Brewster wrote to his Trustees in transmitting his September, 1967, preliminary report of the study committee: "I personally put [great] stock in the advantages of competition among departments and courses which may deal with almost identical subject matter. The variety of view and perspective, coupled with the variety and style of presentation, are almost bound to invite constructive student comparison and election. If protective tariffs were not raised by departmental chauvinism, the competition could be most helpful, not only in the sense of diversity but as a stimulus to the quality of thinking and teaching."<sup>6</sup>

We find merit in this argument, but we also think that, for well-known reasons, the Princeton faculty already

<sup>4</sup> A *Kirkland Report*, May 8, 1967, page 6 (mimeographed).

<sup>5</sup> Dr. Graham Blaine of the Harvard University Medical Service has offered several suggestions as to how these matters can best be handled within the context of a sexually integrated university in his "A Psychiatrist Views Femininity at Radcliffe,"

*Radcliffe Quarterly*, November-December, 1967. Should Princeton decide to admit women, these specific suggestions would need further study.

<sup>6</sup> *Vassar-Yale Report from the Joint Study Committee*, op.cit., pages 7-8.

has a high concern for undergraduate teaching. Moreover, we think the "competition" provided Princeton by an undergraduate teaching-oriented coordinate girl's college would, at best, be short-lived. If the faculty of such a coordinate school insisted on equal salaries, research opportunities and graduate teaching, we believe many of its faculty would soon cease to identify themselves in the hoped-for way with the women's college and would become for relevant purposes simply members of the University faculty. If, on the other hand, the faculty of the women's college were separated from graduate student teaching and research opportunities, that faculty would run the risk of coming to be regarded by the students as inferior rather than competitive, with disastrous effects on the women's college. The women's wing would certainly be at a competitive disadvantage in recruiting faculty under these latter conditions, and this could easily operate to justify the "inferiority" label. The "inferiority" charge—a serious defect from the students' point of view—is nourished if, as often happens, the women's college has relatively little voice in university proceedings, while the male institution has considerable power in determining the policy of the women's college.

Finally, a case can be made for an arrangement near the coordinate end of the spectrum on the ground that it would facilitate the procuring of financial support.<sup>7</sup> The argument here is that a new and separate institution has an aura of innovation and distinctiveness with more appeal to potential donors (private individuals, corporations and foundations) than the enlargement and possible reform of an old, well-established institution commonly regarded as well-to-do.

### *Economic and Educational Advantages of Coeducation*

Several harsh economic considerations argue for a more joint and unified, rather than coordinate, arrangement. There is little question that in the fields of purchasing, housekeeping, maintenance and repair, guard services, food services, mail and telephone services, etc., joint operations are often better and almost always cheaper than separate ones. But the economies of scale go much further in the case of institutions of the size Princeton would be if increased by 1000 women. The cost of enlarging Firestone Library to accommodate 1000 more Princeton students would be much less than the cost of a new library for a separate college of 1000 women, even if the number of volumes was far smaller than Firestone's. So too with the infirmary and the gymnasium. Moreover, we have been told that coordinate colleges often have

<sup>7</sup> Financial considerations have prompted many to suggest that it would be desirable for Princeton to affiliate with an existing women's college. From Princeton's point of view, a close affiliation with another college would be attractive if the other institution were to bring with it not only a substantial dowry but if it also had a faculty which we would want and could not otherwise attract, if it had traditions of excellence which would add luster to our own, and if the affiliation would enhance our ability to attract women students of the highest quality. Although we were not charged with making such a search, our investigation during the past year has not uncovered a single candidate having even a few of these qualifications who would be interested in affiliating with us. This is not surprising; another institution with several of these qualities is very likely to believe it can do better for itself by retaining full independ-

found that the government and foundations tend to respond unfavorably to applications for financial assistance from institutions with duplicated facilities, especially in the scientific fields.

But these differences in cost are small compared with the cost of separate laboratories and classrooms, and hard to justify when, as our Chapter Four shows in some detail, there is on the present campus sufficient capacity to meet the needs of such a number of women, provided more rigorous scheduling is acceptable. The cost of creating new lecture courses or classes would also be hard to justify when, as we have also found in many cases, additional students could be enrolled in existing ones with—because of the present small enrollments—no decline in quality. The mind boggles at the cost per student of reproducing a curriculum for a coordinate college of 1000 women which would be as rich as Princeton's present one. It could not, of course, be done; the consequence of trying would be either a tremendous amount of crossover (that is, integration) or a clearly inferior women's coordinate college.

For the reasons spelled out in Chapter One, we believe the quality of the education obtainable at Princeton would be much enhanced if both men and women were in the student body. But, as that Chapter makes clear, many of these benefits would come from the sharing of the educational experience. Once a decision has been taken that, for educational reasons, there should be a great many common courses or easy cross-college enrollments, the case for separate administration is much weakened. If the students do take the same courses, then it becomes hard to justify completely separate admission offices, separate disciplinary arrangements, separate advisory groups, etc. Moreover, the administrative chores in arranging for intercollege credits, in coordinating schedules, in making financial transfers, etc., can become an expensive nightmare.

### *Lessons From Other Institutions*

In deciding this issue, fortunately, one need not rely solely on more or less abstract arguments we have been discussing. An examination of the history of several coordinate relationships—Radcliffe-Harvard, Pembroke-Brown, Newcomb-Tulane, Barnard-Columbia and Rutgers-Douglass—shows that, in every case, though in different degrees and in different ways, the trend has been and continues to be toward coeducation, toward fuller integration of the two institutions.<sup>8</sup> The pressures in this direction have varied over time and among institutions,

ence to follow its own star. Moreover, arrogant as it may be, we believe Princeton, on its own, can attract extremely able women students, does well now in attracting faculty members, and would do even better if it were coeducational. As to finances, an existing women's college with a distinguished past and an attractive endowment would almost certainly wish to maintain its own identity. As we make clear in the chapter on feasibility below, overhead costs and economies of scale in universities the size of Princeton are such that it would require the income from a large endowment to cover the excess cost of the "separateness" that would be necessary to maintain the identity of an affiliated existing women's college.

<sup>8</sup> In this examination, we have benefitted greatly from material made available to us by the Vassar-Yale Joint Study Committee.

but one can sort out three persistent, pervasive and powerful ones, each of which we have touched on above, and all of which we could expect to be operative were Princeton to admit women on a coordinate college basis:

1) Student demands for freer and fuller access to all the resources of the university, regardless of the students' sex, are evident everywhere. They have already reached the limit at Radcliffe and Pembroke, where the girls take all their courses at Harvard or Brown respectively. There are still many limitations at Barnard and Douglass, but the direction of movement is clear and steady. The strongest demands for taking courses in the "other" institution usually come from women rather than men. Our own questioning turned up the same evidence as that found by the Vassar-Yale study of three coordinate institutions: "An overwhelming majority of the girls themselves, so far as we could ascertain, favor more coeducational classes. They also want freedom to choose between courses and instructors; they strongly resent requirements that where courses are duplicated they elect them in their own college. Such requirements are seen as self-protective devices adopted by the faculty to insure a captive audience. Students freely admit they concoct conflicts in schedule in order to get permission to cross-register for a duplicated course and add that they dislike having to resort to such a hypocrisy."<sup>9</sup> Neither men nor women find convincing the old arguments in favor of education in isolation from members of the opposite sex, and the record is clear that efforts to maintain a separate but equal (that is a coordinate) state of affairs are being constantly and successfully attacked and eroded.

2) Persistent and growing difficulties are being experienced by undergraduate coordinate women's colleges in recruiting good faculty. It is a common experience, in coordinate situations where there is a graduate school, that the faculty members most desired by the women's college often are those who demand opportunities and facilities for research and who demand to spend at least some of their teaching hours at the graduate student level. Moreover, any departmental differences as between the coordinate colleges in teaching loads, salaries and committee work, has become increasingly intolerable. These facts add up to a great pressure for a single merged faculty. This is further strengthened by a strong desire of most faculty members to identify themselves with their discipline, a trend which has increased as professionalization has increased. (Princeton, too, has witnessed this phenomenon in recent years. In recruiting a prestigious faculty for the new Woodrow Wilson School, for example, it was often found necessary to offer appointments in the traditional professional department as well as in the School.) The status of the women's college in coordinate situations seems to vary directly with the proportion of their faculty who give graduate instruction—almost always in the "male college." In other words, the status of the women's college increases as the two branches become more integrated.

3) The increasing financial pressures under which all private colleges and universities work, and which recent analysis shows must be expected to increase,<sup>10</sup> create powerful and continuing incentives for integration—for joint use of physical facilities (especially in those areas

where elaborate equipment is needed) and joint use of the increasingly expensive faculty and administration. Faced with the alternative of maintaining a high degree of separation and an inferior faculty, a limited curriculum, poorer facilities and somewhat less student aid as opposed to an integrated university with a better faculty, a richer curriculum, better facilities and more generous student aid, nearly all institutions have in recent years chosen to move toward fuller integration.

## Conclusion

The conclusion seems clear. If Princeton were to start at the coordinate end of the spectrum, a series of insistent pressures would force adjustments and changes in the direction of full coeducation. We have uncovered no significant evidence that moving through such transitional phases would provide especially useful knowledge or experience that is not already provided by the experience of others who have traveled this path. We therefore recommend that, should it decide to undertake the education of women, Princeton should be coeducational from the start, with a single Board of Trustees, a single administration, a single faculty, a single budget and a single curriculum.

In making this recommendation we are strongly supported, as Table 3-III shows, by the faculty, and most notably so by those who have had extensive experience in teaching coeducational classes.

TABLE 3—III  
PRINCETON FACULTY VIEWS ON COORDINATE  
VERSUS COEDUCATION  
(In Percentages)  
(N=454)

	By Experience*			
	Total	Extensive	Some	Little or None
a. Full integration with one faculty and shared classes	72	81	69	66
b. (a) above, except for a small number of classes designed for, and limited to, one sex	5	2	6	8
c. A coordinate college, having its own administration, faculty and classes, with limited provision for cross-registration	6	6	5	8
d. (c) above, but with a great many shared classes at the advanced level	11	6	13	14
No response and Other	6	5	7	4
	100	100	100	100

\* "Extensive" experience is defined as those who have, within the past five years, taught mixed classes with at least 20% of each sex; "Some" includes those who have taught mixed classes but not within the past five years or with fewer than 20% women.

<sup>10</sup> W. G. Bowen, *The Economics of the Private University*, forthcoming.

<sup>9</sup> An unpublished paper entitled "Conclusions from the Study of Three Coordinate Relationships," provided us by the Vassar-Yale Joint Study Committee.

TABLE 3—IV  
PRINCETON ALUMNI IN EDUCATION VIEWS ON COORDINATE VERSUS COEDUCATION  
(In Percentages)  
(N=1918)

“Financial considerations aside, if Princeton were to admit women at the undergraduate level, which of the following arrangements would you prefer?”

	<i>Total</i>	<i>Primary Responsibility</i>		<i>Type of Institution of Association</i>	
		<i>Teach- ing or Research</i>	<i>Admin- istra- tion</i>	<i>Coed or Coordin- ate</i>	<i>Noncoed</i>
a. Full integration with one administration, one curriculum, one faculty and shared classes	56	58	45	61	42
b. (a) above, except for a small number of classes designed for, and limited to, one sex	6	6	8	6	5
c. A coordinate college having its own administration, faculty and classes, with limited provision for cross-registration	10	10	13	8	17
d. (c) above, but with a great many shared classes at the advanced level	25	23	33	22	32
No response and Other	3	3	1	3	4
	100	100	100	100	100

We are also supported, though less strongly, by those Princeton alumni who are professionally associated with education. The answers of this group are not fully comparable to those of the Princeton faculty, because the questions posed were somewhat different, but again we find the strongest support from those with experience in teaching both sexes. It should also be noted that the percentage of this group who favor more completely integrated arrangements is larger among those whose primary responsibilities are in teaching and research than among those whose responsibilities are in academic administration. (See Table 3-IV.)

It is important to emphasize, as we have done elsewhere, that a high degree of unification and integration must not rule out the creation of a few courses designed to meet needs felt more keenly by women than by men (examples have been cited elsewhere in this report), or the development of some new programs especially responsive to the needs of women, or the creation of some social facilities essentially limited to one sex. It most emphatically does not remove the obligation of the University faculty and administration to be as concerned with the education of women as with that of men.

## CHAPTER FOUR

### FEASIBILITY

#### Introduction and Summary

OUR charge included an examination of the feasibility of Princeton's entering substantially into the education of women. We interpreted this to mean that we should analyze the financial aspects, both current and capital, and both income and outgo. More specifically, we have tried to determine:

- (1) How the operating budget of the University would be affected, and
- (2) What additional capital expenditures would be required,

were Princeton's undergraduate student body to be enlarged by the addition of 1000 women under arrangements essentially coeducational rather than coordinate.

We have been able to make what we regard as quite good estimates of the increases in the annual operating costs and of the necessary capital expenditures. We are far less confident of our overall estimates on the income side of the operating budget; indeed, for certain major categories we have had to limit ourselves to suggesting possible trends. We have presented both capital and operating costs (and income) at 1968-69 prices.

In estimating operating costs we first made calculations based on detailed investigations of each activity, consulting in each case persons immediately responsible. Of necessity, this involved making certain assumptions. We believe our methods, described in detail in the text and appendices, are defensible and our assumptions reasonable; but we also believe that in certain cases alternative and more costly assumptions should be considered. More generally, we think that a safety factor should be incorporated in any such analysis. We have, therefore, in many instances, also made what are referred to as "prudent estimates" or "estimates including safety factor." On the capital side we also made more than one estimate in certain cases, but here the differences chiefly reflect alternative ways of meeting needs.

We believe that the detailed explanations of our methods presented in the text and appendices of this chapter testify to the thoroughness of the procedures followed in this analysis. Nevertheless, in addition to including allowances for unanticipated costs in the estimates for many individual items, we have also included an overall contingency allowance equal to approximately 10% of both current and capital costs.

Table 4-I at right summarizes our financial estimates. Our central conclusions are: (1) At present levels of costs and tuition the additional operating expenditures attributable to the admission of 1000 undergraduate women would exceed the corresponding additional income by between \$215,000 and \$380,000 per year; and (2) The capital costs, again at present prices, would be between \$24.2 and \$25.7 million.

*General Comment.*—We regard these as surprisingly low figures, the inclusion of safety factors and allowances for general contingencies notwithstanding. Indeed, they may strain the credulity of many of those acquainted with

the financing of education at Princeton. How, it may properly be asked, can one reconcile these data with the oft-repeated statement that at Princeton tuition covers less than half of the cost of educating our students and the obvious fact that the present per-student investment in physical plant is many times greater than these estimates of what would be needed to accommodate 1000 undergraduate women?

There is, in fact, no real paradox here. The apparent inconsistencies stem mainly from the differences between marginal costs and average costs. At the present juncture in Princeton's history, it is possible to add 1000 women undergraduates and maintain the quality of education without incurring anything like a proportionate increase in costs. The addition of 1000 undergraduate women would make possible a greater sharing of some faculty and other resources which would in turn permit us to achieve a reduction in the per student costs attributed to the present undergraduate body—and it is this spreading of certain costs which makes it possible to add 1000 women undergraduates for much less than a proportional increase in costs. This opportunity exists in mid-1968 as a consequence of four interrelated considerations:

TABLE 4—I

SUMMARY OF ESTIMATED FINANCIAL CONSEQUENCES  
OF ADDING 1000 WOMEN UNDERGRADUATES  
(in thousands of dollars at July 1968 prices)

I ANNUAL OPERATING BUDGET CHANGES		Range
<b>A. Additional Costs</b>		
Educational & General		\$1,489 to 1,591
Auxiliary Services Deficits (Residences, Social Facilities and Dining)		156
		<hr/>
		1,645 to 1,747
General Contingency Allowance		165
		<hr/>
		1,810 to 1,912
<b>B. Additional Income</b>		
Tuition & Fees		2,180
		<hr/>
DIFFERENCE (B-A)		+370 to +268
<b>C. Additional Student Aid—Cash Grants</b>		
		585 to 650
<b>D. Additional Gifts and Grants</b>		
Endowment Income		?
Annual Giving		?
Corporation, Foundation & Government Grants		?
		<hr/>
CHANGE IN TOTAL OPERATING BUDGET [(B+D) — (A+C)]		—\$215 to —\$382
<b>II NEW CAPITAL COSTS</b>		
A. Academic & General Administration		\$1,066
B. Faculty & Staff Housing		1,500
C. Library		612
D. Health Services		102
E. Athletics		1,060
F. Student Loan Fund		250 to 1,400
G. Student Housing, Dining & Social Facilities		17,250 to 17,500
H. Miscellaneous		153
		<hr/>
	Sub Total	21,993 to 23,393
I. General Contingency Allowance		2,255
		<hr/>
TOTAL NEW CAPITAL COSTS		\$24,248 to \$25,648

(1) The very large growth in the graduate program since the end of World War II has inevitably meant that, at various places in the University, capacity has been created which is not now fully used, some of which could be used for undergraduate education.

(2) Any relatively small university which is successful in keeping up with the growth of knowledge and which attempts as a matter of high policy to provide its graduate and undergraduate students with a full range of educational opportunities must create *some* departments which have a capacity greater than the student body can fully use. Princeton's decision to create strong Departments of Art, Classics, Music, Oriental Studies, and Slavic Languages (to cite five examples) quite properly resulted in providing a breadth and depth of educational resources that contain some "excess capacity." If in this situation, additional students are admitted who elect to study, among other things, Art, History, Classics, Music, Oriental Studies, or Slavic Languages, then the additional instructional costs per new student in these areas will be very much less than the current average cost per student of educating undergraduates at Princeton.

(3) Speaking more generally, the current very high cost of educating a Princeton undergraduate is due in part to the fact that he carries some of the costs of our maintaining a faculty committed to the advancement of knowledge and to the education of graduate students as well as to the education of undergraduates. We regard these as justified charges to the undergraduate program because the presence on campus of such a faculty and of graduate students quickens and enriches the educational experience of the undergraduates. To achieve this benefit, a certain "critical mass" of senior faculty is needed in each department. However, now that this critical mass is present in most departments, we are convinced that considerably more undergraduate students can benefit from the presence of more or less the same senior faculty and graduate student populations. We believe that these benefits (and their substantial costs) can be spread over a larger undergraduate body (distributed among classes, as women can be expected to be) without significant loss to present undergraduates. Indeed, we believe the addition of 1000 women undergraduates would, for the reasons given in previous chapters, confer educational benefits on the undergraduate programs which would far outweigh any disadvantages resulting from the broader sharing of our present strengths.

(4) Princeton in the past decade has built a great many new buildings. Quickly to mind come the new Woodrow Wilson School building, the Engineering Quadrangle (which released space in older buildings for non-engineering studies), New South (which released space in East Pyne), the new School of Architecture building, the new Art Museum, the Woolworth Center of Music, and the new Mathematics, Statistics and Physics complex. Also, the Nassau Street School was purchased, and substantial renovations have increased the efficiency of some old buildings such as Dickinson, Green, Green Annex, McCosh, and 1879 Hall. Properly, room for some future growth of the University was built into these developments. Furthermore, the advent of data processing systems and the computer makes it possible to achieve tighter scheduling of space than was possible before.

For these reasons the cost per student of adding 1000 women undergraduates *at this time* is a great deal less than the present average cost per student. But it should be emphasized that if women were admitted we would, of course, be using up reserve capacity which could not then be used by other new activities. Indeed, as we point out at several places later in this chapter, were this study to be made five years from now, it is likely that the growth in the University by that time, in one area or another, would increase to some extent the estimated costs of admitting 1000 women.

One other fact about our estimates of capital costs needs to be emphasized: all are based on prices as of July, 1968. Construction costs have, of course, been rising rapidly, and the actual costs of the additional residential, dining, library, and administrative space needed to accommodate 1000 women undergraduates would surely—*at the time of construction*—be appreciably higher than our estimates. We have made no adjustment for this inflationary factor because of the difficulty of predicting short-term movements in construction costs (especially in a particular locality) and because the amount of the adjustment obviously depends so heavily on when contracts are let.

There is also a more general question of the dynamics of the University budget to be considered: How would the admission of women affect the *rate of growth* of operating costs and receipts over time? We cannot answer this question quantitatively. It should be noted, however, that our analysis of the effects of a change in the 1968 *status quo* as a result of adding 1000 women shows that a very large part of the additional operating costs would be met from increased tuition receipts. If in the future costs should exceed tuition charges by larger amounts than at present, then future deficits would exceed those shown by our calculations. If, on the other hand, various types of financial assistance to higher education should make it possible in the future to narrow the gap between costs and tuition, the future deficit would be less than we now anticipate. We have no basis for making a judgment as to the likely future rate of change in the deficit, but it should be kept in mind that there is uncertainty here.

*Summary of Estimates.*—It may ease the reader's task in working his way through the details of our financial analysis—likely to be a dull journey for most—if we sketch briefly the major components and then present a detailed set of tables to which reference may subsequently be made.

Faculty salaries and the associated employee benefits would be the biggest single element of increase in operating costs resulting from the addition of 1000 women. These would total, including safety factor provisions, nearly three-quarters of a million dollars per year. As is explained in detail in the section of this chapter dealing with faculty salaries, this estimate is based on several key assumptions concerning educational policies in the event of Princeton's admitting 1000 women. (1) There would be no basic change in present teaching methods or in faculty teaching loads; (2) There would be no significant increase in the overall number of courses offered; and (3) Instructors and Teaching Fellows would handle the majority of the increased number of precepts, class sections and laboratories needed, while faculty of professorial

rank would handle the (small) increase in lecture hours, and the (much larger) increase in hours required for the supervision of independent work, as well as a portion of the increased number of precepts and class sections. Needless to say, departures from any of these assumptions could lead to very different cost estimates. (It should be noted, however, that in arriving at our "prudent" estimate of additional faculty costs we did add approximately 11% to the estimate based on a straightforward application of the above assumptions.)

We estimate that the enlarged demands on academic administration—and the necessity of providing more of such student services as health facilities, counseling, etc.—will add nearly a quarter of a million dollars to the annual operating cost of the University. A large part of these expenses would be associated with expansions in the Offices of the Dean of the College and the Dean of Students.

The category of expense lumped together in University accounting practices under "general administration and general expenses" would increase, we estimate, by \$144,000. Materials and supplies, including that big item, telephones, would add \$65,000 to the operating budget and the additional nonfaculty personnel needed to carry on departmental administration would add another \$58,000 annually.

The increased operating cost for Firestone Library, \$73,000 per year, would be largely limited to providing additional duplicate copies of frequently used books and the staff necessary for servicing a 30% increase in undergraduates. The costs of the computer center associated with adding undergraduate women would be only \$10,500 per year. However, \$171,000 would be required to meet the additional demands put on the Department of Planning, Plant and Properties for the additional heat, light, janitorial and gardening services, etc., for the academic and the athletic plant.

Because quite a few new sport facilities would be needed, and because many of these would have to be separate facilities, the increase in costs here, apart from the plant operating costs which have just been noted, would be nearly \$81,000 per year.

The remaining large increase in operating costs would be the deficit of the residences and dining facilities which would have to be provided for women. At present costs and room-rental/food rates, we estimate that between \$145,000 and \$156,000 per year would be needed to cover this deficit. Included in this is a sizable allowance for the anticipated disparity between income and outgo of a new Student Center.

The second largest expense, approaching in amount the increase in faculty salaries, would be cash scholarship grants to the women students. If one assumes that the women students would be treated at least as well as our present male undergraduates, these costs would reach as much as \$650,000 per year at current rates.

Table 4-II at right summarizes these estimates of operating costs.

Turning briefly to the capital costs, we were pleased to find that the existing, or under construction, classroom and laboratory facilities would in most cases be adequate to accommodate the projected number of women stu-

dents, assuming that the faculty and students would give up a certain amount of their present freedom in the scheduling of classes. Some additional furniture would be needed, and it would be necessary to install women's toilet facilities in many of the existing buildings. New stations would have to be installed in the language laboratory. We found the office space problems somewhat more difficult than classroom space and estimate that, in addition to certain renovations and conversions, it would be desirable to build an addition to West College and to build more quickly than would otherwise be necessary a new Social Science building. Fortunately, the infirmary needs could be met primarily by internal renovation and rearranging. We estimate the total cost of space for Academic and General Administration at \$1,168,000.

TABLE 4—II

SUMMARY  
ESTIMATED INCREASE IN ANNUAL OPERATING COSTS  
CONSEQUENTIAL ON ADDING 1000 WOMEN UNDERGRADUATES

<i>Educational and General</i>	<i>Basic Estimate</i>	<i>Estimates Including Safety Factor</i>
Faculty Salaries	\$ 577,932	\$ 650,000
Employee Benefits (14%)	80,910	91,000
Materials and Supplies	54,473	65,000
Non-Faculty Departmental Administration (8.9%)	51,436	57,850
Academic Administration and Services	241,508	241,508
General Administration and General Expense	144,260	144,260
Computer Center (1.6%)	9,247	10,500
Library	73,000	73,000
Planning, Plant and Properties	171,000	171,000
Athletics	80,900	80,900
University Committee on Research	4,000	6,000
McCarter Theatre	—	—
Art Museum	0	0
<i>Sub Total</i>	<i>\$1,488,666</i>	<i>\$1,591,018</i>

*Auxiliary Services*

*Residences, Social Facilities and Dining*

*Plan I*

Dormitory Deficits	28,000	28,000
Food Deficits	83,000	83,000
Student Center—1st Phase Deficits	33,500	33,500
<i>Sub Total</i>	<i>\$144,500</i>	<i>\$144,500</i>

*Plan II*

Apartments—Deficits	82,000	82,000
Student Center—1st Phase Deficits	33,500	33,500
2nd Phase Deficits, prorated share	40,000	40,000
<i>Sub Total</i>	<i>\$155,500</i>	<i>\$155,500</i>

<i>General Contingency Allowance</i>	<i>\$165,000</i>	<i>\$165,000</i>
<i>Student Aid—Cash Grants</i>	<i>\$585,000</i>	<i>\$650,000</i>

*TOTAL*

<i>Plan I</i>	<i>\$2,353,166</i>	<i>\$2,550,518</i>
<i>(Plan II)</i>	<i>(\$2,304,166)</i>	<i>(\$2,501,518)</i>



In the library, additional carrels, study space and reading space would be needed for women students, as well as an initial investment in duplicate copies of many basic books. On the assumption that some of these needs would be met by new dormitory libraries, we calculate that the total additional capital costs for the library would be \$612,000. As noted above, a substantial expansion of the athletic plant would be necessary and the capital costs of this are estimated at just over \$1,000,000.

Assuming that women students would borrow as much as men, and that all such funds would be provided by the University, an additional capital fund of \$1,400,000 would be necessary. If, however, we were able to obtain these funds under an arrangement with the Federal Government similar to our present loan program for men, the capital fund that the University would have to provide would be only about \$250,000.

By far the greatest capital costs would be for housing, dining and social facilities for the additional students, this being an area in which the University has no excess capacity. It is also a type of construction for which costs are very high in the Princeton area. We have estimated the costs for two quite different types of housing and find that the differences in cost would be so small as to permit the choice to be made entirely on such grounds as their effects on student life. More or less conventional, dormitory-type housing, including some social facilities, would cost about \$17,500,000 at present prices. Student apartments, with a new Student Center, plus renovation of certain dormitories to provide housing for women not eligible for apartments, would be about \$17,250,000.

If the University were to continue its present practice of providing rental housing for about 60% of the more or less permanent employees of the University who we estimate would be added because of the admission of women, an additional \$1,500,000 would be needed. Finally, there would be a few miscellaneous capital costs, chiefly in connection with parking and improved campus lighting, which we estimate at roughly \$150,000.

The details of these various capital costs, including a general contingency allowance, are summarized in Table 4-III on opposite page.

Whether an operating deficit of this size and capital outlays of these dimensions are feasible, only the Administration and the Trustees, with their full knowledge of the present financial position and prospects, can determine. Our task in this chapter is to spell out in detail the analysis and the methods that led us to these estimates.

First, however, we should look briefly at what might be expected in the way of increases in current income should 1000 women be admitted.

### *Changes in Current Income*

The addition of 1000 women students could be expected to have some effect on the following sources of current income available to the University: (1) Tuition; (2) Fees, tickets, etc.; (3) Annual giving; and (4) Foundation, corporation and government grants. On only the first two can we pretend to give reasonably trustworthy estimates, but our study does permit us to say a few things about the other items as well.

*Tuition.* This is perfectly straightforward. At present (1968-69) tuition rates, the admission of 1000 women students would result in an income from tuition of \$2,150,000. Inasmuch as we have treated student aid as an expense, it is appropriate to include this entire amount in additional income.

*Miscellaneous Fees.* We estimate that, at present rates, the University would collect an additional \$30,000 in application fees. This is based on the assumption that Princeton could expect 2000 completed applications from women and that the present rate—\$15 per application—will continue in the future. Should this estimate prove high, then, *pari passu*, our cost estimate is also high, because the estimate of additional costs for the Office of Admission is based on the assumption that it would have to process this many additional applications. It also seems probable that several thousand dollars of income would be derived from the purchase by women of athletic coupon books, tickets to McCarter Theatre, etc.—but, we will ignore those items here. As we note later the question of the Student Center is an important one and its operation would involve a significant deficit, a share of which we have taken into account. The question of whether access to the Center should be dependent upon the payments by students of a fee is a policy question we do not want to anticipate, and therefore we have included nothing from this source in future income.

*Annual Giving.* Annual giving—nearly 80% of which comes from undergraduate alumni—is an important source of income to the University. We believe it is impossible to predict accurately the effects on Annual Giving by the alumni of admitting women to Princeton. We can pretend to nothing more than amateur status here, but we have uncovered a few relevant pieces of evidence. These lead us to conclude that if the issue is handled with great care by the University, if the alumni are fully informed as to the reasons for admitting women to Princeton, Annual Giving is more likely to increase than to decline.

In the course of our study, we have received a few, but surprisingly few, letters from alumni saying they would cut off financial support to the University if women were admitted. We have no basis for judging the level of such persons' support in the past, nor how many others there are who share these sentiments. We have also received letters from a very few people who say they would give financial support to the University for the first time if women were admitted; but, again, we have no basis for judging the amount of such potential new financial help.

We believe a very important consideration to be kept in mind in appraising the effects on Annual Giving is the evidence cited at several places earlier in this report that the younger the alumni group, the greater their belief that, if feasible, the University ought in its own long-run interest to admit women. One must also bear in mind, of course, that we polled only those alumni in education and those serving as Schools Committeemen. Still, these percentages, as we have noted, become very high for the graduates of the past decade or so, reaching 80% of alumni now in education who have graduated since 1949. This leads us to the very tentative suggestion that this younger group, numerically large and containing many who are just entering the income levels which make sub-



TABLE 4—III  
ESTIMATED CAPITAL COSTS  
OF ENLARGING PRINCETON BY 1000 WOMEN UNDERGRADUATES  
(July 1968 Prices)

Activity	Equipment	Major Construction	Total	Comments
<b>Academic &amp; General Administration</b>				
Classrooms	\$ 50,000	\$ 0	\$ 50,000	Furniture
Faculty & Secretarial Offices	40,000	160,000	200,000	Furniture & conversion of classrooms and offices
Share of New Social Science Building		300,000	300,000	Foreseen as needed in 5-7 years
Women's Rest Rooms		200,000	200,000	25 in various academic buildings
Language Laboratory	30,000		30,000	30 new stations
Academic Administration	36,000	240,000	276,000	Additions, alterations & conversions of West College, including furniture
Health Services—Infirmary	2,000	100,000	102,000	Modification of present building & furniture
General Administration	10,000		10,000	Furniture & equipment
SUB TOTAL	\$168,000	\$1,000,000	\$1,168,000	
<b>Library</b>				
2 Dormitory Libraries	245,000		245,000	Books (would be only \$52,000 without dormitory libraries)
Study Carrels		75,000	75,000	150 carrels
Expanded Reserve Area		292,000	292,000	Space for additional carrels and reserve reading room seats.
SUB TOTAL	\$245,000	\$ 367,000	\$ 612,000	
<b>Athletic Plant</b>				
Addition to Dillon Gymnasium	\$20,000	\$ 900,000	\$ 920,000	Equipment plus 30,000 sq. ft. new space
Athletic Fields		40,000	40,000	Two: field hockey & lacrosse; archery range, etc.
Tennis Courts		100,000	100,000	10 new courts
SUB TOTAL	\$20,000	\$1,040,000	\$1,060,000	
<b>Student Loan Fund</b>				
	0	1,400,000 [250,000]	1,400,000 [250,000]	Assumes each student borrows on the average \$200 per year, repays in 3 annual installments beginning in 4th year after AB degree. Bracketed figure represents capital to be provided by Princeton if Federal Student Loan Funds similar to our present program for men were available
<b>Housing, Dining &amp; Social (1000 students)</b>				
<b>Plan I</b>				
Dormitories	(Furniture included in major construction estimates)	\$12,000,000		4 "Houses"
Dining, Social & Libraries		4,000,000		
1st Phase of Student Center		1,500,000		Cafeteria & lounge
SUB TOTAL		\$17,500,000	\$17,500,000	
<b>Plan II</b>				
Student Apartments	(Furniture included in major construction estimates)	\$12,050,000		167 efficiency apts.; 167 2 pers., 1 BR apt.; 167 3 pers., 2 BR apts.
Renovation of Dormitories		500,000		Renovating some men's dormitories to accommodate women
Full Student Center		4,700,000		Cafeteria, lounge, activities space
SUB TOTAL		(\$17,250,000)	(\$17,250,000)	
<b>Faculty &amp; Staff Housing</b>				
		1,500,000	1,500,000	50 apartments of the Magic type
<b>Miscellaneous</b>				
Improved Campus Lighting		100,000	100,000	
Parking Space		50,000	50,000	
Security Equipment	3,000	0	3,000	
SUB TOTAL	\$ 3,000	\$ 150,000	\$ 153,000	
<b>General Contingency</b>				
		2,250,000	2,250,000	
TOTAL	\$436,000	\$25,207,000	\$25,643,000	
<b>(If Plan II for Student Housing &amp; Expanded Federal Student Loan Fund)</b>				
	(\$436,000)	(\$23,807,000)	(\$24,243,000)	

stantial contributions possible, might, in fact, contribute more if Princeton were coeducational than if it were not.

Looking to the future, it should, of course, also be recognized that adding 1000 women undergraduates would increase by about 25% the size of each graduating class. The experience of other institutions suggests that future alumnae would be less generous in Annual Giving—though not necessarily in major gifts—than future alumni. Still, the women graduates would undoubtedly help somewhat with Annual Giving.

Even assuming coeducation proved to be an unpopular move with many present alumni, we do not believe that it follows that the level of Annual Giving would necessarily fall off. During the past twenty years several incidents on the campus have been unpopular with many alumni. In the Spring of 1956, there was the so-called "Hiss Affair." Unusually violent undergraduate riots occurred in the Spring of 1963. It is encouraging to note that in the year after each of these incidents the level of Annual Giving jumped appreciably more than it had in the immediately preceding years and did not later retreat, lending support to President Dodd's observation that "Serious money comes for serious purposes." It also lends credence to the belief by some that any major issue on the campus results in the alumni giving more thought and attention than they otherwise would to the University, one consequence of which is that the alumni group as a whole gives increased financial support. It is, of course, to be remembered that neither of these two incidents was nearly as important nor as lasting in its effect on the future of the University as the admission of women would be. Nonetheless, we find these experiences heartening.

We inquired at other universities as to the discernible effects on their alumni giving of recent decisions to become involved in the education of women. We were told that to date there was no evidence to suggest that admitting women undergraduates would have any significant negative effects on giving. It was also the opinion of the responsible officials with whom we talked that the discussion of the education of women had encouraged many people to think and talk about their universities' goals in today's world in a way they would not have done otherwise, and that fund raising benefited from this kind of dialogue.

On balance, we believe it prudent to assume that, were Princeton to undertake the education of women on a substantial scale, a few alumni would lose their interest in the University, because of a feeling, as one wrote, "If Princeton admits women, the Princeton we have known and loved will be *dead*." We find no basis for assuming, however, that admitting women would lead to a decline in the level of future alumni giving *as compared with what it would otherwise be*. On the contrary, we think it somewhat more likely that it would be greater than if Princeton remains an all-male institution, assuming, as we can, that the imagination, effort and enthusiasm of the Princeton University Fund staff would be undiminished.

### *Corporation, Foundation and Government Grants*

Even less can be said with assurance concerning future grants from these sources, except that the admission of

women would certainly not damage prospects here. Indeed, in view of the changing mores of our society touched upon in Chapter One, we believe that admitting women would increase the amount of financial support from corporations, foundations and government.

With regard to government support, there is a strong likelihood that once the war in Vietnam is over there will be an increased amount of assistance of various kinds and from various levels of government for undergraduate education. From the various proposals that have been introduced or discussed in Congress and in various state legislatures recently,<sup>11</sup> it would appear likely that much of this aid will be related primarily to the *number* of undergraduates being educated by an institution. If so, adding women to the undergraduate body would increase Princeton's income directly. Moreover, in looking ahead, and taking account of the social and political changes going on in our society, it would be prudent to anticipate that legislation providing federal aid to students may contain clauses which would prevent the extension of such grants to institutions practicing discrimination by sex as well as by race, creed or color. We may, therefore, run some risk of losing even present levels of help should we continue our present admission policy.

It would also not be unreasonable to expect that the prospects of receiving grants from government, as well as from corporations and foundations, will be better the more efficiently the University uses the resources already at its disposal. As our analysis shows, a more efficient use of staff and facilities would be one of the effects of admitting women to Princeton.

We conclude that the admission of women is likely to result in some increase in grant income from government sources, and probably from foundations and corporations as well, but we are in no position to specify the amounts. We draw some confidence in this conclusion from a recent report by the Council for Financial Aid to Education. This report showed that gift support from individuals, corporations and foundations, combined, increased between 1966 and 1967 to private coeducational colleges even though it declined to private men's colleges and private women's colleges.<sup>12</sup>

## Educational and General Costs

### *Additional Faculty Salaries*

Increases in faculty salaries are so important because of their magnitude and because of their implications for the pattern and quality of education at Princeton that it is in order to give a fairly detailed statement of our analysis of how these would be affected by the admission of 1000 women.

The first step in determining these costs was to calculate for each department in the college the number of expected female course selections. To guide us in making these estimates, we examined the Registrars' records at Harvard/Radcliffe and at Stanford University with a view to determining how the girls at those two places, as

by Gov. Rockefeller in New York, etc.

<sup>12</sup> *The E.P.E. 15-Minute Report for College and University Trustees*, June 21, 1968.

<sup>11</sup> For example, Bill S. 623 recently introduced in the New Jersey State Legislature, Sen. Williams' proposed amendments to the Higher Education Act, the bill signed on June 19, 1968

TABLE 4—IV

ESTIMATED EFFECT ON NUMBER AND SIZE OF VARIOUS  
INSTRUCTIONAL UNITS OF ADMITTING 1000 WOMEN STUDENTS  
(excluding School of Engineering)

CLASSES			
Number of Class Hours Per Week			
Size of Class (Number of Stu- dents)	Present Number (Fall term 1967-68)	Estimated Number After 1000 Women Admitted	Change
1-5	81	60	-21
6-10	116	69	-47
11-15	374	474	+100
16-20	242	382	+140
21-25	38	41	+ 3
26-30	8	9	+ 1
31-35	0	0	0
36-40	3	3	0
41-45	3	7	+ 4
	865	1045	+180

PRECEPTS			
Number of Precept Hours Per Week			
1-5	7	2	- 5
6-10	439	596	+157
11-15	67	73	+ 6
16-20	3	0	- 3
	516	671	+155

SEMINARS			
Number of Seminar Hours Per Week			
1-5	11	2	- 9
6-10	29	34	+ 5
11-15	20	11	- 9
16-20	2	15	+ 13
21-25	0	2	+ 2
	62	64	+ 2

DRILLS			
Number of Drill Hours Per Week			
1-5	14	0	- 14
6-10	69	86	+ 17
11-15	7	3	- 4
16-20	0	4	+ 4
21-25	0	2	+ 2
26-30	0	0	0
31-35	0	0	0
36-40	1	0	- 1
	91	95	+ 4

LECTURES			
Number of Lecture Hours Per Week			
1-25	169	126	- 43
26-50	89	91	+ 2
51-75	39	49	+ 10
76-100	22	30	+ 8
101-150	26	40	+ 14
151-200	6	13	+ 7
201-250	11	5	- 6
251-300	3	9	+ 6
301-375	0	8	+ 8
	365	371	+ 6

compared with the men, distributed themselves among departments. There are several reasons why we believe the experiences of these two universities are particularly useful to us: Both are roughly comparable to Princeton in terms of admission requirements; the breadth and scope of their curricula are similar to ours; the ratio of women to men and the degree of coeducation at both places are also reasonably close to what we recommend for Princeton.<sup>13</sup>

An important part of the instruction at Princeton is the supervision of junior independent work and senior theses. To determine the probable faculty needs here, we had first to calculate the expected number of girl *majors* for each department. Here we drew on the experiences of the following coordinate and coeducational institutions: Stanford, Berkeley, Cornell, Harvard/Radcliffe and Brown/Pembroke.<sup>14</sup>

Our next step<sup>15</sup> was to distribute the expected female departmental—or subject matter—selections into enrollments in existing *specific* courses and supervisory arrangements. It must be emphasized that for this part of our analysis we have assumed the addition of women would not result in a net increase in courses. That is, we have assumed the women students would enroll in our existing courses, or in courses which supplanted existing courses, with the result that the manning needs would be for additional classes, precepts, drills, etc., in existing courses.

Having distributed the women into our existing courses, we then examined each of the over 300 undergraduate courses being offered the undergraduates in the fall term of 1967-68 and estimated, course by course, the *additional* lecture sections, class sections, precepts, drills, laboratories and supervisory arrangements that would be needed to accommodate this increased enrollment. *The assumption in this part of the exercise was that we would maintain present teaching methods and what each department regards as an appropriate teacher-student ratio.*

With respect to lectures, we concluded that, with very few exceptions, the additional women students we had calculated would enroll in lectures could be added to the existing ones without loss of quality and therefore without increase in faculty time. Turning to classes, precepts, laboratories and drills, we set norms for each department which were, with minor exceptions, those currently regarded as desirable or currently being used by that department. For example, for a class that now has 9 students in a department which regards 15 as a satisfactory maximum, if our calculations showed that 3 women would enroll in that class, we concluded that no increase in teaching time would be needed. The effect would be simply to decrease by 1 the number of classes at Princeton with 6-10 students and increase by 1 the number with 11-15 students. But, if we found that 15 girls were likely to enroll in this course, bringing the total estimated enrollment to 24, we added one new class hour. The effect was that, instead of 1 class with 6-10 students, we now had 2 classes with 11-15 students each. In the first case, to add women would be to make more efficient use of existing faculty time; in the second case, there would be

<sup>13</sup> The details of the rather complicated techniques for making these estimates of increased enrollments in each department are set forth in Appendix F.

<sup>14</sup> A detailed explanation of how these calculations were made is included in Appendix G.

<sup>15</sup> Spelled out in Appendix II.

a need to double faculty time devoted to this type of instruction.

On the basis of the actual class enrollments for the fall term of the school year 1967-1968, we found, using these methods, that adding 1000 women would have called for 180 hours of new classes, 150 additional hours of precepts, 2 more hours of seminars, 4 hours of new drill sessions, and 6 more hours of lectures per week. Table 4-IV on page 37 shows these overall increases and also the changes in the total number of hours of lectures, classes, precepts, etc., according to size. This shows, for example, that 155 new precept hours would be needed each week and that precepts remain the same average size (6-10 students) though they probably have moved up a little within the category. There would be a shift in the distribution of class size, with the 6-10 student category losing 47 hours and the 16-20 category gaining 140 hours. Among the more important factors accounting for this particular shift is the fact that 30 classes in History would go from an average of 15 to an average of 16, just over the border. One clear conclusion can be drawn from this table: The methods we used in arriving at our calculations for additional faculty time would not call for a significant change in the size of non-lecture instructional groups.

TABLE 4—V  
ADDITIONAL INSTRUCTIONAL HOURS  
(By Department)

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Department	Lec- ture	Class	Pre- cept	Sem- inar	Lab/ Drill	Super- vision	Total
Anthropology			1				1
Architecture			5				5
Biology		2			47	6	55
Chemistry		—1			33	2	34
Classics		8	6			2	16
Economics		6	3			3	12
Engineering							
English	1	12	32			18	63
Fine Arts <sup>a</sup> —							
Total		28	12		5	7	52
Geology					2		2
Germanic							
Languages		12			7	1	20
Government		4	13		1	8	26
History		10	24			18	52
Mathematics <sup>b</sup>		28				3	31
Oriental Studies			3			2	5
Philosophy		3	5			1	9
Physics &							
Astrophysics	2	4			15 <sup>c</sup>		21
Psychology		6			4	5	15
Religion		2	25			6	33
Romance							
Languages	2	47	14		9	17	89
Slavic							
Languages		7			3		10
Sociology		6	6	2		3	17
<b>TOTAL</b>	<b>5</b>	<b>184</b>	<b>149</b>	<b>2</b>	<b>126<sup>d</sup></b>	<b>102</b>	<b>568</b>
Current Totals	510	922	528	62	742	345	3109
% Increase	1.0	20.0	28.2	3.2	17.0	29.6	18.3

<sup>a</sup> Fine Arts includes 16 instructional hours in Art & Archaeology, 31 hours in Creative Arts and 5 in Music.

<sup>b</sup> Mathematics includes 1 hour of supervision in Statistics.

<sup>c</sup> Of these 15 hours, 10 are for labs and 5 are for graders.

<sup>d</sup> Of this total, 6 hours are for graders, 5 for Creative Arts Conferences, 19 for Language Drills and 96 for Laboratories.

We have not, in other words, used a method which would simply make all instructional units larger.

Taking these data on additional hours of lectures, classes, precepts, etc., and adding one teaching hour of supervision for each 5 departmental majors, the next step was the straightforward one of computing for each department the total increase in faculty teaching hours. The results are shown in Table 4-V. For the University as a whole, we found that an additional 568 instructional hours per week would be needed, an increase of 18.3%.

From these data on additional instructional hours, we then subtracted those hours which the departments concerned could meet with the present staff (Column 2, Table 4-VI on opposite page). In general, we were very sparing in our assumptions of the additional teaching hours that present staff could take on. The remaining hours were then translated into numbers of full-time equivalent faculty members (Column 3, Table 4-VI). Here we assumed ten instructional hours was the full-time equivalent of the average faculty member. This is, in fact, below the current standards of those ranks we have added in those departments which would absorb most of the women students. But it was decided to err on the conservative side in making the estimates. For the purpose of these calculations, we assumed that present teaching loads would be maintained. Should a general reduction in teaching loads be decided upon, the costs would, of course, increase unless this change were offset by changes in teaching methods.

We distributed these estimated additional faculty members into various ranks (Columns 4, 5, 6, Table 4-VI). In determining the rank, we were guided by the nature of the instructional hours needed, and we considered only the ranks of Instructor or Teaching Fellow, Assistant Professor and tenured Professor. Whenever it seemed appropriate, we did assume the additional faculty would come from the lowest of these ranks, but we also assumed that any substantial number of supervisory hours required faculty above the rank of Instructor. Moreover, for those departments with a large number of additional hours, we attempted to provide enough senior faculty to avoid any large shifting in the balance of the department. At the same time, our analysis does assume that there would be some shifting of tasks within some departments as among the various ranks; e.g., an existing Assistant Professor might be asked to give up a drill section and take on senior thesis supervision while a new Teaching Fellow took over the drill section. In particular cases (Art and Archaeology for example), the kind of teaching in effect within a department would require the addition of what otherwise might seem to be a disproportionately large number of Assistant Professors. In making this rank distribution, we again consulted, and took into account the comments of, each of the Chairmen of the departments most affected by the admission of women. It should be clearly noted that the net effect is to increase somewhat the percentage of teaching hours handled by Instructors and Teaching Fellows.

The next step was to compute the salary costs for these faculty members, using appropriate average salaries for the rank (Columns 7, 8, 9 and 10, Table 4-VI). It was necessary to add to these additional instructional salaries an amount for departmental administration performed by faculty members (Column 11, Table 4-VI).

TABLE 4-VI  
ESTIMATED ADDITIONAL FACULTY SALARIES: Method A  
BY DEPARTMENT

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
Department	Sum of Additional Teaching Hours	To Be Handled By Present Staff	Numbers of Additional Full-Time Equivalent Faculty Members	Instructors or Teaching Fellows	Assistant Professors	Tenured Professors	Instructors or Teaching Fellows (col. 4 x \$ 8,000)	Assistant Professors (col. 5 x \$10,000)	Tenured Professors (col. 6 x \$15,000)	Total (sum of cols. 7,8,9)	Departmental Administration Costs (col. 10 x 0.671)	Leaves (1/5 x col. 8 +9)	Increase in Instructional Costs (cols. 10-11+12)
Anthropology	1	1											
Architecture	5	5											
Biology	55	6	5.0	5.0			40,000			40,000	2,684		42,684
Chemistry	34		3.5	3.5			28,000			28,000	1,879		29,879
Classics	16	1	1.5	1.5			12,000			12,000	805		12,805
Economics	12	2	1.0	1.0			8,000			8,000	537		8,537
Engineering													
English	63		7.0	4.0	2	1	32,000	20,000	15,000	67,000	4,496	7,000	78,496
Fine Arts-Total	52	7	4.5	1.5	3		12,000	30,000		42,000	2,818	6,000	50,818
Geology	2	2											
Ger. Lang.	20		2.0	2.0			16,000			16,000	1,074		17,074
Government	26	1	2.5	1.5	1		12,000	10,000		22,000	1,476	2,000	25,476
History	52		5.5	2.5	2	1	20,000	20,000	15,000	55,000	3,691	7,000	65,691
Math & Statistics	31	3	3.0	3.0			24,000			24,000	1,610		25,610
Oriental Stu.	5	5											
Philosophy	9		1.0	1.0			8,000			8,000	537		8,537
Physics	21	1	2.0	2.0			16,000			16,000	1,074		17,074
Psychology	15		1.5	1.5			12,000			12,000	805		12,805
Religion	33	3	3.0	2.0	1		16,000	10,000		26,000	1,745	2,000	29,745
Romance L. L.	89		9.0	5.0	3	1	40,000	30,000	15,000	85,000	5,704	9,000	99,704
Slavic L. L.	10	5	0.5	0.5			4,000			4,000	268		4,268
Sociology	17		2.0	1.0	1		8,000	10,000		18,000	1,208	2,000	21,208
TOTAL	568	42	54.5	38.5	13	3	308,000	130,000	45,000	483,000	32,411	35,000	\$550,411 (+5%) \$577,932

We assumed this would equal 6¾% of the increased salaries. This is the percentage of direct faculty salaries actually allocated by the Controller's Office to departmental administration for the entire University in 1966-1967. Leaves of absence for those additional faculty members whose ranks would entitle them to leaves of absence with pay were also calculated (Column 12, Table 4-VI). This gave us an estimate of the additional faculty salaries for each department (Column 13, Table 4-VI). To take account of salary increases approved by the Trustees at their April 1968 meeting, and effective July 1, 1968, we increased the total by 5% to an annual total for the entire University of \$577,932.

Calculating additional faculty salary costs by identifying each additional teaching hour needed, and costing it out separately according to the appropriate rank, seemed to us conceptually a precise and correct method. It must be recognized, however, that it does restructure the faculty somewhat in the direction of more persons at lower ranks. It also provides on average for somewhat more students per faculty member than is now the case. The former change came about because the detailed analysis showed that quite a bit of the additional teaching needed was of the sort that could be appropriately performed by persons at lower ranks. The latter change resulted from the fact that, in almost all cases, students have been added to lectures without adding to the faculty; and the same thing was done in those classes, precepts, drills and laboratory sections in which student enrollments are not now up to what the departments concerned regard as the acceptable maximum, utilizing current teaching methods.

We believe the above method gives the best estimate of this component of the increases in cost associated with admitting 1000 women. However, in order to make explicit the consequences of different manning policies, we also investigated the implication of assuming that, department by department, the additional cost per fac-

ulty contact hour would equal the present *average* cost per contact hour in that department. This approach differs from the first in that it ignores the fact that some departments are presently adequately staffed to handle more students. Furthermore, this alternate approach assumes that additional personnel would always be in the same proportion by rank as the present distribution. In other words, this method assumes there is less room for improving the present efficiency of the faculty, as measured by faculty costs per student contact hour, than does Method A.

In applying this approach, we followed the same steps as in Method A above up to the point where we calculated the total increase in faculty instructional hours (faculty-student contact hours). The next step was to calculate for each department, examining the teaching and research schedules of every single faculty member, the 1967-1968 total dollar cost of faculty time spent on undergraduate instruction.

In order to obtain the *increase* in faculty salaries associated with admitting 1000 women, we then, as a first step, calculated the percentage increase in teaching hours department by department. This was done simply by taking the additional teaching hours that would result from adding 1000 women and dividing it by the current teaching hours, department by department. This resulting *departmental* percentage of increase in contact, or teaching, hours was then multiplied by the previously calculated current salary costs of undergraduate teaching in each department. The result is an increase in instructional costs of \$776,308. Because this figure was based on actual 1967-1968 faculty salaries, we then added 5%, representing the average increases approved by the Trustees in the Spring of 1968, to become effective on July 1, 1968. The resulting total figure, \$815,123, is 41% greater than the estimated additional costs under the previous method. For the reasons noted, however, we believe it overstates the cost. It rests on one assumption which is not valid-

that no department has any underemployed faculty; and another, which it is within the power of the University to control so as to reduce cost—the ranks at which additional personnel would be added.

While we believe the estimates arrived at, employing Method A, are likely to be the more accurate ones, we also believe, taking account of certain reservations which must now be stated concerning that estimate, that it would be prudent to assume the actual cost might be somewhat above the amounts arrived at by Method A, but certainly well below the amounts arrived at by Method B. Our reservations are several:

1. We have made no provision for adding new courses to the curriculum. As stated earlier in this report, we can foresee that a few new courses—especially in the creative arts but also elsewhere—might prove desirable were women admitted. If so, they would almost certainly cost more than those particular teaching hours we have included for the expansion of enrollment in existing courses. We can also foresee that, in some instances, it might be necessary and desirable to add a new course in order to attract a new faculty member needed because of the increase in the number of students. It does not seem to us the amounts are likely to prove large, but they would increase the cost somewhat.
2. Except in rare cases, no provision has been made for additional “readers” of papers and examinations, and this might prove necessary in certain departments, especially English, History and Romance Languages. Again, we do not see large amounts being involved, but the total would be increased somewhat.
3. We have calculated costs for undergraduate teaching only in terms of full-time *equivalents*; but if the individual appointee does some graduate teaching as well, then, either (a) some of the present faculty will have to do more undergraduate and less graduate teaching—a policy one might expect to be resisted; or (b) the total cost to the University of the expansion to include women would be greater than we have calculated, even though it might be “charged” to the Graduate School. On balance, we think it prudent to assume this consideration too would tend to push the costs above the estimates we have made under Method A.
4. All our estimates of course selections are based on the fall 1967 term at Princeton. A similar exercise with spring semester enrollments yielded different results, department by department, *reducing* the additional faculty cost estimates by 5 to 8%. We believe this factor goes a long way toward off-setting the effects of the first three of our reservations.
5. No attempt has been made to modify the Stanford and Harvard/Radcliffe female coefficients—the measures of the extent to which women find certain departments more attractive than do men—so as to adapt them to local conditions. Let it be emphasized that our method does recognize that certain departments in Princeton are more popular than in other schools and vice versa. What we have *not* done is to try to identify or take account of features peculiar to Princeton which would affect men and women differently from the way they are

affected at the other two universities. While we have done nothing about this, we see no reason for believing it would be important or would pull costs in one direction rather than in another.

6. Our estimates do not take adequate account of the possibility that women may not distribute themselves among courses in a given department as do men. However, we see no *a priori* reason why this should affect the cost for the college as a whole. If our estimates are wrong, we see no reason to expect the shift to be into more expensive, rather than less expensive, courses. Indeed, in one important case—Romance Languages and Literatures—we have some evidence that women would distribute themselves differently from men, but the effect of the most likely redistribution would be to decrease the cost below our estimates.

Taking all these reservations into account, we believe the costs might be somewhat greater than predicted by Method A, but it seems to us most unlikely they would be pushed above \$650,000.

Our analysis makes clear that under the present circumstances at Princeton admitting 1000 women as undergraduate students would permit, in many areas, a more efficient utilization of our faculty, chiefly by permitting those particular lectures, classes, precepts, drill sections and laboratories, which are now at less than their optimal student-teacher ratio, to move toward that ratio. In an effort to obtain some sort of concrete measure of this potential increase in efficiency we made a study of the entire college to determine the additional faculty salary costs of adding 1000 students under the assumptions that all of the present faculty were fully employed, that any additional faculty would be in the same proportion by rank as the present distribution, and that any increase in students in any class would require a proportional increase in faculty time. That is, we assumed that there is no room at all for increased efficiency; that the present average cost per student would be the cost per student of any additional students. These calculations showed an additional faculty salary increase of over \$1,400,000. The difference between this and the \$577,932 cited earlier as our best estimate is one measure of how additional students, in the particular circumstances found at this time, would permit a better utilization of our faculty resources. It must, of course, be pointed out that if women were admitted, thus more fully utilizing the present capacity of the faculty and of the instructional units, any *subsequent* increase in students, male or female, would be more costly than if students were not added now.

### *Employee Benefits*

The Controller informs us that, excluding leaves of absence (which we have included in our additional salary figure), employee benefits—University contributions to retirement funds, major medical insurance, etc.—now average 14% of faculty salaries. This amount, \$80,910 per year under Method A, and \$91,000 under the prudent or safety factor estimate, must therefore be included as additional yearly costs.

### *Academic Space Needs*

The additional faculty members and the 568 additional instructional hours would place additional burdens on

existing space. More specifically, we need to examine the extent of capital needs for classrooms and laboratories, faculty offices and rest-room facilities in instructional buildings. We approached this important question from two directions.

First, we followed up the work already done in connection with the calculation of additional faculty salaries. In that calculation we had constructed what amounted to a "model college," simulating the addition of 1000 women down to the detail of assigning these women to individual courses and dividing those courses into class sections. On this basis, the question of the availability of classroom and laboratory space reduced to the question of whether this "model college" with its expanded curriculum could be scheduled within existing space. There was little doubt in anyone's mind that it could be. The only serious question was whether it could be done using approximately the same constraints on scheduling as are reflected in the present distribution of classes by hour of the day and location on campus. We therefore set out to schedule this model college, down to the last precept, keeping three important factors as constraints on the rules by which we did it: (1) We tried to maintain the present preferences of faculty and students for classes at certain hours of the day. (2) We tried as much as possible to keep the classes of each department in the buildings and classrooms where they are now held. (3) We restricted ourselves to classroom space that was actually available for use during 1967-68. Principally, this meant that we did not avail ourselves of classrooms in the new Mathematics and Physics complex.

With the single exception of laboratories for the large underclass Biology course, we found by the first method that the expanded schedule, subject to the three scheduling constraints just described above could be contained within existing space down to the last precept.<sup>16</sup> The large Biology course, could be accommodated by scheduling some laboratories either in the evening or in the morning, when no laboratories are presently scheduled.

As a check on the above method, and as a second approach, we provided the Registrar with the estimates cited above of the enrollment figures for the undergraduate courses, together with our estimates of the additional number and average size of classes and lectures required to accommodate the projected increase, course by course. We then asked that office, using its traditional methods and limiting itself to currently available space (excluding the new Mathematics-Physics Complex) to schedule and assign the necessary classrooms for this new total. This latter study did not attempt to determine or take account of any personal preferences of individual faculty members as to the time and place of classes. Nor did it attempt to assign time or space for precepts, this traditionally being done by the faculty member himself after the completion of the scheduling work of the Registrar's Office. Similarly, laboratories were not assigned, because these are traditionally assigned by the department concerned. With these reservations, the conclusion of the Registrar's Office was "The important single outcome of this analysis is the general finding that within the existing framework of Princeton's existing weekly scheduled classes, its available instructional space, its current curriculum and patterns of teaching, and its traditional

method of assigning rooms, the addition of 1000 women undergraduates presents no serious administrative or special problems in classroom scheduling. Indeed, there is evidence that this increase in enrollment might be regarded as an improvement in the utilization of available space now reserved for instructional purposes."

It must be emphasized, however, that this finding of adequacy in instructional space does assume that the scheduling of instructional sessions would be subject to more rigorous central control than is presently the practice. This is an important proviso. It limits somewhat the freedom faculty members now enjoy in scheduling their classes to suit their convenience. We do not underestimate the "welfare cost" of any such limitations, but neither do we find an important problem here. The limitations on choice are not likely to be great, and we could expect some willingness on the part of the faculty to make adjustments necessary to the implementation of coeducation in view of the favorable sentiment expressed in response to the faculty questionnaire:

"Is admitting women to the undergraduate college sufficiently important to justify, if there were no reasonable alternatives, a large increase in late afternoon, Saturday and possibly some evening classes?"

	BY AGE		
	Under 30	30-39	40 or Over
Yes	74%	70%	53%
No	21	24	39
No Response & Other	5	6	8
	100%	100%	100%

Although we find no new classroom construction would be necessary, we believe that perhaps as much as \$50,000 for additional classroom furniture should be budgeted as a capital item.

As for new offices needed, our earlier analysis (Columns 3, 4, 5 and 6 of Table 4-VI) showed that the faculty increase would be equivalent to 54.5 full-time persons. However, of the 38.5 equivalent full-time persons in the Instructor or Teaching Fellow rank, we estimate only 10 would be Instructors and so entitled to offices under present practices. Adding the 16 professorial ranks brings the minimum need to 26 offices. Once again, it seems wise to add a safety margin, and we have, therefore, assumed there would be a need for 35 faculty offices. After distributing these appointments among departments in keeping with our earlier estimates of where the increased faculty would be needed, we surveyed the buildings occupied by those departments. Ignoring the space now being constructed—most notably in Mathematics, Statistics and Physics—we were able to place, in existing space, all of the additional full-time faculty with the exception of two biologists. In a number of cases, however, this required giving a man an office in a building other than that used by most of his colleagues, a solution we did not find appropriate for the biologists, whose laboratories often double as offices.

This is a comforting finding. But it must be tempered by the realization that, because of other areas of growth in the University, a similar survey a year from now would show a less satisfactory picture. Moreover, these estimates assume a slight reduction in the office space currently

<sup>16</sup> See Appendix I for details.



being provided Teaching Fellows; but it must be anticipated that the numbers of such persons will increase over time and so will their needs for office space. Account must also be taken of the fact that in some cases there will be need to provide some additional space for departmental secretaries.

Taking this evidence and these considerations into account, we believe immediate capital expenditures of \$200,000 for faculty and departmental secretarial offices should be included, of which perhaps \$40,000 would be for furniture and the balance for conversion. Looking further ahead, and taking account of the already planned growth in urban and in international studies, we foresee the need within 5 to 7 years for a new social science building, of which perhaps \$300,000, at current prices, could properly be charged to the admission of women.

Throughout the present academic buildings, it would also be necessary to install additional women's toilets. The Department of Planning, Plant, and Properties estimates that a total of 25 such installations would be needed, estimated to cost \$8,000 each, or a total of \$200,000.

The present language laboratories are used to capacity during peak periods, and more extensive use would require far tighter scheduling than seems to be convenient. Recognizing that language study is more popular among women than men, we have calculated that 30 additional stations would be required in the language laboratory: a 50% increase. These can be accommodated within the existing laboratory space and (for Oriental Languages) in the renovated Jones-Palmer area. Such new stations would cost approximately \$1,000 per unit, a total of \$30,000.

In summary, the increased current and capital costs for faculty and instructional space would be as follows:

<i>Increase in Annual Operating Costs</i>	
Prudent Estimates:	
Additional Faculty Salaries	\$650,000
Employee Benefits—14%	\$91,000
Detailed Estimates:	
"Method A"	
Additional Faculty Salaries	\$577,932
Employee Benefits—14%	\$ 80,910

## Materials and Supplies

The addition of faculty and students would increase the required direct expenditures for telephones and such expendable materials as paper, pencils, Xerox, stencils, laboratory supplies, etc. Our investigation indicated that there would be quite wide differences among departments in the additional expenditures for such items. It would be relatively heavy, for example, in Chemistry or Fine Arts, and very small in, say, Philosophy. We also found that in most, though not all, departments, the increase in these costs (of which telephone bills are a large part) are likely to be nearly proportional to increases in the instructional faculty.

Against this background, we proceeded to calculate these costs as follows: (1) We determined the present total departmental instructional salaries (undergraduate plus graduate) by department. Using the results of

Method B discussed above (to be on the safe side), we inserted the increase in these salaries which would result from admitting 1000 women. (2) We calculated these increments as percentage increases over the current departmental instructional salaries. This percentage of increase in departmental instructional salaries was then, department by department, applied to the amounts actually budgeted in 1967-1968 for these materials and supplies for both graduate and undergraduate teaching. The result, \$54,473 per year, is our estimate of the increase in cost of materials and supplies, usually referred to in University accounting as "nonsalary direct costs of instruction and departmental administration." However, in recognition of the fact that some of these costs increase proportionally with the size of the student body, we decided to increase the total to \$65,000.

For these items there are no related capital costs and so the total increase is:

<i>Increase in Annual Operating Costs</i>	
Detailed Estimate	\$54,473
Prudent Estimate	65,000

## Non-Faculty Departmental Administration

In addition to the time devoted by faculty members to departmental administrative work, an allowance for which is included in our estimates of additional faculty salaries, each teaching department has secretarial, typing, etc., assistance. Again with the help of the Controller, we determined that at the present time this item (including employee benefits for such personnel) equals 8.9% of the faculty salaries for instruction on the main campus, salaries calculated to include leaves of absence and faculty time spent in departmental administration. We thought it reasonable to assume that the admission of 1000

<i>Capital Costs</i>	
Classrooms	\$ 50,000
Renovated and Converted Faculty and Departmental Secretary Offices	\$200,000
Portion of New Social Science Bldg.	\$300,000
Women's Rest Rooms	\$200,000
Language Laboratory	\$ 30,000

women would increase these costs by this same percentage (8.9%) of our estimate of additional faculty salaries. This yields a cost of \$51,436 under Method A and \$57,850 when applied to a base salary increase of \$650,000, our more prudent estimate. An allowance for providing office space for Departmental Secretaries was included earlier.

<i>Increase in Annual Operating Costs</i>	
Method A	\$51,436
Prudent Estimate	57,850

## Academic Administration and Student Services

In addition to the items already discussed, or treated separately below, there are at Princeton a wide variety of student services and activities which, for budgeting reasons, have been labeled "Academic Administration and Services." Included here, among other things, are the opera-



tions of the Office of the Provost, of the various Deans and the Registrar as well as such important student services as the Bureau of Student Aid, the Counseling and Career Services, the University Health Services, etc. We went through the entire list of such activities and concluded that only the following would not be affected by the admission of women to the college: The Office of the Dean of the Graduate School, the Princeton University Conference, the general lecture series and that category of academic administration and services associated with "organized research." We also concluded that McCarter Theatre deserved special treatment, and it is discussed in a later section of this chapter.

Again, with the help of the Controller, we developed, as we had for nonfaculty departmental administration, a coefficient which represents the actual expenditures for these items in the fiscal year 1967 as a percentage of direct faculty salaries in that year. We then applied this percentage to the increase in faculty salaries consequent on admitting women and arrived at an estimated increase in these costs. Using Method A for calculating additional faculty salaries gave us a total of \$101,248 for these expenses.

However, it was evident that within these groups were activities which would be affected quite differently by the admission of women. We, therefore, decided it was necessary also to ask *each* office or service involved to analyze for us the effects on its operation if the University were to add 1000 undergraduate women in residence to the present undergraduate body.<sup>17</sup> When necessary, we then translated physical estimates into financial ones, and we also made certain modifications in order to make the submitted estimates comparable. In a few cases, we reduced a figure sent in response to the questionnaire (e.g., physical planning) because we had included part of the estimate elsewhere. In a few other cases (Teacher Placement and Career Counseling, for example) we increased the estimates, because our information was that women would be expected to make more use of the facilities than the respondents had anticipated. Table 4-VII summarizes the results.

Not unexpectedly, in several of the student service areas, particularly in the Bureau of Student Aid, Counseling and Career Services, the Dean of the College, Director of Admission, Teacher Preparation and Placement and the University Health Services, the estimates made by the offices exceeded by significant amounts those resulting from our across-the-board percentage increase calculations. Our examination of the office estimates as well as conversations with the responsible persons in each office led us to believe it would be prudent to assume the higher estimates were more accurate, and they are the ones (including an allowance for personnel benefits) which we have labeled "Prudent Estimates."

The necessary expansion of activities of certain of the administrative offices, most notably of the Counseling and Career Services, Bureau of Student Aid, the Dean of the College, the Dean of Students, the Director of Admission, the Registrar's Office and the Office for Teacher Preparation and Placement, would also require additional office equipment. An examination of these activities, office by

office, shows that \$36,000 worth of new office equipment would be needed.

TABLE 4—VII  
ACADEMIC ADMINISTRATION AND SERVICES  
ESTIMATED INCREASE IN ANNUAL OPERATING COSTS

Office	Indirect Cost Ratio Calculations	
	Office Estimates*	Method A
<i>General</i>		
Provost & Dean of Faculty	\$ 1,000	\$ 7,678
Learned Societies—		
Traveling Expense	1,000**	1,193
Other	500**	380
Sub Total	\$ 2,500	\$ 9,251
<i>Student Services</i>		
Bureau of Student Aid	\$ 17,120	\$ 5,245
Counseling & Career Services	30,080	4,969
College Operations	0	3,128
Dean of the Chapel	5,500**	5,153
Dean of the College	36,960	9,662
Dean of Students	17,740	3,772
Director of Admission	40,060	12,606
Registrar	12,712	8,282
Teacher Preparation & Placement	14,760	2,761
University Health Services	56,976	32,830
Commencement	5,000	2,853
Diplomas	600	460
Whig-Clio & Nassau Lit	500**	276
Language Laboratory	1,000	—
Sub Total	\$239,008	\$ 91,997
TOTAL	\$241,508	\$101,248

\* Office estimates increased to include employee benefits.

\*\* Made by the writer, not the office concerned.

Several of these activities would also require additional space. Our studies show that it might be possible to squeeze them into West College, with certain alterations, if the members of the Board of Advisors would see students in their own offices. But this would probably be only a temporary and unsatisfactory solution at best. The needs here, we concluded, would be better met by filling in the court between the rear wings of West College at the second and third floor levels. This would produce a total of 3600 square feet of office space (enough for 10 officers and 10 secretaries) at an estimated cost of \$200,000. In addition, necessary renovations and alterations in the existing buildings would cost another \$40,000.

Finally, there are the Health Services. It is to be expected that, on a per capita basis, women would use these facilities somewhat more than men. We have already noted the sizable increase in annual staffing costs that this would entail. Fortunately, the Director of Health Services finds that the present building would be adequate to accommodate the additional patients if certain internal rearrangements were made. These would include the conversion of the large 10-bed ward to 4 rooms; conversion of the nurses' lounge area to patient-bed space; the conversion of a large pantry into a bathroom and certain additional laboratory and physiotherapy space. It has been estimated that the total capital cost for these modifications would be about \$100,000 for construction and new medical facilities and equipment, plus \$2000 for office equipment.

In summary, the increased operating and capital costs

<sup>17</sup> The request sent to them is reproduced in Appendix J.

in the area of Academic Administration and Student Services are as follows:

<i>Increase in Annual Operating Costs</i>		<i>Capital Costs</i>	
Method A	\$101,248	Equipment	\$36,000
Prudent Estimate	\$241,508	West College—Additions, Alterations & Conversions	\$240,000
		Infirmary	\$102,000
			<u>\$378,000</u>

### *General Administration and General Expenses*

In addition to the academic and departmental administration costs, there are a series of noninstructional, non-research costs of administration which are traditionally lumped together in the University's accounting under "General Administration and General Expenses." Included here are the Office of the President, the Secretary, the Financial Vice-President, the Controller, the Director of Personnel Services and the General Manager's Offices as well as various alumni-oriented activities and public information offices.

We first estimated the increase in these annual costs by the same method outlined above for Academic Administration and Services. Namely, we assumed these costs would increase in proportion to the estimated increase in faculty salaries. Having made such a calculation, we found, as we had in the category of "Academic Administration and Student Services," that for some activities these estimates did not appear to be reasonable. We then asked each of the major offices involved for an independent estimate. The latter turned out to be significantly larger than the former for most of the items. On grounds of caution and because the estimates by the individual offices seemed, in detail, to be defensible to us, we consider the larger figure a better guide. The details of the alternative estimates are given in Table 4-VIII below.

TABLE 4—VIII

#### GENERAL ADMINISTRATION AND GENERAL EXPENSES

<i>Offices</i>	<i>Indirect Cost Ratio Calculations</i>	
	<i>Office Estimates* Method A</i>	
President	\$ 5,800	\$ 3,278
Secretary	0	1,639
Alumni Council	10,600	2,608
Archives	—	365
Public Information	19,060	2,466
University Magazine	1,000	1,565
Financial Vice President & Treasurer (Physical Planning Office)	20,040	1,603
Controller	6,100	11,182
Personnel Services	3,920	2,877
General Manager,		
University Services		1,712
Purchases & Office Services		4,480
Alumni Records		3,674
Duplicating Bureau	37,640	910
Mail Service		
Photo Duplication Section (Firestone)		838
Telephone		
Data Processing	10,660	—

<i>Princeton University Fund</i>			
Annual Giving	}	18,440	11,828
Development Office			
Recording Secretary			
Security Gifts—Selling Expense		0	—
SUB TOTAL		\$133,260	\$ 51,025
<i>Expenses</i>			
Architects' Fees, Consulting and Landscape	}		473
Auditors' & Attorneys' Fees			1,858
Board of Trustees			510
Commission for Collecting Income on Investments		10,000	
Community Services			1,202
Incidentals			838
Insurance & Safety			947
Investment Council			
Printing and Stationery			292
Official Register		1,000	1,420
SUB TOTAL		\$ 11,000	\$ 7,540
TOTAL		\$144,260	\$ 58,565

\* Office estimates increased to include employee benefits.

It should be emphasized that we have assumed the growth in the size of the college here postulated will not pull or push us into a basic change in the University administrative structure. The introduction of divisional deans, for example, could increase costs substantially.

Although present space is adequate for the relatively modest growth in the area of General Administration, the offices estimate that the additional personnel would require new office equipment estimated to cost \$10,000.

<i>Increase in Annual Operating Costs</i>		<i>Capital Costs</i>
Method A Estimate	\$ 58,565	Equipment \$10,000
Prudent Estimate	\$144,260	

### *Computer Center*

For lack of a better method of calculating the additional Computer Center costs, 1.6% of the additional faculty salaries was used. This is the same coefficient as that calculated by the Controller's Office as representing the current operating costs of the Computer Center, so far as *instruction* on the main campus is concerned, as a percentage of all direct main campus instructional salaries. (The percentage is, of course, much higher for those faculty salaries assignable to organized research activities.) It seems probable that the annual computer costs will go up substantially in the future, without regard to the possible admitting of women students. We find no need for additional capital expenditures beyond those already planned.

<i>Increase in Annual Operating Costs</i>	
Method A Estimate	\$ 9,247
Prudent Estimate	\$10,500

### *Library*

The estimate for additional operating and capital costs for the Library were made in consultation with the University Librarian, who in turn consulted his professional colleagues at several coeducational institutions. It was found that operating costs increase with the numbers of students, regardless of their sex. Given the present size

of Firestone, and assuming women were here on a coeducational, not a coordinate, basis, the need for new titles is not likely to be significantly affected by an additional 1000 women students. We estimate, however, that from \$16,000 to \$18,000 would be needed annually to meet the increased need for duplicate copies of books and journals, both at the reserve desk and in other parts and branches of the Library. In addition, the acquisition of more books and the additional work at the circulation and reference areas consequential on more students, would entail an increase in staff. It is estimated that these annual staff costs would total about \$47,000, at present salaries, if there were no additional dormitory libraries. This additional salary cost would rise, probably to about \$55,000 per year, if two dormitory libraries along the lines of the Julian Street Library at Wilcox Hall were to be incorporated in any new housing for women. We believe the latter, or something comparable in a new Student Center, probably would prove desirable, and the larger estimates for both the annual book acquisition charge and staff seem appropriate.

The addition of 1000 undergraduate women would also entail capital costs in the Library because of the need for more books, more study carrels and more open reading space. In addition to the just-noted annual expenditures for duplicates there would also be a one-time increase in the necessary number of duplicate copies of frequently used books and journals in order to maintain reasonable access to them. This capital cost would vary significantly depending on whether the housing arrangements for women were to include two libraries of the Julian Street variety or whether it is expected that no such facilities would be provided, and women would do all their library work in Firestone.

We have assumed that, were there to be no dormitory libraries, the existing collection of "reserve duplicates," numbering nearly 19,000, would presumably have to be increased proportionately, or by about 5,800 volumes. Adding staff costs for processing these volumes, we arrive at a total one-time investment for books, under these assumptions, of about \$56,000. The cost would be considerably greater if the women's residences (or a new Student Center) were to include two dormitory libraries (10,000 or so books each) on the pattern of the highly successful Julian Street Library. Such libraries can be justified not only because they would reduce some of the pressures on Firestone, but also because they would add an important intellectual element to the life of the women's dormitories and enhance the "college" or "house" aspects of those residence halls. We find much to be said for this, and, on the assumption that there would be two such libraries, we estimate the one-time cost for books, including staff time for processing, at \$245,000.

Turning to space needs in the Library, we find that three types of seating must be provided: reserve reading room, carrels, and open study areas. Taking into consideration the probable higher use of Firestone by women than by men, we estimate that 40% more seats would be needed in the reserve reading room areas, which, together with the resulting additional shelf needs, would require a space equivalent to about 6½ bays. We also estimate that approximately 150 additional carrels would be needed. The carrels themselves would cost an estimated

\$75,000 and would require space in Firestone equivalent to about 7 bays. We also estimate that about 200 additional open seats for general study would be needed.

Matching these space needs against the existing facilities in Firestone and the planned expansion, we find that, so far as open seats for general study are concerned, the planned Phase I of the new construction (already decided upon) will provide 270 such study seats and so is adequate to meet the needs of 1000 women, but with the result that there would be a less generous expansion of such general seating for our men students than had originally been planned. However, if dormitory libraries were provided, as our cost estimates for residences assume, no curtailment would be necessary. The 13½ bays of book space which we calculate would be needed for carrels and new reserve reading room seats total 5,832 square feet. At an estimated cost of \$50 per square foot, the space costs would be \$292,000.

These considerations raise two major policy issues: (1) If it is decided to admit women, should the entire planned expansion of Firestone take place in one phase rather than in two? (2) If women are admitted and if a new Student Center is built, a possibility discussed below, would it be desirable to incorporate, as M.I.T. has done so successfully, a sizable number of open seats for general study in such a center, thus releasing some of the existing space demands as well as planned growth in demands on Firestone? We are not in a position to make recommendations on either of these possibilities at this time, but it does seem likely that providing open study space in a library building would be more expensive than providing such space in other types of structures.

In summary, we estimate the following increase in library operating costs and new capital needs:

Increase in Annual Operating Costs		Capital Costs
	\$73,000	Duplicate Books \$245,000
		Study Carrels 75,000
		Space 292,000
		<hr/> \$612,000

### Planning, Plant and Properties

Excluding new student residences, and dining and social facilities (treated separately below), we estimate that with the admission of 1000 women the annual cost for the operation of the University's physical plant (normal wear and tear, janitors, gardeners, heat, light, etc.) would increase by \$171,000 of which \$61,000 would be in connection with the athletic facilities.

This estimate, made in cooperation with the University's Department of Planning, Plant and Properties, is surprisingly low for the academic plant, because, as we specified earlier, the evidence is that 1000 women could, to a very large extent, be accommodated by a more intensive use of existing classroom and faculty office space.

Again, it must be made clear that if the unused space is used to accommodate women students, it cannot be used for some other purpose in the future. More particularly, one long-run implication of this low-cost estimate is that, at some time in the future, the cost of expansion and growth in the University would be greater if women were admitted now than if they were not. In the meantime, one would be foregoing these increased efficiencies.

The increase efficiency aspects are strikingly evidenced by our estimate that the annual operating costs of the athletic facilities would increase by \$61,000 as compared with \$110,000 for the entire "academic plant." This is because, as we will see, a considerable expansion of the physical facilities for athletics and physical education would be needed, since in this area, in contrast to the academic one, coordinate rather than coeducational activities are often essential.

The Department of Planning, Plant and Properties itself can accommodate the increased demand without additional space, and so there are no capital costs in this particular area.

#### *Increase in Operating Costs*

Academic Facilities	\$110,000
Athletic Facilities	61,000
	<hr/>
	\$171,000

### *Athletics*

Our calculations of the additional operating and capital costs in the area of athletics have been worked out in cooperation with the University's Director of Athletics and the Director of the Department of Planning, Plant and Properties, following consultations with the Director of Physical Education of Vassar College. We assume that there would be a one-year compulsory physical education program for women. We also assume it would be desirable to provide facilities for recreational and athletic pursuits that would meet the present high standards of such women's colleges as Vassar. Thus, the following estimates are for a program comprising, in addition to posture work, physical fitness, body mechanics, etc., both instruction and facilities for the following activities for which Princeton, at present, has neither instruction nor facilities: Archery, bowling, field hockey, women's basketball, women's lacrosse, modern dance, folk and square dancing. Those for which no instruction is offered: Badminton, gymnastics, sailing, speedball and figure skating; as well as those in which facilities, equipment and instruction are now available: Fencing, golf, swimming, diving, squash, tennis, kickball, softball, and recreational skating.

In the realm of physical education and facilities for physical recreation, it would be desirable to establish a separate women's division, a separation or segregation practice we do not recommend elsewhere in the University. This, in turn, would call for a director of women's physical education and five new staff members, including a female physical therapist. This enlarged staff would be augmented in many cases by time from the members of the present physical education staff. The need for a separate division grows from our conclusion that many activities, such as the following, must be taught by women within "the walls" of the women's domain: body mechanics, physical fitness, posture work and special exercises for medical cases. In addition, for both physical and psychological reasons, teaching new physical skills to the women would probably require separate instruction, whether by a man or a woman. We estimate that the staffing costs—including, in addition to the above, part-time staff for dancing and figure skating and two support staff (extra janitors and guards) beyond that normally provided by the Department of Planning, Plant and

Properties and included in their estimates above—would total \$75,900 annually, including personnel benefits. To this must be added \$5,000 annually for miscellaneous expendable supplies and equipment.

Although undergraduate women could make considerable use of existing athletic facilities, there would remain a need for the following additional or separate facilities: locker rooms, several indoor exercise areas for body mechanics, modern dance, posture work, etc., and two women's basketball courts. Some of the additions to staff, as we noted in the current cost section, would be female, and so office and lounge space would be required for them. Although we make no provision for additional swimming facilities, pressure for this could develop in the future. The total additional indoor requirements are estimated to total 30,000 square feet, and it is suggested this should be in the form of an addition to the south end of Dillon Gymnasium. We estimate this would cost approximately \$900,000, to which must be added \$20,000 of capital investment in various types of equipment.

In addition to these indoor facilities, those responsible for physical education urge several new outdoor facilities. Included in our estimates are \$40,000 for one full-size field for women's field hockey, lacrosse, golf driving range and archery range; \$100,000 for 10 new fast-drying tennis courts, preferably north of the Church courts.

These facilities raise a question of policy. The amounts involved are large (remembering that \$61,000 per year in the Planning, Plant and Properties estimates is for athletics) and presumably could be substantially reduced by settling for less varied and less adequate facilities for women than those provided women at many other institutions or than those currently being provided Princeton men, and, concurrently, by a more stringent scheduling of the use of both indoor and outdoor facilities, including less generous use of these facilities by nonstudent personnel. We have assumed here that it would not be desirable to follow such a policy and have included the following operating and capital costs in our feasibility estimates.

#### *Increase in Annual Operating Costs*

\$80,900

#### *Capital Costs*

Addition to Dillon Gymnasium	\$920,000
Athletic Fields	40,000
Tennis Court	100,000
	<hr/>
	\$1,060,000

### *Special Programs and Activities*

Of the many remaining special academic programs and activities at Princeton—ranging from the International Finance Section to the Jefferson Papers to Rockefeller Public Service Awards—we found three which might be affected by the admission of women and which have not been incorporated in the costs above. The University Committee on Research in the Humanities and Social Sciences now spends about \$40,000 a year. Method A above for calculating the increase in faculty shows a 10% increase in the number of full-time faculty in the disciplines served by this Committee. We have therefore assumed that this expense would increase by 10% or \$4,000 per year.

It may well be that, if women were admitted to Prince-

ton, entirely new arrangements would be deemed desirable for the use of McCarter Theatre. Such a decision could substantially change the size of the operating deficit. But we have no basis for estimating possible changes in the role, purpose and use of the theater. If present policies with respect to the use of McCarter were followed, an additional 1000 women students would lead to no increase in the deficit covered by the University, because the facility is already fully used. In fact, additional students would probably result in some increase in ticket sales and thus in income, but we have ignored this.

Our studies also indicate that women students have a great interest in the humanities, and particularly in art. This fact, of course, has been reflected in our estimates of increases in instructional costs. There seems, however, to be no reason for assuming that increased extracurricular use of the Art Museum as a consequence of adding women to the student body would increase the costs of its operation.

Certain miscellaneous capital expenses not covered elsewhere must also be anticipated. Included here are the need for increased campus lighting (\$100,000); parking space for an additional 200 cars consequential on having a larger number of students and faculty (\$50,000); and \$3,000 for various types of security equipment.

Increase in Annual Operating Costs		Miscellaneous Cap- ital Costs	
Prudent	Estimate	\$4,000 6,000	
		Improved campus lighting	\$100,000
		Parking Spaces	50,000
		Security Equipment	3,000
			<hr/> \$153,000

## Auxiliary Services Expenses

### *Residence, Dining, and Social Facilities*

The University's facilities for the housing of students and for their dining and social activities are already fully utilized. It is here, therefore, that the bulk of additional capital cost would come if women were admitted. This is also an area where major policy issues are involved, because the nature of such facilities has a significant effect on the quality and structure of life for all students. Here we can touch only briefly on the impact on student life of the various alternatives; this and related problems must be examined in detail by the Special Committee on Undergraduate Facilities should the decision be taken to admit women.

In analyzing this question, we have considered ourselves bound by certain assumptions, the most important of which are: (1) The space allocation per student within the sleeping quarters should be roughly equivalent to that now provided Princeton students; (2) The architectural and structural qualities of the new buildings should be comparable to those existing on the campus; and (3) The new facilities should be located within walking distance of the academic campus, preferably adjacent to existing men's housing, to provide flexibility in social arrangements.

With respect to this last assumption, as shown on the map below, at least three sites are available for new

student residences: the area between University Place and Alexander Street, the area south of the New-New Quad, and the area adjacent to the Broadmead faculty housing. Each of these sites has certain advantages and disadvantages, but we do not believe that any useful purpose would be served now by our concerning ourselves further with the matter of site selection except to point out the choices and to note that the question of site is not a limiting factor.<sup>13</sup>

Within the limitations set by these assumptions and choice of sites, we have estimated the costs of two quite different types of housing, varying considerably in their probable effects on student life. These, of course, do not by any means exhaust the possibilities, but they seem to us to bracket the range of policy choices. Somewhat to our surprise, the differences in costs (operating deficit and capital) between the two options or plans are well within the margin of error in such estimates, and, therefore, financial considerations do not favor one choice over the other.

Plan I (see Table 4-IX, page 49) is the more traditional proposal. It envisages the addition of space for 1000 students arranged in four "houses" of 250 students each. Each house would have its own dining room and a modest amount of central social space and would be arranged so that groups of approximately 50 would form subunits with local social space. Each house would also have facilities for a few faculty members and graduate students. Groups of two houses would share a common kitchen, a library similar to the Julian Street Library in Wilcox Hall and some common social space for larger activities.

In addition, this proposal, recognizing that the present Student Center is already operating at peak capacity and that the presence of women would increase the demand for such facilities, provides for the first phase of a new Student Center. The immediate need, and the one for which provision is made, would be for a new central snack bar and cafeteria plus additional lounge space. This would replace the present Student Center.

Housing of this sort would offer alternatives to the social life presently centering around the Prospect Street Clubs. Such houses should be designed to allow maximum flexibility in adapting them to the different possible patterns of undergraduate life that might develop over the years. Such dormitories should lend themselves to occupancy by women students, or by men students, or as coceducational residences. Properly conceived, they would be compatible with a variety of different arrangements, both social and intellectual, and would not constrain severely the range of alternatives that policy considerations and changing conditions might favor from time to time.

It would, for example, not be unreasonable to expect that some of the houses might develop certain "themes" or areas of interest (creative arts, international affairs, urban problems, etc.), thus creating new communities within the college. If the architecture were distinctive, it would help give specific form and content to the creation of a distinctive "X College for Women" in Princeton University. This might, among other things, be an attractive feature to potential capital donors, but, we repeat, it would be most unfortunate if arrangements—physical

the main reason is that housing which produces rental income now stands on the University Place site

<sup>13</sup> It should be noted, however, that the costs involved in using the site on University Place would be considerably greater than the costs associated with either of the other sites;

or financial—were made at the outset which precluded other use of these facilities at some time in the future were that to prove desirable.

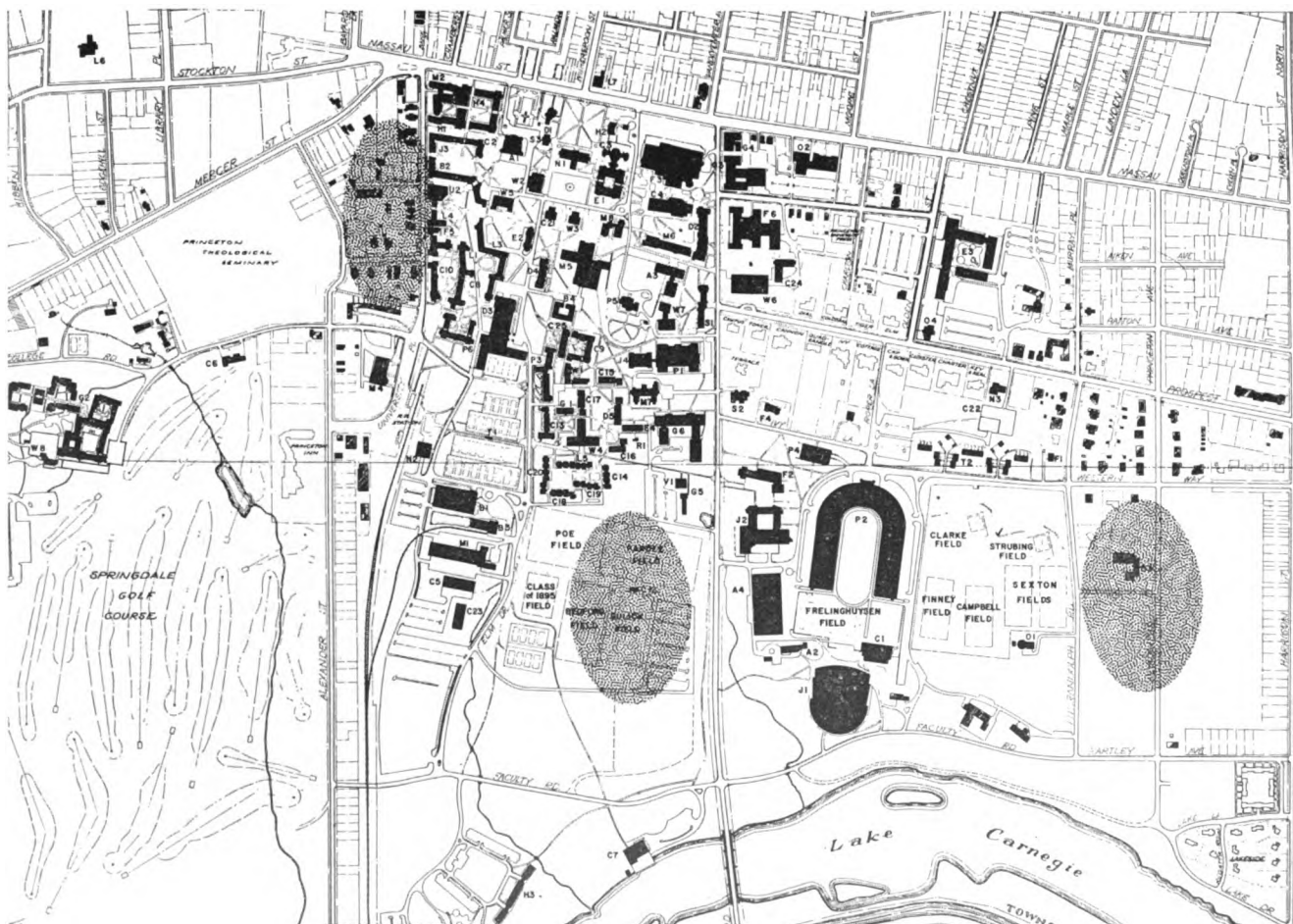
It has been estimated that the total capital cost of these facilities, at July 1968 prices, would be \$17,500,000, divided as follows: \$12,000,000 for the residences; \$4,000,000 for the dining and social and library facilities; and \$1,500,000 for the first phase of the Student Center. As Table 4-IX shows, these cost calculations are based on the assumption that there would be 300 gross square feet of space per student in the residences, at a unit cost of \$40 per square foot. The dining and lounge area for the first phase of the Student Center is estimated to cost \$37.50 per square foot. These figures reflect the high costs of construction in the Princeton area.

We estimate at \$498 the annual operating cost per student for these residences (exclusive of debt service charges but including depreciation in the form of a "contribution to reserves").

We calculate that the food service and plant operating cost of the first phase of the new Student Center would total \$423,000, against which can be applied an estimated income from the cafeteria of \$350,000, leaving an annual operating deficit of \$73,000. This new facility would replace the present Student Center, and a comparably calculated deficit of that operation for 1967-1968 was \$39,500. The difference in deficits, \$33,500, should, therefore, be included in the increase in annual costs resulting from the admission of women.

Plan II (see Table 4-X) envisages the building of a student apartment complex for 1000 students, combined with a much larger Student Center. These apartments would be similar to the new Lawrence Court apartment house for graduate students with cooking facilities in each apartment and little or no common social space. This plans calls for 167 efficiency apartments (for 1 person); 167 one-bedroom apartments (for 2 persons each); and 167 two-bedroom apartments (for 3 persons each). It is assumed the apartments would be assigned to students who requested them, with priority given to seniors, then juniors, etc. One must expect many of these to be requested by men, which means that the underclass, and some upperclass, women would have to be housed in existing facilities vacated by upperclass men who opt for the apartments. Plan II, therefore, also requires the renovation of certain of the existing dormitories to make them suitable for occupancy by women (chiefly the provision of adequate toilet facilities). This plan would also require the building, at the same time, of a *complete* Student Center, including not only the first phase, which we believe would be necessary under Plan I, and is highly desirable even now, but also space for a full range of student activities, probably including open study space that would otherwise have to be provided in Firestone, or in the dormitory libraries included in Plan I.

Plan II anticipates a trend clearly evident on many campuses and one we anticipate will continue: Upperclassmen desire the option of living "off campus," and



POSSIBLE SITES FOR ADDITIONAL STUDENT HOUSING

July, 1968



they desire the freedom and responsibility which go with apartment living.

We estimate, as Table 4-X shows, that at present prices the total cost of these facilities would be \$17,250,000 divided as follows: student apartments, \$12,050,000; renovation of dormitories, \$500,000; and a full Student Center, \$4,700,000.

The annual operating deficit under Plan II, we estimate at \$155,500, \$11,000 more per year than under Plan I. This small difference assumes that the rather large deficit arising from the operation of the second phase of a new Student Center—clearly much needed already on the campus—should properly be allocated among all the undergraduates and not just among additional women. If the total deficit were allocated entirely to women, then, as Table 4-XII shows, the difference in the operating costs of the two plans would be substantial—\$131,000 per year. It should also be noted that the deficit for the Student Center assumes that there would be no special fee for membership in such a Center. It is the practice at many institutions to levy such a fee and it might be found desirable to do so here.

As compared with a charge to the student of \$470 for a dormitory room under Plan I, Plan II assumes an annual charge of \$600 for a single-occupancy efficiency apart-

ment, \$500 per student for a one bedroom double-occupancy apartment and \$480 per student for a triple-occupancy, two bedroom apartment. However, these are low rents and, if raised an average of \$82 per student per year, would remove entirely the apartment deficit, a policy many believe should be followed. As with the dormitories, it is assumed the apartments would be unoccupied during the two summer months and that no real estate taxes would be imposed on them.

These two plans could be combined in various ways. Thus, one might build two "houses" for underclass women, build apartments for 500 rather than 1000 students and renovate a smaller number of rooms in existing dormitories for those upperclass women who do not opt for living in apartments. Such a scheme would likely be more expensive than either of the other alternatives, because it would still require a full Student Center as well as certain social and library facilities in the women's "houses." Still, the differences in capital cost are thought not likely to be great enough to outweigh the non-financial considerations.

In summary, the increase in residence hall and dining hall and cafeteria deficits, and the capital costs of the two plans are as follows:

TABLE 4—IX  
Plan I  
*Residences, Dining and Social Facilities*  
ESTIMATED EXPENSE VS. INCOME PROJECTION  
FOR  
ADDITION OF 1000 UNDERGRADUATE WOMEN  
(Based on 1968 Costs)

	Dormitories	Dining & Social Facilities (Incorporated in Residences)	First Phase of Student Center
Number of Students	1,000	1,000	4,000
Gross Square Feet per Student	300	100	
Total Building Area s/f	300,000	100,000	40,000
Unit Cost Estimate	\$40./sf	\$40./sf	\$37.50/sf
Total Building Cost	\$12,000,000	\$ 4,000,000	\$ 1,500,000
Direct Operating Cost (Physical Plant)	\$225,000 <sup>1</sup>	\$100,000 <sup>1</sup>	\$423,000
Direct Operating Cost (Food Services)	—	720,000	
Additional Security Cost	25,000	—	
Additional Grounds Maint. Cost @ .11/sf	32,000	11,000	
Contribution to Reserves <sup>2</sup>	216,000	72,000	
Total Additional Expense	\$498,000	\$903,000	\$423,000
Per Student Expense	\$498	\$903	—
Present Annual Charge	\$470	\$820	—
Total Additional Income	\$470,000	\$820,000	\$350,000
Deficit, per Student	\$28	\$83	
Total Annual Operating Deficit	\$28,000	\$83,000 <sup>3</sup>	\$73,000 less 39,500 <sup>4</sup> \$33,500 <sup>4</sup>

<sup>1</sup> Includes light, heat, water, janitorial costs and maintenance.

<sup>2</sup> Figure based on current rates for Auxiliary Services and Buildings.

<sup>3</sup> If the design were such that only one kitchen were needed to serve the four dining rooms, a saving of at least \$35,000 per year in labor costs would be achieved as well as a significant cut in equipment and building costs.

<sup>4</sup> This facility would replace the present Student Center cafeteria and lounge, the deficit of which should therefore be deducted from the deficit of the new Student Center in arriving at the change consequential on admitting women.

TABLE 4—X  
Plan II  
Residences, Dining and Social Facilities  
ESTIMATED EXPENSE VS. INCOME PROJECTION FOR  
ADDITION OF 1000 UNDERGRADUATE WOMEN  
(Based on 1968 Costs)

	Apartment	Student Center Phase I	Student Center Phase II	Renovation of Dormitories
Number of Students	1,000	4,000	4,000	
Net Sq. Ft. per Student	260-400			
Total Building Area/sf	470,000	40,000	80,000	
Unit Cost Estimate	\$24./sf	\$37.50/sf	\$40./sf	
Furniture	\$750,000			
Total Building Cost	\$11,300,000			
Total Cost Including Furniture	\$12,050,000	\$1,500,000	\$3,200,000	\$500,000
Direct Operating Cost <sup>1</sup>	\$280,000	\$423,000	\$160,000	0
Indirect Expenses	38,000			
Contribution to Reserves <sup>2</sup>	226,000			
Depreciation of Furniture	50,000			
Total Additional Expense	\$594,000	\$423,000	\$160,000	
Per Student Expense	\$594	—	—	
Projected Average Annual Charge (charge per occupant, 10 month occupancy)	\$512	—	0	
Total Additional Income	\$512,000	\$350,000	0	
Deficit per Student	\$82		\$40 <sup>3</sup>	
Total Annual Operating Deficit	\$82,000	\$33,500 <sup>4</sup>	\$40,000 <sup>3</sup>	0

<sup>1</sup> Includes light, heat, water, janitorial costs and maintenance. Does not include allowance for possible real estate taxes.

<sup>2</sup> Calculated at 2%.

<sup>3</sup> This facility is for the entire University. Therefore, only a pro-rated share is assigned to women.

<sup>4</sup> This facility would replace the present Student Center cafeteria and lounge, the deficit of which (\$39,500 in 1967-68) has therefore been deducted from the deficit of the new Student Center in arriving at the change consequential on admitting women.

#### PLAN I

Annual Operating Deficits	Capital Costs
Residences \$28,000	Dormitories \$12,000,000
Dining Hall 83,000	Dining, Social & Library 4,000,000
New Student Center:	Student Center:
1st Phase 33,500	1st Phase 1,500,000
\$144,500	\$17,500,000

#### PLAN II

Annual Operating Deficits	Capital Costs
Apartment \$82,000	Student Apts. \$12,050,000
New Student Center	Renovating
1st Phase 33,500	Dormitories 500,000
2nd Phase 40,000	Full Student Ctr. 4,700,000
\$155,500	\$17,250,000

### Faculty and Staff Rental Housing

If the present University practice of providing rental housing for approximately 60% of its "permanent" faculty and staff were to be continued, we estimate that the addition of 1000 women undergraduates would create a need for between 45 and 50 additional apartments of the type provided by the Magie Apartment Building. At an estimated average cost of \$30,000 per apartment, the total capital cost would be \$1,500,000. It is assumed that there

would be no operating deficit from such housing, and the Department of Real Estate informs us that such an increase in facilities would not necessitate additional staff in that office.

It is our view that while it is necessary to include this cost in our "feasibility" analysis, additional faculty and staff rental housing should be assigned a very low priority in allocating available capital funds.

### Capital Costs

Faculty and Staff Apartments \$1,500,000

### Student Aid Costs

#### Cash Grants

Cash grants to students are a major current expense of private colleges and universities, especially for those such as Princeton, where costs are relatively high and, as a matter of highest policy, great efforts are made to ensure that students from all socio-economic groups are enrolled. A limited examination of practices at certain private colleges for women on the East Coast indicates that the cash grants made to their students typically are appreciably below the average cash grants made to the male students



in comparable all-male private colleges and institutions. More important, they are well below—typically about one-third below—the current level at Princeton. This reflects the fact that the women's colleges usually have less funds for this purpose than do the men's colleges, and, as a consequence, draw relatively fewer of their students from the lower-income groups.

As far as "need" is concerned, we believe that if Princeton were to admit women and were to follow comparable student recruiting and admissions policies for each sex (a policy we recommend) the cash grant "needs" of women would be as high as those of men. One factor making such "needs" for women less is that, for the nation as a whole, the percentage of girls from lower income families who apply for admission to high-cost colleges is lower than the percentage of boys.<sup>14</sup> However, several factors work to offset this, setting aside for the moment student recruiting practices. It is generally alleged that, in families where there is a great desire for both sons and daughters to go to prestigious colleges, most parents, faced with a choice, tend to be more generous to the son than to the daughter. Secondly, women students, on the average, earn less both during the summer and during the academic year than do men students, because they tend to concentrate on nonmanual-labor tasks such as working in libraries, serving as research aides, etc. These genteel jobs pay less than working on a construction gang or driving trucks or being part-time yard men or serving as bartenders for faculty and town parties and reunions. Thirdly, women students, and their families, are willing to borrow less than men students, and this for two reasons: the negative dowry consideration and the justifiable belief that they will probably earn less than men and so any given amount of borrowing represents a greater proportional charge against future earnings.

All of these considerations lead us to conclude that a nondiscriminatory policy on our campus would call for the granting to women students of a level of cash aid at least equal to that granted to men. At the present time, this would mean an average of \$700 for each matriculated girl student, or a total of \$700,000 per year. However, included in this \$700 are, on the average, some \$165 which students bring with them from such sources as: National Merit Scholarship grants, Federal Educational Opportunity grants, State Scholarship Program grants, etc. There is every reason to assume that, on a per capita basis, women students would bring as much aid with them as do men. This means that each matriculated girl student would need \$585 for a total of \$585,000 from Princeton funds. Even this might need to be increased to take into account the increased tuition to go into effect in September, 1968 and the somewhat higher food charges in prospect. An appropriate safety margin would be included if the amount were assumed to be \$650,000.

We have here a major policy issue for the University. These expenditures can be controlled in ways that many of the others cannot. The amount involved greatly exceeds our estimates of the annual operating deficit consequential on admitting women. Therefore, a cut in this item could make what might appear financially difficult seem rela-

tively easy. There are several choices: (1) An admission policy could be followed which would limit admission to women able and willing, on the average to cover a much larger share of their expenses than we ask of our male students. This seems often to be the actual practice at prestigious universities and colleges. (2) There could be some transfer from men to women of presently available scholarship funds, with a lowering in the average amount of financial aid given to men students. This policy would avoid discrimination as between men and women, but it would necessitate greater discrimination in our admissions policy against students from poorer families.<sup>15</sup> (3) The necessary cash scholarship funds for women in the above-estimated amounts could be taken from general unrestricted funds, with a resulting retrenchment elsewhere in the University. (4) A major effort could be made to obtain special grants—capital and current—for this purpose. Combinations of these are of course possible, and we would favor the energetic pursuit of the last, combined, so long as necessary, with each of the others.

### Loan Funds

If, as we recommend, Princeton were to maintain the same admission policy for women as for men, it could be anticipated that, in addition to the substantial amounts of grant aid, there would be a sizeable demand for loan funds by many women students. Despite their noted reluctance to borrow, we assume that, on the average, each matriculated woman student would borrow \$200 per year—the present level for men undergraduates. Under our present arrangements, this would be repaid in three equal annual installments, beginning in most cases after a student has finished three years of graduate work. Assuming the interest income for such loans were no more than sufficient to cover unpaid loans and the costs of administering the program, we find a capital fund of \$1,400,000 would be needed. Should Federal Government funds be available for student loans, the amount which Princeton would have to make available would be considerably less. For such funds the repayment period is extended from three years to ten years after the student leaves college (presumably graduate school, for most of our students), but the University has to provide only 10% of the capital. If public funds were available, Princeton would have to find from her own resources only something in the neighborhood of \$200,000-\$250,000.

Total current and capital costs for student aid may be summarized as follows:

Increase in Annual Operating Costs		Capital Costs	
Detailed Estimate	\$585,000	If no Federal	
Prudent Estimate	650,000	Program	\$1,400,000
		If Federal	
		Program	250,000

The estimated annual excess of operating costs over current income of between \$215,000 and \$380,000 plus

<sup>14</sup> See C. E. Werts, *Sex Differences in College Attendance*, National Merit Scholarship Corporation, 1966.

<sup>15</sup> Such a transfer of income is feasible because only about

one-third of the presently available endowment income for undergraduate scholarship grants is legally limited to male students.

capital costs of \$24.3 to \$25.7 million are large absolute amounts. But they are surprisingly low when considered as the net costs and investment needed to provide a superb undergraduate education to 1000 women students

and to improve greatly the quality of the education offered our 3200 men students. In these terms, we believe Princeton today has the opportunity to make an extraordinarily good educational investment.

## SUMMARY AND CONCLUSIONS

A YEAR ago we were asked: "Is it desirable and feasible for Princeton to enter significantly into the education of women at the undergraduate level?"

We have become convinced that the answer to the desirability question is clear: Princeton would be a better university if women were admitted to the undergraduate college. Our studies also show that the fiscal obstacles, although considerable, are far less than we had supposed, and we judge it feasible to overcome them.

This is a momentous issue for Princeton; the most important question the University as a community has faced for many decades. Nationally, Princeton's response may well determine her ability to remain in the front rank of American educational institutions. Internally, no part of the University will remain unaffected. An affirmative decision would be comparable in its pervasiveness to the series of decisions that were taken in the early 1920s to enlarge the undergraduate body and in the years following World War II to expand the Graduate School and the role of research in the University's program.

We believe that for Princeton to remain an all-male institution in the face of today's evolving social system would be out of keeping with her past willingness to change with the times; it would be to go back on her tradition of seizing every opportunity to improve the quality and relevance of the education she provides. In our opinion it would also mean that within a decade, if not sooner, Princeton's competitive position for students, for faculty, and for financial support, would be less strong than it now is. The issue, then, is crucial to Princeton's future.

Princeton is confronted with the challenge of adapting herself to fundamental changes in secondary education and in the nation's values and mores. For familiar reasons, women are rapidly assuming all the rights and obligations that their many talents—including powerful intellectual ones—warrant. At the same time, talented young people of both sexes today have reached a level of academic and intellectual accomplishment, by the time they have finished secondary school, that makes most of them altogether unwilling to continue their education under conditions which seem to them to be a protected passage from childhood and adulthood. Segregation of the sexes was fully consistent with our social institutions only a generation ago; but now, in the late 1960s, it is, quite simply, seen as anachronistic by most college students.

Supported by a great many educators, they believe that the undergraduate years, whose purpose is to foster intellectual growth and activity, must, above all, provide them with the place and the occasion to explore, to observe, to discuss—and to debate such fundamental questions as how to act, how to work, what to believe, and what to value. An essential element in this is the means of learning how men have behaved, what they have done, and what they have believed, and why, in other times and

places. Equally essential to the most able students are means of learning from each other. Increasingly, this means learning from persons who have different combinations of qualities—intellectual, emotional, and social. It means probing and testing against other minds which respond differently. It means that men do not merely discuss problems with men of different backgrounds, but with women as well—and in a milieu in which such discussions occur spontaneously and naturally.

Because the consequences for the University's future are so great, we searched in many places for answers to the question of how admitting women would affect Princeton. We became convinced that in many aspects of the University that are concerned with heightening the quality of the educational experience, a mixed student body would be superior to an all-male one.

Men and women do differ. Our long study of desirability and feasibility of bringing women students to Princeton has convinced us that because they differ, the educational process is vastly improved when they share it. For Princeton's purposes it does not matter to what extent these differences result from inborn characteristics or from culturally imposed patterns; the consequence is the same: man and woman have much to learn from one another as each in his own way seeks to give shape to his life while making formal academic preparation for it.

Men and women bring different approaches, different angles of vision, different viewpoints to many subject matters; bringing them together in the classroom improves the education of both. A not unimportant benefit is that unsupportable biases based on sex differences are more quickly exposed and abandoned.

The evidence is clear that an overwhelming majority of the most able persons in the age group 18-22 strongly prefers to share the undergraduate educational experience with members of the opposite sex. This desire on the part of Princeton's prospective students is so great that it casts serious doubt on the ability of an all-male Princeton to continue to attract students in anything like the numbers and quality characteristic of present and recent classes. A university is a delicately balanced organism made up of many parts: faculty, students, trustees, alumni, administration and friends. But few who know its inner workings would deny that the talents and aspirations of its students set stringent limits on a university's educational performance.

Many persons believe that the presence of the opposite sex on campus distracts students from the essential business of a university. We could find virtually no evidence that the amount of time students spend on social activities (in the recreational sense) is likely to be greater in a coeducational environment than in an all-male or all-female one, *provided* the students, and the university, are themselves serious about education. The notion that a coeducational Princeton would be simply a husband-hunting ground for many of the women, and a source of social and sexual convenience for the men, simply does not

stand up under examination. The record at other institutions having admission standards and academic requirements and opportunities comparable with Princeton's makes amply clear that the women students yield nothing to the men in the seriousness of their educational purposes or their motivations.

At Princeton one would confidently expect the women to do as well academically as the men—perhaps better, in view of the greater selectivity that would be operative; to be as active in all organized extracurricular activities; and probably to have an even lower drop-out rate than our men. Careful study leaves no doubt that the able young woman of today, no less than the able young man, sees education as a preparation for a life of enlightened creativity and accomplishment. And we believe one of the more important results of shared curricular and extracurricular pursuits in a highly intellectual academic community such as Princeton would be the recognition by the men of the intellectual interests and capability of the women students and the importance of these interests in the men's lives.

Our studies persuaded us of further beneficial influences which one could expect women in the student body to have on the educational experience. Because women seek somewhat different careers, and have somewhat different interests, they tend to distribute themselves among courses and departments differently from the way men students do. The result would be some shift in the educational profile of the University toward the humanities and arts and away from engineering and the pure sciences. A very substantial number of our present faculty view this shift in emphasis as desirable. Moreover, it became clear also, as our work progressed, that the admission of women would have beneficial, if marginal, effects on the ability of Princeton to recruit new faculty—especially younger faculty, on whom so much of the burden for teaching and innovation rests in any major university.

Today's able young women are playing and will continue to play an increasingly important role in the economic and political life of the country. The percentage of college-educated women who are working is already very high and in recent years they have been working at steadily rising levels of responsibility. Consequently, we believe Princeton would forego a great opportunity for service were she to continue to exclude women from regular places in the undergraduate college.

There is also a more general question: Can this University, being a national institution, continue to justify denying educational opportunities to any person because of race, creed, or sex? We think not.

Many Princetonians have expressed concern to us that the admission of women would mean either a reduction in the number of men admitted, or a detrimental increase in the size of the College. But for many reasons, including our belief that Princeton should be responsive to at least some extent to the national need for more student places, we do not favor reducing the number of men students. We favor admitting 1000 women in addition to the present number of men and we see no evidence that this would have serious undesirable consequences. Indeed, in certain respects it would strengthen the University. And in general, we believe the many benefits of admitting women would be a handsome trade-off for such unwanted results as would follow from a moderate increase in size.

There is no "perfect" size for a college or university. Each generation tends to believe that the size of the institution in its own time was just right. The optimum size depends on what a university wishes to be and to do. We note that at Princeton, the number of students, undergraduates plus graduates, has more than doubled since 1920. Though part of Princeton's former intimacy was lost by that growth, few would question that her survival as an institution of distinction and leadership was among the gains. Increasing the present size of Princeton can have important effects in two areas: the residential concept, and the size of classes, preceptorials and lectures.

As to the first, student life is based on smaller groups than an entire class and on shared intellectual, cultural, athletic or social interests. We believe that the various new foci of interest that would be created, and the new social and cultural arrangements that would result from admission of women students, would provide more opportunities for the sorts of groupings which are already emerging and which are most meaningful to the students themselves. As to the size of classes and precepts, in our estimates of costs we have assumed that all instructional units, save lectures, would remain at sizes currently regarded as educationally advantageous.

We have given much study to the question of the number of women Princeton should admit, and it is our conclusion that it should be not less than 25 percent of the undergraduate body. It is, of course, possible to have a smaller percentage, as has been demonstrated by at least one prestigious university, M.I.T. But we found special reasons for M.I.T.'s success which do not exist at Princeton. The experience of those colleges and universities which are more comparable to us in curriculum and general purposes has been that to have less than 25 percent is to give the institution substantially less than the full measure of the many educational benefits of having both men and women undergraduate students.

Having concluded that Princeton should enter into the education of women, and that the number of women should not be less than 1000, we had next to consider where along the spectrum between complete coordinate education (a separate institution with its own facilities, faculty, staff, and curriculum) and full coeducation (integrated in one campus) it would be desirable for Princeton to settle. There are some strong arguments for a substantial degree of separateness, but we found that, on balance, the advantages are on the side of coeducation. There are two main reasons: (1) Reaping the advantages of a mixed student body dictates a considerable amount of sharing of facilities and classes; and (2) economic factors push powerfully in the direction of coeducation.

We recommend, therefore, that if women are admitted, it be on the basis of one administration, one faculty, one degree, one set of administrative offices, and that the additional housing and social facilities be so constructed as to facilitate integrated social and cultural activities.

It is important to emphasize that a high degree of unification and integration does not preclude the development of some new courses or programs responsive to the special needs of men or of women, or the creation or maintenance of some social facilities essentially limited to one sex. It most emphatically does not relieve the Uni-

versity faculty and administration of the obligation to be as concerned with the education of women as of men.

Many desirable things are not feasible because they cost too much, and a great deal of time and effort was therefore given to estimating the capital costs and the effects on the University's operating budget of adding 1000 undergraduate women to the present student body, on a coeducational basis. Our central conclusions are: (1) at present levels of cost and tuition, the additional annual expenses would exceed the additional annual income by between \$215,000 and \$380,000; and (2) the capital costs, again at present prices, would be between \$24.2 and \$25.7 million.

These are large figures, but they are surprisingly low when compared with preliminary "off the cuff" estimates. Hence, although they include provisions for safety factors plus a significant allowance for general contingencies, they may strain the credulity of those acquainted with the finances of education at Princeton. On a per student basis, they are far below both the present average annual operating costs and the capital investment. The explanation is that at this point in Princeton's history the addition of 1000 undergraduate women could be accomplished to a considerable extent by sharing present faculty and other resources.

This opportunity exists in mid-1968; it may not exist to the same degree five years from now because of other forms of expansion within the University that may take place. It exists now as a result of several interrelated considerations. First, the very large recent growth in the graduate program has inevitably meant that, at various places in the University, an educational capacity has been created which is not now fully used, some of which could be applied to an increased undergraduate body. A university of Princeton's size which is successful in keeping up with the growth of knowledge and which attempts as a matter of high policy to provide its graduate and undergraduate students with an extensive range of educational opportunities must create *some* departments which have capacity greater than is required for the present student body. More generally, the current very high cost of educating a Princeton undergraduate is owing in part to the fact that he benefits from, and carries some of the costs of, our maintaining a faculty committed to the advancement of knowledge and to the education of graduate students

as well as undergraduates. To achieve impressive educational benefits of this kind, a certain "critical mass" of senior faculty is needed in each department. Once this has been reached, in some departments considerably more undergraduate students can benefit from the presence of more or less the same senior faculty and graduate student populations. Finally, as all those acquainted with Princeton know, the new physical facilities built in the past decade provide at this time some planned room for growth.

This deficit and these costs are large absolute amounts. But, they are very low when one considers them as the operating costs and investment needed to provide a superb undergraduate education to 1000 women students and greatly to improve the quality of the education offered our 3200 men students. Seen in these terms, Princeton today has the opportunity to make an extraordinarily good educational investment. Indeed, we believe it has an obligation to do so.

We conclude that the quality of the educational experience at Princeton would be greatly enriched if women were admitted, that to achieve these benefits in full measure an undergraduate body including not less than 1000 women is desirable, and that the arrangements should be coeducational rather than coordinate. For reasons peculiar to Princeton's present situation, the operating and the capital costs at this time of such an increase in the number of students are surprisingly reasonable.

We strongly urge that the decision be taken to admit women on this basis and in these numbers and that the transitional period be as short as an energetic program for providing the necessary financing permits.

## APPENDIX

Note: The statistical appendices which accompany this Report are voluminous. In the interest of space, these appendices are not printed here. Much of the information in them has been summarized in the text, and a limited number of copies are available in mimeographed form. Requests should be addressed to: Director of Public Information, Stanhope Hall, Princeton University, Princeton, New Jersey.

## STATEMENT OF THE FACULTY-ADMINISTRATION COMMITTEE

As indicated in the Preface, the task of the Faculty-Administration Committee appointed by President Goheen in July 1967 was to advise and consult with Professor Patterson, rather than to participate directly in the research and the writing of his report. The Committee met throughout the academic year, reviewed drafts of all the chapters and discussed them thoroughly with Professor Patterson. The final report reflects many of our suggestions, although certainly not all, since no large group of people could be expected to be of one mind on every element of so complex an issue as the education of women at Princeton.

The result of the past year's work, in the view of the Committee, is an impressive document. Without question, this report is the most intensive and sophisticated analysis of the question of coeducation undertaken by anyone to date. Every important aspect of the problem was considered, many authorities in the field were consulted, extensive field research was undertaken, and a painstaking analysis was made of the current operations of the University to illuminate the crucial question of feasibility. With a report of such high professional quality in hand, the University can proceed with confidence to the next step, that of deciding whether coeducation is desirable and feasible.

For all members of the Committee except one,\* the

\* Arthur J. Horton '42, Director of Development, joins other members of the Committee in commending the quality of the report, but he does not agree with its conclusions. His statement follows.

### STATEMENT OF MR. HORTON

I FIND myself unable to join the other members of the Faculty-Administration Advisory Committee in enthusiastically endorsing the conclusions put forth in the Report prepared by Professor Gardner Patterson on the subject of the education of women at Princeton. Despite the overwhelming quantity of data collected and reported in this study, I am in rather fundamental disagreement with the conclusions reached.

I believe, as a matter of principle, in studying an issue of this magnitude with the fullest presentation of as many sides of the question as possible. Therefore, I record my views for consideration. I have appreciated the opportunity to serve as a member of Professor Patterson's Advisory Committee, which has permitted me to participate in discussions and to bring up points of view that I felt needed consideration. I recognize that reasonable people, particularly in a matter as complex as this one, may draw differing conclusions from the evidence available, and I am sure that Professor Patterson and the other members of his Advisory Committee have also tried to arrive at their conclusions thoughtfully and judiciously.

I would like to emphasize that I am neither against the educating of women nor against coeducation, *per se*. What I do take exception to is the further education of women at Princeton University, specifically at the undergraduate level, given our University's particular set of characteristics. And if Princeton were to take over the task

answers to the questions of desirability and feasibility are emphatically affirmative. We heartily endorse the findings and recommendations of the Patterson Report. On educational grounds, the case for coeducation is overwhelming; and there is no more important basis on which a University can make a decision. From our perspective, the benefits far outweigh the costs, substantial as the latter are. Moreover, we welcome the opportunities that coeducation would provide for further improvements in the educational program, in social arrangements, and in other aspects of University life.

We urge the University to make an affirmative decision on a program for the education of women at Princeton along the lines recommended by Professor Patterson in his report. In our view, the University should do this as quickly as possible, since delay will only increase the costs of coeducation and postpone its benefits to the University as a whole.

William G. Bowen \*58, Professor of Economics and Provost

Thomas R. Carver, Professor of Physics

Michael N. Danielson \*62, Associate Professor of Politics and Public Affairs

E. D. H. Johnson '34, Professor of English

William D'O. Lippincott '41, Executive Director, Alumni Council

John P. Moran '51, General Manager, Department of Planning, Plant and Properties

Thomas M. Scanlon, Jr., Assistant Professor of Philosophy

Edward D. Sullivan, Professor of French and Dean of the College

of educating 1,000 women, I believe that some form of coordinate—rather than a coeducational—arrangement would permit her to retain more of her present identity, although the costs would be higher.

I recognize that the education of women is important, but it is being carried on—in various ways by other institutions—and does not seem to approach, on my scale of Princeton priorities, the urgency or importance of some of the many things the University is trying to do well at the present time. Princeton's resources are already strained to sustain the momentum of her programs of teaching and research. Many of these programs are of crucial significance today relating, as they do, to the training of leaders and in many cases to subjects which involve problems of racial unrest, poverty, deterioration in the cities, man and his environment, etc. In my opinion these efforts should not be cut back, and I have yet to see the evidence that would indicate that the high cost of undertaking something new, with which Princeton is unfamiliar and inexperienced—the education of women—can be financed without diverting the funds required and now being sought for existing needs.

The Report indicates that the cost of educating women at the undergraduate level would have a limiting effect on the status of many existing programs. Estimates given in the Report have been achieved by using a considerable amount of Princeton's available "flexibility" (i.e., in terms of facilities and faculty time) which—again as the Report makes clear—would make subsequent expansions and im-

dertakings very costly. The estimates for computing these costs are necessarily based on assumptions, but some of these could, for various reasons, be negated rather suddenly by factors that would increase cost estimates, such as, the uncertainties inherent in the admissions actualities (students may not choose the departments and courses where the openings exist), the effect of student pressures (they may become interested in a different type of dormitory arrangement than that selected), and the economy could be hit hard by inflation—just to cite three examples.

Unless Princeton's alumni and friends clearly understand how essential it is that our existing long-range commitments be supported *as well as* the cost of educating 1,000 additional students, I fear that approval of the Patterson recommendation would have a damaging effect on our overall fund-raising efforts. It is true that we might discover some new friends, but run the risk of disenchanting old friends who have helped to make Princeton what she is today, if we over-extend our demands upon them. In these days of keen competition for the philanthropic dollar, I view these uncertainties with concern.

In my judgment, Princeton has a dynamism which should not be altered except with great care. There is educational strength in her programs of independent work, in the residential campus setting, in her system of precepts and seminars . . . these are among the things that make attending Princeton an experience which is unique.

In short, I worry about the likelihood of disturbing the balanced program which is now working so effectively; will not a 30% increase in the undergraduate body soon dilute the very core of what we cherish? Faculty assurances notwithstanding, can these same faculty members long maintain the pace which a heavier teaching load and continuance of the precept-seminar concept would impose?

In the area of alumni relations, many have tried to describe in finite terms the charisma which is Princeton. Most alumni know it exists; others, including administrators at other institutions, envy Princeton's extraordinary relationship with her alumni. We see it at work in the wonderful response to Annual Giving; it contributes to successful reunions, attendance at class dinners and football games, and to valuable work for the Admissions Office and for capital gift programs.

Although the Report suggests that student life is now

based on smaller groups than an entire class, I do not believe that class spirit is waning at Princeton. And I believe we should do everything we can to sustain class cohesion. I cannot see what the addition of 250 women per class will do to help this. In fact, I fear that there will be alumni who, liking the University as an all-male institution, could lose much of their present ardor; and as a result, the charisma which has distinguished Princeton, indeed placed her in an enviable position, could be dissipated, undermining one of her great assets.

I have several other concerns which I will put in the form of questions. Are we proposing this because coeducation is a currently popular trend, because "everyone else is doing it"? Why is there such a sense of urgency in making a decision of this magnitude and importance? What evidence is there that the end product of a coeducational system is better than that of an all-male or all-female institution? Is Princeton being realistic about her limitations and her mission, or is she trying to be "all things to all people"? How can we laud her present "smallness" one day and project plans to increase the size of her undergraduate body by 30% the next? Can we really argue that we are not getting the best applicants when over 46% of our senior class graduated last June with Honors, when the athletic teams do so well, and when we compete in many, many areas with such success? Are the classroom contributions of women truthfully going to present *valuable* points of view, or are they not simply going to be *additional* points of view (achieved by the fact that there are additional persons involved)? What will be the impact of 1,000 women—and the additional faculty and staff members brought to the campus because of them—mean to our relations with the town of Princeton, with local residents and government officials, in terms of housing, traffic congestion, police, etc.?

As someone else has said, I have added it all up and have come out with a different answer. Nevertheless, the real challenge, once the Trustees have weighed the issues and made their decision one way or the other, is for all Princetonians to endorse that decision with their traditional spirit, effort, and support, so that Princeton University will continue to be a great center of teaching, learning and research in which all her students and alumni can take pride.

Respectfully,

ARTHUR J. HORTON '42, Director of Development

