

DEPARTMENT OF THE INTERIOR
BUREAU OF EDUCATION

BULLETIN, 1918, No. 6

THE CURRICULUM OF THE
WOMAN'S COLLEGE

BY

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WASHINGTON
GOVERNMENT PRINTING OFFICE
1918

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LETTER OF TRANSMITTAL.

DEPARTMENT OF THE INTERIOR,
BUREAU OF EDUCATION,
Washington

SIR: Within the last 25 years the curricula of colleges of arts and sciences have undergone large transformations. A revolution has been wrought in education theory in the same period. The social philosophy of the United States has also been profoundly modified. In a very general way the changes in college curricula have followed these movements; but so rapid have been the developments, both of educational theory and of social philosophy, that higher institutions have as yet been unable to adjust themselves perfectly to the new demands made upon them. There is disagreement among college officers as to the present aim of the college of arts and sciences. There is consequently disagreement as to the principles which should govern the framing of collegiate curricula. This is plainly to be read in the wide variations of existing curricula.

To aid in clearing up this confusion in the field of higher education there is urgent need of a series of studies which will accurately define the present status of different types of collegiate curricula, which will follow their evolution, and will explain the educational purposes of those who are responsible for them. The Bureau of Education has projected such a series. The first of these studies, entitled "The Curriculum of the Woman's College," has been prepared by Dr. Habel Louise Robinson. I transmit it herewith and recommend that it be printed as a bulletin of the Bureau of Education.

Respectfully submitted.

P. P. CLAXTON,
Commissioner.

THE SECRETARY OF THE INTERIOR.

THE CURRICULUM OF THE WOMAN'S COLLEGE.

I.—THE DEVELOPMENT OF THE CURRICULUM.

The modern college for women, evolving by rapid growth from recent simple beginnings to its present highly complex state, is unquestionably still in the process of development. A glance over the changes already accomplished brings conviction that the present situation is but a stage in the life history of a virile institution. That present condition is explicable only by a knowledge of its beginnings. The conception by the founder, the inheritance of his ideals, the impress of early traditions, and the effect of the immediate environment have served inevitably to produce variation. One woman's college differs from another in the courses which it offers its students, in the emphasis which it places upon values, in characteristics academic and social, because of certain elements which brought it into existence and certain factors which have been at work on it ever since. That the variation is on the whole comparatively slight points toward an integrity of purpose highly creditable to the protagonists of education for women.

A study of the modern curriculum should, then, receive illumination by a knowledge of the early curriculum, its reason for being, and the modifications and adaptations which have attended its growth during its struggle for existence. If history has one function, it is to interpret the present by the past. If the present is to become significant as a signpost to the future, such an interpretation is essential.

The colleges upon whose curricula the following study is based were chosen as fair samples of the varieties of modern colleges for the education of women: Vassar College, "the oldest of the well-equipped and amply endowed colleges for women in the United States,"¹ and Wellesley College, closely paralleling it in age and rapidity of development; Radcliffe College, a pioneer in establishing a college wherein women, without coeducation, could receive instruction from a university for men, and Barnard College with a like affiliation with a men's university; Mount Holyoke, the most important college which developed from seminary beginnings.

¹ *Cyclopedia of Education*. Edited by Paul Monroe, p. 700.

VASSAR COLLEGE.

When Matthew Vassar founded Vassar College in 1865, he felt himself able to cope with most of the obstacles and difficulties connected with such an undertaking, with the exception of the curriculum. "For methods of procedure he relied upon others, especially upon the board of gentlemen whom he had selected to be his counsellors and the ultimate depositories of the trust." "In relation to matters literary and professional," said he, in one of his early addresses to the board, "I can not claim any knowledge, and I decline all responsibility. I shall leave such questions to your superior wisdom."¹

For years he had been interested in the education of woman, his attention, as he maintained, having been especially directed to it by his niece, Lydia Booth, who conducted a seminary for young ladies in Poughkeepsie.² Her influence was, in reality, probably very slight.³ From Milo P. Jewett, the first president, came not only the scheme of founding a college for women, but most of the ideas incorporated in its development.⁴ That Mr. Vassar gave no more credit to Dr. Jewett is due to the unfortunate misunderstanding which later separated the two men.⁵ It is probable that Dr. Jewett's influence colors the general views of a curriculum which Mr. Vassar turned over to his trustees at their first meeting, February 26, 1861. The founder outlines his conception of a curriculum in the following statement:

I wish that the Course of Study should embrace, at least, the following particulars: The English Language and its Literature; other Modern Languages; the Ancient Classics, so far as may be demanded by the spirit of the times; the Mathematics, to such an extent as may be deemed advisable; all the branches of Natural Science, with full apparatus, cabinets, collections, and conservatories for visible illustration; Physiology, and Hygiene, with practical ref.

¹ Vassar College, its Foundation, Aims, Resources, and Course of Study. By John Raymond, President of College, May, 1873.

² "It is the truth to say that my great interest on the subject of female education was awakened not less than 20 years ago by an intimate female friend and relative, now deceased, who conducted a seminary of long standing and character in this city."—Communications to the board of trustees of Vassar College. By its founder, Feb. 23, 1864.

³ "Miss Booth had died and Mr. Vassar's will had been made without any reference to the educational project. Then in 1855 Dr. Jewett appears upon the scene."—James Monroe Taylor: Before Vassar Opened, p. 88.

⁴ "Milo P. Jewett deserves the credit of originating in Mr. Vassar's mind the impulse and conviction which resulted in Vassar College. He not only nurtured the seed—he planted it. He wrote out the descriptions of what a college should be for Mr. Vassar's quiet reading, met his shrewd objections, encouraged his liberal views of women's powers and opportunities, led him to make his will founding the college, then encouraged and vivified Mr. Vassar's earlier purpose to realize his aims in his lifetime, sketched plans with him of buildings, grounds, equipment, curriculum, urged him to form his board of trustees, and then, a culminating stroke, induced him to place the funds in its hands."—Ibid., p. 198.

⁵ "When Jewett's influence had waned and the feeling against him was taking shape, it was natural for Mr. Vassar to lose sight of his early indebtedness to him and to look back to his earlier associations with his niece." Ibid., p. 190.

erence to the laws of the health of the sex; Intellectual Philosophy; the elements of Political Economy; some knowledge of the Federal and State Constitutions and Laws; Moral Science, particularly as bearing on the filial, conjugal, and parental relations; Aesthetics, as treating of the beautiful in Nature and Art, and to be illustrated by an extensive Gallery of Art; Domestic Economy, practically taught, so far as is possible, in order to prepare the graduates readily to become skillful housekeepers; last, and most important of all, the daily systematic Reading and Study of the Holy Scriptures, as the only and all-sufficient Rule of Christian faith and practice.¹

Convinced then of the inadequacy of the prevailing female education and of the desirability of offering women the same advantages as men, and realizing himself unequipped to deal with the formation of a detailed curriculum, Matthew Vassar left his better qualified trustees free to devise a course which should fulfill the requirement of a liberal education for women. One stipulation only he made, "that the educational standard should be high, * * * higher than that usually recognized in schools for young women. The attempt you are to aid me in making," he said, "fails wholly of its point if it be not in advance, and a decided advance. I wish to give one sex all the advantages too long monopolized by the other."²

When the trustees of Vassar College took up their task of creating its curriculum, a number of sources were already available in the United States from which they could have found suggestions and the results of experience. Before 1830, Catherine Beecher and Emma Willard had established schools for girls, the latter offering "collegiate education." Mary Lyon had opened Mount Holyoke Seminary in 1837. Oberlin College, since 1833, and Antioch since 1853, had been coeducational. Elmira College, though its development was checked by the Civil War, received its charter as a woman's college 10 years before Vassar opened.³

From any or from all these sources the trustees may have sought and obtained aid. To make definite statement of any such influence on the curriculum of Vassar is, however, impossible, since no record of any particular investigation appears in their reports.

In 1861, Milo P. Jewett, who was a graduate of Dartmouth and of Andover, and had conducted for years the Judson Female Insti-

¹ Proceedings of the trustees of Vassar College, 1861, p. 15.

² Vassar College, Its Foundations, Aims, Resources, and Course of Study. By John Raymond, president of college, 1878.

³ Wesleyan Female College, Macon, Ga., at first called Georgia Female College, claims to be "the oldest regularly chartered institution for conferring degrees upon women in America if not in the entire world."

"Dr. Lillian Johnson said in 1908 that there were 55 colleges in the South before Vassar, though no word regarding degrees excepting the institution at Macon. The need of qualifying this has been pointed out, and the survey of the whole field must leave on our minds the conviction that there was very little collegiate education of women in the South before the war, judged by the standards of the better colleges of that day."

"There was effort, occasional large vision, widespread interest in a general seminary education, but seldom high standards and the public opinion that would sustain them."—James Monte Taylor, *Before Vassar Opened*, p. 27.

tute in Alabama, was chosen president of Vassar. Dr. Jewett spent a year studying the schools and colleges of the United States and devising plans for a course of study. At the end of that time, February 25, 1862, we find in the minutes of the meeting of the trustees the following:

Whereas the president of the college has asked leave of absence for the purpose of studying the systems of female education prevailing in the most enlightened countries of Europe, and with the view of otherwise advancing the interests of the college: Therefore

Resolved: That the request of the president be granted.

Resolved, further, That the president be requested, during his visit to Europe, to prepare a general and statistical report on the systems of female instruction prevailing abroad, comparing them with those adopted here, and suggesting to the board for their adoption such results as seem to him worthy of their attention¹ to guide them in their preparation of a course of instruction.²

Dr. Jewett embarked on his enterprise more at the instigation of the founder than because he expected to gain much enlightenment from Europe,³ but his report on his return shows that he did not go unaware of the conditions in the United States.

Before I left home, I took 20 catalogues of prominent female seminaries in this State and New England, and had them bound in a handsome octavo volume, and lettered "Female Seminaries, U. S. A." Obtaining the requisite official documents from the commissioners at Albany, I forwarded the volume to the United States commissioner for the exhibition. It was placed with other books in the United States department, as a valuable contribution on the subject of female education in this country. When the exhibition closed, I presented it to the library of the educational department of the Kensington Museum. * * * In stating the results of my observation on the education of young ladies abroad, it is an obvious reflection that, there is but a remote resemblance between European and American systems.⁴

Upon his return to the United States he set to work to prepare the curriculum for the new college, doing most of the work himself, as he says the distinguished gentlemen of his committee were too closely absorbed in their own business to assist him "except by their invaluable suggestions and counsels."⁵

The plan which Dr. Jewett finally presented was a university scheme which, though radically different from the general plan of the northern college, rather closely followed that of the University of Virginia, as well as the practice in other southern colleges and even seminaries.⁶ Perhaps, because of the bitter feeling between

¹ The President's Visit to Europe.

² Taylor, James Monroe: Before Vassar Opened.

³ The President's Visit to Europe. 1863.

⁴ "There would be a series of schools; thus of languages, of mathematics, history, and political economy, etc., and elections among them. Teaching would be without text-books and the examinations would be written, and the completion of a definite number of schools would entitle the student to a diploma and to the degree of the college, M. A. (as at the University of Virginia)."—James Monroe Taylor: Before Vassar Opened.

the North and South which made him wary about appreciation of southern institutions, perhaps because he wished to please the founder by showing the European trip of some use. Dr. Jewett attributed his university system to Europe. The plan was never tried, however, because as a result of the pernicious influence of Charles A. Raymond, Dr. Jewett resigned in 1864. He was succeeded by John Howard Raymond, a member of the board of trustees and a scholarly, experienced teacher.

The preparation of the new curriculum resolved itself into the following points of departure: (1) The necessity of a complete domestic system functioning like that of a well-ordered family; (2) a liberal course of study strictly collegiate; (3) the entire plan in no way a servile copy of existing models;¹ (4) an arrangement avowedly tentative, ready for modification according to public demand or private experience. It was published as a prospectus in 1865.

The general scheme of education was formulated under the following heads:

Physical education was "placed first, not as first in intrinsic importance, but as fundamental to all the rest." It was provided by sanitary regulations, by regular instruction in physiology and hygiene, by a special school of physical training, and by as much outdoor study as possible—on the whole a complete and modern plan.

The intellectual or liberal education offered a regular course of study covering four years. The prospectus aimed to make the course similar to that of men's colleges, with sufficient allowance for difference in sex. It also attempted, unlike ladies' seminaries, to limit the work offered to an amount which could actually be accomplished, and it explained that the courses required of all were those of universal importance, especially for purposes of discipline.

A regular four years' college course was offered. The trustees proposed to submit to a fair trial the question whether the young ladies would be willing to spend this length of time in study after reaching their sixteenth year; i. e., whether they really wanted a liberal education. The prospectus stated distinctly that in the selection of the studies and the extent to which they are actually carried the ordinary college curriculum would furnish a general guide, the intellectual faculties of men and women being essentially similar.

It is interesting to note in the curricula of the early years of colleges for women the provision and allowance made for women who, because of deficiencies of early education, mature years, or peculiar needs, wished to enter as special students. Little by little, as regular students crowded the college, the welcome was withdrawn from the

¹ Vassar College, Its Foundation, Aims, Resources, and Course of Study, pp. 18-20.

specials, but meantime many women, especially teachers, were benefited.

The curriculum presented in the prospectus offered work in the following departments: English language, rhetoric, and belles-lettres; languages, mathematics, natural philosophy, and chemistry; astronomy; natural history; hygiene, history, and political economy; philosophy; art. The content of the work was practically the same that was incorporated into the more definitely formulated plan of two years later.

The next head elaborated in the general scheme of education was moral and religious education. This was to be subject to the parent and free from sectarianism. The organized means were the president's instruction in moral philosophy and evidences of Christianity, by daily chapel service, Sunday church attendance, Bible classes, prayer meetings, and missionary and charitable associations.

Domestic education was to be conducted by a theoretical course in domestic economy practically illustrated by the workings of the college, and by regular hours of sewing under competent teachers.

Social education was to be encouraged by: (1) Reading and kindred arts, (2) conservation, (3) music, (4) arts of design, (5) composition, and (6) soirées, receptions, entertainments, etc.

Lastly, professional education was provided for by courses in teaching, in telegraphing—“a particularly feminine employment”—phonographic reporting, and bookkeeping.

Here was a plan which offered instruction in all collegiate branches, but prescribed no uniform arrangement of them. The entering students presented such inadequate preparation that complete elasticity in the curriculum was essential. Time was necessary to evolve a system.

The catalogue of 1867-68 exhibits a plan in which two courses, the classical and the scientific, are outlined. The work is prescribed for the first two years, but in the junior and senior years three electives are permitted. With open-minded tolerance the catalogue points out that “various opinions are held as to the comparative value and dignity of these two methods,” and that it offers the opportunity of a fair trial to both. The aim of the classical course is “subjective culture and discipline,” that of the scientific course “outward practical utility.” A glance down the two parallel columns following shows the studies in which this differentiation of goal is based:

FRESHMAN.

Classical.	Scientific.
Latin.....	Same.
Mathematics.....	Same.
English.....	Same.
Greek.....	French.
	Botany - 2d semester.

SOPHOMORE.

Classical.	Scientific.
English.....	Same.
Mathematics, 1st semester.....	Same.
Greek.....	French.
Latin, 2d semester.....	German, 2d semester.
Natural history, 2d semester.....	Geology and mineralogy, 2d semester.
	Zoology, 2d semester.

JUNIOR.

English.....	Same.
Natural philosophy.....	Same.
French.....	Same.
Latin, 1st semester.....	
Greek, 2d semester.....	German.
Logic and political economy.....	Astronomy.
Mathematics, 2d semester.....	Physical geography, 1st semester.

SENIOR.

First Semester.

Intellectual philosophy.....	Same.
Anatomy.....	Same.
Chemistry.....	Same.
Astronomy.....	Same.
German.....	Same.
Italian.....	Same.
Latin.....	Logic and political economy.

Second Semester.

Physiology.....	Same.
Moral philosophy.....	Same.
Astronomy.....	Same.
Criticism.....	Same.
German.....	Same.
Italian.....	Same.
Greek.....	French.

The following year, 1868-69, the division into classical and scientific courses was not made until the sophomore year. All freshmen were required to lay for themselves "a good disciplinary foundation in a respectable amount of Latin and mathematics, and a fair knowledge of French will have been acquired by all the regular students alike." These foundation studies were Latin, French, mathematics, English, art, and one semester of physiology and hygiene.

No change of importance occurred the following year, but in the catalogue of 1870-71 the division into classical and scientific courses was given up entirely. President Raymond's report for the National Centennial of 1876 gave as the reason that "very few students were

prepared at the outset to make an election which involved so much, and many desired combinations of studies differing in some respects from both the courses laid down, combinations often equally good, and in some cases better adapted to the real want of the student."

This same catalogue prescribed the freshmen studies only and permitted three electives in the sophomore, junior, and senior years. In 1872-73 the prescribed work was extended through the first semester of the sophomore year. Such shifting of the amount of prescribed work from two years to one year and then to 1½ years; of prescribed studies like natural history, i. e., "Gray's Botany with laboratory practice and excursions," which appeared in 1870 and then disappeared until 1874, all point toward the difficulties connected with the effort to shape a satisfactory curriculum.

The curriculum as it appeared in the catalogue of 1874-75 was adhered to for a long enough period to earn the title "established." The work was prescribed until the middle of the sophomore year. From the middle of that year the course consisted of electives, three full studies meeting five hours a week, or an equivalent in half studies. The following courses were offered:

FRESHMAN YEAR.

Latin—both semesters.
 French, German, or Greek—both semesters.
 English composition—both semesters.
 Mathematics—first semester.
 Physiology and hygiene—first semester.
 Natural history—second semester.
 Lectures on oriental history—second semester.

SOPHOMORE YEAR.

Latin—both semesters.	<i>Second Semester.</i>
Mathematics—both semesters.	Greek, German, French.
Composition—both semesters.	Natural history.
	Chemistry.
<i>First Semester.</i>	Lectures on popular astronomy.
English literature.	
Lectures on Greek and Roman history.	

JUNIOR YEAR.

Greek—both semesters.	<i>Second Semester.</i>
Astronomy—both semesters.	Latin.
Composition—both semesters.	Logic.
	Physica.
<i>First Semester.</i>	Lectures on mediæval history.
Rhetoric.	
Natural history.	
Anatomy and physiology.	

SENIOR YEAR.

Greek—both semesters.	<i>Second Semester.</i>
Astronomy—both semesters.	Moral philosophy.
Composition—both semesters.	Latin, German, French.
<i>First Semester.</i>	English literature.
Mental philosophy.	Geology.
Physies.	Chemistry.
History of art.	History.

The established curriculum of 1874-75 showed very little alteration during the next 12 years. In 1881 laboratory work was introduced into the sophomore natural science work, which had been separated into botany and zoology. Two years later English literature received an addition by the introduction of a course in Anglo-Saxon. From then literature developed rapidly, adding courses and instructors until it reached the relative prominence of English literature in the usual college curriculum.

In 1886 President James Monroe Taylor was inaugurated, and the next year brought the "Revised Curriculum." Severe criticism, public and private, and a formal protest in 1882 from the alumnae in Boston had stimulated investigation and modification. Attendance was falling off and Vassar was not holding her own with other colleges for women. Whether this loss was due to conservatism within the college or to the attraction of the other colleges, the alumnae did not know, but they were sure the condition could be relieved.

A general demand for history resulted in five semester courses being offered in 1886-87. President Taylor tells us, however, that no professor was provided, and that he took one class. The catalogue of 1887-88 announced the new professor and the same five courses. From then on history became increasingly important in the curriculum. Political economy appeared in the catalogue for the first time in 1886 as a subject apart from logic and remained under this title until 1890, when it expanded into economics, although President Taylor says that the chair was not established until 1893.

From 1886 the degree of Ph. D. was offered by the college, but in 1894 it was withdrawn, and the college definitely took the stand for undergraduate work only.

The adverse criticism concerning the preparatory department, especially during 1886, resulted, in 1888, in the closing of this very thriving part of Vassar, and in greater freedom to follow the higher academic standards with which preparatory work had always interfered.

In 1890 biology, which had been forging forward all over the country, was recognized by a chair distinct from natural history.

Five years later the department offered 8 semester courses, and 1900 the number had increased to 11.

Up to 1892 music and art had been taught in schools separate from the college courses and not counting in the hours required for a degree. At that time they came into the regular curriculum as at Wellesley and Smith. In the same year the choice of senior studies was increased by the introduction of Sanskrit, applied chemistry, and social science, which offered investigatory work. Chemistry, at this time, became a distinct professorship from physics. The establishment of a separate professorship, it is perhaps unnecessary to note, marks usually the beginning of rapid independent growth of the subject separated or introduced.

The development of the formal study of education began in 1898-99 with a course of one semester in educational psychology, in the department of philosophy. The next year the department offered a semester course in history of education, a semester course in educational psychology, and a series of lectures by different members of the faculty on methods of teaching their respective subjects in secondary schools. To these lectures teachers and others in Poughkeepsie were invited. In 1903-4 the lectures on methods were dropped. In 1905-6 educational psychology was changed to genetic psychology, but still was called a course in education. The next year it was no longer called education. In 1911-12 courses in philosophy and psychology were announced as separate departments. The department of philosophy offered a one semester course in history of education, and the department of psychology still offered the course in genetic psychology. Applied psychology, a part of which dealt with education, was added the next year. In 1915-16 the philosophy department offered a semester course in the history of education, and a semester course in principles of education. The psychology department continued to offer genetic psychology and applied psychology. In view of the fact that the policy of Vassar, as expressed by her president, is opposed to any special training for teachers, the development and present state of the education courses at Vassar is of interest.

From 1892 to 1899 Bible study was conducted by outside lecturers who spoke on various Biblical subjects to the students who were interested to attend. The catalogue of 1899-1900 offered to juniors and seniors two regular semester courses. The next year this number was increased to three, and in 1902-3, when the chair of Biblical literature was established, six semester courses were offered in Bible, all electives.

In the language group the classics had been subdivided into Latin and Greek; French and German were made professorships, and in 1892 Spanish was introduced.

In the fall of 1903 a curriculum was put into practice which has lasted in its general premises until now.¹

The modern curriculum will be used as the basis for comparison in the section devoted to that purpose, and consideration of further changes will be left for that section.

CHRONOLOGY.

- 1874-75—"Established" curriculum.
 1881—Zoology and botany laboratory in second semester sophomore year.
 1883—English literature—Anglo-Saxon—(literature develops rapidly).
 1886—Taylor Inaugurated.
 1886-87—Revised curriculum.
 1886—Literature for freshmen.
 1886-87—Junior and senior history offered. No professor.
 1887-88—Five semester courses in history. Lucy Salmon, professor.
 1886—First political economy apart from logic.
 1881—Philosophy, senior year.
 1886-1894—Ph. D. offered.
 1888—Preparatory department closed. Disappearance of special students.
 1890—Expansion of biology.
 1890—Expansion of political economy into economics.
 1892-93—Music and art come into regular curriculum.
 1892—First Sanskrit, senior year.
 Applied chemistry, senior year. Professorship distinct from physics.
 Social science, senior year.
 1895—Physics or chemistry required in sophomore year, one semester.
 1898-99—Educational psychology, one semester.
 1899-1900—Courses in education.
 History of education, one semester.
 Educational psychology, one semester.
 Methods of teaching in secondary schools.
 1906-7—Education drops to one semester senior course.
 1892-1899—Bible study by outside lecturers.
 1899-1900—Bible, two semester courses open to juniors and seniors.
 1900-1901—Bible, three semester courses open to juniors and seniors.
 1902-3—Bible, six semester courses open to juniors and seniors.
 Chair of Biblical literature established.
 1902-3—Spanish introduced.

WELLESLEY.

The long process of trial and error by which Vassar had sifted out its curriculum shortened that period for every other woman's college. The pioneer not only works for himself, but for all who follow him. No other college had the same problem to face that Vassar faced, in the early sixties. Each one had its own peculiar difficulties to overcome, but some of the problems of the early existence of a college for women had been solved once and for all by Vassar.

¹ Taylor and Haight. Vassar, p. 161.

In September, 1875, 10 years after the first collegiate year of Vassar College, Wellesley College was opened to students. If the ideals of the founder of a college tend to influence the history of its development, Wellesley, in spite of the fact that it benefited from the 10 years' experience of Vassar, will show a difference in emphasis of values, an individuality more marked perhaps in its early years than later when the pressure of modern demands stamps education with large common tendencies.

Matthew Vassar, the self-made business man, founded Vassar College first to make a useful disposition of his large property, and second because, after considering various plans, "the establishment and endowment of a college for the education of young women is a work which will satisfy my highest aspirations and will be, under God, a rich blessing to this city and State, to our country, and to the world."¹ To quote from Taylor and Haight: "It is amazing to see how, under the inspiration of this great purpose, large ideas shaped themselves in the founder's mind, and a certain breadth of tolerance characterized his formal utterances. In the small printed pamphlet, 'Communications to the Board of Trustees of Vassar College by its Founder,' the man's straightforward business sense, his keen interest in the advancement of women, and his desire to make the college 'the best' possible, all appear."²

Except to give his general views as to the character and aims of the college (cf. page 2 of dissertation), he kept his hands off the curriculum; yet because of his very recognition of his inability to deal with it, the curriculum was influenced and molded in a different shape.

Henry Durant, the founder of Wellesley College, was a man who combined the professional training of a lawyer with the ardent zeal of a religious convert. Believing the law and the Gospel irreconcilable, he had laid aside the profession at his conversion, but the trained lawyer's brain always asserted itself, and no detail was too small for its personal supervision.

He brought to his task a large inexperience of the genius girl, a despotic habit of mind, and a temperamental tendency to play Providence. Theoretically he wished to give the teachers and students of Wellesley an opportunity to show what women, with the same educational facilities as their brothers and a free hand in directing their own academic life, could accomplish for civilization. Practically, they had to do as he said as long as he lived. The records in diaries, letters, and reminiscences which have come down to us from the early days, are full of Mr. Durant's commands and coercions.³

Both Vassar College, which Mr. and Mrs. Durant studied while they were making their plans, and Mount Holyoke Seminary, of

¹ Communications to the board of trustees of Vassar College, Feb. 26, 1861.

² Taylor and Haight, Vassar.

³ Converse, The Story of Wellesley, pp. 37-39.

⁴ Ibid., p. 28.

which Mr. Durant was elected a trustee in 1867,¹ served to guide the founder of Wellesley College. Of his aim he himself writes in a letter accompanying his will in 1867:

The great object we both have in view is the appropriation and consecration of our country place and other property to the service of the Lord Jesus Christ, by erecting a seminary on the plan (modified by circumstances) of South Hadley, and by having an orphan asylum, not only for orphans, but for those who are more forlorn than orphans in having wicked parents. Did our property suffice, I would prefer both, as the care (Christian and charitable) of the children would be blessed work for the pupils of the seminary.²

The first catalogue to make a formal statement of the aims of the college is the Calendar for 1877-78. Herein is stated under "Course of Instruction in Collegiate Department":

The general design of the college is to provide for the radical change in the education of women, which is made necessary by the great national demand for their higher education. * * * The leading object in Wellesley College is to educate learned and useful teachers, and this is kept in view throughout all the courses of study and in all the methods of instruction.³

Again, under "Applications" comes this further explanation:

Wellesley College has been established for the purpose of giving to young women who seek collegiate education, opportunities fully equivalent to those usually provided for young men. It is designed to meet in the most comprehensive manner the great desire for the higher education of women, which is at this day so remarkable a feature in our national life. * * *

Its object and aims must not be misunderstood. It is not intended to be like an ordinary seminary or finishing school for girls. It is a college, arranged for collegiate methods of instruction, and for courses of very difficult study, such as are pursued in none but the best colleges. It is intended for those only who have vigorous health, more than ordinary ability, and the purpose to give themselves faithfully to the pursuit of knowledge, and to discipline and develop their minds by arduous study.

One prominent object in organizing the college has been to give peculiar advantages to those who intend to prepare themselves to be teachers. * * * The college is not limited to this class of applicants. Others who have not this intention, but desire an equally advanced education will be admitted.⁴

The course of study offered in the first catalogue of Wellesley was by no means as tentative a plan as that with which Vassar was obliged to experiment. The college curriculum for a woman's college was no longer a new problem. Wellesley's first plan, which held for three years without radical change, was to offer a general college course for which the degree B. A. was granted *summa cum laude* for special distinction in scholarship. In addition, the catalogue offered courses for honors "established to encourage preparation in advance of the requirements for admission; to meet the wishes of those desiring to

¹ Converse: The Story of Wellesley, p. 27.

² Ibid., p. 26.

³ Calendar for 1877-78, p. 23.

⁴ Ibid., p. 47.

take special studies instead of the general course, and to enable them to pursue these studies to an extent not possible in that course."¹ The honor courses were offered in classics, mathematics, modern languages, and science, and consisted of the work of the general courses with advanced study in the subject characterizing the honor course.

The general college course was listed as follows:²

Freshman Year.

Latin, mathematics, history, essay writing, elocution, modern English.

Electives: One elective study required—

Greek, German, French.

Sophomore Year.

Latin, elective after first semester; mathematics; general chemistry, medieval history, essay writing, elocution, history of literature.

Electives: One elective required—

Greek, German, French, botany.

Junior Year.

Physics, modern history, essay writing, elocution, history of art, rhetoric, literary criticism.

Electives: Two elective studies required—

Latin, Greek, mathematics (mathematical astronomy), German, French, chemistry, mineralogy, botany, zoology.

Senior Year.

Mental and moral philosophy, history of philosophy, modern history, essay writing, Anglo-Saxon and early English literature:

Electives: Two elective studies required—

Latin, Greek, mathematics (astronomy), German, French, analytical chemistry, botany, zoology, geology, physics.

A foot note added. "The systematic study of the Scriptures will be continued throughout the course."

Instruction in music, drawing, and painting was offered, and the domestic work which was a feature of Wellesley until 1896, was emphasized.

In 1878-79, studies were systematized into seven different courses: The general college course, courses for honors in classics, mathematics, science, and languages, the scientific course, and the musical course.

The general course differed very little from the previous year except in requiring three instead of two electives in the junior and senior years.

¹ Circular for 1876, p. 6.

² Ibid.

The aim of the scientific course was given as follows: "The present course is arranged to meet the wants of teachers; to open the way for future special study; and also to provide satisfactory preparation for those who intend to become physicians." The studies pursued in the scientific course were:

Freshman year.

General course studies:

Grecian history, essay writing, elocution, history of literature.

Scientific studies:

Mathematics, French and German, chemistry.

Sophomore year.

General course studies:

Roman history, English literature, essay writing.

Scientific:

Mathematics, German, chemistry, botany.

Junior year.

General course studies:

Medieval history, literature, essay writing.

Scientific:

Mathematics, physics, mineralogy.

Electives: Botany, zoology, astronomy, chemistry.

Senior year.

General course studies:

Mental and moral philosophy, modern history.

Literature, essay writing.

Scientific:

Mathematics, mathematical astronomy.

Electives: Chemistry, physics, geology, astronomy, botany, biology.

A five-year musical course commenced with the collegiate year of 1878-79, which enabled those who took it to graduate in any of the regular college courses, and at the same time to acquire a scientific musical education. Music took the place of one regular study and was allowed the same time for lesson and practice that would have been required for preparation and recitation. The musical department grew rapidly and was reorganized and enlarged in 1880, when Music Hall was built by the founders.

Avowedly intended in the beginning for the training of teachers, Wellesley early took steps to provide especially for them. In September, 1878, the teachers' department was organized for women who were teachers already, but desired "peculiar facilities for advanced studies."¹ A special building, Stone Hall, was provided by Mrs. Valeria G. Stone; teachers were given the utmost consideration, and they flocked to Wellesley in large numbers. They were allowed

¹ Calendar for 1878-79.

to enter without examination, and under the title of "Course of Study in Teachers' Department," we are told that "They will be allowed to take the courses of study which they may desire in any of the college classes and such as no other students are allowed to take."¹

At the same time the Teachers' Registry, which flourishes to this day, was opened to procure positions for the students. The fate of the teacher specials seems to have been much the same as in Vassar.

Says Miss Converse:

At first there were a good many of them, and even as late as 1880 and 1890 there were a few still in evidence; but gradually, as the number of regular students increased, and accommodations became more limited, and as opportunities for college training multiplied, these "T. Specs," as they were irreverently dubbed by undergraduates, disappeared, and Stone Hall has for many years been filled with students in regular standing.²

The calendar for 1879-80 announced the discontinuance of the academic or preparatory department. Like Vassar, Wellesley had felt the inhibiting effect of preparatory students upon her collegiate progress, and like Vassar, as soon as preparatory schools had been established which could serve as feeders, she closed the department. That she was able to do this eight years earlier than Vassar points probably to thriving finances and perhaps to a little better business policy in establishing schools. The names of several are recommended by the college, and one which was established by a former Wellesley teacher has its circular appended to the catalogue.

The report of the Teachers' Registry for 1891 notes cannily that out of 166 young women who were seeking positions at the beginning of the year, and are now placed, 73 have found their work in schools preparatory to the college. This fact alone demonstrates the usefulness of the registry.³

The trustees decided in 1879 to admit students on certificate. Two years before Vassar had admitted on certification, and colleges in general were adopting that method.

With the resignation of Wellesley's first president, Miss Howard, and the appointment of Alice Freeman in 1881, the curriculum was reorganized by simplifying and standardizing the courses of study. The courses were called classical and scientific, although courses for honors might be elected by students of superior scholarship. In 1870 Vassar after a three years' trial had given up the division of courses into classical and scientific, but Wellesley continued it until 1893, when a single course was offered for B. A. and the degree of B. S. was discontinued.

¹ Calendar for 1878-79.

² Converse: The Story of Wellesley, p. 55.

³ The President's Report, 1892, p. 27.

It would be neither fair nor significant to compare the classical scientific arrangement of the curricula of the two colleges, Wellesley and Vassar, since in the early years when it was offered at Vassar the curriculum of all colleges was narrower and more restricted as to electives. The two tables, nevertheless, show much in common, except that Vassar made Latin or Greek a fundamental requirement of all students, as she does now. The parallel columns following show the subjects which the classical and scientific courses of Wellesley had in common and the subjects by which they were differentiated.

FRESHMAN.

Classical.	Scientific.
Mathematics.	Mathematics.
History.	History.
English literature.	English literature.
Essay writing.	Essay writing.
Drawing.	Drawing.
French (elective).	French (required).
German.	German.
Latin.	Chemistry.
Greek.	

SOPHOMORE.

Mathematics (elective).	Mathematics (required).
History.	History.
English literature.	English history.
Essay writing.	Essay writing.
French.	French.
German.	German.
Latin.	Mineralogy, crystallography, lithology, geology.
Greek.	Qualitative analysis (elective).
	Botany (elective).

JUNIOR.

Mathematics (elective).	Mathematics (elective).
History.	History.
English literature.	English literature
Essay writing.	Essay writing.
French (elective).	French (elective).
German.	German.
Physics.	Physica.
Logic.	Logic.
Botany (elective).	Botany (elective).
Latin.	Advanced chemistry.
Greek.	Geology.
Mineralogy, lithology, and geology (elective).	Astronomy.
Qualitative analysis (elective).	

SENIOR.

Classical.	Scientific.
Mathematics (elective).	Mathematics (elective).
History.	History.
English literature.	English literature.
Essay writing.	Essay writing.
French (elective).	French (elective).
German (elective).	German (elective).
Mental and moral philosophy.	Mental and moral philosophy.
Botany (elective).	Botany required unless previously studied.
Latin (elective).	Mathematical astronomy (elective).
Greek (elective).	
Astronomy (elective).	
Geology (elective).	
Chemistry (elective).	
Physics (elective).	
Mineralogy (elective).	
Lithology (elective).	

This arrangement, with the addition of many electives and the reorganization of Bible study, continued for ten years.

Until 1882 Bible study had been conducted in daily classes, but the work had not the dignity of a regular course nor was it subject to examination. In the courses of study for 1883-84 the Bible was made a required subject of all four classes in both classical and scientific divisions. Greater emphasis was placed on Bible study at Wellesley than at Vassar, where it became a regular part of the curriculum only in 1899 and then through courses open to election by juniors and seniors.

The statutes of Wellesley as printed in 1885 stated that:

The College was founded for the glory of God and the service of the Lord Jesus Christ, in and by the education and culture of women.

In order to the attainment of these ends, it is required that every Trustee, Teacher, and Officer, shall be a member of an evangelical church, and that the study of the Holy Scriptures shall be pursued by every student throughout the entire college course under the direction of the Faculty.

Later the religious requirements for teachers were altered, and Bible study was first reduced to three years and then in 1912 amended to extend over the second and third years with opportunities for elective studies in the same during the fourth year. Here as in many other ways the strongly religious character of the founder made itself felt both before and after his death, which occurred in 1881.

Many new electives came into the curriculum in 1883-84. The zoological laboratory was opened and lectures on physiology and hygiene were given for the first time to freshmen, a custom which is

still continued, though long since separated from the zoology department. Italian, Spanish, and political science were introduced, all antedating the appearance of these studies in Vassar.

In 1887-88 the following announcement appeared:

A course will be given in 1887-88 on the science and art of teaching, with reference to the theories of Pestalozzi, Diesterweg, and Froebel. Special consideration will be had to such common-school subjects as reading, writing, arithmetic, grammar, animals, and plants. There will also be discussion of the best methods of presenting specific subjects to students of the high-school grade. Lessons given by members of the class will be criticized by classmates and instructor.¹

This course developed the next year into "pedagogics and didactics theoretical, practical, and historical," and the department continued to grow and to hold a strong place in the curriculum. Eleven years later Vassar gave its first course in educational psychology, following it the next year with regular education courses.

In 1891-92 a department of domestic science was founded. The president's report of the next year said: "The experiment no longer presents the element of doubt which even its most sanguine friends recognized at the outset. A wide range of subjects has been covered, but the greater part of the time has been devoted to sanitation and nutrition, with classroom and laboratory work, special investigation, written essays, and visits of inspection."² The report for 1893, however, regretfully stated that the instructor had resigned and that "the women able to conduct a course in domestic science are so few that the vacancy caused by this resignation could not be filled."³ Though women able to conduct courses in domestic science appeared later, Wellesley never undertook the experiment again.

In May, 1894, the academic council voted "that the council respectfully make known to the trustees that in their opinion, domestic work is a serious hindrance to the progress of the college, and should as soon as possible be done away with."⁴ The trustees, finding that the fees for 1896-97 had to be raised, decided that from that date domestic work should no longer be required of any student. "Thus," said the president, "for financial reasons the measure has been adopted, which was originally urged in the interest of academic advancement."⁵ And thus disappeared from Wellesley all but purely cultural work.

President Shafer's annual report of 1893 announced the formal adoption of the "new curriculum," which is the basis of the present curriculum, and indicated its important features. The scientific

¹ Calendar, 1887.

² President's Rept., 1892, p. 12.

³ Ibid., 1893, p. 6.

⁴ Ibid., 1895, p. 7.

⁵ Ibid., 1896, p. 8.

course was discontinued, and a single course leading to the B. A. substituted. The President stated: "We cease to confer the degree of B. S. for a course not essentially scientific under existing conditions, and we offer a course broad and strong containing, as we believe, all the elements educational and disciplinary, which should pertain to a course in the liberal arts."¹

The new curriculum aimed to offer "the widest election consistent (1) with the completion of certain subjects which we deem essential to all culture; and (2) with the continuous study of one or two subjects for the sake of mental discipline and the breadth of view which belong to advanced attainment."¹

The subjects which were required as essential to all culture and for mental discipline and breadth of view were as follows:

Bible.....	4 hours.
English composition.....	3 hours.
Physiology and hygiene.....	1 hour.
Mathematics.....	4 hours.
Natural science.....	4 hours.
(If taken later than freshman year, 3 hours.)	
Natural science.....	3 hours.
(Unless presented for admission.)	
Language.....	4 hours.
Philosophy.....	3 hours.
	26 hours.

Two appointments in elocution required throughout sophomore year.

The remaining hours of the 59 required for a degree were elective, but the required arrangement was: (a) Three in each of two subjects, or (b) three or four courses in one subject with three or two courses in one or two tributary subjects.

The following parallel columns show the subjects required at Vassar and at Wellesley at the same time and for the same reasons:

Wellesley, 1893-94.	Vassar, 1893-94. ²
English composition..... 3 hours.	English..... 6 hours.
Mathematics..... 4 hours.	Mathematics..... 4½ hours.
Language..... 4 hours.	Greek, German, French..... 6½ hours.
Physiology and hygiene..... 1 hour.	Hygiene..... 1 hour.
Philosophy..... 3 hours.	Psychology and ethics..... 3½ hours.
Elocution (2 appointments in sophomore year until 1895).	Elocution..... ½ hour.
Bible..... 4 hours.	
Natural science..... 4-7 hours.	
	30 hours.
	26 hours.

¹ President's Rept. 1893, p. 4.

² Vassar Catalogue, 1893, pp. 60, 61, 62.

Except for the difference in the hours required a close similarity in subjects necessary for a course in liberal arts exists in the two colleges. Wellesley makes Bible and natural science essential and it required four less hours of its students.

The next radical innovation at Wellesley was the incorporation in 1908-9 of the Boston Normal School of Gymnastics into the department of hygiene and physical education of Wellesley College. A two-year course for special students was offered by the department and the opportunity of gymnasium privileges for all students of the college. At present, by taking five years for the work, the Wellesley student may obtain the degree B. A. from the college and the certificate from the department.

Further discussion of the Wellesley curriculum will be presented in the chapter on the comparison of the modern curricula.

ELECTIVES AT VASSAR AND WELLESLEY.

Since 1823 officers of colleges for men have been discussing and disagreeing about the wisdom of the elective system. In 1825 the University of Virginia opened with a complete elective course. From then until the beginning of President Eliot's administration in 1869, Harvard College vacillated and shifted, its curriculum gradually becoming a little more elastic as the elective system grew in favor. President Eliot in the next 40 years led the movement for the elective system, and Harvard became its leading exponent.

Yale, on the other hand, took the conservative stand against the elective system, and the smaller colleges fell in behind one or the other of the leaders. When Vassar was founded in 1865 the elective system was not systematized enough to deserve the name. Ten years later, when Wellesley formed its curriculum, the elective plan was well formulated and in working order at least at Harvard. It is interesting to note that though Noah Porter, the president of conservative Yale, was chairman of the board of trustees at Wellesley, his connection seems to have had no effect in discouraging Wellesley from offering at least a fair number of electives. The calendar of 1877-78 speaks in no undecided terms of the value of electives:

The leading spirit in Wellesley College is to educate learned and useful teachers, and this is kept in view throughout all the courses of study and in all the methods of instruction. Hence, it is necessary that there should be many different courses of study, as well as opportunities of varying these courses by means of elective studies.

In describing the general college course it goes on to say:

It may be widely varied by the introduction of elective studies, so as to meet the wants of individual students and give them special training and education.

The college, however, believes in limitation to selection and makes it clear that the student "can not be allowed to take elective studies from caprice, or because they are easy"; hence, the choice must be subjected to the approval of the faculty.

Vassar's first plan, already mentioned as offered by President Jewett, was elective throughout. "The student selects whichever of these courses or studies her talents, tastes, inclinations, pecuniary circumstances, or objects in life may lead her to prefer." After she had received a specified number of testimonials she was to be graduated from the university. Small wonder a scheme as radical as this was dismissed. With the superficial and inadequate preparation of the girls of that day, a nearly insuperable obstacle was offered to any free elective system. Electives were later offered guardedly, and only when good preparatory schools were established were the college students considered capable of wise choice of studies. Even now Vassar keeps a firm hand on the course of study until the middle of the sophomore year. "The students are presumed by this time to have laid a good disciplinary foundation, and to be able to make an intelligent choice, with reference to their special tastes, aptitudes, and objects in life," always, however, subject to the approval of the faculty.

The subjects required for a degree of B. A. at Vassar have changed but little during the history of the college. The number of hours allotted to the different prescribed studies has shifted somewhat. The language requirements until 1903-4 were Latin and a choice of Greek, German, or French. From then until the present, Greek has been a permitted alternative of Latin, and French of German. The other subjects which have been usually required are English and mathematics.

After the first five years of experimentation, the work prescribed for an A. B. fell into definitely settled lines. In 1872-73 all studies were prescribed to the middle of the sophomore year. Both freshmen and sophomores were required to study Latin, mathematics, English, and a choice of Greek, German, or French. Freshmen heard lectures on hygiene and sophomores lectures on ancient history. In 1874-75 the freshmen were required in addition to take a course in natural history based on Gray's Manual of Botany.

Except for the addition of elocution the subjects required remained practically the same for the next seven years. The content of the work naturally changed in the general development of college standards. Three electives after the middle of the sophomore year were permitted. In 1872 the subjects among which the student was free to choose were of course limited. The classics, modern languages

(French, German, and English), mathematics, natural history, philosophy, astronomy, and chemistry offered not more than one course each during the year. From 1881 to 1886 English composition was required of the juniors.

In 1886 the revised curriculum went into effect. The catalogue states that "experience demonstrated the need of much careful compulsory work as a preparation for free choice," and goes on to prescribe certain studies throughout the first two years. For the first time the catalogue definitely announced the number of hours required for each subject. The list of subjects was practically the same.

FOR FRESHMEN.

Latin.....	4 hours.	Natural history.....	2 hours.
Greek.....	} 4 hours.	English.....	2 hours.
German.....		Physiology.....	1 semester.
French.....		Drawing.....	1 semester.
Mathematics.....	3 hours.	Elocution.....	1 semester.

FOR SOPHOMORES.

	First semester.	Second semester.
Latin.....	3 hours.	2 hours.
Greek.....	} 3 hours.	2 hours.
German.....		
French.....		
Mathematics.....	3 hours.	
English.....	3 hours.	3 hours.
History.....	3 hours.	

The junior year was entirely free of requirements, and in the senior year only four hours of mental and moral philosophy were required. By that time the number of electives had increased somewhat, permitting the student a wider choice. Sophomores, in addition to the five prescribed studies, had a choice of six electives: Mathematics, natural history, chemistry, history, Latin, and astronomy. The juniors might choose in the first semester from 12 electives, in the second from 14; and the seniors from 13 in the first and from 10 in the second semester. Including the lectures on art open to all classes, 56 electives in semester and year courses were offered in 1886-87.

The requirement of natural history for freshmen was discontinued in 1889-90, and the English requirement was increased to three hours. Except these changes and the dropping of elocution and drawing, the prescribed work remained practically the same until 1895-96, when a radical change was made in sophomore requirements by the substitution of science for the classics. The work was no longer entirely required for the first semester but throughout the entire

* Electives to be chosen from Latin, mathematics, natural history, chemistry, history.

year three hours each of English history and physics or chemistry were prescribed. For seniors a three-hour course in psychology was required in the second semester and a full year course of three hours in ethics.

In 1903-4 the prescribed work took the shape in which it has remained to the present. The following courses of three hours each were required of all candidates for a degree:

English.....	Freshman year.
Mathematics.....	Freshman year.
Latin or Greek.....	Freshman year.
1 modern language.....	Freshman or sophomore year.
History.....	Freshman or sophomore year.
Physics or chemistry.....	Freshman or sophomore year.
Philosophy or psychology.....	Junior year, 1 semester.
Ethics.....	Senior year, 1 semester.

Except that juniors no longer have a choice between philosophy and psychology, but are limited to philosophy, the requirements for the degree of A. B. remain the same in 1915-16.

The number of electives offered by the college has increased rapidly and steadily with the development of the curriculum, as the following table shows:

1900-1901—182 electives offered in college.
1905-1906—202 electives offered in college.
1910-1911—225 electives offered in college.
1914-1915—244 electives offered in college.

In 1895-96, under the department of philosophy, a subheading of "Courses in Education and Teaching" appeared, offering two courses in pedagogy. Four years later a separate department of education was created, and the number of courses was increased to six. The department has grown steadily until, in 1915-16, it offers 13 courses, 7 of which are seminary courses.

In 1896-97 the department of Slavic languages opened with a course in Russian. The same year mineralogy and petrography were introduced.

In 1898-99 Scandinavian literature appeared under Germanic literature. In 1899-1900 the staff of the college had increased to 108 instructors, who were offering 230 courses and half courses.

A half course in anatomy and physiology was added in 1903, and the next year two half courses in the study of Celtic.

ELECTIVES AT VASSAR.

1867—Freshmen and sophomore years prescribed. 3 electives allowed juniors and seniors. Postgraduate year to take up omitted studies.
1870—3 electives allowed sophomores, juniors, and seniors.
1872—3 electives after middle of sophomore year. This scheme maintained to 1886.

1886-87—Freshmen: Lectures on history of art, elective for all classes.
 Sophomore: 2d semester. 5 prescribed studies, 6 electives; namely, mathematics, natural history, chemistry, history, Latin, astronomy.
 Junior: All elective. 1st semester, 12 electives. 2d semester, 14 electives.
 Senior: All elective except mental and moral philosophy. 1st semester, 13 electives. 2d semester, 10 electives.

Two languages, one of which shall be Latin, must be studied throughout prescribed course. Second language may be Greek, German, or French.

56 electives offered in college in semester and year courses.

1895-96—Freshmen year prescribed.

Sophomore: 1st semester. 3 required, 11 electives. 2d semester, 3 required, 12 electives.

Junior: 1st semester. All elective, 25 electives. 2d semester. Psychology required, 25 electives.

Senior: 1st semester. Psychology required, 31 electives. 2d semester. All electives, 36 electives.

147 electives offered in college.

1900-1901—182 electives offered in college.

1905-1906—202 electives offered in college.

1910-1911—225 electives offered in college.

1914-1915—244 electives offered in college.

1900-1901—Outline of courses by classes.

Freshman year: Latin, 4 hours; German, French or Greek, 4 hours; English, 3 hours; mathematics, 4 hours (1st semester, mathematics, 3 hours). (Hygiene, 1 hour.)

Sophomore year: English, 3 hours; physics or chemistry, 3 hours; history, 3 hours; 5 or 6 hours elective.

Junior year: 1st semester, 14 or 15 hours elective. 2d semester, 11 or 12 hours elective. 3 hours psychology required.

Senior year: 1st semester. 3 hours ethics required. All rest elective.

1905-1906—Outline of required courses by classes.

Freshman year: Latin or Greek, 3 hours; English, 3 hours; mathematics, 3 hours.

Sophomore year (or Freshman): Modern language, 3 hours; history, 3 hours; physics or chemistry, 3 hours.

Junior year: Philosophy, 1st semester, or psychology, 2d semester, 3 hours.

Senior year: Ethics. 1st semester, 3 hours.

Not more than five courses may be carried each semester.

The required courses in 1910-11 are the same, except that no alternative is offered for Junior philosophy.

The required courses are the same in 1914-1915.

ELECTIVES AT WELLESLEY.

1876.—Freshman year prescribed; choice from Greek, German, French. Sophomore year: 1 elective required, 3 offered. Junior year: 2 electives required, 9 offered. Senior year: 2 electives required, 9 offered.

1877-78.—Junior year: 3 electives required. Senior year: 3 electives required.

1879-80.—Sophomore year: 3 electives required. Junior year: 2 electives required. Senior year: 2 electives required.

CURRICULUM OF THE WOMAN'S COLLEGE.

1883-84.—(Studies counted by subjects offered.)

Classical.

Freshman year: Prescribed, all.
 Sophomore year: Prescribed, 4; elective, 6.
 Junior year: Prescribed, 4; elective, 9.
 Senior year: Prescribed, 3; elective, 17.

Scientific.

Freshman year: Prescribed, all.
 Sophomore year: Prescribed, all.
 Junior year: Prescribed, 4; elective, 10.
 Senior year: Prescribed, 3; elective, 16.

1888-89.

Classical.

Freshman year: Prescribed, all.
 Sophomore year: Prescribed, 4; elective, 7.
 Junior year: Prescribed, 6; elective, 23.
 Senior year: Prescribed, 3; elective, 31.

Scientific.

Freshman year: Prescribed, all.
 Sophomore year: Prescribed, 4; elective, 10.
 Junior year: Prescribed, 6; elective, 20.
 Senior year: Prescribed, 3; elective, 27.

1894-95.—Outline of required courses.

Freshman year: Mathematics, 4 hours; Bible, 1 hour; English, 1 hour; natural science, 4 hours (or in sophomore year, 3 hours).
 Sophomore year: Physics, 1 hour; English, 1 hour; Bible, 1 hour.

Junior year: Bible, 2 hours; English, 1 hour; philosophy, 3 hours.
 Senior year: A natural science here or in junior year.
 Language any year.
 No more than 15 hours a week.

186 courses open to election.

1900-1901.—Same as in 1894-95, except that the English requirement—4 hours, 2 hours in freshman year, 2 hours in sophomore.

Electives arranged (a) 9 in each of 2 subjects related or unrelated;
 (b) 9 in one subject, with 9 divided between 2 tributary subjects;
 (c) 12 in one subject, with 6 in tributary subject; (d) 12 in one subject, with 6 divided between 2 tributary subjects.

168 courses open to election. (Many not given that year.)

1905-6.—194 courses open to election.

1910-11.—217 courses open to election.

1915-16.—245 courses open to election.

RADCLIFFE COLLEGE.

The history of the conception and growth of Radcliffe College is fundamentally different from that of Vassar, or Wellesley. It boasts no founder, no endowments, no early equipment of buildings and grounds. Radcliffe might be said to have begun existence as a thing of ideas without much corporeal embodiment. For a number of years that material embodiment was too cramped and meager to offer to the prospective student anything but purely mental inducement. Even now the college numbers only about half the students of Wellesley or Vassar.

Radcliffe College represents an entirely new movement in the education of women. The plan is more closely comparable with Girton and Newnham than with Vassar or Wellesley. In 1868, Cambridge University in England established examinations for women, and soon after, Girton College was opened near Cambridge for the purpose of giving to women instruction by the university. It had acquired a building of its own by 1879, and at the time of the opening of Radcliffe it was well established. In another suburb near Cambridge, Newnham Hall had been established by the "Association for promoting the higher education of women," in order to provide a place for the women who came from a distance to attend a series of lectures arranged by the university in connection with its examinations. A little before Radcliffe's beginnings, Oxford had extended opportunities for instruction to women through Lady Margaret Hall, and Somerville Hall.¹ That the originators of Radcliffe had the English experiments in mind is borne out by the last paragraph of Mrs. Agassiz's report, in which she says:

We must not forget that in this new departure for women, our ancestor and namesake, the English Cambridge, has given us an example. Newnham and Girton Colleges have been for years firmly established. Their graduates find honorable mention in the records of Cambridge scholarship and are filling places of trust in the higher schools, and, I believe, in other institutions of learning or education.²

Radcliffe College, then, seems to be of a slightly different species from either of the two colleges already considered. Both by inheritance and environment it is differentiated from the beginning.

The desirability of extending the opportunities of Harvard University to women was suggested first by Mr. Arthur Gilman, who for years was head of the Gilman School in Cambridge, Mass. Women had already been admitted to semipublic lectures at the university and to the summer courses in chemistry and botany. Like Cambridge, England, Harvard had provided an annual examination for women, but after they had passed it the college did no more for them.

Prof. Greenough, of the Latin department of Harvard, with Profs. Child and Goodwin, had become interested in the education of women by the rare ability shown by a young woman to whom they were privately giving college work.³ When, therefore, Mr. Gilman proposed an extension of the work, Prof. Greenough was ready to take

¹ Warner, Joseph. Radcliffe College. Harvard Graduates' Magazine, March, 1894, p. 332.

² Reported by Ladies of the Executive Committee. The Society for the Collegiate Instruction of Women, p. 10.

³ Warner, Joseph. Radcliffe College. Harvard Graduates' Magazine, March, 1894, p. 331.

up the suggestion; and with the aid of some of his colleagues, succeeded in interesting many of the prominent members of the faculty.

A committee on arrangements was formed of Cambridge ladies: Mrs. Gilman, Mrs. Greenough, Miss Horsford, Miss Longfellow, Mrs. Josiah P. Cooke, and Mrs. Louis Aggasiz, a group described by Mr. Gilman as "The first ladies of Harvard Annex, a body of ladies not exponents of any course, but simply persons of social position interested in the education of women." In February, 1879, the committee issued a circular which stated that:

The ladies whose names are appended below are authorized to say that a number of professors and other instructors in Harvard College have consented to give private tuition to properly qualified young women who desire to pursue advanced studies in Cambridge. Other professors, whose occupations prevent them from giving such tuition, are willing to assist young ladies by advice and by lectures.¹

This and later circulars made clear that the entrance examinations were to be the same as those of Harvard, that "no instruction will be provided of a lower grade than that given in Harvard College," and that the courses would be identical with those of Harvard College, though fewer in number. Thirty-seven professors and instructors offered courses, among them many of the most distinguished teachers of the university.² Five of the group of instructors were nominated as advisory board and were made responsible for the courses of instruction, examinations, etc., thus securing from the beginning the standard of scholarship.

The report of 1883 explains more fully why women wish the same curriculum that men have.

Women seeking opportunities for the higher education naturally prefer to find them at an institution which is allied, at least, to one established and carried on for men, because they think that there they will be in the line of progress

Present them a course of instruction different from that offered to men, and they do not eye it askance because they think it is not so good, but because it is probably just out of the line upon which progress and improvement are to be expected. This is one of the reasons why thoughtful women have less confidence in courses of instruction especially prepared for them than they have in that one upon which the wisdom of men has for generations been working and is still working.

Furthermore, Radcliffe believed that it had the advantage in the way in which its curriculum was administered. The secretary states:

In Smith College the teaching force is composed of men and women, in Wellesley College the teaching is done by women only. In our classes, on the contrary, the instructors are men only, and we are still more restricted in our

¹ Warner, Joseph. Radcliffe College. Harvard Graduates' Magazine, March, 1894, 332.

² *Ibid.*, p. 333.

choice, for the men who already give instruction in Harvard College are the only ones from whom we permit ourselves to select our teachers.¹

Although the salaries given to the professors were inappreciable, the college, since it had no endowment, needed some money. Boston was interested in the experiment and at once supplied money enough to carry it on for four years. A few rooms rented in a house at 6 Appian Way provided a place where the instructors could meet their classes, and 27 students began their work there in September, 1879.

The courses offered were much more numerous than those which were in 1879 prescribed for Harvard freshmen. Most of the Radcliffe students were specials and many were ready to take advantage of advanced work. Only three began the regular required course. The departments of study opened were: *Greek, *Latin, *German, *French, Sanskrit, English, philosophy, political economy, history, music, *mathematics, *physics, botany.

The departments marked with a star were prescribed elementary courses in the freshman year at Harvard, and therefore at Radcliffe.

The second year's curriculum offered: Greek, 4 courses; Latin, 6 courses; Sanskrit and comparative philology, 1 course; English, 4 courses; German, 5 courses; French, 4 courses; Italian and Spanish, 3 courses; philosophy, 6 courses; political economy, 2 courses; history, 5 courses; music, 3 courses; mathematics, 5 courses; physics, 4 courses; mineralogy, 2 courses; natural history (geology, 1; botany, 2; zoology, 2), 5 courses.

Of these 59 courses the secretary reports that 29 were taught to 42 ladies.² The department of mineralogy had been opened to replace chemistry, which could not be given because of lack of laboratory. Two years later the difficulty was overcome, and the department of chemistry started in 1882. In 1881 Sanskrit and comparative philology became a separate department, and the fine arts and astronomy were added. After the addition of Hebrew in 1883, and some voluntary lectures in physiology and hygiene, no new departments were added for eight years. The number of courses in that time, however, increased steadily from 59 to 77, and the number of instructors from 37 to 55.

At Radcliffe the curriculum was kept in advance of the demand upon it. The explanation is given in the regents' annual report of 1894.

When this very full list was made and published, it was with knowledge that but few could be found able or could make it convenient with such short notice to enter upon the work the first year, but it was considered wise to present it

¹ Report of the Secretary. Twelfth year, 1891.

² Society for the Collegiate Instruction of Women. Report of first year. Arthur Gilman, secretary. P. 15.

entire in the hope that many, seeing that such advanced work is offered here, might prepare themselves to share it in the future, if it should not prove possible to do so at once.¹

The catalogue early stated that "the managers reserve the right to withdraw any course not taken by three persons."² On the other hand, the course in astronomy won a place in the curriculum through the persistence of one student in 1881. In the fifth report, 1884, the committee states that it "prefers to err on the side of generosity as often as possible, because it is the most advanced students who give character to the classes and the institution." Even in the 1914 report of the president and treasurer, 47 courses were noted as having been given to less than three students in a class. In her curriculum, Radcliffe has from the beginning been generous in her response to the intellectual demands of her students.

During the third year, the "managers" obtained a charter under the seal of the State of Massachusetts, and a legal name, "The Society for the Collegiate Instruction of Women," a name which was seldom used, however, as by this time the title "Harvard Annex" had the sanction of usage. The charter announced the aim of the organization, "to promote the education of women with the assistance of the instructors of Harvard University."³

Under the heading, "The Society not creating, but satisfying a demand," the secretary's report makes a statement of the aims of the society. The emphasis on the value of education per se strikes a note a little different from that of Mr. Vassar or Mr. Durant.⁴

Mrs. Agassiz, in her report, remarks:

Were every facility offered them, however, we hardly suppose that women would ever look upon a college course of study subsequent to their school life as an inevitable or even necessary part of their education; nor do I think it would seem to any of us desirable that they should do so. But this being granted, there still remain quite enough for whom such a completion of their early training is important in view of their occupation as teachers, and if there are others who ask it purely for its own sake, we surely should not deny them.

¹ Regents' Annual Report, 1894, p. 16.

² Courses of Study, 1882-83.

³ Reports of the Secretary and Treasurer. The Society for the Collegiate Instruction of Women. Third year, p. 3.

⁴ "It is not the purpose of the society to stimulate a demand for the education that it offers. Its directors have never held the doctrine that it is the duty of every young woman to pass through a regular course of study such as is represented by the four years' course of the candidates for the bachelor's degree in college. It is their wish simply to offer women advantage for this highest instruction and to admit to the privileges of the society anyone who may actually need them.

"The teachers of America are to a large degree women, and it is desirable that all women who select this profession should be as well prepared to perform its duties as the men who are engaged in similar work. But it is not teachers only who wish the highest cultivation of the mental powers. Many women study with us for the sake of the general addition to their knowledge. It is not demanded that every man who takes a collegiate course shall become a teacher, and more must not be expected of women."

In 1894 she writes of the purpose with which the college started as that "of making a large and liberal provision for the education of women according to their tastes and pursuits, and according also to their necessities, should it be needful for them to use their education as a means of support."¹ The estimate which Radcliffe has had of special students has been different from that of the other colleges for women. Their admission has, as the other colleges feared, inevitably acted on the curriculum, but apparently not in the manner conventionally expected. One report states:

The special students have among us an unusual importance, because they represent investigators, sometimes advanced in years and experience, who come to us with a strong purpose which contact with the world and a struggle for self-support have intensified to an extent that the ordinary undergraduate has no conception of. These women when they leave us carry our methods and principles into immediate action, applying them with energy, and with an efficiency which the graduate from a four years' course can obtain only after years of labor.²

After its charter, the next important acquisition of the college was a place in which it might be more comfortably housed. In 1885 Fay House, on Garden Street, was purchased, and the idea of the college for the first time took on corporeal embodiment. Laboratories and lecture rooms in which the instructors could actually leave material for their students provided an equipment by no means equal to that of Harvard, but at least supplying the students with the conveniences generally supposed to be essential to an education.

For the next few years the number of courses remained about the same, in the neighborhood of 58. The report of the secretary for the third year announces under, "Courses offered but not taken:"³

It appears that 28 courses were given during the year, and that 27 offered were not given. This shows that the courses offered are for the present beyond the immediate demand for any one year, but, as the demand varies from year to year, with the progress of the different classes and the differing tastes and needs of the students, the list of electives can not be curtailed to advantage.⁴

Up to 1894, the governing board at Harvard had not officially recognized the college, though the body of instructors connected with it included many of the older and more influential men of the university. On December 6, 1893, the board of overseers of Harvard by unanimous vote gave its consent to an arrangement to be made between the university and the Society for the Collegiate Instruction of Women,⁴ assuming definite and official relations with the work. In

¹ Report of president, 1894, p. 9.

² Report of secretary, 1888.

³ Report of secretary, third year, 1882.

⁴ "Voted, That it is desirable to change the name of this corporation [The Society for the Collegiate Instruction of Women] to Radcliffe College, and that proper legal steps be taken to effect that change."

March, 1894, an act was signed by the governor which allowed "the younger institution to enter upon the heritage of the traditions and opportunities which it has been the good fortune of the older institution to attain during its long history."¹

By this time the quality of the work at Radcliffe was well established. Says Joseph Warner:

It is to be remembered that the grade of undergraduate work of the annex is that of Harvard College, which is decidedly in advance of that of almost every other college, whether of men or women, in this country. At least the entire work now done in the senior year at the annex would be graduate work in any American college to which women are now admitted, and any woman whose proficiency is fixed by the A. B. degree of one of those colleges must take an entire year of work in the annex before being qualified for its final certificate.

Except for the introduction of comparative literature in 1892, and of economics to replace political economy, in 1893, no new departments had been added since 1883. In this one year, then, 1894-95, by the new classification of courses, and by actual addition, seven new departments appeared in the catalogue.

With the declared connection with the university in 1894, the number of electives was increased. The following table compares the course of instruction in the different departments as given in 1893-94, and as offered for 1894-95:²

Departments.	1893-94	1894-95
Semitic languages and history.....	3	10
Indo-Iranian languages.....	14	4
Classical philology.....	13	15
English.....	14	12
German.....	7	7
German philology.....		3
French.....	7	9
Italian.....	2	3
Spanish.....	1	2
Romance philology.....		3
Comparative literature.....	2	2
Philosophy.....	6	10
History.....	13	16
Government and law.....	3	6
Economics.....	5	6
The fine arts.....	2	2
Music.....	4	4
Mathematics.....	16	16
Physics.....	2	6
Astronomy.....	2	2
Chemistry.....	4	5
Botany.....	4	4
Zoology.....	4	5
Geology.....	4	5
American archeology and ethnology.....		1
Total.....	111	166

¹ Radcliffe College. The Regent's Annual Report, 1894, p. 15.

² Warner, Joseph B. Radcliffe College. Harvard Graduates' Magazine, March, 1894, p. 338.

³ Report of Regents, 1894, p. 16.

In the preceding tabulation, the new classification of courses was followed. The reclassified and new departments are: Semetic language and history; Indo-Iranian language; classical philology; Romance philology; government and law; American archeology and ethnology; botany; zoology; and geology. The last three were formerly grouped as natural history.

In 1895-96, under the department of philosophy, a subheading of "Courses in education and teaching" appeared, offering two courses in pedagogy. Four years later a separate department of education was created, and the number of courses was increased to six. The department developed steadily until in 1915-16 it offered 13 courses, seven of which were seminary courses.

In 1896-97 the department of Slavic languages opened with a course in Russian. The same year mineralogy and petrography were introduced.

In 1898-99 Scandinavian literature appeared under Germanic literature. In 1899-1900, the staff of the college had increased to 108 instructors who were offering 230 courses and half courses.

A half course in anatomy and physiology was added in 1903, and the department of anthropology replaced that of American archeology and ethnology.

In 1904 two half courses in the study of Celtic were given.

In 1906 the department of social ethics was opened.

Classical archeology under the division "the classics" was introduced in 1909.

In 1912-13 the general introductory course to the sciences, called the history of science, was opened.

Psychology is first noted as a division apart from philosophy in 1913-14.

The history of the elective system at Radcliffe is that of Harvard. Sometimes a change was not adopted at Radcliffe until it had been enforced at Harvard, but the two have been practically parallel in requirements.

When Radcliffe was established, courses in the following departments were marked with stars in the catalogue, indicating which were required in the freshman year at Harvard College, namely, Greek, Latin, German, French, mathematics, and physics.¹ At that time in Harvard, the junior year was free from all prescribed work except themes, and the sophomore year from all except rhetoric and themes.²

In 1881-82 at Harvard, the distinction was lost between graduate and undergraduate courses. It had already disappeared among the

¹ Course of Study, 1881-82.

² Foster, William T. Administration of College Curriculum, p. 205.

electives formerly listed as senior, junior, and sophomore studies.¹ No mention is made of this change in the Radcliffe documents.

The year 1883-84 marked the extension of the elective system to the freshman year at Harvard, by dropping Latin, Greek, and mathematics from the prescribed course. The seven hours prescribed for freshmen were divided as follows: Rhetoric and English composition, 3 hours; German or French, 3 hours; chemistry and physics (lectures), 1 hour.² The first formal notice taken of this change by Radcliffe appeared in the Course of Study of 1886-87.

In 1889-90 Harvard withdrew the prescription of senior forensics and freshman physics and chemistry. The change is noted first at Radcliffe in 1890-91.

In 1894 Harvard announced the only requirement to be freshman English. Gradually from the beginning of Radcliffe's existence, students had been freed from required work, until from 1894-95, for persons who had passed entrance examinations in elementary French and German, a three-hour freshman English course was the only requirement at Radcliffe, just as at Harvard. Arrangements were made by which the student could "anticipate" the English course through examination. This plan practically left the entire course in the hands of the student. The class entering in 1910 and subsequent classes have been required to pass an oral examination to test reading knowledge of either French or German before the junior year. The class entering in 1911 was required to conform to the Harvard rules for the choice of electives, which are as follows:

I. Every student shall take at least six of her courses in some one department, or if in one of the recognized fields of distinction, four in one department.

II. For purposes of distribution all the courses to undergraduates shall be divided among the following four general groups. Every student shall distribute at least six of her courses among the three general groups in which her chief work does not lie, and she shall take in each group not less than one course, and not less than three in any two groups. The groups are: 1. Languages, literature, fine arts, music; 2. Natural sciences; 3. History, political and social sciences; 4. Philosophy and mathematics.³

As yet it is early to measure the effect of the new policy upon the Radcliffe students, since but one class has been graduated under the concentration system.

In the year 1912-13, the degree of A. A. was conferred for the first time. This new degree of Associate of Arts has been established in cooperation with Harvard, Wellesley, and Tufts for women who have been summer school students. No entrance examination is required, but the candidate is subject to the following rules:

¹ Foster, William T. Administration of College Curriculum, p. 366.

² Ibid.

³ Radcliffe College Requirements, 1912, p. 45.

1. The candidate is required to pass the number of courses required for A. B.; five of them to be given by officers of Harvard University or in Harvard Summer School.

2. Of these courses, one shall be taken from each of the four groups of subjects to which undergraduates are limited.

3. Not more than five of these courses shall be elementary courses in any one department.

The details of the modern curriculum will be considered under the chapter devoted to the comparison of the modern curricula of the five colleges.

BARNARD COLLEGE.

In 1879, the year of the beginning of "Private Collegiate Instruction for Women in Cambridge, Mass.," President Barnard in his report to the trustees of Columbia College, made a strong plea for coeducation. Of the methods of educating women, he was convinced that coeducation was the soundest. The objection to colleges for women, of which he cited as examples Vassar College and Rutgers College, was that:

They can not, or at least in general will not, give instruction of equal value, though it may be the same in name, with that furnished to young men in the long-established and well-endowed colleges of highest repute in the country; and that it is unjust to young women, when admitting their rights to liberal education, to deny them access to the best.¹

That President Barnard was well acquainted with England's experience at Girton, Newnham, and Oxford, and Radcliffe's beginning did not swerve him from the conviction of the superiority of coeducation.²

For the two years following, President Barnard renewed his argument for coeducation in his annual report, but the trustees were cautious. Their only precedent was a refusal. In 1876 when the ladies of the Sorosis Society had asked that women be admitted to the college classes, the trustees had unanimously laid the request on the table. Here it was joined by the reports of President Barnard. A second petition in 1883 was long enough and impressive enough to receive consideration. This petition, bearing the signatures of between 1,400 and 1,500 persons asked "how best to extend with as little delay as possible, to such properly qualified women as may

¹ Radcliffe College Requirements, 1912, p. 45.

² "Report of President Barnard to Trustees of Columbia College, 1879." Barnard's American Journal of Education, p. 387.

³ Moreover, under the gentle urgency of some of the ladies of Cambridge, several of whom are members of the families of the professors, a Newnham Hall has grown up within the heart of the university town itself, in which all the instruction is given by university officers. It looks somewhat as if King Priam had allowed the Trojan horse to be admitted within his walls. There are even some of the garrison who, it is rumoured, are already disposed to take part with the enemy.

desire it, the many and great benefits of coeducation in Columbia College by admitting them to lectures and examinations."

The committee of trustees declared itself to be sympathetic with the petitioners, but it could not admit women to Columbia College on equal terms with men. It recommended, however, that the action to be taken should be to draw up and announce a course of study which duly qualified women might pursue, and then, under suitable regulation, present themselves at Columbia for examination. Successful examination would result in a suitable diploma.

The result of these recommendations was the collegiate course for women which began its work in 1883.¹ The statutory regulations governing the course make clear its plan and method of pursuit. Of the fourteen regulations, the following are most illuminating:

1. Women desiring to avail themselves of a course of collegiate study, equivalent to the course given to young men in the college, may pursue the same under the general direction of the faculty of the School of Arts, subject to the principles and regulations hereinafter set forth.
2. The course of study shall extend over a term of four years.
5. A general and very strict preliminary examination shall be held for admission to the four-years' course.
7. Every student so admitted shall be entirely free as to where and how to pursue her studies, whether in some school, private or public, or at home, or under the auspices or direction of any association interested in her welfare and advancement, and providing her with the means of education.
9. All such students as shall have pursued, during four years, a course of study fully equivalent to that for which the same degree is conferred in the School of Arts, and shall have passed all the examinations required, shall be qualified to receive the degree of bachelor of arts.²

A wide enough range of study was offered to the women in the groups:

- I. English language and literature.
- II. Modern languages and foreign literature.
- III. Latin language and literature.
- IV. Greek language and literature.
- V. Mathematics.
- VI. History and political science.
- VII. Physics, chemistry, and hygiene.
- VIII. Natural history, geology, paleontology, botany, and zoology.
- IX. Moral and intellectual philosophy.

Of these groups, one shall be required for the first two years, and with it another shall be selected. On the expiration of the first two years all the groups shall become elective.³

Had it not been for the blanket clause, "The place and manner of pursuing her studies are left to the discretion of each student," it would have been indeed a generous provision. Like the early con-

¹ Butler, Nicholas Murray. *Barnard College. Columbia University Quarterly*, June, 1915, p. 206.

² *Collegiate Course for Women. Circular of Information, 1888-89*, p. 8.

³ *Ibid. Regulations of the Trustees, No. 4*, p. 8.

cessions of Cambridge University and of Harvard to women, the plan resolved itself into provision for thorough examination of subjects with no opportunity to study them. The statement of the collegiate course is a long, detailed list of books to study. Students were permitted to offer other textbooks, but they were warned that those offered must be as comprehensive, "or more so!" In French only was an opportunity given to listen to lectures, and in this case only because the lectures were public.¹

A stronger proof of the genuineness of women's desire for an education could scarcely be given than that 38 of them attempted to obtain it under such conditions; and that a few of them succeeded even in getting degrees must have been reassuring to those who doubted the quality of their brains. As Miss Weed states it: "If a Columbia collegiate course for women, without resources, without foundation, could accomplish what 125 years of wealth, power, organization, and instruction could do for young men, then a great college was an absolute waste of labor and money. * * * If young women, handicapped by every possible difficulty of obtaining instruction, were willing to enter the lists against young men who had every help provided for meeting the tasks set them, then these young women were worth helping."² The third fact proved by the experiment was that its extent was utterly inadequate.

In March, 1888, another petition was presented to the trustees asking for an "annex." In reply the trustees laid down certain conditions which must be conformed to before such a plan could be considered. Among these were:

- (1) It should involve the college in no pecuniary responsibility; (2) should receive instruction exclusively by professors and instructors of Columbia; and (5) should terminate its connection with Columbia if unsatisfactory.³

These conditions were agreed to, and at a meeting of the trustees on April 1, 1889, the following resolution was passed:

Resolved, That the trustees of Columbia College approve of the persons named in the memorial of "The Friends of Women's Higher Education" as trustees of the corporation the memorialists propose to establish, and of the persons named as associates of the organization. They also approve of the name "Barnard College," and of the constitution and set of by-laws which the memorialists have submitted and proposed to adopt.⁴

A circular of information was at once issued, announcing that "Barnard College will open on Monday, October 7, 1889, at 345 Madison Avenue, and will receive only students fitted for admission

¹ Collegiate Course for Women. Circular of Information, 1888-89, pp. 12-31.

² Weed, Ella: Report of Academic Committee, 1890, p. 8.

³ Brewster, William F. Barnard College. Columbia University Quarterly, March, 1910, pp. 154-155.

⁴ Ibid. p. 155.

to the classes of the freshman year."¹ It further announced a list of seven officers of instruction and government of Columbia College, who "will be in charge of the classes of Barnard College." The departments represented in the first curriculum were Greek, mathematics, Latin, English, German, botany, and French. All of the work was prescribed, allowing only a choice between German or French.

Mr. Brewster notes that "in this initial year the college offered scarcely more than an enterprising student could complete in two terms. To-day enough courses are given to occupy the time of a student for over 35 years."²

The next year a significant step was taken by the trustees of Columbia College, one which foreshadowed a difference from Radcliffe in policy regarding the composition of the faculty. At Radcliffe from the beginning the instruction had been carried on by the faculty of Harvard University. Radcliffe has no faculty of its own. In May, 1890, by an amendment of the constitution of Barnard College, the trustees of Columbia provided "that its faculty shall consist of professors and instructors to be approved by the president of Columbia College." The same resolution permitted the appointment of Dr. Emily L. Gregory to the position of lecturer on the anatomy and physiology of plants, and the charge of the laboratory.³

Mr. Brewster points out that this meant in practice (1) the passing by Columbia on all examinations and all instruction at Barnard; (2) the examination by Columbia of the sufficiency of the degree conferred by any woman's college on students who desired to enter the graduate schools; and (3) the recognition of the president's office as the only official means of communication between the colleges.⁴

The resolution resulted also in the gradual growth of a faculty group which belonged to Barnard alone. The first exception to instruction by Columbia faculty, made in the case of Dr. Gregory, has been followed by others, largely women, who give instruction at Barnard College only. In the announcement of 1895-96 three names are starred in the list of the faculty as "not connected with Columbia University."⁵ In the Barnard catalogue of 1915-16, out of a faculty of 97, 37 members give no instruction in Columbia University except in Barnard College. Of this group of 37, 31 are women, and in it are found representatives in 13 departments out of the 22 listed.⁶

Absolute conformity of examination was the rule in the early years of Barnard, and the students were obliged to take examinations

¹ Brewster, William F. Barnard College. Columbia University Quarterly, March, 1910, p. 7.

² *Ibid.*, p. 158.

³ *Ibid.*, p. 158.

⁴ *Ibid.*, p. 159.

⁵ Barnard College Announcement, 1895-96.

⁶ *Ibid.*, 1915-16.

made out by the Columbia professors whether their class work had been under them or not. The examination books were designated by number and turned over to Columbia for correction. At the present time Barnard governs the content and correction of her own examinations.

A repetition of the details of the curriculum of one college by another if handled by two sets of instructors is bound to contain some variations in result. If, as is the case with the modern college, freedom is permitted the instructor in his use of the curriculum, more modification still will follow. It seems fairly probable, then, that a greater difference will exist between the courses as given at Columbia and Barnard than between the courses as given at Harvard and Radcliffe, where the instructors simply repeat their work. In spite of this fact, however, Columbia grants degrees to Barnard students, while Harvard requires Radcliffe to provide her own degrees.

Barnard has by an exchange system been able to enlarge its curriculum to a considerable degree. By paying the full salary of a professor and taking only part of his time, Barnard received from Columbia in exchange for the rest of his time, the service from another professor. This exchange plan originated with the unwillingness of the faculty of political science, in 1895, to avail itself of its statutory right to admit women. To satisfy the demand for history and economics the payment of the salaries of three professors for three years was guaranteed to Barnard College by a friend. The college, instead of setting up a graduate faculty of its own, turned over to Columbia a large proportion of the time of the new instructors, Profs. Clark, Robinson, and Cole, and received in exchange a number of courses from a half dozen or more university professors.¹

Mr. Brewster believes that at Barnard two principles have obtained a fixity as nowhere else in the country. First, that Barnard must have instruction equal to that of Columbia University, and its curriculum must be as good at least as that for the men of corresponding age; and, second, that Barnard is an independent college, with its faculty primarily its own and devoted to its interests, and yet by a process of exchange receiving and giving university instruction in various degrees.²

Unlike Radcliffe, Barnard has dealt very strictly with the special student. Miss Weed in her report at the end of the first year states as a problem of the committee "whether this new means to women's education should represent a systematic course of study, or whether it should be a haven where any woman, of any age, could study anything." That Columbia accepts special students is no argument, since

¹ Putnam, Emily J. *The Rise of Barnard College. Report of the Dean, 1895.* Columbia University Quarterly, June, 1900.

² Brewster, William F. *Columbia University Quarterly*, March, 1910, p. 168.

"a man wishes to become a special student usually because he has a preference for the subject he elects. A girl wishes a special course at college, because she desires to avoid some subject, usually Greek." Moreover, "The very large proportion of specials at the Harvard Annex can not fairly be urged as an argument. Harvard does not give women its degree; Columbia does; and we shall do all we can do well if for the present we fit them for that degree."¹ Specials, therefore, were not encouraged.

The announcement of 1890-91 states that students desiring to pursue special courses in botany, chemistry, or Hebrew, must pass the examination required for admission to freshmen classes, except as may be otherwise ordered in special cases by the executive committee. On the other subjects, however, the college seems to stand firm.² In 1895-96 special students were admitted to courses in botany and chemistry. A course of four years was offered in botany, on the satisfactory completion of which students were entitled to a certificate of work done.³

At the present time, 1915-16, two classes of special students are admitted, matriculated and nonmatriculated. The former, while obliged to pass the regular admission examinations, may make a serious study of some subject; the latter are exempt from entrance examinations, but they must furnish proof of having pursued the studies therein prescribed, and they must be ready to pursue advanced work.⁴

From the beginning stress was laid on the value of the work offered in botany. The annual report of 1890-91 quotes Dr. Gregory in regard to its practical importance as a study for women. "The work of the botanist," she says, "is such that a woman is specially fitted for it." Among the vocations opened up by botanical work she notes pharmacy, work in agricultural stations, such as mycology and investigation of parasites.⁵

Miss Weed gives two full pages of her report in 1891 to a description of botanical work which with chemistry she terms the two ventures of Barnard outside the undergraduate work. "If the day ever comes when Columbia feels it wise to acknowledge the training value of scientific study," she writes, "Barnard hopes that her experience will be carefully examined."⁶

The development of the curriculum is largely a record of the opening to Barnard of the different departments at Columbia.

In 1890-91 the following departments offered work to students: Greek, Latin, Hebrew, German language and literature, French

¹ Weed, Ella. Report of the Academic Committee, 1890, p. 11.

² Barnard College Announcement, 1890-91.

³ *Ibid.*, 1895-96.

⁴ *Ibid.*, 1915-16.

⁵ Arnold, Augusta F. Barnard College Annual Report, 1890-91, pp. 9, 10.

⁶ Weed, Ella. Barnard College. Report of Academic Committee, Nov. 11, 1891, pp. 10-12.

language and literature; pure mathematics, applied mathematics, geology, botany, zoology, philosophy.

The announcement gives the synopsis of freshman and sophomore studies which are all prescribed.

FRESHMAN.

Greek.
Latin,
Geometry, 1 semester.
Algebra, 1 semester.
French or German.
Poets of the present time; rhetoric and composition; analysis, 1 semester; and syntax, 1 semester.

SOPHOMORE.

Greek.
Latin.
Trigonometry.
Chemistry.
Literature and composition.
European history.
French or German.

Students are offered opportunities to work for the degrees of doctor of philosophy, doctor of science, doctor of letters.

The requirements of the freshmen and sophomores five years later are in the same departments except that chemistry is no longer an absolute requirement.

The junior curriculum is as follows: Rhetoric, history, philosophy, political economy, and 11 hours of elective courses.

The seniors are required to take 15 hours of elective courses.¹

The entire schedule of courses for Barnard offered in 1895-96, is as follows:²

Biology.	Oriental languages (Sanskrit, Iranian, Semitic), 9.
Botany, 5.	Physics, 4.
Zoology, 1.	Philosophy, 8.
Chemistry, 2.	Education, 2.
English, 8.	Political economy, 4.
Germanic languages, 14.	Rhetoric and English composition, 5.
Greek, 13.	French, 6.
History, 4.	Italian, 4.
Language, 1.	Romance philology, 1.
Latin, 9.	Sociology, 1.
Mathematics, 9.	

The year 1897 marked a time of expansion in Barnard College. Through endowments and gifts the college was able to establish itself in the present well-equipped buildings. At the same time a new curriculum of considerable elasticity went into effect, "by the provision of which it is possible for a student to choose a course adapted to her peculiar capacity and aim in life."³ The change began with admission requirements by permitting an alternative for Greek. After entrance students, by the new curriculum, could graduate without studying Greek. Every student was obliged to study Latin, English, history, and mathematics, and to have a reading knowledge of French and German. The rest of the required work was in science, and much freedom of choice was allowed.⁴

¹ Barnard College Announcement, 1890-91.

² Ibid., 1896-96.

³ The Dean's Annual Report, 1896, p. 8.

⁴ Barnard College Announcement, 1897-98.

Curriculum for students entering on Greek and French or German.

Freshman year:

Prescribed. (12 hours.)

Latin or Greek.

German—Substitution of French if German was presented.

Mathematics

Rhetoric.

Elective:

French.—Substitution of German if French was presented.

Latin or Greek.

Chemistry.

Physics.

Sophomore year:

Prescribed. (7 hours.)

History.

Rhetoric.

One of following: Botany, chemistry, physics, zoology.

Elective. (9 hours.)

Curriculum for students entering on advanced mathematics, natural science, French, and German.

Freshman year:

Prescribed. (6 hours.)

Latin.

Rhetoric.

Elective. (9 hours.)

French.

Latin or Greek.

Chemistry.

Physics.

German

Mathematics.

Sophomore year:

Prescribed. (4 hours.)

History.

Rhetoric.

Elective. (12 hours) as in Group I.

All groups.

Junior year:

Prescribed. (3 hours.)

Philosophy. (first semester.)

Political economy. (second semester.)

Elective. (12 hours.)

Senior year:

15 hours of elective courses.

117 courses are announced by the departmental statement.

In March, 1898, an agreement was made between Barnard and Teachers' College whereby "Every woman student duly matriculated in Teachers' College, who is eligible for admission to Barnard College, may, by registering as a student of Barnard College, become entitled to all the privileges enjoyed by the students of Barnard College in the university, and may become a candidate for university

degrees." On the other hand, Barnard students, by proper choice of electives were able to secure a professional diploma from Teachers' College with the university degree.¹ By this arrangement 20 courses in education were added to the Barnard College curriculum.²

An important matter of legislation was recorded early in the year of 1900, when the trustees of Columbia College and Barnard College entered into a formal agreement concerning the incorporation of Barnard College in Columbia University, and the establishment of the faculty of Barnard College as one of the university faculties. Mr. Brewster comments on the significance of this agreement as a provision for elasticity and development by permitting Barnard variation of courses in any desired direction without the withdrawal of the safeguard of university supervision.³ It resulted in a steady, consistent growth of equipment and resources. The courses offered in 1900 numbered 148. Of these the students are allowed greater freedom of election than in 1896 by the following arrangement:

Prescribed course for all students.

Latin	3 hours.	(Freshman; unless advanced Latin is offered at entrance.)
English	3 hours.	(Freshman.)
English	2 hours.	(Sophomore.)
Economics	3 hours.	(First semester, Junior.)
Psychology	3 hours.	(Second semester, Junior.)

Unless the following subjects are offered at entrance, a three-hour course in each is prescribed: French, German, natural science, (advanced) history, (advanced) mathematics.⁴

All graduate work after 1900 was given over to Columbia, Barnard having already granted 68 masters' and 6 doctors' degrees.

In 1905 the college adopted a modified curriculum, prescribing the courses more accurately and requiring a more definite specialization in one field. About one-half the required points, 120, were unprescribed courses, the subjects of which were the same as in 1900, except that hygiene was prescribed for all students, and two half courses in botany, chemistry, geology, psychology, or zoology, in addition to the requirement of chemistry and physics which might be passed off by an equivalent at admission. "At least 9 points, exclusive of prescribed work, must be made under some one department before graduation." The number of courses, including those in education which were given at Teachers' College, was increased to 199.⁵

¹ The Dean's Report, 1898.

² Barnard College Announcement, 1898-99.

³ Brewster, William F. Barnard College. Columbia University Quarterly, March, 1910, p. 163.

⁴ Barnard College Announcement, 1900-1901.

⁵ Announcement, 1905-6.

The course in pure science, leading to the degree of bachelor of science, was opened. It required about the same work in courses as did the arts course, and at the same time a specialization in some branch of science.

The next year, 1906, Barnard offered its students for the first time a curriculum which permitted work for the degree of bachelor of science as well as bachelor of arts. It is interesting to note that 36 years after Vassar and 13 years after Wellesley had given up the plan of offering the two undergraduate degrees, Barnard attempted it, and, if the result may be judged from its place in the curriculum of to-day, made a success of it. The prescribed studies for both courses are given in parallel columns, as they were in the cases of Vassar and Wellesley.

Program leading to B. A.

English, 12 points.
 French and German, 12 points.
 History, 6 points.
 Mathematics, 6 points.
 Philosophy, 6 points.
 Physical education, 4 points.
 Latin, 6 points.
 Economics, 3 points.
 Botany, chemistry, geology, psychology, or zoology, 6 points.
 Major subject, 18 points.
 Free electives to complete a total of 124 points.

Program leading to B. S.

Same.
 Same.
 Same.
 Same.
 Same.
 Same.
 Grouped work: Astronomy, botany, chemistry, geography, geology, mineralogy, physics, psychology, and zoology.
 70 points, 28 of which shall be in a major subject, 12 in an allied minor, and 12 in a diverse minor.
 Free electives to complete a total of 124 points.

Two hundred and ten courses in 23 departments were open to the students, under 61 members of the faculty. An arrangement was made with Teachers College by which Barnard College provided the collegiate courses required by Teachers College, and the latter withdrew its collegiate curriculum, accepting students for its professional curriculum only. Barnard students, upon completion of 91 points of work, or with proper prerequisites, 60 points, were allowed to transfer to Teachers College and become candidates for the professional diploma as well as the academic degree.¹

A course designed to give the students a general idea of the problems, methods, and results of the natural and social sciences was added to the curriculum under the title of Introductory Courses, and was given by 10 of the instructors.²

In 1912-13 new requirements in modern languages were announced. No modern language course in college was to be prescribed, but a

¹ Announcement, 1906-7.

² Ibid., 1911-12.

working knowledge of French and German, tested by oral examination, was to be required before the senior year. The student offering Greek was exempt from one modern language.

The same catalogue announced that certain graduate courses in Columbia University under the faculties of political science, philosophy, and pure science, were open to especially qualified students. The schools of architecture, music, and education, the Union Theological Seminary, and the New York School of Philanthropy all offer work which may be credited toward the Barnard degree. A long step from the list of seven departments conducted by seven instructors in 1889-90!

The next year, 1913-14, the school of journalism was added to the list of schools to which the Barnard student might transfer after two years of collegiate work. Two hundred and thirty courses were in 1914-15 offered by a faculty numbering 99 and representing 22 different departments. The curriculum of 1915-16 will serve as the basis of the study of the modern curricula.

MOUNT HOLYOKE.

To trace the development of Mount Holyoke through the years of its existence as a seminary would accomplish much the same result as far as concerns its relation to Mount Holyoke, the college, as to trace the history of the development of the preparatory schools connected with Vassar or Wellesley. Mount Holyoke, founded as a seminary in 1837, constructed for itself a seminary curriculum. When, in 1888, Mount Holyoke was granted its seminary and college charter, it created a college curriculum, still retaining for its seminary students the seminary curriculum. Finally, when in 1893 Mount Holyoke was granted a college charter only, it gave up its seminary curriculum, much as Vassar and Wellesley gave up their preparatory curricula, and presented to its students a full college curriculum evolved not so much from a modification of its seminary work as from careful study of the contemporary colleges.

The early pamphlets of the seminary are full of historical and sentimental interest, though the studies are the forbears of nothing in the later college curriculum. The first catalogue gives the senior class studies as chemistry, astronomy, geology, ecclesiastical history, evidences of Christianity, Whately's Logic, Whately's rhetoric, moral philosophy, natural theology, and Butler's Analogy. It would be interesting to trace the way in which Latin crept into the curriculum; the hint of it in the first catalogue, which mentions that "individuals may devote a part of their time to branches not included in the regular course of study, Latin, for instance"; the notice in the catalogue of 1840-41 that the study of Latin is earnestly recom-

mended by the trustees and teachers for mental discipline and that "an extension of the course of study so as to embrace Latin among the required branches has been contemplated, but it is supposed that the views of the community will not at present allow of it"; on through the catalogue of 1846, which states that it is believed that the state of education in the community is now such that it (Latin) can be required hereafter of every graduate." to 1847, when at last "Young ladies who aim at a superior and extensive education must pursue the study of the languages" and "a good knowledge of Andrews's and Stoddard's 'Latin Grammar' and Andrews's 'Latin Reader' is required for admission to the seminary."

Or it would be of interest to trace the development of the study of English literature from the curriculum, which offered in each of the three years, respectively, Pope's *Essay on Man*, Young's *Night Thoughts*, and Milton's *Paradise Lost*: a time so near the romantic period that Young's *Night Thoughts* probably proved too modern and the literature resolved itself for years into Milton's *Paradise Lost*.

The real college curriculum, however much it may have gained from seminary experience in wisdom of selection and emphasis, was first established at Mount Holyoke in 1888.

The catalogue of 1887-88 announces:

A college department will be inaugurated in September, 1888, the trustees having been duly empowered to take this step by a recent act of the Legislature of Massachusetts. The requirements for admission, and the studies of the first year, will be substantially the same as those of New England colleges generally.

The next year the catalogue outlined three courses of study, the classical course, the scientific course, and the seminary course. Both Latin and Greek were required for admission to the classical course, but French or German could be substituted for Greek by the scientific students. All college students were required to present mathematics, geography, history, English, science of government, physiology and botany.

The courses were divided among three terms in each year as follows:

FIRST YEAR.

	<i>Classical.</i>	<i>Scientific.</i>
Fall	Latin. Mathematics. Greek.	Latin. Mathematics. French or German.
Winter	Latin. Mathematics. Greek.	Latin. Mathematics. French or German.
Spring	Chemistry. Mathematics. Greek.	Chemistry. Mathematics. French or German.

One hour courses for year :

Rhetoric.
Drawing.
Bible.
Gymnastics.
English literature.

Rhetoric.
Drawing.
Bible.
Gymnastics.
Physiology.

SECOND YEAR.

Fall----- { Chemistry.
History.
Latin.
Greek.

Chemistry.
History.
Mathematics.
French or German.

Winter----- { Ancient history.
Latin.
Greek.
Electives: Mathematics,
French, German, chem-
istry.

Ancient history.
Mineralogy.
French or German.
Electives: Chemistry, mathematics.

Spring----- { History.
Botany.
Electives: Mathematics,
Latin, Greek, French,
German.

History.
Botany.
Electives: Same, except Chemistry in
place of Greek.

One hour courses for year :

Rhetoric.
Bible.
Gymnastics.
Physiology.

Rhetoric.
Bible.
Gymnastics.
Elocution and vocal music.

JUNIOR YEAR.

Fall----- { Zoology.
Botany.
History.
English literature.
Logic.
Electives: French, Ger-
man, Latin, mathemat-
ics.

Zoology.
Botany.
History.
Mechanics.
Electives: None.

Winter----- { English literature.
Physics.
History.
Electives: French, Ger-
man, mineralogy, physiol-
ogy, biology.

English literature.
Physics.
History.
Electives: Same, with chemistry.

Spring----- { Astronomy.
Geology.
Physics.
Electives: French, Ger-
man, history, English
literature, physics.

Astronomy.
Geology.
Physics.
Electives: None mentioned.

One hour courses for the year :

Rhetoric.
Bible.
Gymnastics.

Rhetoric.
Bible.
Gymnastics.
Elocution and vocal music.

SENIOR YEAR.

Fall	Psychology. Electives: Literature, biology, history, astronomy, physics, mineralogy, Latin, and Greek.	Psychology. Electives: Same, with chemistry and mathematics.
Winter	Political economy. History of art. History of philosophy. Theism and Christian evidences.	Political economy. History of art. History of philosophy. Theism and Christian evidences.
Spring	Ethics. Theism and Christian evidences. Electives: International law, English literature, biology, physics, chemistry, Anglo-Saxon.	Ethics. Theism and Christian evidences. Electives: International law, English literature, biology, physics, geology.

One hour courses for the year:

Rhetoric.
 Bible.
 Gymnastics.

Rhetoric.
 Bible.
 Gymnastics.

Elocution or vocal music through three years of course.

Though the above elaborate curriculum is presented in addition to the seminary curriculum which has not been curtailed, the teaching force remains the same. The list of "Teachers" in 1887-88 checks up with the list of "Faculty" in 1888-89, in number 33 members, and with but few changes in individuals.

Twenty students registered for the scientific course, 22 for the classical, and 272 for the seminary course, showing that the greatest demand upon Mount Holyoke was decidedly upon its seminary.

In 1890 still another college course was added, called the literary course. The entrance examination was the same as for entrance to the classical course, except that French or German was required instead of Greek. Latin was required in the freshmen year only, and the emphasis was laid on literature and the languages. In spite of this enlargement of the curriculum the faculty still numbered but 34, and there were but five changes in individuals, the usual shifting of the newer and younger members of the faculty. The degrees conferred were bachelor of arts, bachelor of science, and bachelor of literature.

Like Vassar and Wellesley, Mount Holyoke offered special advantages to teachers, allowing them to enter without examination if they were over 21 years old and had taught at least a year.

The distribution of the students by this year showed a gain of the college over the seminary, 145 to 122 seminary students, with 22 specials. The members of the faculty, however, numbered but 32.

In 1893 the charter was granted by which Mount Holyoke Seminary and College became Mount Holyoke College. The catalogue of 1892-93 contained no seminary course of studies and the number of seminary students dropped from 122 to 8, while the number of students of the literary course increased in the same year from 6 to 129.

In the 14 departments 128 courses of one or two semesters were offered, exclusive of Bible and music, which did not list their courses. The college offered the degree of A. M. for the first time when the 1893 charter was granted, requiring for it the B. A., a year of residence, and a satisfactory thesis. The curriculum seemed to have no special modification for graduate work.

Students were admitted on certificates from 1894-95. The curriculum was continued in the three-course arrangement, classical, literary, and scientific, until 1898, when the first freshman class was admitted under the present arrangement leading to the degree of bachelor or arts only. The degree of master of arts continues to be granted up to the present. Of the minimum requirement for the bachelor's degree, 112 hours, 58 were prescribed as follows:

<i>Freshman year.</i>		<i>Junior year.</i>	
Latin.....	4 (hours per week for each se- mester).	Philosophy.....	4. 2 (2d semester).
Greek.....		Bible.....	
French.....			
German.....			
English.....	1.	<i>Senior year.</i>	
Mathematics.....	4.	Elective.	
Bible.....	1.		
<i>Sophomore year.</i>			
English.....	1.		
History.....	4.		
Physics.....			
Chemistry.....			
Bible.....	1.		

Twenty hours of the work had to be devoted to the major subject which was chosen during the sophomore year. The hours prescribed in the different studies shifted slightly during the next few years, but the general rule was maintained, that of the four years, two to be of prescribed work and two of elective. The curriculum, enlarged both in departments and courses, offered a much wider choice than under the three-course arrangement. Twenty-four departments in 1898 offered 187 courses of one or two semesters. The members of the faculty were increased to 46.

The growth of the curriculum was rapid from the establishment of the legislation leading to the degree. In 1900 the courses numbered 223; in 1905, 273; in 1910, 297; in 1915, 319. By 1910 the number of the faculty had increased to 110 and in 1915 to 120.

No new departments were established after 1900, although subjects were grouped differently in the departments, i. e., drawing and painting, instead of being a separate department, became part of the department of art and archeology, and the department of Hebrew was in 1902-3 included in Biblical literature.

In 1907-8 a change was made in the prescribed work. Out of 120 hours required for a degree, the following were prescribed:

English.....	9 hours
English literature.....	6 hours
Latin.....	6 hours
Greek, French or German.....	6 hours
Mathematics.....	6 hours
Biblical literature.....	6 hours
Philosophy.....	6 hours
History.....	6 hours
Physics and chemistry.....	6 hours
Any science.....	6 hours
	63 hours

In addition, 30 hours had to be given to major subjects, and 27 to free electives.

The present requirements differ only in giving a choice of Latin or Greek, in including psychology with philosophy, and in limiting the science to any natural science.

Most of the departments have developed by the accretion of new courses from year to year. The new college curriculum of 1888 had the elements of all the later departments, although the nomenclature was often different.

II.—A COMPARATIVE STUDY OF MODERN CURRICULA.

The material used in the comparison of the modern curricula of the five colleges in which the historical development of the curricula has already been traced is from the following sources: First, the courses of study and reports of 1915-16 for Vassar, Wellesley, Radcliffe, Barnard, and Mount Holyoke; second, information gained by interviews with teachers and students of the courses of study; third, by observation of the actual teaching. The college catalogues vary greatly as to the amount and value of the information contained therein. Vassar, Wellesley, and Mount Holyoke to a lesser degree, make a brief statement of the ground covered by a course; Barnard states only prerequisite points and fees; while Radcliffe, besides the "Course of Instruction," uses the official register pamphlets of Harvard, which give the details of the courses in each department. The last method would appear to obviate for the student the necessity of as complete advisorship from the faculty as is incurred by the less detailed information of the ordinary catalogues. Information gained by interviews with teachers and students is of value only to give the kind and amount of work which the course *aims* to accomplish, and second, the kind and amount of work which it actually did accomplish in particular cases. Observation of the actual teaching of the college instructor is lessened in the value of its results by the fact that no supervision of college teaching is customary, and in consequence the instructor is ill at ease if subjected to observation.

The material is handled, first, as a whole, by a comparative tabulation of all the courses and half courses offered in the five colleges; second, the same tabulation in hours; third, by analyses of separate departments in each college; fourth, by comparison of corresponding departments in the five colleges.

Courses of instruction for 1915-16.

Departments.	Vassar.		Wellesley.		Radcliffe.		Barnard. ¹⁰		Mount Holyoke.	
	Courses.	Hours.	Courses.	Hours.	Courses.	Hours.	Courses.	Hours.	Courses.	Hours.
Anthropology.....					4	10½	14	34½		
Archeology.....	3	3			5	4				
Architecture.....			1	3					(*)	
Art.....	8	11	10	23	11	17	9	17		
Astronomy.....	11	14½	6	15	3	9	2	6	13	21½
Bible.....	6	8	8	17	4	2	1	2	6	9
Botany.....	3	7½	8	22	10	19½	1	2	7	13½
Chemistry.....	12	25	9	18	10	22	9	26	9	14½
Economics.....	9	14½	9	15	18	43½	6	22	13	19
Education.....	2		8	21	15	31½	13	24	11	19½
English:							8	21	12	13½
Comparative.....					5	9½				
Composition.....	8	19	7	17	5	15	6	16½	5	22½
Language.....			2	6						
Literature.....	13	31½	17	44	18	36½	14	32½	19	28½
Spoken.....	3		3	7	2	4	1	2	4	8
French.....	14	28½	12	25	11	29	11	32	13	23
Geology.....	6	8½	6	15	8	13½	15	27	6	8½
German.....	16	28½	19	29½	24	40½	19	36	13	30
Greek.....	15	24	7	19	9	19½	14	20½	14	22½
History.....	18	37	15	35	21	45½	12	29½	14	27
Introductory science.....					1	1½	1	2		
Italian.....	2	6	5	12	4	9	3	9	3	3½
Latin.....	23	25	13	20½	9	15	13	22	10	17½
Mathematics.....	11	21	10	21½	30	67½	8	20½	14	29½
Music.....	10	15	13	24	6	12	8	17	15	16½
Old Irish.....					(*)		1	1		
Philology:										
Classical.....					7	14½	(*)			
Comparative.....			1	3						
Indic.....					9	18				
Romance.....					4	6	1	3		
Philosophy.....	9	12	6	13	13	23	13	26	8	10½
Physics.....	9	14½	6	12	6	13½	9	19½	12	16½
Physiology and hygiene.....	3	4½	1	1	1	2	2	1	1	1½
Political science.....	5	9	(*)				12		4	
Psychology.....	9	9	5	10	7	19½	1	3	14	
Semitic language and history.....					5	9	11	25½	5	7
Slavic language.....					6	15				
Social ethics.....					3	6				
Spanish.....	2	6	3	9	6	11½				
Zoology.....	7	12½	7	18	14	28	3	9	1	3
Total number of courses.....	235		217		314		236		251	
Total number of hours.....		365		475½		656		528		404
Total number of departments, 40.....	26		28		35		31		25	

¹ In philosophy.
² Hygiene department offers 22 teacher-training courses and 10 general courses; zoology department includes one physiology course.
³ In history.
⁴ Semitic.
⁵ Omitted, 1915-16.
⁶ With Latin and Greek.
⁷ In Education.
⁸ With art.
⁹ In zoology.
¹⁰ The minimum value is given for Columbia courses offered at Barnard. The number of points is usually determined by the amount of individual work.

The object of the arrangement in tabular form of all the courses and half courses offered for a B. A. is, first, to ascertain all of the subjects taught by women's colleges as represented by the chosen five; second, to measure the amount of work done in each subject in

courses and half courses in each of the different colleges; third, to measure the richness of curriculum in individual colleges by a record of all subjects emphasized and omitted; fourth, to find the total number of courses and half courses offered by each college.

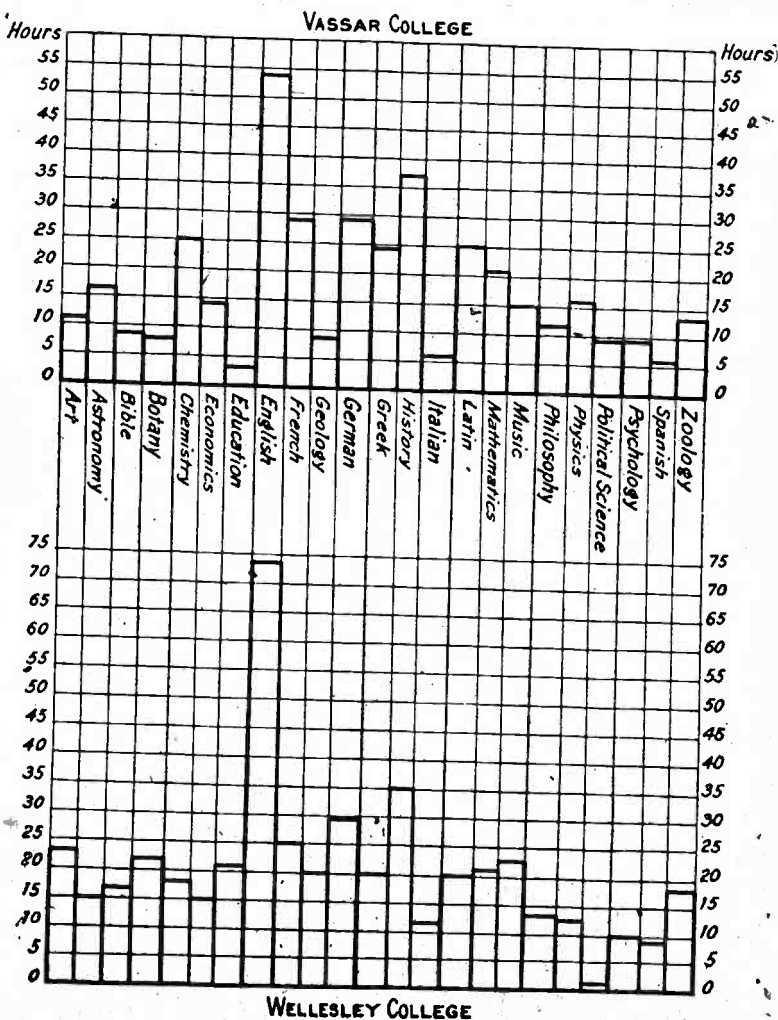


FIG. 1.—Number of hours given to subjects common to the five colleges.

The number of department units into which the subjects are grouped totals, 40. Of the colleges, Barnard and Radcliffe (the two colleges allied with men's universities) most closely approximate the total number. Of the 5 lacking 40 at Radcliffe, Bible is given in the Semitic department, and Old Irish is omitted in 1915-16, leaving

only three special departments unprovided for—architecture, English language, and comparative philology.

Radcliffe presents a total of 35 departments; Barnard, 31; Wellesley, 28; Vassar, 25; and Mount Holyoke, 25. That Radcliffe offers more graduate work than the other colleges in no way affects the

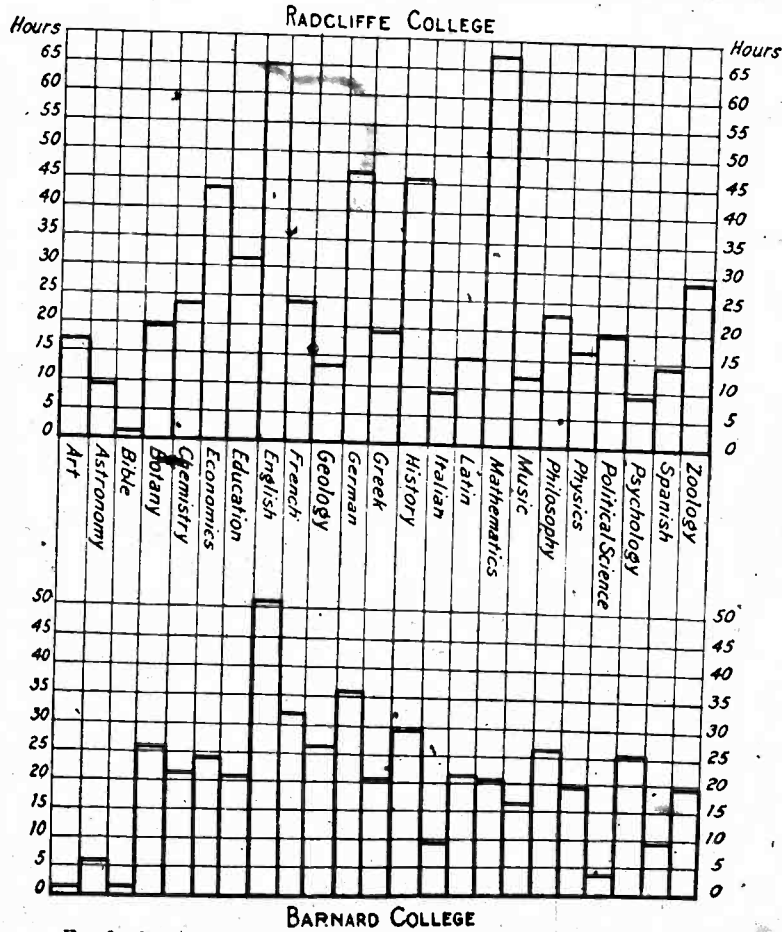


FIG. 2.—Number of hours given to subjects common to the five colleges.

number of departments of the college, since each department offers some undergraduate work.

Of the total number of courses and half courses, or year and semester courses, Radcliffe again has the lead by a large majority, this time in consequence of the broader curriculum necessary for graduate work.

A modification of the total of Wellesley is made necessary by the exclusion of the 22 courses of the hygiene department which lead to

a special certificate. In none of the colleges have the courses in gymnastics, sports, and dancing been reckoned.

The totals of courses show the colleges in the following order: Radcliffe, 314; Mount Holyoke, 254; Barnard, 236; Vassar, 235; Wellesley, 217. The arrangement at Mount Holyoke of semester courses to a large degree in all departments accounts for the lead over the colleges which use the year unit more frequently. Since, however, each semester usually deals with a separate subject, the summary in terms of semesters gives the amount of distribution of subjects within the department.

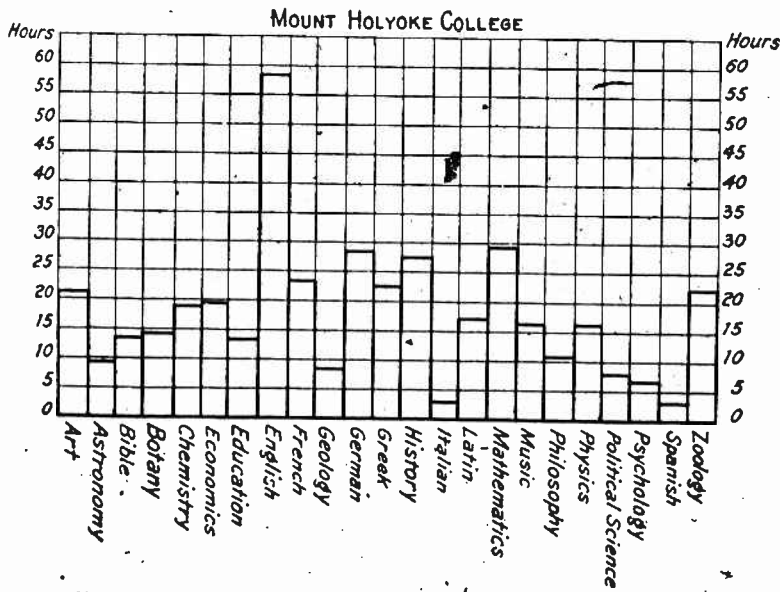


FIG. 3.—Number of hours given to subjects common to the five colleges.

Since, on the other hand, semester totals give no adequate notion of the actual number of hours devoted to the courses of a department, the department measure by semesters has been checked up by a count of the number of hours offered by each department. The totals in hours of work offered show the colleges in the following order: Radcliffe, 656 hours; Barnard, 528 hours; Wellesley, 475½ hours; Mount Holyoke, 404 hours; Vassar, 395 hours. This changes Wellesley from the least number of semester courses to third in number of hours.

Considerable variation exists as to the number of hours offered by the departments of the colleges. Extreme emphasis is obvious at Radcliffe in the department of economics, which offers 19½ hours more than any other college, in German and education, which are

- 10½ hours in advance of the other colleges, and in mathematics, which is 38 hours ahead. The emphasis at Barnard is in the department of geology, which offers 12 more hours than any other college; in psychology, which is 16½ hours in advance; and in anthropology, which offers 24 hours more than Radcliffe, the only other college to support such a department; at Wellesley and Mount Holyoke in the departments of Bible. Vassar shows a very small department of botany, and has no education department, offering but two education courses in the department of philosophy.

The selection of the departments for special analysis was made to include, first, the courses usually prescribed for a B. A.; second, the departments offering the largest average number of hours in the curriculum; third, the departments from which the greatest amount of work is elected. The following departments seem to justify such a choice: English, history, zoology, German, Latin, mathematics, chemistry, philosophy, and psychology. The departments of English, history, zoology, and German are analyzed in detail as representative centers of election. The method of analysis is by a description of the courses and the teaching force of the department in each college, and by comparative tables showing the relative amount of work offered and the relative strength of the teaching force of the five colleges.

The departments of Latin, mathematics, chemistry, philosophy, and psychology are analyzed in a comparative way only, because, though required for a degree, they are less largely elected than those of the first group.

THE REQUIREMENTS FOR THE B. A. DEGREE.

The appended table of the requirements for the B. A. degree in the five colleges brings out the following points: Mount Holyoke prescribes the largest number of hours of work; Barnard prescribes the greatest number of subjects to be studied; Radcliffe prescribes the least work, and makes it possible by examination to avoid any prescription. Counting out Radcliffe, the other colleges agree in the prescription of the following subjects: English composition, mathematics, Latin or Greek, German or French, philosophy. Wellesley and Mount Holyoke are the only colleges to prescribe Bible.

At Vassar and at Wellesley the unit of time is the hour; that is, one class appointment a week for a year counts as one hour. Vassar requires 56 hours for the degree, A. B., and Wellesley requires 59 hours. At Mount Holyoke the unit is the semester hour; 120 hours are required for the degree. At Radcliffe the work is arranged in courses and half-courses, which are evaluated regardless of hours by the work actually required, and which count as full or half courses

toward the 17 courses required for the degree A. B. At Barnard the courses are valued in points, the term point signifying one hour a week of class attendance or two hours in a laboratory for one half year; 124 points are required for the degree A. B.

To secure some basis of uniformity in the comparative work which follows, the "year" hour of Vassar and Wellesley has been used as the unit. At Radcliffe, the number of hours which the catalogue announces for the meetings of each course is used to give the hour value of full and half courses. At Barnard the points, and at Mount Holyoke the semester hours have been reduced to the hour of the year.

The choice of the subjects of common prescription appears from the history of the development of the curriculum to be derived from two sources. First, because such subjects offered disciplinary training.

The prescribed part of the course embraces a due proportion of those strictly disciplinary branches which, when left to the option of the student, are almost always either wholly neglected or so slightly studied as to be useless but which, if thoroughly taught, experience proves to be the best possible preparation for advanced studies in science, literature, or philosophy.

Second, because, except at Barnard and Radcliffe, the colleges were founded especially to supply the teaching profession, which demanded teachers for the subjects required for admission to college. At the present time, although the theory of the value of formal discipline has been experimentally controverted, and although women are entering many fields other than that of teaching, the old order of prescription is still followed. The newer demands upon women for intelligent citizenship are recognized by prescribed work only in the course of economics required at Barnard.

Since there is no uniformity in the degrees offered other than A. B. by the different colleges, no comparison is possible, and they are simply listed. Wellesley and Radcliffe offer the degree, associate of arts; Barnard grants the degree of bachelor of architecture through transfer to the school of architecture, of bachelor of literature through transfer to the school of journalism, and makes it possible for seniors to elect courses in the school of education of Columbia University, which may later be credited toward the degree master of arts.

Vassar, Wellesley, and Mount Holyoke all grant the degree of master of arts. Radcliffe offers the degrees bachelor of arts, master of arts, associate of arts, and doctor of philosophy.

Barnard and Radcliffe, through their affiliations with Columbia and Harvard, offer greater opportunities for specialized and for advanced work than do any of the other colleges.

CURRICULUM OF THE WOMAN'S COLLEGE.

Hours required for the B. A. degree in 1915-16.

Subjects.	Vassar.	Wellesley.	Radcliffe.	Barnard. ¹	Mount Holyoke. ¹
History.....	3	2 1/2	3	3 (6 points).....	6
English composition.....	3	3	3	do.....	6
Mathematics.....	3	3	3	do.....	6
Latin or Greek.....	3	3	3	do.....	6
French or German.....	3 1/2	3 1/2	3 1/2	(*).....	6
Physics or chemistry.....	1 1/2	1 1/2	1 1/2	3 (6 points).....	6
A second natural science.....	3	3	3	do.....	6
Philosophy.....	3	3	3	do.....	12 1/2
Hygiene.....	1 1/2	2	2	2 (4 points).....	4
Economics.....	1 1/2	2	2	3 (6 points).....	6
English literature.....	3	3	3	do.....	6

¹ A point equals one hour of class work or two hours of laboratory work for one-half year.

² Semester hours.

³ Biblical history.

⁴ And six of Biblical literature.

⁵ Possible exemption by examination.

⁶ Unless a third is presented at admission.

⁷ Exemption if presented at admission.

⁸ Working knowledge required.

⁹ Greek, French, or German.

¹⁰ Vassar requires 3 hours of French, German, physics, or chemistry; not of two of them.

¹¹ Natural science, if not presented at admission.

¹² Philosophy and psychology.

¹³ Six lectures.

Requirements for distribution of electives.—Vassar: No system of majors. Wellesley: One to nine hours in each of two departments; 2 to 12 in one department and 6 in second. Radcliffe: Group system. Barnard: Major subject of at least 18 points (9 hours), exclusive of prescribed work. Mount Holyoke: Two major subjects of 15 semester hours each.

Requirements for distribution of required studies.—Vassar: During first two years; exception, philosophy, junior year. Wellesley: During first two years; exceptions, two hours Biblical history, junior year, and philosophy, before senior year. Radcliffe: During freshman year. Barnard: During first two years; exception, economics, junior year. Mount Holyoke: During first three years.

ENGLISH.

The English department has always occupied an important place in the curriculum of the woman's college. Even in the original courses of study, when the emphasis was laid upon the classics, mathematics, and the modern languages, English had its place. From the composition being taught by exercises in grammatical analysis and from Whately's Rhetoric, and the literature from Shaw's Manual of English Literature,¹ the work has developed to its present prominent status in the college. A striking specialization by the women's colleges in English departments has been noted by Thorndike and by Dealey.² A present study of the catalogues of the colleges for women indicates that the department of English offers the largest amount of work in the college in terms of semester courses.

¹ Course of Study, Vassar, 1867-68.

² Comparative study of the curricula. H. L. Dealey, p. 347.

The composition departments agree in the prescription of a certain amount of training in writing, and most of them try to secure that training by cooperation with the other departments in the college. The greatest variation in the colleges appears in the further development of the writing courses. The advanced work shows a tendency toward specialization, an effort to encourage the kind of creative work to which the student is especially adapted. The result at Vassar is special courses on descriptive writing, short-story writing, and journalism; at Radcliffe, courses in the drama; at Barnard, the courses of the school of journalism; and at Mount Holyoke, courses in narrative writing, description, and verse composition. Wellesley offers little opportunity for specialization, since the advanced courses are inclusive of all forms of writing.

The significance of specialization in advanced courses lies partly in the connection of the work of the student within the college with that which lies beyond it. Such a double adjustment of the course work of the student points toward a new criterion of the value of the content of courses which may prove an interesting factor in the creation of the future curriculum of the college.

Courses and instructors in English.

COMPOSITION.

	Vassar.	Wellesley.	Radcliffe.	Barnard.	Mount Holyoke.
Year courses.....	5 (3-hour) 1 (1-hour)	4 (3-hour) 2 (2-hour) 1 (1-hour)	5 (3-hour)	5 (6-point)	1 (3-hour) 1 (1-hour)
Semester courses.....	2 (3-hour)	0	0	1 (3-point)	12 (3-hour) 1 (1-hour)
Hours.....	19	17	15	16½	22
Teachers.....	11	12	5	8	8
Professors.....	0	2	2	2	1
Associate professors.....	0	2	0	0	1
Assistant professors.....	2	0	1	0	0
Instructors.....	9	8	2	6	6
Doctors' degrees.....	3	3	1	1	0

LITERATURE.

	Vassar.	Wellesley.	Radcliffe.	Barnard.	Mount Holyoke.
Year courses.....	8 (3-hour)	13 (3-hour) 2 (1-hour)	7 (3-hour)	7 (6-point) 2 (4-point)	1 (3-hour)
Semester courses.....	5 (3-hour)	2 (3-hour)	9 (3-hour) 2 (2-hour)	5 (3-point)	16 (3-hour) 1 (2-hour) 1 (1-hour)
Hours.....	31½	44	36½	32½	28½
Teachers.....	9	9	11	12	6
Professors.....	1	2	5	6	0
Associate professors.....	2	3	0	0	1
Assistant professors.....					
Instructors.....	6	13	8	6	5
Doctors' degrees.....	6	2	16	6	1

¹ 1 assistant.

² In addition, 9½ hours of comparative literature.

Specialization of courses, which the interests of the students appear to be forcing, means provision for students of talent for whom there is little provision where general courses only are given. It may, on the other hand, signify little opportunity for extensive work, leading to specialization too detailed and technical for undergraduate teaching.

An effort is being made to keep track of the permanent quality of the student's English work. At Barnard, for example, any instructor may report to the English department a student as deficient in English. The department then has the responsibility of investigating the student's case. At Wellesley, if a student is deficient in English even in her senior year she is not permitted to graduate until such deficiency is removed. Such reports are for all students irrespective of their connection with the English department. At Vassar a movement is on foot toward a like systematized correlation of the English with the other work.

The interpretation of this tendency is that English composition is coming to be regarded as a training in clear thinking and correct expression which may be used as a tool by all of the departments.

The table shows a variation in the number of teachers in the composition departments of the different colleges. Such a variation is explained here as in other departments not so much by the number of courses offered as by the number of divisions necessary to handle the required introductory course. To illustrate, Wellesley requires ten and Vassar eight teachers for the introductory course which at Radcliffe is given by one professor and his assistant.

The character of the teaching force of the composition department shows certain peculiarities. The following percentages of the teachers are of the grade instructor: At Vassar, 81 per cent; at Wellesley, 66 per cent; at Radcliffe, 40 per cent; at Barnard, 75 per cent; at Mount Holyoke, 75 per cent; that is, except at Radcliffe, the greater part of the teaching is conducted by instructors.

The scarcity of the doctor's degree in the English composition departments of any of the colleges is probably due not only to the large percentage of instructors on the teaching force but to the fact that ability to produce or to stimulate creative work is the quality particularly stressed in the teacher of composition.

The department of literature is entirely separate from the department of composition at Wellesley and at Mount Holyoke only. At Vassar, Radcliffe, and Barnard the department of English includes both divisions, and members of the faculty teach both branches. At Barnard, three hours, and at Mount Holyoke, six semester-hours, of literature are required for a degree. At all of the colleges except Radcliffe an introductory course consisting largely of an historical outline of English literature is a prerequisite of all advanced work.

While such a course permits the student a certain degree of orientation before specialization, it in no way gives her any information with the parallel literature outside of England, except as she may be studying it in modern language courses. Comparative literature is offered only at Radcliffe. No opportunity for acquaintance with ancient literature is offered, except as the student elects the classics. A possible consideration for the increasingly large proportion of students who do not elect Latin or Greek might be a literature course which would include translations of the classics. The excuse for locating such courses in the English department is obviously as a means of the interpretation and evaluation of the English literature.

At the other chronological extreme American literature is dealt with in all of the colleges to the extent of one course each with the addition at Radcliffe and Wellesley of a course each which deals with America and England both.

At Radcliffe and Mount Holyoke the arrangement of the courses in semesters is used to a greater degree than at the other colleges, where full-year courses predominate. When full-year courses are devoted to individual writers, not much literature is possible for the general student. The period basis, as we have seen in the special analyses, is followed to some degree by all of the colleges.

The teaching of literature at Vassar, Wellesley, and Barnard is in a greater degree in the hands of professors and associate professors than is composition. The following percentages of the teachers are of the grade instructor: At Vassar, 66 per cent; at Wellesley, 44 per cent; at Radcliffe, 54 per cent; at Barnard, 50 per cent; at Mount Holyoke, 83 per cent.

The doctor's degree is much more common among the members of the literature department than among those of the composition department.

Of the number of hours in English offered by the five colleges, Mount Holyoke leads in composition, the other colleges following in the order of Vassar, Wellesley, Barnard, and Radcliffe. In literature Wellesley offers the largest number of hours, the other colleges following in the order of Radcliffe, Vassar, Barnard, and Mount Holyoke.

VASSAR.

At Vassar the English composition and literature departments are not separated, five of the members of the faculty giving courses in both branches.

In the composition work Course 1 covers the required three hours of the freshman year. It is a study of prose selections with writing of themes. The method is based upon a textbook, Buck and Woodbridge's "Course in Expository Writing."

In the elective courses narrative writing, critical writing, and descriptive writing are dealt with in separate courses, followed by a full course in advanced composition. Argumentation has a year course and a semester course allotted to it.

By this arrangement the student has a full course in the analysis of the short story with practice in writing it; a full course in journalistic writing, and a semester course for practice in the various forms of descriptive writing. Vassar devotes more time to argumentation than the other four colleges.

English at Vassar.

	Composition.	Literature.	Spoken.
Year courses.....	5 (3-hour).	8 (3-hour).	13
Semester courses.....	1 (1-hour).		
Hours.....	2 (3-hour).	5 (3-hour).	
Teachers.....	19	314	
Professors.....	11	9	2
Associate professors.....	0	1	
Assistant professors.....	0	2	
Instructors.....	2	0	
Doctor's degree.....	9	6	2
	3	6	

¹ Courses not counted toward the degree.

A course which has significance for both composition and literature is that of literary criticism which alternates with the poetic courses.

A general introductory course is required as preliminary to all the other courses in literature. It deals with the development of English literature from Beowulf to Johnson. Following it, the periods are dealt with as follows:

Old English.....	3-hour semester course.
Middle English.....	3-hour year course.
Middle English romances.....	3-hour year course.
Nineteenth century poetry.....	3-hour year course.
Nineteenth century prose.....	3-hour year course.
Later Victorian poetry.....	3-hour semester course.
American literature.....	3-hour year course.
The classic and romantic movement.....	3-hour year course.

Special writers are dealt with in courses on Beowulf, Chaucer, and Shakespeare, to the study of whom two courses are given.

At Vassar, while nineteenth century literature, both prose and poetry, is dealt with thoroughly, the only opportunity for study of eighteenth century literature appears in the course which includes both the classic and the romantic movements and which begins with Spenser. The sixteenth and seventeenth centuries are covered by the course called Shakespeare and his age. The work, as may be readily seen, is offered largely on the period basis.

WELLESLEY.

At Wellesley College the departments of English composition, literature, language, and reading and speaking are quite separate, each with a different head and a separate faculty, with the exception of one member of the composition department and the two members of the language department, who have work in the other departments.

All courses at Wellesley are classified in Grades I, II, III; Grade I including elementary courses and Grade III the most advanced courses. According to this classification, the English composition department offers one Grade I course, three Grade II courses, and three Grade III courses.

The general prescribed course, as at Vassar and Radcliffe, is a three-hour course for the year. Ten members of the faculty teach it, each having entire charge of one or more divisions for the class work, the theme reading, and the conferences. The work is outlined closely enough to keep the different divisions practically parallel. Weekly themes are required the first semester, and fortnightly themes the second.

English at Wellesley.

	Composition.	Literature.	Spoken.	Language.
Year courses.....	4 (3-hour) 2 (2-hour) 1 (1-hour)	13 (3-hour) 2 (1-hour)	1 (3-hour) 2 (2-hour)	2 (3-hour)
Semester courses.....	0	2 (3-hour)	0	0
Hours.....	17	41	7	6
Teachers.....	12	9	5	2
Professors.....	2	2	1	1
Associate professors.....	2	3	0	1
Instructors.....	8	13	2	0

¹ One assistant.

Course 2 of argumentation will not be offered after the year 1915-16. It represents the second course formerly required for a degree. Two other full elective courses on argumentation seem, however, to supply sufficient training.

The Grade III courses offered by the composition department are as follows:

Long and short themes; a general course in writing which includes the critical study of one novel at least. Two-hour year course.

The theory and history of criticism; a lecture course dealing with the critical theory of Plato and Aristotle, and with English and French critics. One-hour year course.

Advanced course in English composition; a general writing course including studies in structure and style.

Classified by grades, the literature department offers one Grade I course, seven Grade II courses, with a 1-hour course in addition, seven Grade III courses, with a 1-hour course in addition. With the above exceptions of 1-hour courses, the rest are 3-hour courses. Nine teachers conduct the work.

As at Radcliffe and Vassar, a general course is given on the development of English literature, and as at Vassar but not at Radcliffe, this course is prerequisite to all other courses in the department. The course is sometimes passed off by examination.

Courses based on periods rather than special writers are:

American literature.....	3-hour year course.
English literature of the fourteenth century.....	3-hour year course.
English lyric poetry of the sixteenth and seventeenth centuries.....	3-hour year course.
Beginnings of the English Renaissance from Chaucer to Spenser.....	3-hour year course.
Victorian prose.....	3-hour year course.
English poetry of the nineteenth century.....	3-hour year course.
Historical development of English literature.....	3-hour year course.
Tendencies of twentieth century poetry.....	1-hour year course.

Less emphasis is placed on the eighteenth century literature than at Radcliffe and more on the modern.

Special writers are dealt with in courses on:

Milton.....	3-hour year course.
Spenser.....	3-hour semester course.
English drama through Shakespeare.....	3-hour year course.
Modern authors. (Two each year.).....	3-hour year course.
English masterpieces.....	3-hour year course.

A course on the Arthurian Romance, a 3-hour year course, and a 1-hour year course in poetics are also offered. A course called Critical Studies in English Drama, three hours for the year, aims to give graduate training in literary investigation.

The English language department is devoted to the study of Old and Middle English. It offers in 1915-16, a course in the History of the English Language, and a seminar for the study of Old English. Both are 3-hour courses for the year, of Grade III. In none of the other colleges are these language courses separated from the English department.

Spoken English at Wellesley is called reading and speaking, and has no connection with any branch of the English department. It consists of one Grade I course of two hours, one Grade II course of three hours, and one of two hours. The first two courses are given to training of the body and voice, and the third to the interpretation of Shakespeare. Unlike Vassar, the courses at Wellesley count toward a degree.

RADCLIFFE.

At Radcliffe, in all of the departments, the courses are classified primarily for undergraduates, for undergraduates or graduates, and primarily for graduates. Between the groups there is, however, no strict division line, the only restriction being that courses primarily for undergraduates shall not count toward the M. A., and that undergraduates are to be admitted to courses primarily for graduates only on recommendation of the instructor. This generous provision allows the able student great freedom of choice in courses and makes it possible for her to accomplish nearly, if not quite, the work required for both A. B. and A. M. in four years.

English at Radcliffe includes without separation into departments composition, literature, and spoken English. "Study of literature forms a part of nearly every course in English composition, and practice in composition forms a part of many of the courses in English literature." Members of the faculty sometimes teach both composition and literature. The courses of comparative literature are grouped into a separate department.

English at Radcliffe.

	Composition.	Literature.	Spoken.	Comparative.
Year courses.....	5 (3-hour)	7 (3-hour.)	2 (2-hour, half-courses.)	2 (3-hour.)
Semester courses.....	0	9 (3-hour.)		1 (3-hour.)
Hours.....	15	2 (2-hour.)		2 (2-hour.)
Teachers.....	5	11	4	4
Professors.....	2	5	1	1
Associate professors.....			1	
Assistant professors.....	1		0	2
Instructors.....	1	6		1
Doctors' degrees.....	1	6		1

The only prescribed work at Radcliffe is a three-hour course of rhetoric and English composition; an introductory course in the theory and practice of English composition, both oral and written. The theory is taught by lectures, recitations, and readings, the practice by the writing of themes which are criticized and rewritten. Short daily themes and longer periodical papers are required of the student.

This prescribed course may be anticipated by examination. For the freshmen who have anticipated it by the grade A or B, the course called English composition is primarily intended. It is conducted in much the manner of the prescribed course, but deals with a selected group of students.

The instructor in charge of the undergraduate composition courses, which are usually large at Radcliffe, gives the lectures. The themes are criticized and marked by assistants who hold conferences

with the students concerning them. The assistant selects themes indicative of significant failure or success for the professor in charge who presents them to the class with personal comment and criticism. According to this plan much of the individual teaching is done by the assistant and much of the evaluation of the student's work is left to his judgment. On the other hand, the student has the stimulus of general and sometimes individual comment and suggestion from the expert whose time must necessarily be saved by readers.

A third English composition course, a three-hour year course, is limited to 20 students and is especially intended for graduates who already write well and for undergraduates who have attained distinction in English 12, which, though not offered in 1915-16, is a course usually given to students showing ability. The prerequisite, then, for the more advanced composition courses is demonstrated ability to write.

The two other composition courses deal with the technique of the drama and are arranged on the same basis, that of value placed on actual work accomplished, the second open only to those who have taken the first with distinction. The first of these drama courses, which are given by Prof. Baker, is limited to a dozen and is primarily for graduates. Candidates make application by submitting an original play of one or more acts. The lectures of the course treat of the relation of the play to the novel and short story, the principles of adaptation, plotting, structure, characterization, climax and suspense, and dialogue, and the making of scenarios. Three plays are required of each student. The second drama course is an advanced course of lectures and practice. With the consent of the instructor it may be counted for more than one course, thus making provision for students who give evidence of talent enough to warrant extra-time adjustment.

The work in dramatic composition at Harvard and Radcliffe has been stimulated by the offer of two awards, the MacDowell Resident Fellowship of \$600, and the Craig prize of \$300, the latter including a production of the successful play. The fellowship and the prize have been awarded since 1910, each twice to Radcliffe students whose plays were produced with considerable success.

The subject argumentation to which much attention is given in the other colleges is omitted entirely.

While the literature courses are classified in the usual manner, the line of demarcation is slight and undergraduates capable of good work are admitted to courses primarily for graduates. No courses are required and none has a prerequisite except early English, which is open only to those who are acquainted with Anglo-Saxon.

Of the 264 courses offered by the literature department, 17 are open in 1915-16. The method of alternation of courses permits this

work to be kept in the hands of some of the best men of Harvard's staff, who, too busy to give all of the courses each year, would otherwise have to delegate them to assistants.

The general introductory course, primarily for undergraduates, is designed to trace the main historical development of English literature from earliest times to the present day. (Three-hour year course.)

The story of King Arthur, an undergraduate course, deals with the development of the Arthurian legends in English, and gives a brief history of their origin. (Three-hour semester course.)

Of the more advanced courses, those devoted chiefly to study and interpretation of the text include the three-hour year courses of Chaucer and of Shakespeare, and the three-hour semester courses of Anglo-Saxon, Beowulf, Bacon, and Milton. Of these, the course given by Prof. Kittredge on Shakespeare may be taken in two successive years, six plays being studied each year.

The courses dealing with specific periods rather than with a special writer of a period are:

Full courses:

Early English. From 1200 to 1450.

The drama from 1642 to the present day.

Half courses:

Studies in seventeenth century prose.

Life and works of Pope.

Eighteenth century periodicals.

Eighteenth century sentimentalists and their opponents.

English literature in the period of the Romantic movement.

The courses are conducted by lectures. Reading is assigned to the students, who make written reports of any phase which proves especially interesting to them.

English 20 consists of courses of research in which the instructors in English hold themselves ready to assist and advise competent graduate students who may propose plans of special study in the English language or literature. The number of these courses varies according to the demands of the graduate students and in subjects according to their special interests.

Of the courses in comparative literature, the first, a three-hour course for the year, offers a general survey of the history of literature in Europe from its origin in classic times to the present day. It emphasizes the writers, the subjects, and the influences which have survived in conscious tradition. The course is conducted by lectures and reading, when possible, in the original language. The courses dealing with specific periods are as follows:

Full course: Literature of the Renaissance.

Half course: Goethe's Faust, with a study of kindred dramas in European literature.

Half course: The dramatic works of Grillparzer, considered in their relations to European literature.

Half course: German literature in the sixteenth century and its relation to European literature.

BARNARD.

At Barnard the department of English as at Radcliffe includes all of the courses given in composition, literature, and elocution. All but one of the instructors of composition give courses in literature also. The courses are all undergraduate courses, and their value is indicated by points. Two points are practically equivalent to one year-hour. Many of the year courses are regarded as divisible courses, the first half of which may be taken separately.

English at Barnard.

	Composition.	Literature.	Spoken.
Year courses.....	5 (6-point.)	7 (6-point.)	1 (4-point.)
Semester courses.....	1 (3-point.)	2 (4-point.)	
Hours.....	16½	32½	
Teachers.....	8	12	2
Professors.....	2	6	1
Instructors.....	6	6	
Doctors' degrees.....	1	6	

1 All but one teach literature.

4 Ph. D., 1 Litt. D., 1 LL. D.

All freshmen are required to take a 6-point composition course for the year. It is given by seven members of the department, and it consists of oral and written exposition, argument, description, and narrative. No special courses in argumentation are given as at Vassar and Wellesley.

The sophomore requirement of a 6-point course may be met by any one of several courses, the student being allowed a freedom of choice regulated by her proficiency or aptitude in freshman English. She may go on writing or elect work in literature from the following courses: Epic and romance; essay and poetry; survey of English literature; composition; journalistic writing; drama.

Beyond this group the courses are elective. Within the group, "Journalistic writing," and of the advanced courses, "The survey of American literature," are required of students who intend to transfer to the school of journalism.

The advanced work in composition consists of one 6-point course devoted to theme writing and one 3-point semester course in story writing or play writing with collateral reading.

The especial periods dealt with by advanced courses are as follows: Survey of American literature, 4-point year course; English poetry from 1550 to 1625, 3-point semester course; English poetry from 1625

to Wordsworth, 3-point semester course; English Victorian literature, 6-point year course.

Courses laying stress on study and interpretation of text are: Old and middle English and Chaucer.

Special writers are treated in courses on Shakespeare, and Dr. Johnson and his circle.

In addition, a semester course of a survey of romances and ballads touches upon literature of the continent as well as of England, though in no sense is it comparative literature; also a course of English prose, including fiction, is offered.

MOUNT HOLYOKE.

At Mount Holyoke, 15 semester hours or 7½ year hours of English are required as against 3 at Vassar, Wellesley, and Radcliffe, and 6 at Barnard. Of the 9 semester hours of composition, 6 are prescribed in the two courses which are introductory to composition and to vocal expression. The introductory composition places special emphasis on the writing of exposition. It is conducted by a method of outlining; the student reads prescribed books and analyses them by outlining their content. At Mount Holyoke, as at none of the other colleges, work in vocal expression is required as a part of the prescribed course. Once in two weeks each division of freshman English meets for work in voice training. The vocal expression work is given a regular place in the English curriculum in addition to the freshman work, and consists of three advanced courses.

English at Mount Holyoke.

	Composition.	Literature.	Spoken.
Year courses.....	1 (3-hour) 1 (1-hour)	1 (3-hour)	1 (3-hour)
Semester courses.....	12 (3-hour) 1 (1-hour)	16 (3-hour) 1 (2-hour) 1 (1-hour)	1 (3-hour) 1 (2-hour) 1 (1-hour)
Hours.....	22½	28½	6
Teachers.....	8	6
Professors.....	1	0	0
Associate professors.....	1	1	11
Instructors.....	6	5

½ Included in composition.

As at Wellesley the composition department is separated from the literature department, each having its own faculty. Mount Holyoke offers the largest number of hours of composition of any of the five colleges. With the exception of Vassar, which offers two semester courses, and of Barnard, which offers one semester course, the composition work of the other four colleges is arranged in year courses. Mount Holyoke, however, offers 18 semester courses and only two

year courses. This arrangement permits a great variety in subjects of courses. Argumentation is given a special course as at Vassar and at Wellesley. To theme writing two semesters are devoted, and to general writing one semester; a semester of debating is offered. The specialized composition work to which the rest of the semester courses are devoted is as follows: Descriptive writing; narrative writing; verse forms; verse composition; structure of the drama and the novel; prose style. One semester is given to literary criticism and one to the history of the English language. The department also has a press club, which includes all newspaper correspondents.

Mount Holyoke, thus, has attained a considerable degree of specialization. It is a question whether with so complete a division of the work into semester subjects any sustained or intensive writing can be accomplished.

Eight teachers, including the one teacher of vocal expression, conduct the work of the composition department. Of these six are instructors and none possesses the doctor's degree.

Although the literature courses are divided into semester courses almost as completely as the composition courses, they do not present as great a variety of subjects. Nineteen courses are offered on 15 subjects, a second semester course sometimes being the sequel of a first semester course.

The department requires a course called "an historical outline of English literature," much like the course given at Wellesley. Substitution of other courses may, however, be arranged.

The courses, all in three-hour semester courses, dealing with specific periods, are as follows:

Middle English, from 1200 to 1400. Special attention to the English metrical romances.

Elizabethan nondramatic literature.

Elizabethan drama.

Eighteenth century literature, first half of the century.

Eighteenth century literature, from death of Pope to 1800.

Nineteenth century prose, two semesters.

Nineteenth century poetry, two semesters.

Nineteenth century novel, two semesters.

American literature.

Two semesters of old English are given, one of which is devoted to Beowulf, Chaucer, Shakespeare, and Milton; each receives a one-semester course. A semester is given to English and Scottish popular ballads. A seminar, which has a prerequisite of four courses exclusive of the introductory course, is devoted to the history of English literature.

The work of the literature department is conducted by six teachers, five of whom are instructors and one of whom possesses the doctor's degree.

ZOOLOGY.

Zoology, as representative of the elective natural science work of the college, is chosen for analysis because of its rapid development, its practical possibilities, and because it is largely elected in the colleges. Miss Dealey finds that from a comparative standpoint with regard to the science departments of chemistry, physics, zoology, botany, geology, and astronomy, the largest amount is taken in the department of zoology at Vassar, Wellesley, and Smith.¹

Both Vassar and Wellesley were founded soon after the great impetus given to the laboratory method of studying zoology by Louis Agassiz. The summer school which he founded at Penikese in 1872 had profound influence on the development of the study of zoology. Among the students was the present head of the department of zoology at Mount Holyoke, and from his school biologists scattered all over the country to bring into use the laboratory method.

Courses and instructors in zoology.

	Vassar.	Wellesley.	Radcliffe.	Barnard.	Mount Holyoke.
Year courses.....	2 (3-hour)	5 (3-hour)	5 (3-hour)	1 (12-point) 2 (8-point) 2 (4-point)	2 (3-hour)
Semester courses.....	3 (3-hour) 2 (2-hour)	2 (3-hour)	8 (3-hour) 1 (2-hour)	2 (2-point)	11 (3-hour)
Teachers.....	5	18	28	19	22
Professors.....	1	6	6	5	8
Associate professors.....	1	1	2	2	2
Assistant professors.....	0	2	0	0	1
Instructors.....	3	3	2	0	0
Doctors' degrees.....	2	5	4	3	3

^a 1 in botany.

^b 1 assistant.

Vassar opened with a department of natural history which included zoology, and a museum of zoology and botany which was "not for curiosity or display."² Wellesley's circular for 1876 announced electives in zoology for juniors and seniors. To Radcliffe and Barnard both, the departments of botany were opened the first year and the departments of zoology the second. Mt. Holyoke's college curriculum appearing as late as 1888 naturally included a well-developed course of zoology.

From general natural history courses, the work has become sharply defined into specialized courses, dealing intensively with different phases of the subject.

Two of the colleges, Radcliffe and Barnard, now offer outside of any special department an introductory course surveying most of the sciences, to afford the student a basis for making an intelligent

¹ Dealey, H. L. Comparative Study of the Curricula, p. 361.

² Prospectus, 1865, p. 28.

choice of subject. In addition, these colleges also offer the usual introductory course in the zoology department.

The content of this introductory course has always been much debated. Whether the unskilled beginner gains more from a course which deals with a type with which he is fairly familiar, as crayfish or frog, or whether he should at once begin work with the microscope on the protozoa and advance gradually to the more complex forms is one of the questions which causes disagreement among teachers of zoology. Although no one of the colleges has probably reached a final decision as to a course which is the best basis for further work, the present introductory courses reflect the different points of view of the individual colleges. A brief comparison will serve to indicate the points of agreement and disagreement concerning the introductory course in the five colleges.

At Vassar the course begins with detailed study of the frog. The rest of the semester is spent on lobster. The only microscopic work consists of brief inserts of the study of amoeba and green plant cells for physiological purposes. The second semester, which may be taken independently and which is not prerequisite for much of the advanced work, consists of the usual series of invertebrates taken in order as type forms. Yeast and bacteria, however, precede the protozoa.

At Wellesley the course is not divided. Like Vassar, it begins with the frog, dealing next, however, with the bird; then, starting with the microscopic work on the protozoa, the course presents the invertebrate series of type forms.

Radcliffe begins at once with microscopic work on the protozoa, working up to a detailed study of the frog in one semester. The second half year of genetics and eugenics is unessential to further election.

At Barnard the course deals first with microscopic study of cells and protoplasm. The earthworm is then taken as a type animal; a day is given to fern for comparison, and then the usual series of type forms of invertebrates are presented, beginning with protozoa. The second half of the year deals with vertebrates in the order of amphioxus, dogfish, frog, and rabbit.

Mount Holyoke, like Radcliffe, begins the course with microscopic work on protozoa, working up through type forms to the oyster and clam in the first semester. The second semester is devoted to insects, lamprey, fish, frog, and demonstrations of mammals.

Thus Vassar and Wellesley start with large familiar forms, later dealing with the simple microscopic forms. Radcliffe, Barnard, and Mount Holyoke deal at once with microscopic work, though Barnard does not continue to study the invertebrates in logical sequence as do Radcliffe and Mount Holyoke.

At Wellesley only are juniors and seniors debarred from the elementary course. At the other four colleges the course is open to all students, thus enabling a student who desires a general zoology course to elect it during any college year.

All of the colleges make some provision for dealing with the theoretical aspects of zoology in some part of the beginning work, usually by lectures on phases of evolution. Advanced work of philosophical or theoretical content follows later. In its bearings on the problems of the human race, such work is of great importance to the student and is emphasized with advantage in the introductory course.

Although a natural science is prescribed by all of the colleges, the particular science of zoology is elective throughout. The severity and kind of prerequisite for advanced work vary in the different colleges. At Vassar the completion of one semester of the introductory course serves to admit the student to all but one of the courses following it. At Wellesley the completion of the introductory course and the year course following are essential to all of the advanced work. At Radcliffe the ability of the individual student largely determines the courses open to her. Certain courses are the preparation for following courses, but an equivalent is always accepted. At Barnard the introductory course opens to the student only two semester courses, while for further work a semester of vertebrate anatomy is necessary.

Part of the significance of the amount of prerequisite work lies in the provision it makes for students who do not wish to be scientists, but who desire to elect more than an introductory course. A prerequisite of two years is likely to deter a student who is not specializing in that department.

Courses in physiology are variously distributed in the department of zoology, in the department of physiology and hygiene, which may or may not include the gymnasium work, and in a special department of physiology. At Vassar a year of advanced physiology is given without prerequisites in the department of physiology and hygiene. Wellesley and Barnard each includes a course in the zoology department, the former requiring for admission the second year vertebrate anatomy course, the latter the introductory course. Radcliffe gives only a course in elementary anatomy and physiology. A special branch of the department of zoology at Mount Holyoke offers two years of physiology with a prerequisite of chemistry. Except at Radcliffe, all of the colleges require the freshmen to attend lectures upon hygiene.

All of the colleges offer courses in embryology, cytology, histology, and theoretical zoology, besides the work on invertebrates and vertebrates. Variation is most noticeable in the courses which have practical bearings. Of these there are two kinds, courses in natural

history, in which the student becomes familiar with the ecological aspect of zoology and learns how to collect her own material, and courses in the technique of preparation of microscopic material.

Wellesley, Radcliffe, and Mount Holyoke offer a semester course on insects; Wellesley and Mount Holyoke offer also a semester on the natural history of animals and in addition include field work on the birds in their introductory course. Vassar and Barnard offer no natural-history work. Training in technique is specially provided for at Barnard and at Mount Holyoke. At the other three colleges work in microscopic technique is included in the laboratory exercises of other courses. The special provision has significance for those students who wish to do research work or teaching.

In none of the colleges is the kind of application of the work to practical problems made as it is at Reed College, Portland, Oreg., where the students run the experiments of the State fish hatchery, assist in the city ant-fly campaign, supervise the biological books of the public library, accompany the State forester in the summer, and publish considerable scientific material. The work of Reed College points the way toward a possible useful expansion of the department of zoology in the college.

An analysis of the teaching force shows the following percentages of the teachers to be of the grade instructor: At Vassar, 60 per cent; at Wellesley, 50 per cent; at Radcliffe, 33 per cent; at Barnard, 60 per cent; at Mount Holyoke, 62 per cent. At Radcliffe the courses are given to the greatest degree by teachers of professorial rank.

Of the teachers the following percentages possess the doctor's degree: At Vassar, 40 per cent; at Wellesley, 83 per cent; at Radcliffe, 66 per cent; at Barnard, 60 per cent; at Mount Holyoke, 37 per cent; a comparison which shows Wellesley in the lead.

VASSAR.

At Vassar College zoology and botany are grouped in the same department, and though the courses are kept entirely separate, the cooperation is so close that one instructor teaches both subjects.

At Vassar a year course of three hours called animal biology is made the foundation for further work. Either the entire course or the first semester of it is a prerequisite for advanced courses. Of the freshmen only those exempt from physics or chemistry may elect the zoology, which is designed for sophomores and juniors, but is open to seniors. The course deals with invertebrates and vertebrates both, the type forms being lobster and frog with unicellular forms for comparison. In the second semester special attention is given to the comparative physiology of a representative series of animals, and the concluding lectures deal with the theory of organic evolution. The work of either semester may be taken independently.

At the end of the first semester of the introductory course, the student is free to choose any other course in the department except cytology and special readings, the prerequisite of which is the entire introductory year course.

The work offered covers the ground as follows:

A year course of invertebrate zoology dealing with the morphology and classification of the various groups from protozoa to protochordata. A small amount of field work is carried on in this course, consisting, when possible, of the collection of the material used in class. No other field work is done by the department.

A course for a semester in embryology of the usual type, including study of the sex cells, fertilization in ascaris, cleavage, embryology of the fish, the frog, chick, and pig.

A semester course of special readings of books or papers, the subject for 1916 being recent work in heredity.

A semester course in the comparative anatomy of vertebrates with the dissection and comparative study of six type vertebrates exclusive of the mammal, which is considered in the next course.

A semester course in mammalian anatomy, devoted to dissection of the cat with a comparative study of representatives of the different orders of the mammalia.

Cytology, a semester course dealing especially with the structure and biology of the cell, and with the acquisition of the technique of microscopic work.

In quantity less work is done at Vassar in zoology than at any of the other colleges used as the basis for comparison.

WELLESLEY.

At Wellesley the introductory course, called the biology of animals, is a three-hour year course open only to freshmen and sophomores. The course deals largely with the study of a series of types of invertebrates, no other work on invertebrates except the insect course being given in the department. The lectures follow closely the laboratory work which deals with the material in the following order: Frog, with reference at as many points as possible to the human body; bird in comparison with frog and as a study in adaptation, protozoa, coelenterates, flatworms, annelids, echinoderma, molluscs, arthropods. Lectures on evolution begin in the second semester and field work on birds after the Easter vacation. Bird talks are also given to the students.

Not only is the introductory course required for some of the advanced work in the department, but the student must have completed or be taking the course in vertebrate zoology in order to elect any

more work. Vertebrate zoology is a three-hour year course dealing with a comparative study of vertebrate types, including the mammal, on which no separate course is given. The following types are studied: Dogfish, mud puppy, turtle, and cat.

The Grade III courses open to the students who have fulfilled the requirements of the preceding work are as follows:

Natural history of animals, dealing with the ecological aspect of zoology, three-hour semester course.

Insects, recommended with the natural-history course for those intending to teach, three-hour semester course.

Embryology and cell structure, a course the first half of which is devoted to histology, the second half to embryology, three-hour year course.

Physiology, dealing with experimental and theoretical questions in human physiology, three-hour year course.

Anatomy, a Grade II course, is open only to first-year special students in the department of hygiene, and deals especially with the dissection of the cat and with the elements of histology.

BARNARD.

The introductory course at Barnard is called "General biology and General zoology." It is a full-year course counting eight points and is open to sophomores, juniors, and seniors. The first eight weeks are devoted to general principles of animal life illustrated by laboratory work on invertebrates. The second eight weeks are spent studying invertebrates by the type method, working to a knowledge of metazoa through cell association. Insects are used as a basis for comparative embryology. Comparative anatomy is studied on the basis of evolution. The first semester deals with biological principles and invertebrate zoology.

The second semester takes the students from chordates to man. The principles of evolution are formally treated in lecture and in laboratory work as follows:

First stage—amphioxus; studies for cephalization and differentiation. Compared with man.

Second stage—dogfish; every system interpreted with reference to amphioxus.

Third stage—rabbit; each system carried up through to human.

The lectures develop the principles of evolution, bringing together the material of the second term and utilizing that of the first. Lantern slides are used in the lectures.

Completion of the first semester of the introductory course admits the student to a semester course of histology, which is an amplification of the elementary course. Completion of the entire introductory course admits the student to the following courses:

Embryology, one semester; an amplification of the first course.

Biology and vital relations of the human organism, a year course, for students who do not wish the solid work of the advanced course of general

zoology. It deals with the anatomy and physiology of the human type in comparison with other organisms; embryology; heredity; genetics.

Practical zoology and embryology, a year course for students desiring practice and the preparation and mounting of zoological, histological, and embryological materials for microscopic examination.

General physiology, a year course, which deals with the general principles of animal physiology.

For students who have completed the entire introductory course and the semester course of embryology, an advanced course called general zoology is open. This course deals with invertebrates and vertebrates, and is based on the textbook Parker and Haswell.

RADCLIFFE.

The introductory course, a half course, at Radcliffe, deals more with the general principles of zoology than does that of Vassar or Wellesley. It includes briefly historical, structural, and ecological considerations of zoology.

The laboratory exercises consist of a study of material to illustrate the topics treated in the lectures supplemented by museum and field work. A fairly full study is made of a protozoan, a coelenterate, a worm, a crustacean, and a vertebrate. The other phyla are represented by forms that are studied without dissection and almost entirely externally.

The next course which is open to students who have taken an elementary course in zoology, botany, or physiology, is a half course called genetics and eugenics. It has no laboratory work, but is conducted by lectures, reading, and conferences. The course treats of the reproduction of animals, the origin of new races, the influence of heredity and of environment; applications to animal breeding and human society.

In these two early courses, then, the principles and philosophy of zoology are presented to the student as the basis for further work.

Completion of the first course admits the student to a half course in the comparative anatomy of vertebrates, which deals especially with the progressive modification in the structure of the organs from the lower to the higher vertebrates; and to a half course on the morphology, classification, and habits of insects.

Students who have completed the course in comparative anatomy may elect a half course of general histology which is preparatory to the following courses in embryology and cytology:

Embryology of vertebrates; a half course of organogeny, dealing with the formation of various organs and their relation to the germ layers.

Cytology with special reference to heredity.

The structure and function of sense organs, dealing with the anatomy and physiology of the chief classes of sense organs considered mainly from the standpoint of their evolution.

Experimental morphology, which deals with the form-determining factors in development and growth through a study of the embryo as a dynamic system whose energies are continually manifested in change of form. The nature of the organization of embryo and adult is considered in the light of researches in experimental embryology and regeneration.

For students who are competent to carry on original investigation, the opportunity of pursuing investigations under the guidance of instructors is as follows: Embryology; cytology, with special reference to heredity; the structural and functional basis of animal reactions; comparative anatomy of vertebrates; experimental morphology.

MOUNT HOLYOKE.

At Mount Holyoke a course in general zoology is given, the first semester of which is termed an introductory course and is devoted to work upon representatives of a few of the more important invertebrate groups. The course begins at once with microscopic work upon the protozoa. Completion of this half course admits a student to the second half year of general zoology, which is devoted to vertebrate and invertebrate types both; to a semester course on the natural history of insects and parasites; and to a natural history course of one semester dealing with vertebrates.

If the student completes the full year of general zoology, she may elect a semester course called comparative anatomy of vertebrates, in which the study of the cat as a typical mammal is emphasized.

The three half courses mentioned are prerequisite to the following semester courses:

Osteology, a comparative study of vertebrate skeletons, including the preparation of the bones of one mammal.

Neurology, a course in the histology of the central nervous system and sense organs.

Theoretical biology, the history of the development of modern biology and a discussion of the philosophical side of the subject.

Completion of the semester course of comparative anatomy of vertebrates entitles the student to elect the following semester courses:

Embryology, dealing with different types in the development of the chick and mammal.

Histology and microscopic technique.

Cellular biology, the study of pond life with special emphasis upon protozoa; the structure of the cell; developmental and nondevelopmental phenomena.

A separate division of the zoology department offers two three-hour year courses in physiology. The first, general physiology, is open to sophomores who have a knowledge of chemistry, and deals with the activities of the human organism. The second, called also general physiology, is a more advanced course.

HISTORY.

The introduction of history into the curriculum of the woman's college came in general rather later and less unchallenged than did the English or the biology. Vassar had no department of history until 1887, though the established curriculum of 1873-74 offered to seniors a semester of lectures on modern history. The introduction of five history courses in 1887 was part of the general rejuvenation of the college at that time. Wellesley, in its first curriculum, 1875, offered a course each in history, medieval history, and modern history. Radcliffe's first curriculum of 1879 showed five courses in history. Barnard, in 1895, introduced its exchange system of professors through the provision for a demand for history and economics which warranted such a system. Mount Holyoke's first college curriculum of 1888 showed a well-developed history department. The figures of Dealey¹ show that the department of history now occupies nearly as important a place in the curriculum as an elective of the students as does the department of English.

The growth of the courses in government has led to a separation of them into a distinct department of political science at Vassar; of government at Radcliffe, and of politics at Barnard. At Wellesley three hours and at Mount Holyoke seven and a half hours of government are included in the department of history, raising thereby the total number of courses given by the department.

At Vassar, Barnard, and Mount Holyoke three hours of history are prescribed. At these colleges the prescribed work, and at Wellesley three hours of introductory work, are required for late election. At Radcliffe, to be admitted to advanced courses the students must satisfy the instructor that they have had sufficient preparation in history.

Courses and instructors in history.

	Vassar.	Wellesley.	Radcliffe.	Barnard.	Mount Holyoke.
Year courses.....	7 (3-hour)	9 (3-hour) 2 (1-hour)	10	7 (6-point) 3 (4-point)	4 (3-hour)
Semester courses.....	10 (3-hour) 1 (2-hour)	4 (3-hour)	11	1 (2-point) 1 (3-point)	10 (3-hour)
Hours.....	27	35	45½	29½	27
Teachers.....	7	7	14	8	5
Professors.....	2	1	7	4	1
Associate professors.....	2	3	0	1	3
Assistant professors.....	2	0	3	0	0
Instructors.....	1	3	4	3	1
Doctors' degrees.....	7	4	9	6	5

Although all of the colleges agree upon European history for the material of the introductory course, Wellesley alone offering an alternative of English history, the periods of European history with

¹ Dealey, H. L. Comparative Study of the Curricula, p. 355.

which the courses deal, differ. Vassar includes from the ninth century until the present; Wellesley from the fifth century to 1648; Radcliffe from the fall of the Roman Empire to the present time; Barnard selects certain epochs for their social significance; and Mount Holyoke covers the period from the beginning of the Roman Empire to the thirteenth century.

Except at Vassar and at Radcliffe, the introductory courses are conducted largely by lectures and collateral reading. At Vassar a greater emphasis is laid on discussion. At Radcliffe the student's work is tested by weekly papers and discussions, and by individual conference with assistants. The system of conferences with the individual student has become an important part of the teaching of history in all of the colleges.

The following table shows the distribution of hours among the subjects covered by the history departments of the five colleges:

Distribution of hours in history.

	Vassar.	Wellesley.	Radcliffe.	Barnard.	Mount Holyoke.
English.....	6	9	6	3	7½
European.....	12	14	13½	17	9
American.....	7½	6	10½	4	3
Ancient.....	3	3	3	5½	
Technique.....	4		1½		
Other classes (unclassified, including Government courses).....	4½	13	11		17½
Total.....	37	35	45½	29½	27

¹ Government.

Among all the colleges European history takes the first place in the number of hours allotted to it. At Barnard the proportion of hours given to it is the most extreme. American and English history are close rivals for the second place. American leads at Vassar and at Radcliffe, the latter giving to American history proportionately and actually more hours than any of the other colleges. Mount Holyoke, on the other hand, gives much more attention to English than to American history.

All of the colleges, including Mount Holyoke, except in 1915-16, devote three hours to the study of ancient history, a proportion of time which seems rather small in consideration of the fact that as in literature comparatively few students gain much first-hand knowledge from the classics. High-school training is likely to prove somewhat inadequate. Barnard allows five and one-half hours to ancient history.

The group of unclassified courses includes, besides the government at Wellesley and Mount Holyoke, Vassar's eastern courses, and Radcliffe's economic and medieval history. Only Vassar and Rad-

cliffe attempt courses of pure technique which deal with the use of historic material.

It is interesting to note that no provision for the interpretation of the present European war except as is incidental to other courses is made in any of the colleges except at Wellesley and Barnard. At Wellesley a one-hour year course called "International politics" aims to give a general view of the international conditions since the close of the Bismarck period, with especial reference to the present relations of Europe, America, and Asia.

At Barnard the modern disturbance is attacked even more directly by a course three hours for the year of Contemporary European history, based largely upon current news.

In the analysis of the teaching force of a department, the number of teachers apportioned to the total amount of work offered is of some significance in judging the degree of specialization which the individual teacher can bring to his work. The following list permits a quick comparison:

	Teachers.	Hours.
Vassar	7	37
Wellesley	7	35
Radcliffe	14	45½
Barnard	8	29½
Mount Holyoke.....	5	27

Radcliffe and Barnard have the largest number of teachers in proportion to the hours of teaching.

The following percentages of the teachers of history are of the grade instructor: At Vassar, 14 per cent; at Wellesley, 42 per cent; at Radcliffe, 28 per cent; at Barnard, 37 per cent; at Mount Holyoke, 20 per cent.

At Vassar and Mount Holyoke, thus, the work is largely in the hands of teachers of professorial rank; at Wellesley the work is in the hands of instructors to a much greater extent.

The following percentages of the teachers possess the doctor's degree: At Vassar, 100 per cent, at Wellesley, 57 per cent; at Radcliffe, 64 per cent; at Barnard, 75 per cent; at Mount Holyoke, 100 per cent. At Vassar and Mount Holyoke, then, the department of history contains only teachers who possess the doctor's degree. The percentage is high at Barnard; at Radcliffe and at Wellesley still more, it drops somewhat. The percentage is interestingly high, however, attesting to a certain importance which the degree plays in this department.

VASSAR.

The colleges requiring history are Vassar, Barnard, and Mount Holyoke. In these colleges the required course conforms rather

closely in content to the introductory courses of the other two colleges, Radcliffe, and Wellesley.

At Vassar, the required course, a 3-hour year course, may be taken either in freshman or sophomore year. The course is a general outline of the development of Western Europe from the ninth century to the present time, including a study of the principal institutions of the Middle Ages, the Renaissance, the Reformation, religious and political wars, and the development of modern states. Emphasis is laid upon training the student to use library facilities. The work is conducted by means of textbooks, library references, class discussions, and conferences. The following electives are open to students who have completed the general course:

Courses dealing especially with the history of England:

English political history, covering the mediæval and the modern history of England; 3-hour year course.

(Advanced courses with prerequisite of one year of elective work.)

The history of England in the eighteenth century, a continuation of the preceding course; 3-hour semester course.

The modern British constitution, a sequel to the above course, dealing with a study of the government and public institutions of Great Britain; 3-hour semester course.

Courses dealing with European history:

General European history, the required course; 3-hour year course.

The French Revolution, treating of the intellectual, economic, and political aspects of the revolutionary era; 3-hour year course.

(Advanced courses with prerequisite of one year of elective work.)

Nineteenth century history, the history of Europe from the year 1815; 3-hour year course.

The Renaissance, the period from 1250 to 1500, with special reference to Italy; 3-hour semester course.

The Reformation, covering efforts toward reform before 1500, and the relation of the individual to the state and to the church; 3-hour semester course.

Courses dealing with American history:

American history, devoted to the stages of development of the country and to a study of the evolution of the government; 3-hour year course.

(Advanced courses with prerequisite of one year of elective work.)

History of the United States since 1850, a course which centers about the Civil War, dealing with problems which culminate in it, and those which mark the period of reconstruction; 3-hour year course.

The literature of American history, a course which aims to show the value of contemporary literature as an historical source; 3-hour semester course.

Courses dealing with the East and modern Russia:

The Far East, concerned especially with India, Japan, and China in the nineteenth and twentieth centuries; 3-hour semester course.

The Near East, the history of Turkey and the Balkans in the nineteenth century; 3-hour semester course.

Modern Russia, dealing with the political, social, and economic conditions in Russia during the modern period; 3-hour semester course.

Courses dealing with ancient history:

Ancient history, devoted to the period from the early Aægean civilization through the establishment of the Roman Empire; 3-hour year course.

Technique courses:

Periodical literature, dealing with the use of journalistic literature in the study and writing of history; 2-hour semester course.

(Advanced course with prerequisite of one year of elective work.)

Historical geography, dealing with the relation of the geographic conditions in Europe and America to the political history of these countries; 3-hour semester course.

(Prerequisite at least three elective courses.)

The nature and treatment of historical material, a course which is intended to equip teachers of history and graduate students; 3-hour semester course.

WELLESLEY

At Wellesley two semester courses and one year course are prerequisite to later election. The two semester courses cover the political history of England from 1485 to the present time. The year course covers the history of western Europe from the fifth century to the Treaties of Westphalia. The courses aim to train students in methods of historical work. Thus, at Wellesley the introductory work includes that of Vassar, with a special emphasis on English history. Further electives are as follows:

Courses dealing especially with the history of England:

Political history of England to 1485; 3-hour semester course.

Political history of England from 1485 to the present time; 3-hour semester course.

Constitutional history of England to 1399, dealing with the development of English constitutional government; 3-hour semester course.

Constitutional history of England from 1399 to the present time, a continuation of the preceding course; 3-hour semester course.

England under the Tudors and Stuarts, dealing with the religious and constitutional struggles of the sixteenth and seventeenth centuries; 3-hour year course.

Courses dealing with European history:

Introductory course; 3-hour year course.

History of the French Revolution, with the influence on the subsequent history of European countries; 3-hour year course.

International politics, including a general view of international conditions since the close of the Bismarck period with especial reference to the present relations of Europe, America, and Asia; 1-hour year course.

Diplomatic history of Europe since 1740, including a review of the century preceding; 3-hour year course.

Europe in the sixteenth century, a study of the great movements and personalities of the period; 3-hour year course.

Geography of European history, a study of the connection between events and localities; 1-hour year course.

Courses dealing especially with the history of America:

American history, dealing in the first semester with the age of discovery and conquest, in the second semester with the American Revolution; 3-hour year course.

History of the United States from 1787, a study of the formation and development of the Constitution of the United States; 3-hour year course.

Constitutional government, a course dealing with the American political system. In other colleges a course usually given in the department of government; 3-hour year course.

Ancient-history courses: One 3-hour year course.

A course called the history of Rome offers a general survey of Roman history through the reign of Diocletian. The same amount of time is given to ancient history at Wellesley as at Vassar.

There are no special courses in historical technique.

RADCLIFFE.

While Radcliffe offers an introductory course, it neither requires it for a degree nor demands it for admission to advanced courses. In history, as in the other departments, to elect advanced work the students must satisfy the instructor that they have had sufficient previous training. An interesting correlation between departments is shown in the fact that for three courses work in government will be accepted as a suitable preparation, and for two courses an approved course in Greek or Latin will be accepted. Even the research courses are announced as usually limited to graduate students.

The introductory course, a 3-hour year course, deals with European history from the fall of the Roman empire to the present time, offering a general survey of the development of mediæval and modern Europe.

Two full courses which deal especially with English history are offered:

Constitutional history of England to the sixteenth century, intended to explain the origin and earlier development of the constitution of English government.

History of England from 1688 to the present, a course which centers about political and parliamentary history.

Six courses dealing with European history are offered:

The introductory course; 3-hour year course.

History of Continental Europe since 1815, and European expansion in the nineteenth century, the two half courses covering the period of the development of constitutional government, the national movement, and world-wide expansion; 3-hour semester courses.

The age of the Renaissance in Europe, presenting the fourteenth and fifteenth centuries as a period of transition and emphasizing the history of Italy; 3-hour year course.

European industry and commerce in the nineteenth century, a course in economics which deals with the economic history of western Europe since the industrial revolution, emphasizing phases related to the economic history of the United States; 3-hour semester course.

Economic history of Europe to the middle of the eighteenth century, a course in economics which deals from the genetic point of view with the development of economic institutions and of the teachings of economic historians with the comparative development of typical industries both in Europe and the United States; 3-hour year course.

Seven courses dealing with American history:

American history: The formation of the Union, 1760-1829. A course spent on important points in the constitutional, political, and economic development of the people; 3-hour semester course.

American history: The development of the Nation, 1830 to the present time, emphasizing the same phases of development from the presidency of Jackson to the present; 3-hour semester course.

American history to 1760, dealing with the history, institutions and economic and social life of the English colonies; 3-hour semester course.

The history of the West, 1840-1915, dealing with the causes and process of western migration, and with the occupation of the provinces of the United States; 3-hour semester course.

Latin America, a general view of its history and the diplomatic and economic problems of the present day of the chief Latin-American countries; 3-hour semester course.

Economic and financial history of the United States, dealing with important topics related to American finance; 3-hour semester course.

Manuscript materials of American history, a course intended to locate and describe the manuscript sources of American history and to develop their values; 3-hour half course through year.

One course in ancient history:

History of Rome to the reign of Diocletian, a general course on the place of Greece and Rome in the world's history; 3-hour year course.

One course in technique:

Historical bibliography and criticism, an account of the materials for historical research, methods of research, and discussion of principles of historical criticism and interpretation; half course through the year.

In addition Radcliffe offers four courses listed in the table as unclassified:

History of religion, the beginnings of Christianity; 3-hour year course.

Topics in the economic history of the nineteenth century, 2-hour year course.

Medieval institutions, a course of research.

Economic history, a course of research.

BARNARD.

At Barnard the prescribed work, as at Vassar, deals with the history of Europe. It treats epochs of European history, with special reference to forms of government and changes in social conditions. The course is 6-point for the year, and is prerequisite to all other courses.

Little emphasis is laid on special English history, but one course being given and that one with special reference to the history of Continental Europe (6-point year course).

Courses dealing with European history are as follows:

Modern European history with special reference to the development of France; 4-point year course.

Contemporary European history, based largely upon current news; 6-point year course.

The history of the intellectual eras in Europe; 6-point year course.

European social history; 6-point year course.

The expansion of Europe; 6-point year course.

Courses dealing with American history are as follows:

History of the United States to the close of the Reconstruction; 4-point year course.

History of the United States since 1870 with special reference to economic and social conditions; 4-point year course.

In ancient history the following courses are offered:

The Roman Empire; 6-point year course.

History of Greece to the end of the war with Persia; 3-point semester course.

Greek and Roman theories of life and conduct; 2-point semester course.

MOUNT HOLYOKE.

At Mount Holyoke six semester hours of history are required. Three of these hours must be taken in a prescribed course, which, like the introductory courses of the other colleges, deals with the history of mediæval Europe. At Mount Holyoke, however, the course covers the period from the beginning of the Roman Empire to the thirteenth century. It is a 3-hour year course.

The history of England is dealt with in the following courses:

The history of England to 1216; 3-hour semester course.

The history of England from the reign of Henry III to the period of the Tudors; 3-hour semester course.

Early English history. Advanced course, dealing with some phase of economic or legal history before the reign of Edward III; 3-hour year course.

English economic history from the fourteenth century to the Industrial Revolution; 3-hour semester course.

The history of Europe is dealt with in the following courses:

The history of Europe from the beginnings of the Renaissance to the Lutheran Reformation; 3-hour semester course.

The history of Europe from the Lutheran Reformation through the eighteenth century; 3-hour semester course.

The history of Europe during the nineteenth century (prerequisite the two preceding courses); 3-hour year course.

The courses dealing with American history are:

The constitutional and economic history of the American Colonies; 3-hour semester course.

The political and constitutional history of the United States; 3-hour semester course.

Four courses dealing with government are as follows:

The history of political theory, ancient to mediæval; 3-hour semester course.

The history of political theory, modern; 3-hour semester course.

International law; 3-hour semester course.

Modern governments; 3-hour year course.

The two semester courses in ancient history are omitted in 1915-16.

GERMAN.

Courses in the modern languages have held undisputed place in every curriculum of the woman's college throughout its history. "The only living tongues admitted to the curriculum," says President Raymond, and other presidents apparently agree with him, "are the French and German." The group, first including only French and German, later embraced Spanish and Italian, and now at Radcliffe introduces the study of Russian and of Portuguese.

The necessity of offering introductory courses suited to students of different degrees of preparation complicates the beginning work and apparently increases the size of the department of German. All of the colleges make allowance for the students who have studied no German, and for students who have passed by examinations the different units of admission requirement. It is questionable whether the content of an elementary course in a modern language can be college material, or should be credited as such. Almost any other elementary course may make greater demands upon the intellect than an elementary course in a language. Such courses might be offered to students without preparation, but need not count for credit.

Beyond the introductory courses, dealing with language, the advanced courses include two kinds: Those devoted to practice in speaking and writing German, and those bearing on an intensive study of the phases of the language. Old High German, Middle High German, and history of the German language. Except for Radcliffe, which with its graduate courses naturally offers the most hours, the other four colleges offer very nearly the same number of hours of work devoted to the German language. Of courses which are more distinctly literary Barnard takes the lead by five and one-half hours, and is only one and one-half hours behind Radcliffe, which has its graduate courses. An examination of the literature courses with reference to the completeness of the period basis shows that at Vassar, Wellesley, Barnard, and Mount Holyoke, except in outline courses, the work deals almost entirely with nineteenth century, romantic, or contemporary literature. At Radcliffe the periods from the twelfth century to the twentieth are covered.

The study of Goethe occupies a prominent place in the German curriculum. At all of the colleges, except Radcliffe, from three to five hours, besides parts of other courses, are devoted entirely to Goethe. At Radcliffe, Goethe appears only in a course of comparative literature in which *Faust* is used as the basis of a study of kindred dramas in European literature.

The practical tendencies of the German courses are partly indicated by the stress laid on training in oral German. Vassar states that all of the courses in the department are conducted in German.

In addition, it gives two courses in German conversation, one of which counts toward the degree. At Wellesley, except in a philology course not given in 1915-16, the language of the classroom in all courses is German. A course called "studies in modern German idiom" offers special vocabulary training. At Radcliffe, the courses are conducted in English, mainly in German, or entirely in German, according to the course. Two semester courses are given to practice in speaking and writing German. At Barnard, as at Radcliffe, there is no universal use of German in the courses. An intermediate practice course, all in German, and an advanced colloquial practice course are offered for training in conversation.

Mount Holyoke offers a year of oral German to seniors who wish to be recommended to teach German. Furthermore, a course in the teaching of German is offered in the department of education. These two courses are the only recognition in any of the five colleges of the vocational application of the subject.

An analysis of the teaching force brings out the fact that for the number of hours offered, the work, except at Barnard, is carried by comparatively few teachers. Barnard leads in the ratio of the number of teachers to the number of hours taught.

The percentages of the teachers of the grade instructor are: Vassar, 50 per cent; Wellesley, 33½ per cent; Radcliffe, 83 per cent; Barnard, 44 per cent; Mount Holyoke, 25 per cent. At Radcliffe the proportion of instructors on the teaching staff is largest, and at Mount Holyoke, smallest.

The percentages of teachers with the doctor's degree are: Vassar, 66½ per cent; Wellesley, 33½ per cent; Radcliffe, 66½ per cent; Barnard, 77 per cent; Mount Holyoke, 50 per cent. Barnard has the largest proportion of teachers with doctorates, and Wellesley has the smallest.

Courses and instructors in German.

	Vassar.	Wellesley.	Radcliffe.	Barnard.	Mount Holyoke.
Year courses.....	3 (3-hour) 1 (2-hour) 2 (1-hour)	2 (3-hour) 3 (2-hour) 4 (1-hour)	9 (3-hour)	7 (6-point) 1 (6 or 4 point)	6 (3-hour) 1 (3 or 2 hour)
Semester courses.....	1 (0-hour) 5 (3-hour) 2 (2-hour)	7 (3-hour) 3 (2-hour)	9 (3-hour) 6 (2-hour)	4 (4-point) 1 (2-point) 6 (2-point)	2 (2-hour) 2 (1-hour) 2 (3 or 2 hour)
Total hours.....	29½	29½	46½	36 or 35	30 or 28
Teachers.....	6	5	6	9	4
Professors.....	1	1	0	5	1
Associate professors.....	1	3	1	0	2
Assistant professors.....	1	0	0	0	0
Instructors.....	3	2	5	4	1
Doctors' degrees.....	4	2	4	0	2
Hours for language.....	14	12	22	13 or 12	14 or 13
Hours for literature.....	14½	17½	24½	23	16 or 15

VASSAR.

Of the modern language departments, German is chosen because of its size and importance in the college curriculum. In the five colleges, the German departments not only offer more courses than any of the other modern language departments, Mount Holyoke excepted, where an equal number is offered in French, but they are outnumbered, in courses by only a few other departments in the colleges.

The language and the literature courses in German are so much more closely correlated than in English that it is impossible to draw a distinct line of demarcation between them, nearly all of the composition courses including the study of literature. The following separation is based on the kind of work which predominates in the course.

At Vassar the modern language requirement may be passed off if the student can satisfy the department of her ability to read and pronounce the language. No course therefore can be said to be required of the students. The department offers two introductory courses, one, an introduction to literature to students who have offered German at entrance, and the other a course in which students may begin the study of German. The latter course is continued a second year.

Beyond these introductory courses the language work offered is as follows:

Middle high German, a three-hour course for a year, of which one hour is spent on the German literature of the Middle Ages, and two hours on the language.

Advanced German and composition; purely a language course. One-hour year course.

German conversation. Two years of conversation are offered, the first counting as one hour, the second not to be counted toward a degree. These special courses, in addition to the fact that all courses in the department are conducted in German, give the student a working knowledge of the language.

Of courses predominately literary, the following are offered:

Introduction to the classical literature of the eighteenth century, dealing with the works of Lessing, Schiller, and Goethe; 3-hour year course.

Goethe, his life and works; 3-hour semester course.

Goethe's Faust; 3-hour semester course.

Critical and aesthetic writings of the classical period; 3-hour semester course.

German literature in the first half of the nineteenth century; 3-hour semester course.

The German novel of the nineteenth century; 2-hour year course.

German romanticism; 3-hour semester course.

Modern German drama; 2-hour semester course.

Contemporary German drama; 2-hour semester course.

Arranged by periods, a large proportion of the above literature work is included within the nineteenth century or at either border

of it. The greatest stress is laid on the study of Goethe, two courses and part of a third being devoted to it.

WELLESLEY.

At Wellesley the requirement of a language unless a third language has been presented at admission makes the courses of the German department, as at Vassar, practically all elective. Three elementary courses are offered, one for beginners, one for the students who have fulfilled the 2-point admission requirement, and one covering the 3-point admission requirement. Following these three Grade I courses of language are two Grade II courses, one in grammar and composition, the other in German idiom; one Grade III course on the history of the German language, and one Grade III course of grammar and phonetics.

The literature courses may be grouped as follows:

A Grade I introductory course, called Outline history of German literature; a 2-hour year course.

Two Grade II courses, called history of German literature; each 2-hour semester courses.

A Grade II course, Goethe's life and works; 3-hour semester course.

Two Grade III courses, Goethe's Faust; each 3-hour semester course.

A Grade II course and a Grade III course on Schiller, each a 3-hour semester course.

A Grade II course on German lyrics and ballads; 1-hour year course.

Grade III courses on: Nineteenth century drama; 3-hour semester course.

The German novel; 2-hour year course. The German romantic school; 3-hour semester course.

Aside from the one year and two semester courses in the history of German literature, the stress at Wellesley is upon the romantic period, upon Goethe, and slightly upon the nineteenth century.

RADCLIFFE.

At Radcliffe College unless both German and French are presented for admission, either German or French must be taken in the freshman year. As at Vassar and at Wellesley, the introductory courses are designed to fit the needs of beginners and of students who passed in elementary German for admission. Four courses, one counting as two courses, are offered to meet the varied preparations of the students.

Beyond these language courses, a half course in speaking and writing German is offered especially for those who wish to become teachers of German.

Four advanced language courses are offered, a half course in German grammar and in writing German, a half course in Old High German, a half course in the history of the German language, and a half course in Gothic, an introduction to the study of German philology.

The literature courses cover the following periods:

- German literature in the twelfth and thirteenth centuries; 3-hour year course.
- German religious sculpture in the Middle Ages; 2-hour semester course.
- The German religious drama of the fifteenth century; 2-hour semester course.
- German literature in the sixteenth century and its relation to English literature; 2-hour semester course.
- Introduction to German literature of the eighteenth and nineteenth centuries; 3-hour year course.
- German literature of the classic period, of the eighteenth century; 3-hour year course.
- German literature in the first half of the nineteenth century; 3-hour semester course.
- German literature in the second half of the nineteenth century; 3-hour semester course.

Courses devoted to special writers are:

- Schiller; 3-hour year course.
- Goethe's Faust with a study of kindred dramas in European literature; 3-hour semester course.
- Heine's life and works, including his relations to the romantic school and young Germany; 3-hour semester course.
- Modern German lyrics—Heine's poems; and selections from German folk-songs; 3-hour semester course.
- The dramatic works of Grillparzer, considered in their relation to European literature; 2-hour semester course.
- In addition, a seminary course is devoted to studies in the development of German poetic style.

BARNARD.

Under the new requirements in modern languages at Barnard, no German courses are now prescribed. Before the senior year all, except students of Greek, must, however, satisfy the departments of Romance languages and Germanic language that they have a working knowledge of French and German. Certain courses are recommended to give the proficiency required.

As at the other colleges, the introductory courses are planned to meet the needs of the students offering different degrees of preparation. The first three courses consist of grammar, composition, and reading; the fourth of selected dramas of Lessing, Goethe, and Schiller.

Beyond these courses, the electives in language are as follows:

- Intermediate practice course, a conversation and theme course entirely in German; 4 or 6 point course.
- Colloquial practice, an advanced discussion course; 2-point year course.
- History of the German language; 2-point semester course.
- The German of to-day; 2-point semester course.

The last two courses are given at Columbia and are open to properly qualified seniors.

The literature courses which deal with periods are as follows:

History of German literature from the earliest times to the nineteenth century; 4-point year course.

Middle High German literature; 6-point year course.

German literature from 1796 to 1871; 2-point semester course.

Selected dramas of the nineteenth century; 4-point year course.

Romantic fiction and poetry; 6-point year course.

Modern German prose; 6-point year course.

Contemporary German literature; 2-point semester course.

Only one course of this group, Middle High German, deals entirely with literature predating that of the nineteenth century.

Courses devoted to special writers are as follows:

Schiller; 6-point year course.

Goethe's Faust; 4-point year course.

Heinrich von Kleist; 2-point semester course.

Myth and legend in the works of Richard Wagner; 2-point semester course.

MOUNT HOLYOKE.

At Mount Holyoke six semester hours of Greek, French, or German are required for the degree. Three introductory courses, the first for beginners, the other two for those students who have covered the entrance requirement, are offered. These are followed by language course of: Middle High German grammar and readings, 2 or 3 hour year course; theme writing, 1-hour course; oral German, 1-hour year course.

The literature courses arranged on the period basis are as follows: Outline of German literature, 3-hour year course; German romanticism, 2 or 3 hour semester course; German drama from Lessing to 1900, 2-hour semester course; nineteenth century writers, 2 or 3 hour semester course.

Courses dealing with special writers are as follows: Schiller's life and works, 3-hour year course; Goethe's life and works, 3-hour year course; Goethe's Faust, 2-hour year course.

A teacher's course in German is offered in the department of education.

THE CLASSICS.

Courses and instructors in Latin.

	Vassar.	Wellesley.	Radcliffe.	Barnard.	Mount Holyoke.
Year courses.....	2 (1-hour)	2 (3-hour) 4 (1-hour)	3 (3-hour)	1 (8-point) 1 (6-point) 1 (4-point)	2 (3-hour)
Semester courses.....	6 (3-hour) 4 (2 or 3 hour) 2 (2-hour) 2 (1-hour)	7 (3-hour)	3 (3-hour) 3 (1-hour)	2 (2-point) 6 (3-point) 2 (2-point)	7 (3-hour) 1 (2 or 3 hour)
Hours.....	25 or 27	20	15	22	17 or 18
Teachers.....	8	4	6	7	4
Professors.....	1	2	4	3	1
Associate professors.....	2	1	0	0	1
Assistant professors.....	1	0	0	0	0
Instructors.....	3	1	2	4	2
Doctors degree.....	8	2	2	3	3

The history of the woman's college as that of the man's shows from the beginning strong emphasis on the study of the classics. Required for admission and prescribed for more or less of the entire college course, Latin and Greek have dominated the old scheme of prescribed disciplinary studies. "The studies in the classical languages," says President Raymond, "particularly Latin, aim primarily at formal discipline; that is, the exercise and development of the faculties as a basis, or formal preparation for subsequent special studies."¹

Vassar's early curriculum required both Latin and Greek throughout the entire course of the classical students, though it omitted Greek and lightened the Latin for scientific students. Later, in 1874, the "established curriculum" for the first year and a half made a requirement of Latin, but permitted the alternative of a modern language with Greek. Wellesley's first curriculum has the same prescription of the classics as that of Vassar's established curriculum.

Radcliffe required work in the classics until 1883-84, when by the extension of the elective system to the freshman year at Harvard College, Latin, Greek, and mathematics were dropped from the prescribed course.

Barnard prescribed both Latin and Greek until 1897, when an alternative was allowed for Greek.

Mount Holyoke's first college curriculum prescribed both Latin and Greek for classical students, and Latin for scientific students. Later, however, Latin was no longer required for the scientific course, but was prescribed for two terms of the freshman year in the literary course.

While Latin has held its own from the beginning, weakening only in the number of hours of prescribed work, Greek has been alternated with modern languages until it no longer holds a place parallel in importance to that of Latin. At the present time, since Greek is not required for admission while Latin must be satisfactorily passed, the requirement of Latin or Greek for a B. A. degree resolves itself largely into a choice of Latin by the student who has already made an intensive study of it for admission.

For this reason, and because with the exception of Mount Holyoke and Radcliffe, the colleges offer a larger number of courses in Latin than in Greek, of the classics, the department of Latin was chosen for analysis.

At Mount Holyoke five hours and at Radcliffe three hours more of Greek are offered than of Latin. At Vassar, Barnard, and Mount Holyoke, three hours of Latin or Greek are required for a degree. At Wellesley and at Radcliffe neither subject is required. Since the number of courses offered are in a measure indicative of the amount of work demanded by the students, it is interesting to note whether

¹ Raymond, John Howard. Vassar College, 1878, p. 41.

the colleges which require Latin have a demand for further courses greater than those colleges which waive Latin. The present question as to the decline of the classics in importance also adds interest to the analysis. Mount Holyoke, which requires six semester hours, seems not to have increased its department proportionately. But, as before noted, Mount Holyoke has a strong department of Greek. Vassar, on the other hand, offers more work in Latin than in any other single subject of its curriculum. At the same time it offers more courses in Greek than does any other of the five colleges. Radcliffe, which does not require either Greek or Latin, and which usually adds to its curriculum courses as soon as there is a demand for them, offers but 15 hours of Latin and 12½ of Greek, an amount which, when compared with that of the other departments of the college, indicates a comparatively slight demand for the Classics.

Wellesley, with no requirement, offers 20½ hours of Latin and 20 hours of Greek, but the small classes require only four teachers for the Latin and but two for the Greek. Barnard, requiring three hours, presents the balanced condition of 22 hours of Latin carried by seven teachers. It also offers 20½ hours of Greek. On the whole, the requirement of Latin or Greek seems to induce a more thriving condition of the two departments.

An analysis of the teaching force shows that while Vassar has the greatest number of teachers, Barnard and Radcliffe lead in the ratio of the number of teachers to the numbers of hours taught.

The percentages of teachers of the grade instructor are: Vassar, 37½ per cent; Wellesley, 25 per cent; Radcliffe, 33 per cent; Barnard, 57 per cent; Mount Holyoke, 50 per cent. At Barnard the proportion of instructors on the teaching staff is largest and at Wellesley it is smallest.

The percentages of teachers with doctors' degrees are as follows: Vassar, 100 per cent; Wellesley, 50 per cent; Radcliffe, 67 per cent; Barnard, 43 per cent; Mount Holyoke, 75 per cent. Vassar is in the lead, with all of its teachers possessing the doctor's degree.

MATHEMATICS.

Courses and instructors in mathematics.

	Vassar.	Wellesley. ¹	Radcliffe.	Barnard.	Mount Holyoke.
Year courses.....	3 (3-hour)	5 (3-hour)	15 (3-hour)	4 (6-point)	6 (3-hour)
Semester courses.....	2 (1-hour)	2 (1-hour)	1 (8-point)	1 (8-point)	1 (1-hour)
Hours.....	8 (3-hour)	3 (3-hour)	15 (3-hour)	3 (3-point)	7 (3-hour)
Teachers.....	21	21½	67½	20½	29½
Professors.....	6	8	10	6	5
Associate professors.....	1	4	2	3	1
Assistant professors.....	0	2	1	0	3
Instructors.....	3	0	2	0	0
Doctors' degrees.....	2	3	3	3	1
	4	6	9	5	2

¹ Includes applied mathematics.

The history of mathematics in the curriculum of the woman's college closely parallels that of Latin. From the first organization of the colleges until the present time it has been required in all of the colleges except Radcliffe, which dropped the requirement of mathematics with that of Greek and Latin in 1883. Except at Vassar, only the freshman year has been required for mathematics, but Vassar in its early days believed thoroughly enough in the efficacy of mathematics to develop the mind to prescribe it also for a semester of the sophomore year and a semester of the junior year. It is explained that the student will find it "valuable mainly as present training for her faculties and as an introduction to completer work if she choose a scientific career."¹ With the organization of the "established curriculum" in 1874, mathematics is prescribed until the middle of the sophomore year only. Not until 1895-96 did Vassar follow the example of the other colleges for women and limit the requirement of mathematics to the freshman year.

At present all of the colleges except Radcliffe require of the freshmen three hours of mathematics. The unanimity of this demand upon the student, as well as the length of time during which it has been made, makes an analysis of the department of mathematics significant.

A glance at the number of hours of mathematics offered by the colleges shows Radcliffe greatly in the lead. The 67½ hours of work can scarcely be compared with the number offered by the other colleges, the difference is so extreme. Even subtracting 30 of the hours, which though primarily for graduates admit undergraduates, leaves Radcliffe still with 37½ hours to its credit. That Radcliffe offers more courses in mathematics than in any other subject of its curriculum is an interesting fact in the light that mathematics is not required for a degree, and therefore must be demanded by the students to hold its place in the curriculum.²

Of the other colleges, Vassar, Wellesley, and Barnard closely approximate each other in the number of hours which they offer, though Wellesley carries the work with two more teachers than Vassar or Barnard. As in English, the freshman requirement affects the teaching force in increasing in the large colleges the number of divisions necessary to handle the introductory course. Mount Holyoke, while requiring six semester hours of the subject, for which four teachers are needed, and in addition offering eight hours more of mathematics than of the other three colleges, has but five teachers for the entire work. Though Radcliffe has the greater number of teachers, Wellesley leads in the ratio of the number of teachers to the number of hours taught.

¹ Raymond, John Howard. Vassar College.

² Mathematics thus differs from Latin in its effect on the curriculum.

The percentages of teachers of the grade instructor are as follows: Vassar, 33½ per cent; Wellesley, 37½ per cent; Radcliffe, 50 per cent; Barnard, 50 per cent; Mount Holyoke, 20 per cent. At Radcliffe and Barnard the proportion of instructors on the teaching staff is largest; and at Mount Holyoke smallest.

The percentages of teachers with doctors' degrees are as follows: Vassar, 66½ per cent; Wellesley, 75 per cent; Radcliffe, 90 per cent; Barnard, 83½ per cent; Mount Holyoke, 40 per cent. Radcliffe and Barnard show the largest proportion, while Mount Holyoke has the smallest number of doctorates, an inversion of the preceding statistics, where Mount Holyoke showed the highest number of teachers of professorial rank.

At Wellesley only, a course of statistics is included in the department of mathematics. Vassar, Radcliffe, and Barnard treat of the subject in the department of economics, and Mount Holyoke omits it from the curriculum.

CHEMISTRY.

Courses and instructors in Chemistry.

	Vassar.	Wellesley.	Radcliffe.	Barnard.	Mount Holyoke.
Year courses.....	5 (3-hour)	3 (3-hour)	5 (3-hour)	1 (12-point)	2 (3-hour)
Semester courses.....	4 (3-hour) 2 (3 or 4 hour) 1 (2 or 3 hour)	6 (3-hour)	1 (2-hour) 4 (3-hour)	3 (6-point) 2 (7-point)	6 (3-hour) 3 (2-hour) 2 (1-hour)
Number of hours.....	25 or 27½	18	23	22	19
Teachers.....	11	4	6	4	7
Professors.....	1	1	0	1	1
Associate professors.....	0	1	0	0	1
Assistant professors.....	1	0	4	0	0
Instructors.....	9	2	2	3	6
Doctors' degrees.....	3	3	6	1	3

In the early days of the curriculum, chemistry did not hold such an assured place as that of the classics, mathematics, or modern languages. As a science connected more with the interests of men than of women and as a study requiring the equipment of a laboratory, chemistry made its way slowly into an important position in the curriculum of the woman's college.

Vassar's first curriculum announces for seniors one semester of chemistry, from the textbook of Stockhardt and Wells. It is interesting to note, however, that by 1873 among the applications of chemistry to the arts was that of chemistry of breadmaking, a project probably not borrowed from the colleges for men.

Wellesley in 1876 offered to juniors and seniors a course of general chemistry, two courses of analytical chemistry, and one course of chemical philosophy, whatever that may be.

Radcliffe, through difficulty in providing laboratory equipment in its early cramped quarters, offered no course in chemistry until 1882-83.

Barnard also had no chemistry when the college started. In 1890 a chemical laboratory was received from Miss Hitchcock, and through the generous effort of Prof. Bower, of the Columbia school of mines, a course was offered to a class of 10 students. This course included the related subjects, hygiene and sanitation.

Mount Holyoke gave chemistry a place on its curriculum from the first.

The department of chemistry is chosen for analysis because of its connection with the present required work of the colleges and because on the whole it offers more hours than are offered by the alternative requirement, physics.

At Vassar, Barnard, and Mount Holyoke, three hours of physics or chemistry are prescribed, and at Wellesley six hours of natural science. Radcliffe prescribes no science. The greatest amount of work is offered at Vassar, Radcliffe offering a few hours less. The other three colleges are practically equal in the amount of chemistry given.

It is interesting to note the practical tendencies of the content of the courses. At Vassar, where the largest amount of work is offered, three courses, or six hours, are given directly to consideration of the applications of chemistry to food and sanitation. At Radcliffe, which closely approximates Vassar in the amount of work given, a semester course is devoted to biological chemistry, giving systematic treatment of the chief constituents of living organisms and discussing their chemical behavior. Such a course is especially useful for students of science and for medical students. A year is given to industrial chemistry, also, dealing with manufactories and chemical work. Both of these courses have practical bearing, although perhaps suggesting the man-made curriculum.

Wellesley includes food analysis in two of its courses, and Mount Holyoke gives a semester to the chemistry of foods. Barnard makes no special attempt to give practical work.

The analysis of the teaching force shows Vassar with the largest number of teachers. The percentages of teachers of the grade instructor are as follows: Vassar, 81 per cent; Wellesley, 50 per cent; Radcliffe, 33 per cent; Barnard, 75 per cent; Mount Holyoke, 85 per cent. Thus, at Mount Holyoke and Vassar the teaching is largely in the hands of instructors, and at Radcliffe is done by teachers of the professorial rank. The percentages of teachers with the doctor's degree are as follows: Vassar, 27 per cent; Wellesley, 75 per cent; Radcliffe, 100 per cent; Barnard, 25 per cent; Mount Holyoke, 43 per cent. Thus at Radcliffe, all of the teachers, and at Wellesley three-fourths of them, have the doctor's degree, while at Barnard and at Vassar approximately but one-fourth have the same degree.

PHILOSOPHY AND PSYCHOLOGY.

The departments of philosophy and psychology, which were formerly grouped into one, are now usually separated, though the connection is still close between them in all of the colleges. The departments were chosen for analysis because their work forms part of the requirement for the degree in all of the colleges but Radcliffe and because the two departments together form a very considerable part of the curriculum. They are analyzed in separate tables for accuracy of detail.

The history of the curriculum shows that philosophy has always been included as a study in the five colleges. Vassar's first curriculum announces intellectual philosophy (Haven) and moral philosophy (Wayland) as required of seniors. Wellesley's first curriculum not only offers mental and moral philosophy, but history of philosophy. Radcliffe opens with six courses of philosophy and psychology. Among the instructors appear the names of Mr. James, Mr. Palmer, and Dr. Peabody. At Barnard and Mount Holyoke both, departments of philosophy are open from the start.

At the present time the three hours of required work vary in content at the different colleges. At Vassar philosophy is required in the junior year, and consists of a history of modern philosophy from Bruno to Berkeley, with discussion of a few important problems in philosophy. At Wellesley the requirement must be filled before the senior year, and the student is given a choice of courses. She may choose a semester of introduction to psychology and a semester of introduction to philosophy, or she may take a full year of an introductory course in experimental psychology.

At Barnard the course in philosophy which is prescribed for sophomores consists of one semester of psychology and one of logic. Though Mount Holyoke prescribes a requirement of psychology and philosophy, the semester course required is psychology and deals with psychological facts only. Any other course in the department may fulfill the requirement of the other semester.

Courses and instructors in philosophy.

	Vassar.	Wellesley.	Radcliffe.	Barnard.	Mount Holyoke.
Year courses.....	0	3 (3-hour) 1 (1-hour)	1 (3-hour) 4 (2-hour)	5 (6-point) 1 (8-point)	0
Semester courses.....	7 (3-hour) 1 (2-hour) 1 (1-hour)	2 (3-hour)	8 (3-hour)	4 (3-point) 1 (2-point)	7 (3-hour) 1 (1, 2, or 3 hour)
Hours.....	12	13	23	26	10, 11, or 12
Teachers.....	2	3	3	11	2
Professors.....	2	2	3	8	1
Associate professors.....	0	0	0	0	1
Assistant professors.....	0	0	1	0	0
Instructors.....	0	1	1	3	0
Doctors' degrees.....	2	2	4	9	2

Courses and instructors in psychology.

	Vassar.	Wellesley.	Radcliffe.	Barnard.	Mount Holyoke.
Year courses.....	0	2 (3-hour)	3 (2-hour)	4 (4-point) 1 (8-point) 4 (4-point)	1 (1, 2, or 3 hour)
Semester courses.....	3 (3-hour) 2 (2 or 3 hour) 1 (2-hour) 1 (1 or 2 hour) 2 (1-hour)	2 (3-hour)	2 (3-hour)	2 (3-point)	4 (3-hour)
Hours.....	9 or 10	9	9	25½	7, 8, or 9
Teachers.....	5	3	3	6	4
Professors.....	1	2	1	4	2
Associate professors.....	0	0	0	0	1
Assistant professors.....	0	0	1	0	0
Instructors.....	4	1	1	2	1
Doctors' degrees.....	2	3	3	5	3

¹ Assistant.

In all of the colleges more hours are offered in the department of philosophy than in that of psychology. At Vassar the hours offered in philosophy are increased by two semester courses of three hours each on the history and principles of education. The department of psychology at the same college offers a two-hour semester course of educational cast called "Mental hygiene of learning and teaching." The policy at Vassar at present is against special training in a department of education.

A marked tendency in psychology is toward experimental work. In all of the colleges experimental or laboratory psychology is emphasized over theoretical psychology.

The greatest number of hours in psychology is offered at Barnard. Against the 9 hours of the other four colleges it presents 25½ hours. The greatest number of hours in philosophy is also offered at Barnard. Although its 26 hours are an increase over Radcliffe by but 3 hours, they are greatly in advance of the other three colleges.

An analysis of the teaching force shows Barnard with more teachers both in psychology and philosophy than any of the other colleges. In proportion to the number of hours taught, Barnard leads in philosophy, and Vassar and Mount Holyoke in psychology. In the philosophy department the proportion of instructors to the entire teaching force is as follows: None at Vassar; 33¼ per cent at Wellesley; 20 per cent at Radcliffe; 27 per cent at Barnard; none at Mount Holyoke. This proportion reveals a remarkably small percentage of teachers of the grade instructor in this department in all of the colleges. The proportion of doctorates is correspondingly high: Vassar, 100 per cent; Wellesley, 66⅔ per cent; Radcliffe, 80 per cent; Barnard, 82 per cent; Mount Holyoke, 100 per cent.

The departments of psychology give the following percentages of instructors: Vassar, 80 per cent; Wellesley, Radcliffe, and Barnard, 33¼ per cent; Mount Holyoke, 25 per cent. Here again the doctorates correspond: Vassar, 40 per cent; Wellesley, 100 per cent; Radcliffe,

100 per cent; Barnard, 83½ per cent; Mount Holyoke, 75 per cent. Except at Vassar, which had a high percentage of teachers of the grade instructor, all of the colleges show few teachers of the grade instructor in the department, and many doctorates, a correlation which does not always follow.

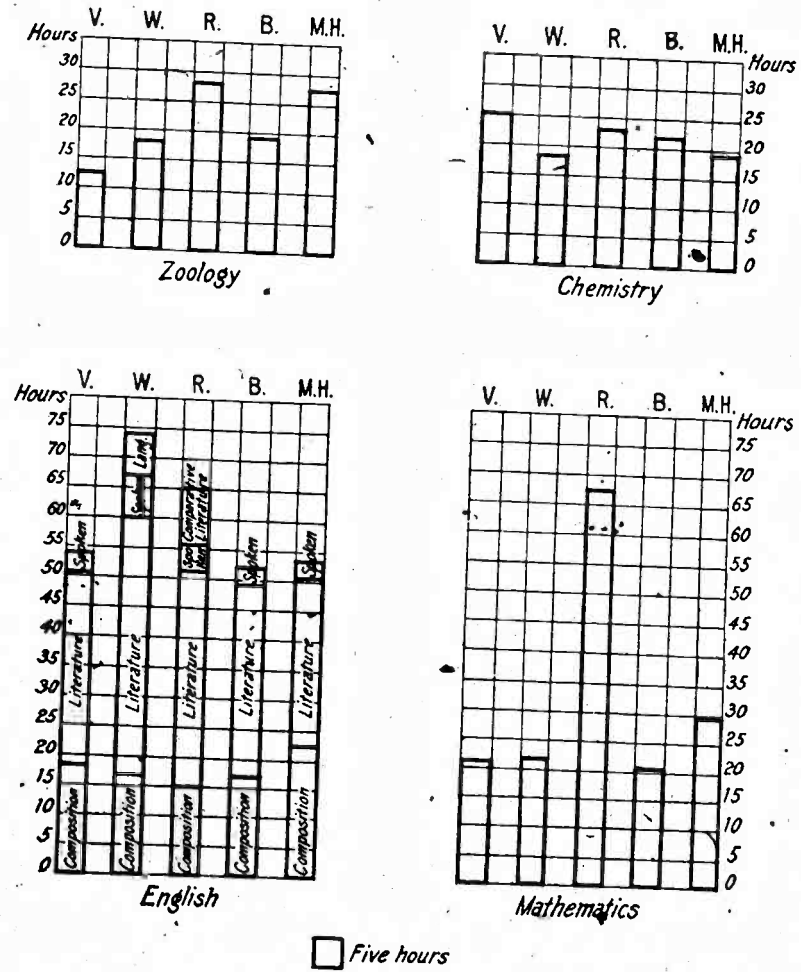


FIG. 4.—Comparison of the number of hours given to English, chemistry, mathematics, and zoology, at Vassar, Wellesley, Radcliffe, Barnard, and Mount Holyoke.

SUMMARY OF THE STUDY OF THE MODERN CURRICULUM.

Though the development of the curriculum from year to year seems slow, and though the course of study sometimes appears impervious to demands for change, a comparison of the present with the early curriculum shows that it has been by no means a static institution. Unquestionably it has grown into a product very different from its

original simple form. Whether this growth has been in symmetry, virility, and flexibility, or whether it has been a matter of increase to unwieldy proportions by the process of accretion, is a question worthy of thoughtful consideration. An overloaded curriculum is not the guarantee of a useful one.

The history of the development of the college whether for men or for women, like the history of the church or of the state, shows different stages along the way of development differentiated, if not prolonged, by the hard and fast notions of final perfection which each age grafts upon an institution. With the changing ideals of

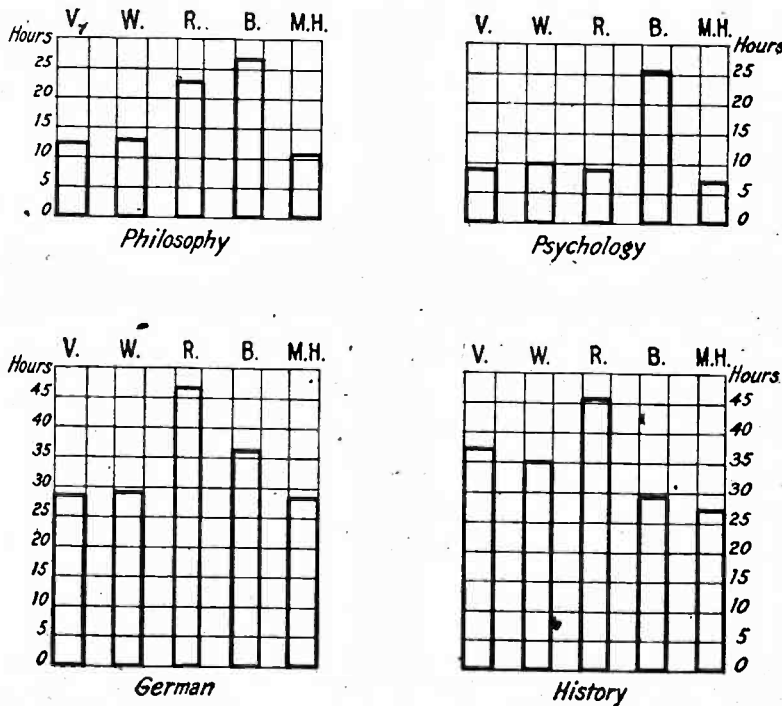


FIG. 5.—Comparison of the number of hours given to history, German, philosophy, and psychology, at Vassar, Wellesley, Radcliffe, Barnard, and Mount Holyoke.

women's needs, the college has added courses to the curriculum, increasing it in the direction from which the demands have come. At the same time it has held conservatively to all its original subjects. Rarely has a course been dropped, and, with the exception of domestic science, never a department; but constantly courses are added, and not infrequently new departments, by the biological process known as budding, develop and are separated from the original source. The criterion of the new work supposedly is that of Flexner's standard, whether an affirmative case can be made out for it. As a matter of fact, the affirmative case is obviously a strong one for most of

the work which has grown up since the foundation of the colleges. The history and economics group with its social significance, and the science group with its connection with the world's progress are examples of subjects which need no protagonists to prove their virility and worth.

Whether as clear a case can be made out for the old disciplinary studies which continue to hold their own in the curriculum even to the extent of composing much of the required work is more doubtful. The highest function of education is avowedly to produce a social individual; moreover, an *actively* social individual. The college, guided conservatively by the old guard which admits no aim except in terms of culture, adjusts itself slowly to the socialization of education. The possibilities of woman as a social individual have perhaps been too recently recognized for any adequate adjustment in college preparation. The recognition of the new possibilities, however, with their accompanying needs, is the tool which will fashion a modern curriculum built on the admission that no final perfection can exist for a college curriculum while humanity continues to change.

The growth of the curriculum of the woman's college has been marked by no particular originality; that is, the woman's college can not be pointed out as the source of any single tendency in the American college to-day. The history of the older colleges for men indicate that after the difficult period of the Civil War, the worst of the struggle was over, and the advance from that time was easy and rapid. Few women's colleges started early enough to feel the inhibiting effect of the Civil War. Able from the beginning to take advantage of the hard won experience of the older colleges they have incorporated into the American colleges as yet little which could be designated as their original contribution. Their great increase in size and wealth points toward the conserving power of safe imitation.

The growth of the curriculum has been as startling as any other form of development in the college. It has been most spectacular, perhaps, in the department of history, which either did not exist at all or was of feeble dimensions when the colleges were founded, and which now offers a total of more hours in the five colleges studied than does any other department except English. Closely related to history, and growing out of it is the group of studies including political science, or government, economics, and sociology. A frank response to modern demands, these departments are significant of the new education.

The growth of English shows in the ramifications of the subject, the large number of subjects in each division, and the number of students who focus their work in the department. An interesting summary of the students according to their distribution by the group system at Radcliffe (in per cents) is as follows: I. Language, litera-

ture, fine arts, music—78; II. Natural sciences—6½; III. History, political and social sciences—8½; IV. Philosophy and mathematics—7½.

The natural sciences from obscure beginnings have grown to importance during the lifetime of the woman's college. Though never so largely elected as the arts, they have had double significance in the curriculum, from their intrinsic value and as the source of the laboratory method of work.

The department of psychology from the impetus of the modern experimental method has developed from a branch of philosophy into a thriving department.

Courses in education have increased in number and importance as the secondary schools have become increasingly insistent upon good teachers until now some provision for the work is made in all of the five colleges.

With the opening of commercial relations with South America, Spanish has found a place in the curriculum.

A survey of the innovations into the original curriculum is, then, not discouraging. Never more on the defensive for its aim of "culture" only, the college has nevertheless modified its construction of the aim considerably since the early years of its existence. Under pressure of the eternal demand for practical knowledge, natural sciences, social sciences, practical language work, have been in turn held up by the college to the culture criterion, pronounced sound, and admitted to the curriculum. Departments in turn have tested course content by the same criterion and in turn have admitted new phases of it into the curriculum. The tendency toward the practical is realized in the efforts of the chemistry departments toward food analysis, sanitation, and industrial chemistry; of natural science departments in general toward producing students equipped to become investigators and to use science dynamically; of English departments toward begetting creative work; of language departments toward skill and fluency in the use of the foreign tongues; of history and economics departments toward giving the student a grasp of vital current issues.

With such historical encouragement, it is not reasonable to suppose that no further demands will be made or that they will not be met. Usually, it is safe to predict, the modification will begin within entrenched courses by a change in content to meet new needs. Such an evolutionary working basis for construction is fundamental to the realization of any relation between major studies and vocations. Further discussion of the possible opportunities for the curriculum to cooperate with and to reinforce the work of the graduate will be considered in connection with the interpretation of the relation between major subjects and vocations.

III.—COLLEGE TEACHING.

The analysis of the teaching force has made evident in the special departments the ratio of the number of hours taught to the teachers, an important factor in the efficiency of the teaching. The listed number of teachers, including assistants but not including members of the physical training department or teachers on leave of absence, in the different colleges totals in the following order: Radcliffe, 135; Wellesley, 125; Vassar, 108; Barnard, 96; Mount Holyoke, 85. The ratio of the total number of teachers of each college to the total number of hours offered by the college is as follows: Vassar, 1 teacher to 3.68 hours; Wellesley, 1 teacher to 3.93 hours; Mount Holyoke, 1 teacher to 4.78 hours; Radcliffe, 1 teacher to 4.90 hours; Barnard, 1 teacher to 4.91 hours. Another factor to receive some consideration in the evaluation of the efficiency is, of course, the size of the classes, which must necessarily be governed somewhat by the size of the student body. The registration of the colleges in 1915 is as follows: Wellesley, 1,512; Vassar, 1,125; Mount Holyoke, 791; Barnard, 733; Radcliffe, 683. The ratio of teachers to students is as follows: At Radcliffe, 1 teacher to 5.05 students; at Barnard, 1 teacher to 7.63 students; at Mount Holyoke, 1 teacher to 9.3 students; at Vassar, 1 teacher to 10.41 students; at Wellesley, 1 teacher to 12.09 students. The number of teachers possessing doctor's degrees in the different colleges is as follows: Radcliffe, 96; Barnard, 59; Vassar, 56; Wellesley, 54; Mount Holyoke, 38. The percentage of doctors in the teaching force of each college is as follows: Radcliffe, 71.1 per cent; Barnard, 61.4 per cent; Vassar, 51.8 per cent; Mount Holyoke, 44.7 per cent; Wellesley, 43.2 per cent. A fourth element in the evaluation of the efficiency of a teaching body depends upon a knowledge of the relative size of salaries paid at the different colleges. At present such a measurement is impossible to attain.

The lecture method of presenting material to classes is largely used in all of the colleges. Within the last decade, however, the laboratory method has crept over from the sciences into the arts to modify the formal lecture. Subjects such as history, English, and philosophy, now almost invariably have adopted schemes of conferences with the students which approximate the effort of the laboratory to secure individual reaction to subject matter. The conference consists usually of an interview between the instructor, or his assistant, and

the student, based upon some special piece of work which the student has accomplished, theme, report, or examination. The class lectures, meantime, may or may not be connected with conference discussion. Even in the sciences, the lectures are frequently of such an order as to be easily kept by the students in separate compartments from the laboratory work. The languages, of necessity, demand more immediate returns from the student of invested subject matter. These returns are usually in the form of recitations upon assigned work.

The last method is most clearly in line with the secondary school method to which the student is accustomed. Considerable difficulty is experienced by freshmen in their efforts to secure adequate notes during an hour of lecturing. As Prof. Copeland, of Harvard, remarks, "The lecture method succeeds in completely inhibiting any thought." Accustomed in high school to transfer to the teacher each day the results of his work, the college student finds some difficulty in organizing his copied phrases at the longer intervals between college examinations. The college classes which attempt to obviate such difficulties by frequent recitations, usually base them, after the manner of the secondary school, upon assigned work.

The crux of the situation, it is obvious, is in the secondary school. Special schools, such as the Ethical Culture School, the Phoebe Anna Thorne Open-Air Model School for Girls, the school proposed by Abraham Flexner, have succeeded in creating a method of handling the curriculum by which power of thought, rather than skill in the reproduction of others' thoughts, is developed. As Miss Sergeant states:

When girls who have used their minds creatively instead of receptively for seven years reach the lecture system, for instance, something spectacular is going to happen—something very like the famous meeting between the immovable body and the irresistible force.

The indisputable value of the lecture is as a means for the presentation of the results of scholarly research or creative thought accomplished by the instructor and unavailable to the student elsewhere. The comparatively few lectures possible under such a criterion would be extremely stimulating to the student. If, with such a limited lecture system, the seminar method were pushed down from the graduate school into the undergraduate classes, which were limited in numbers enough to make it possible, the college student who could think would be greatly benefited, and the student to whom such effort was impossible would find another field for her activities.

That the poorest teaching of a student's educative career is possible within the college is recognized by almost anyone who takes a degree. To remedy such a condition some supervision of college teaching might be of value. At present in none of the five colleges studied, and in

only one of several other colleges investigated, is there, except rarely in individual departments, any system by which the work of the teacher may be judged by her equals or superiors. The usual criteria of success are the size of elective courses and the opinions expressed by students. In the long run the judgments of the students may average justice, but through youth and immaturity the students are naturally not infallible judges of fundamentals. Mature, unbiased consideration of an instructor's work is a fair basis for the verdict of its quality. From a purely economic standpoint, too, some system of supervision which could supply judicious and pertinent advice to the inexperienced though scholarly instructor might sometimes save a teaching life of incalculable possibility.

If, furthermore, the college teacher is to do constructive work, work which grows and changes under the impulse of her ideas, some means should be provided to prevent her present isolation. Very few college teachers know anything about the way in which their particular work is being conducted in other colleges. Segregation of intellect produces much the same result as segregation of species; other qualities than strength find special inducement to develop; cross-fertilization of ideas is often necessary for a good crop. A college teacher needs to know not only the results of the latest research in her subject, but the results of the latest effort to make it part of the social life of the student. Such knowledge would diminish, in part at least, the effects of inbreeding by which the young instructor reproduces in her classes as closely as possible, the teaching which she has earlier received at the college.

The three suggestions, then, which concern college teaching are, first, a more general use of the seminar method where the laboratory is not the working basis of the course; second, a system of supervision which will permit a fair evaluation of the work of the instructor; third, a closer correlation between the members of the faculty of different colleges for purposes of exchange of ideas and invigoration of method.

IV.—THE RELATION BETWEEN MAJOR STUDIES AND VOCATIONS.

The material used in working out the relation between the major studies of students and their vocations later is of two kinds:

(1) The data obtained from the application cards which a graduate fills upon joining the Intercollegiate Bureau of Occupations of New York City. From the cards of all registered alumnae of Vassar, Wellesley, Radcliffe, Barnard, and Mount Holyoke, regardless of the year of graduation, were copied the name of the graduate, her majors in college, and her vocation or vocations since graduation. Thus a mixed group, consisting of 261 graduates of five colleges, was obtained, which was a unit in but one respect, dissatisfaction with the present job and desire for different work.

(2) To check up this group it seemed only fair to select an entire class throughout the five colleges which would give the same data of majors and vocations without the bias toward desire for change. The class of 1912 was chosen as a class near enough in time to the present curriculum to make the connection with it fair, and far enough away in time to permit the members who intended to work at all to get some kind of a position. The data concerning the vocations of the second group were obtained from the cards sent out to the graduates of women's colleges by the Association of Collegiate Alumnae. The data concerning the majors of the same students were supplied by the officers of the separate colleges. Since Radcliffe College had no convenient records, the questionnaire method was used in that one instance.

While Vassar and Radcliffe have no formal system of majors, the subjects to which the student gave most hours in her course served the purpose of majors. Note was made of all the vocations into which the graduate had entered.

The major studies were considered completely correlated with the vocation if (1) the vocation made use of all the major studies; or (2) the vocation made use of one major but called for no other college subjects. Graduates making such combinations are termed for convenience complete correlates.

Partial correlation consists of cases: (1) If the vocation does not make use of all majors and at the same time does use other college subjects; (2) If the individual has at some time in some vocation

used at least one major. Graduates making such combinations are termed partial correlates.

Non-correlates are a group made up of graduates whose vocations make no use of their major studies.

It must be clearly understood, on the one hand, that complete correlation does not mean that because of correlated majors the individual is doing the best possible work; it means only that as far as the college is concerned if the choice of majors has been intelligent, the preparation has been made as adequate as possible. The only criterion of the work would of course be the results produced by the individual.

No correlation, on the other hand, does not mean that the individual has taken no college work bearing on her subject. She may have taken a course or two, but she has not chosen to major in the particular field which later she has apparently found most important to her.

It is obvious, too, that college work, though not correlated at all with the vocation, may help an individual to an incalculable degree in affording broadness of outlook, wisdom of judgment, and insight into new possibilities of her vocation. As a matter of fact, it is impossible to get through college without taking other subjects than those correlated with the vocation. Since, also, most colleges require a student to choose major subjects on some basis, it is possibly no more narrowing to make the choice on an intelligent basis than on no basis whatever.

For several reasons it is possible that complete correlation between majors and vocation may bring about entirely unsuccessful results, as is illustrated by the Intercollegiate Bureau cases where, though the work shows correlation with the majors, it has nevertheless proved unsatisfactory enough to force an attempt toward change of occupation. An accidental choice of majors in college may be one reason for failure. The student continues with Latin, for instance, because by adding a little more to the prescribed amount she can teach the subject. That is, the vocation is chosen to fit accidental majors. Obligated by the demands of employers to present preparation of some kind, she must choose prospective employers by her marketable preparation on hand at graduation. The fact that the greatest amount of complete correlation is found at the colleges offering greatest freedom of election, suggests that students may continue blindly in prescribed work in the other colleges.

Again, complete correlation may be unsuccessful in cases where there is little native ability. To illustrate, a student who has majored in English and zoology may write a book on zoology which is wholly worthless. If, however, some native ability were present, the book would probably stand a better chance of success if the writer

had a scholarly grasp of zoology and a knowledge of her mother tongue.

It is also possible that the combination of no correlation between majors and vocation may be entirely successful. In the first place, the technical training for the alien vocation may have been acquired wholly after graduation. In many cases at least a partial preparation could have been made in the college, as will be pointed out later in the discussion of occupations.

In the second place, excellent native equipment may make success in a new field possible without the running start gained by correlated college work. It seems, however, a waste of power to use it on details of preparation which should by that time be reduced to the state of reflex action.

The data regarding the alumnae registered at the Intercollegiate Bureau of Occupations will be dealt with first. This group, as well as the group of the class of 1912, is divided into teachers and non-teachers; the proportion of 45.6 per cent of teachers registering at the Intercollegiate Bureau, and 54.27 per cent of teachers in the working section of the class of 1912 seemed to justify such a differentiation. The teachers of the Intercollegiate Bureau group are divided into teachers at date: i. e., those for whom the bureau has as yet found no other occupation; and former teachers: i. e., those who through their own efforts or those of the bureau have succeeded in leaving the profession. Many applicants do not register for any specific kind of work and do not know what kind they want. Sometimes the application is based on the desire to get out of the teaching profession, sometimes on the wish for higher salary, sometimes on personal or family reasons. The large number in the group of teachers desiring a change of occupation would suggest that the profession had been a matter of economic determinism or of accidental opportunity rather than the result of prolonged deliberation leading to conviction of fitness for the work; also, that the field may be one into which an untrained graduate could enter most easily and would, therefore, serve the convenience of the woman who hopes to make it only a stop-gap between graduation and marriage. The size of the teaching group desiring change, however, points toward a fallacy in the belief expressed lately by two college presidents that teaching is the only really desirable occupation for women.

The total number of 261 graduates registered at the Intercollegiate Bureau is divided among the five colleges as follows: Vassar, 85; Wellesley, 53; Radcliffe, 13; Barnard, 65; Mount Holyoke, 45. The small number of Radcliffe graduates may be due to the fact that many of the students are drawn from Boston and the suburbs, thus making the Boston office of the bureau a more desirable place of

registration for them. The number of representatives of each college is used as the base on which the percentages of that college are reckoned. The appended table of percentages is also expressed by the accompanying graph.

TABLES OF CORRELATION FROM INTERCOLLEGIATE BUREAU DATA.

	Vassar.	Wellesley.	Radcliffe.	Barnard.	Mount Holyoke.
Representatives from each college.....	85	53	13	65	45
Complete correlation (in percentages).....	23.53	28.30	23.07	10.77	31.11
Teachers at date.....	4.70	9.45	7.69	6.15	13.53
Former teachers.....	8.23	13.20	15.38	1.53	11.11
Nonteachers.....	10.54	5.66		3.07	6.66
Partial correlation (in percentages).....	30.58	18.09	30.76	13.81	20.10
Teachers at date.....	14.11	3.77	15.38	7.68	4.44
Former teachers.....	4.70	7.54		1.53	8.88
Nonteachers.....	11.76	3.77	15.38	4.61	6.66
No correlation (in percentages).....	45.88	56.60	46.15	75.38	48.88
Teachers at date.....	2.35	5.66		16.92	13.53
Former teachers.....	5.88	7.54	15.38	6.15	8.88
Nonteachers.....	37.64	43.39	30.76	52.30	26.66

It can be readily seen that noncorrelates furnish much the largest group in each of the five colleges represented at the bureau. This condition might suggest the desirability of correlation in order to increase satisfaction in the occupation, if besides the noncorrelates we did not have a considerable percentage of correlates who also wish other work. An analysis, however, of the correlates shows that they are largely from the teaching profession. Logically, then, it is possible to conceive that had the choice of majors been determined by real aptitudes the profession into which such preparation led would not be so largely rejected. If the noncorrelates and the people who have attained correlation only through the teaching profession were withdrawn, the bureau would have little reason for further existence as far as the five colleges are concerned.

Much the largest single group in all of the colleges is the section of nonteachers showing no correlation: At Vassar, 37.64 per cent; at Wellesley, 43.39 per cent; at Radcliffe, 30.76 per cent; at Barnard, 52.30 per cent; at Mount Holyoke, 26.66 per cent. Such a group suggests that the permanent interests of its members are outside both of teaching and of their major work at college; that therefore it might have been economy to have presented to these individuals before graduation a variety of occupations for consideration; and that had such opportunity been supplied, the individuals might have chosen college work more in harmony with their vocations.

To obviate some of the waste connected with the efforts of such a group as the Intercollegiate Bureau registers to find a congenial

occupation, the college needs to hold itself somewhat responsible. This responsibility could express itself first in giving to students help in finding interests affiliated closely enough with their aptitudes to give prophecy of some permanence. If vocational guidance is necessary for mature women who have been at work, it might help the undergraduate who knows nothing of the opportunities open to her nor the prerequisites of such occupations. Second, as will be demonstrated later, the college might give the student who is doubtful as to her calling the benefits of trying out a few possibilities in regard to work. Third, it could emphasize the need of intelligent choice of major subjects, allying them with interest and aptitudes.

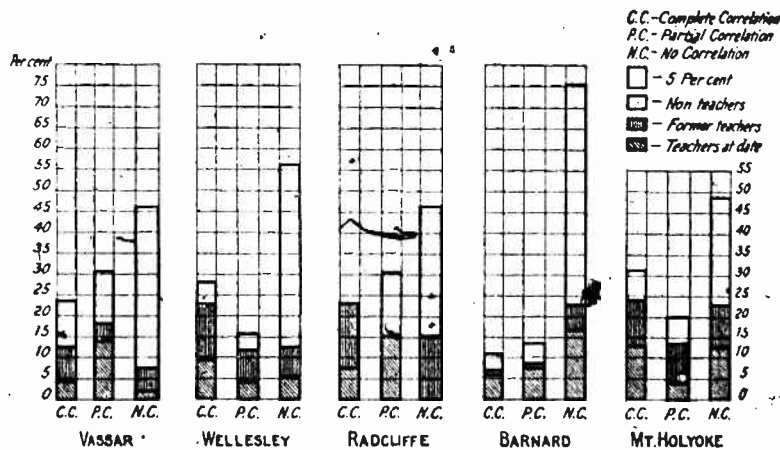


FIG. 6.—Correlation between majors and vocations (Intercollegiate bureau).

The reduction of the large body of college trained women who are drifters is a question of deep significance to Americans, whose girls are crowding increasingly to the colleges, and are increasingly demanding work upon graduation.

The most significant group of women in occupations other than teaching is the group of secretaries. Of the 261 alumnae registered at the Intercollegiate Bureau, 37.5 per cent enter into secretarial work. Probably the placement of some of the women still teaching will tend to raise the percentage. At all events, 50 per cent of the registered alumnae of the five colleges in occupations other than teaching are secretaries. Of these secretaries only 13.75 per cent show any correlation with their major work at college. Usually the special preparation necessary for the work has been obtained through typewriting and stenography courses at business schools. Such preparation, compared with that required by many vocations, is easy to acquire.

This comparative ease of preparation probably accounts in some degree for the number of people who enter the work. The obvious danger threatening secretaryship is one which has weakened the teaching profession, namely, the danger of overcrowding. It is scarcely likely that out of a group of 261 women earning their living, nearly 100 of them are peculiarly fitted to this one occupation. It seems much more likely that the motives which have produced so many teachers are at work again, ease of entrance into a field which has become conventionally respectable for women.

Since, however, it is possible to enter secretarial positions without such technical training as that offered by Simmons College, the candidate might as well get such preparation as is required earlier in her career. The small percentage of secretaries who have correlated

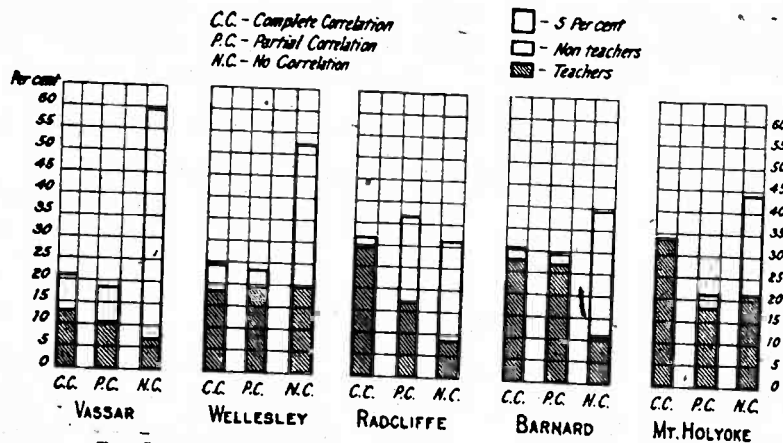


FIG. 7.—Correlation between majors and vocations (class of 1912).

their majors and vocations points toward the need of some adjustment. That much work of secretarial value could be accomplished earlier will be pointed out later.

Other occupations into which the alumnae have entered are the following: Library work, writing, business, scientific research, institutional management, social work; all of the preceding claiming small groups; and acting, photography, interior decoration, medicine, translation, each of which has one representative. The group of social workers is small because now such work is turned over to the department of social workers, a branch of the Intercollegiate Bureau of Occupations.

It is perhaps needless to add that many fields other than those already mentioned are open to college graduates. An opportunity of acquaintance with those fields might serve to distribute women among them more equally.

Class of 1912—Tables of correlation (in percentages).

	Vassar.	Wellesley.	Radcliffe.	Barnard.	Mount Holyoke.
Complete correlates.....	21.17	24.25	31.90	31.32	34.02
Teachers.....	13.10	18.30	29.80	27.70	34.02
Students.....	5.26			2.40	
Social workers.....	.65	1.48			
Writers.....	.65	.49	2.10	1.20	
Scientists.....	1.38				
Secretaries.....		.99			
Artists.....	.65				
Curators.....		.99			
Partial correlates.....	18.42	23.26	36.10	29.91	21.64
Teachers.....	10.50	19.30	17.00	26.50	18.55
Students.....	1.38	.49	4.20	2.40	2.06
Social workers.....	5.26	2.97	4.20		1.03
Writers.....			8.50		
Scientists.....		1.48	2.10		
Secretaries.....					
Artists.....	.65				
Curators.....		.99			
Business women.....	.65				
Noncorrelates.....	59.80	52.40	31.60	39.70	44.30
Teachers.....	7.20	19.80	8.50	10.80	21.60
Students.....	17.10	1.40	2.10	3.60	1.03
Social workers.....	28.30	20.20	4.20	9.60	5.10
Writers.....		1.40			1.03
Scientists.....			2.10	3.60	2.06
Secretaries.....	5.20	5.40	6.30	9.00	8.20
Librarians.....	1.30	2.40	4.20	2.40	5.10
Business women.....		1.40	4.20		
Farmers.....	.60				
Number of those in vocations.....	152	202	47	83	97

The data regarding the class of 1912 of Vassar, Wellesley, Radcliffe, Barnard, and Mount Holyoke are presented in the form of a table and a graph. The 780 records are distributed as follows: Vassar, 242; Wellesley, 202; Radcliffe, 558; Barnard, 118; Mount Holyoke, 163. To secure the exact percentages of alumnae in different occupations, the total number of individuals at work in each class was used as the base instead of the total membership of each class. Such reckoning necessitated, therefore, disregard of the group which announced itself as having no vocation, the group of married women which with the exception of one member admitted no vocation beyond "wife of husband," or "mother of child," and the small group from which specific information about subjects taught could not be extracted. Vassar records 14 per cent of the members of the class of 1912 as having no vocation, 12 per cent as married, and 7 per cent as unclassified, leaving a base of 152 working members. At Wellesley, all but the working members were discarded at the collection, leaving 202 out of a class of 255 for a base. Barnard has 10 per cent of members with no vocations, 6.7 per cent married, 12 per cent unclassified, leaving a base of 83 workers. Mount Holyoke has but 5 per cent with no vocation, 6 per cent married, 6 per cent unclassified, leaving 97 working members. Radcliffe returns, which depended upon a

questionnaire, resulted in replies from married and working members only, giving the result of 10 per cent married members and a base of 47 working members. The 1912 class record announces most of the members who failed to reply as "At home."

One of the points made apparent by the data is that one of the chief functions of the woman's college, now, as in the original intentions of the founders, is to turn out teachers. An analysis of the 51.2 per cent, which represents all of the graduates in the teaching profession, shows the distribution as follows: Vassar, 30.8 per cent; Wellesley, 57.4 per cent; Radcliffe, 55.3 per cent; Barnard, 6.5 per cent; Mount Holyoke, 74.37 per cent.

A marked coincidence between the teaching profession and complete correlation is noticeable. Mount Holyoke, which turns out the largest number of teachers, succeeds in keeping the highest per cent of complete correlates, which by the way are numerically coincident with the teachers. Since, then, the teaching profession, to a far greater degree than any other, permits correlation with the work within the college, we find in this one vocation at least a unity of preparation and function which, if it secures the permanent benefit of the individual is a state toward which the other vocations should strive. If, however, the 46.6 per cent of teachers applying for other work at the intercollegiate bureau is any prophecy of the future of the class of 1912, we are safe in assuming that for some members at least the permanent benefit will not be found in the teaching profession. It is scarcely likely that over half the graduates of five women's colleges have peculiar aptitude for the teaching profession any more than that half of the registered alumnae of the five colleges at the intercollegiate bureau have peculiar aptitude for secretarial work, or that half the graduates of any five men's colleges have either aptitude or desire for any one vocation.

One group, however, both in the class of 1912 and at the intercollegiate bureau, is larger than the group of teachers. Except in Radcliffe, 1912, the noncorrelates outnumber any other section. A comparison of the two graphs shows that except at Vassar, the proportion of noncorrelation is increased in the intercollegiate group over that of the 1912 group. A possible interpretation of the change in proportion might be that noncorrelation of vocation is one reason for dissatisfaction with the vocation and desire for a change. Here the coincidence is between no correlation and occupations other than teaching.

Nearly half of all the class of 1912 of the five colleges are noncorrelates. An analysis of the group as a whole shows 34.37 per cent engaged in social work, 29.58 per cent in teaching, and 13.2 per cent in secretarial work, leaving the remaining 28 per cent scattered among the other professions. The three groups then, social work,

teaching which is not correlated with college work, and secretarial work, will be dealt with separately.

Of the social work, Vassar and Wellesley furnish the large proportion. Of all of Vassar's 1912 workers 34.2 per cent are in social work; about seven-eighths of these show no preparation for it in college majors. At Wellesley 24.65 per cent of the class are in social work, and a little less than four-fifths of them have made no special preparation for it. The other three colleges have comparatively few social workers. The small proportion of cases showing correlation between social work and college courses points toward the inference that girls drift into this work, often unpaid, largely because it can make use of unskilled labor. Because organized philanthropy demands trained workers does not prevent a large amount of so-called social work being attempted by the clumsiest of beginners. If a girl sees ahead of her a life of usefulness in the social field, or even a chance of eking out an otherwise inactive existence by social work, she might gain a possible efficiency through preparation by courses in economics, sociology, statistics, etc., known as social science courses. If she attends a college near a large city—in this group Vassar and Barnard have the advantages of New York, and Wellesley and Radcliffe of Boston—she should be able to take part of the work toward her degree at some place within the city authoritatively recognized as a laboratory for social work. In this way a practical preparation for work would be gained without the added expense or time of post-graduate training which many students are unable to afford. At present Barnard College is the only one of the five which offers such an opportunity to its students. A Barnard student by taking some of the work of the New York School of Philanthropy in her senior year may count the work toward her college degree and the same time anticipate part of the requirements for the diploma of the School of Philanthropy.

The second largest group of noncorrelates, the teachers, is, it is probably safe to assume, made up of women who would prefer, since teaching and studying are closely allied, to teach subjects which they had studied intensively. Beginners in the profession doubtless often have no choice of subjects, though it seems a pity to try out a novice by giving her the additional handicap of subjects with which she is more or less unacquainted. Since, however, many of the older teachers registered at the bureau had no correlation of subjects taught with those studied, it seems in some cases at least difficult to make any transition after the stamp of experience has been set on subjects once taught.

In order to find out if there was any possibility of predicting the combinations of subjects which the secondary schools demand of their teachers, an analysis was made of the subjects taught by all of

the teachers of the class of 1912 and of the teachers registered at the bureau. A uniformity of demand by the secondary schools with a recognition of the required combinations by the college might do much toward placing the teacher in her own field.

COMBINATIONS OF SUBJECTS TAUGHT.

English with—	Times.	History with—	Times.
History	29	Government and economics	2
Mathematics	7	English and economics	1
Latin	6	English and German	2
Latin and history	4	English and French	1
Latin and French	2	Art and Latin	1
History and German	2	Greek	1
German	3	Latin with—	
French	2	German	8
French and mathematics	2	History	7
Latin and mathematics	1	English	6
French and German	1	Mathematics	5
French and history	1	Mathematics and history	5
Psychology	1	English and history	4
French with—		French	3
German	8	French and German	3
History	4	French and English	2
Latin	3	Greek	2
Latin and German	3	Biology	1
Latin and English	2	History and German	1
English	2	History and art	1
English and mathematics	2	Mathematics and English	1
English history	1	Mathematics with—	
English and German	1	English	7
German and science	1	Science	7
German and mathematics	1	Latin	5
Mathematics	1	History and Latin	5
German with—		German	4
Latin	8	History	3
French	7	Physics	2
Mathematics	4	Biology	2
English	3	French and English	2
French and Latin	3	French and German	1
English and history	2	French	1
History	1	Education	1
History and Latin	1	Latin and English	1
Botany	1	Biology (a combination of zool-	
French and science	1	ogy with botany)	4
French and mathematics	1	Biology with mathematics	2
French and English	1	Biology with hygiene	1
History with—		Biology with Latin	1
English	20	Biology with physics and	
Latin	7	chemistry	1
Latin and mathematics	5	Biology with physical geo-	
Science	5	graphy	1
Mathematics	4	Zoology with geology	1
Latin and English	4	Botany with German	1
French	4		

Chemistry with—	Times.	Physics with—	Times.
Mathematics.....	1	Mathematics.....	1
Physics.....	1	Chemistry.....	1
Physics and biology.....	1	Chemistry and biology.....	1
Science.....	1		

Specialized teaching, i. e., cases in which the teacher has but one subject; from class of 1912 and data from Intercollegiate Bureau. Teachers whose work has correlation with their college majors:

Correlates teaching one subject:

English.....	43	Chemistry.....	3
Mathematics.....	20	Music.....	1
German.....	11	Hygiene.....	1
Latin.....	10	Physics.....	1
History.....	9		
French.....	7	Total.....	109
Botany.....	3		

Teachers whose work has no correlation with their college majors:

Noncorrelates teaching one subject:

English.....	5	Physics.....	1
History.....	4	Physical geography.....	1
Domestic science.....	3	Zoology.....	1
Drawing.....	1		
Geology.....	1	Total.....	18
Mathematics.....	1		

The results appended show a discouraging degree of variety. The most frequent combinations with mathematics are science, English, and Latin. With Latin, the most frequent combinations are German, history, and mathematics; French most often combines with German; but German combines with Latin in one more case than with French; history, besides the English combination, is taught most often with Latin. Botany and zoology are seldom separated; they appear as biology, sometimes as one combination, sometimes in unpredictable combinations with other subjects. The combinations required of the 1912 teachers tallied with those of the Intercollegiate Bureau almost exactly in order of frequency of occurrence.

A census then was taken of the teachers who were able to specialize to the extent of teaching one subject, with the interesting results that while 109 correlates taught one subject, only 18 noncorrelates were able thus to specialize. Of the subjects, English was most frequently taught by itself.

A not impossible ideal for the preparation of teachers might be a condition by which the student could combine the subject in which she is most interested with work in the department of education on the way to teach that subject. At the same time, it should be possible for her to have access to knowledge of the teaching combinations which may be required with her particular subject, and to make

allowance for them in her choice of courses. If the secondary school would supply greater uniformity of demand, and the college would recognize the amount which already exists, the career of the young teacher would be less difficult. If the college would recognize the amount of uniformity which already exists in the demand upon secondary teachers, it might, in the first place, turn out teachers who could with greater ease and success fit into their new work. The college might, in the second place, succeed in increasing the amount of uniformity of subject combination in the secondary schools by supplying better prepared teachers and by exercising care in placing them. Small high schools must require large groups of subjects of their teachers, but if the teachers are specially equipped with a combination of subjects recognized by large schools, they will stand a better chance of advancement in their profession.

The relation of the department of education to the rest of the college and to the teaching profession has been a matter of interest from the first installation. The department has met with much opposition and has until the last decade grown slowly. Of the five colleges, Vassar is the only one which still denies the need of a department of education. At present in the other four colleges the anomalous situation exists of recognized vocational preparation in one direction, while it is frowned upon in others. The work, however, is frequently made general in order to accomplish a cultural end.

Having decided upon the combination of subjects which she desires to teach, the student should be able to take in the department of education a seminar dealing especially with problems concerned with this group of subjects. In connection, also, with the department, she should be directed to secondary schools where she could see her subjects ably taught. These two methods of practical laboratory work would help obviate the difficulty of the beginner in modifying and adjusting her college work to secondary needs. The objection to so-called normal methods is invalid, since the full content of the college courses is given to the student in each department from which she elects work regardless of whether she teaches it or not. The time given to the vocational side of her subject would be limited to her senior year and would probably occupy less time and give more permanent results than many of the present senior activities.¹ Since the college actually turns out a large proportion of its students as teachers, since a placement bureau for teachers is part of its equipment, since a possessor of the college diploma is

¹ The reaction of the schoolmen who employ college-trained teachers was expressed by the exasperated protest of the Superintendents' Association in Boston in 1915. The superintendents seemed, on the whole, to have reached the limit of their endurance with what they termed "the raw A. B." The solution which they offered is of interest; that is, practical service in teaching during the college course to be counted as points toward the degree.

recognized as a suitable candidate for a teaching position, the support of a department of education and a knowledge of its policy by the college seems highly desirable. At present the colleges recognize bitterly the inadequate, meager preparation of the students who enter from secondary schools. They fail, however, to make the logical connection between themselves and that lack of preparation; they have trained the teachers for those schools. Some part of the remedy, at least, rests in their assumption of their responsibility for that training.

The third group of noncorrelates, the secretaries, is considered not only because of its size in the 1912 classes, but because from the Intercollegiate Bureau data secretarial work appears to be the vocation into which ex-teachers largely go. Over 45 per cent of former teachers who were correlates and 57 per cent of former teachers who were noncorrelates became secretaries.

Like social work, secretarial work appears upon an analysis of its requirements to be closely allied with the regular college courses. The course of secretarial studies given by the extension teaching of Columbia University for college graduates lists the following subjects: Stenography, typewriting, Spanish, contemporary literature, history, secretarial bookkeeping, typography, and an adequate training in French and German. The demands of English are ease and clearness of diction; "for to write accurately what one thinks must always be one of the prime requisites of a secretary."

It is obvious that such a course might be shortened by the student who had decided upon the vocation of secretaryship, if she had in mind the requirements. Election of the languages, literature, and history would cover the academic preparation. The fulfilment of the English demand is greatly to be desired of all students. Of the technical training, typewriting has become not only a convenience but a necessity in so many fields that any student would do well to acquire it. Typewritten college work would be a boon both to the student and to the instructor. One method of obtaining it has been secured at the Connecticut College for Women by providing a room equipped with typewriters which the students are free to use at any time. Stenography studied during vacations could offer no better opportunity for expert practice than that provided in the lecture room of the college.

Secretarial bookkeeping and typography then are the only classes which require special technical preparation. The student who wished to enter upon her vocation upon graduation could probably in the nine months of vacation of her college course acquire such extra work.

If after making the suggested preparation in any one of these three fields of teaching, social work, or secretarial work, the gradu-

ate changes her desire for that occupation, nothing is lost. ^TOn the contrary, she is the gainer in first-hand knowledge of social and economic conditions which make for good citizenship; in a scholarly grasp of a group of subjects and a confidence in herself in her ability to handle facts; or in ability to make language her tool. In the meantime she has had the stimulus toward real work in college which is supplied in the professional school by what Dr. Eliot calls the life-career motive.

To suggest a way in which such a motive can be supplied early enough in the college course of the student to permit thoughtful choice of vocation and intelligent correlation of studies is the subject of the next chapter.

V.—THE SOCIALIZATION OF THE WOMAN'S COLLEGE.

The study of the curriculum through its development and in its present state, and of its relation to the individual to whom it has served as a means of education for four years, has brought out with emphasis certain considerations which concern both of these factors. To sum them up briefly into two groups, the first consideration includes the possibilities of the individual, the second the potentialities of the curriculum in its relation to the individual.

The college woman has disproved two fallacies, that her place is exclusively in the home, and that her place is exclusively in the school-room. Increasingly she has demanded work, and increasingly that work has become more varied in its character. The existing conditions are, then, larger groups of college-trained women entering occupations each year, and a greater number of occupations opening to receive them. Furthermore, these new vocations do not open automatically with the increased number of applicants, but only as pioneers prove successful in them.

If college women are to continue their efforts and their successes—and there seems no predictable barrier except an entire social setback—the college must take upon itself a new responsibility, that of providing society with something which more nearly approximates its maximum working efficiency. To quote from Woods: "Society is suffering less from the race suicide of the capable, than from the nonutilization of the capacities of the well-endowed."¹

If women congregate in numbers in one or even a few professions, the chances are against the utilization of the highest capacity of the individual. She is probably not in the field because it is the one peculiarly fitted to her aptitudes. The reasons for the selection of her career, if it is a majority career, may be based on the contagion of imitation, on the ambitions of her parents, on financial pressure, on the ease of entrance, or on lack of knowledge of other opportunities. None of these motives is essential to success. Given a knowledge of other opportunities, however, with a conviction of aptitude for a particular one of them, and no one of the other reasons will probably be powerful enough to determine choice.

¹ Woods, Erville B. *American Journal of Sociology*, November, 1918.

Lester Ward, the sociologist, believes that two factors are essential to successful achievement, first, intellectual capacity and moral character, and second, opportunity. To provide the opportunity has become a definite problem of the college, an issue which it has shown a tendency to avoid by the plea of the value of general culture and of the all-round person. "The defect of this ideal (culture, breadth, and the all-rounded person)," says President Maclaurin, "is that it does not supply a motive strong enough to be effective for the young people of the present day."

In the efforts to realize the ideals of general culture and an all-round existence, the college girl dissipates her energies over wide and frequently desultory areas, and forms habits which are not conducive to concentration either of thought or purpose. With no motive strong enough for a driving force toward an attack on her work, she frequently orders her energies toward repelling the attacks which the work makes upon her. The modern demands of specialization no longer put a premium upon that product with which the woman's college abounds, the average student. At the end of the period during which, irrespective often of any special effort or direction on the student's part, she has received a cultural education, she finds herself confronted by a very specific and imperative question: What is she going to do with the rest of her life? The postponement of her decision brings to her certain inexorable results: She is usually without time or opportunity to find out about the fields of work open to her; she is hurried into an occupation which she has had no chance to investigate or test with relation to her abilities; she, and through her, society, are deprived temporarily or permanently of the utilization of her capacities.

To such individuals the college is responsible to the extent of providing opportunity to select careers, and education which will have some bearing on the successful pursuit of them.

Something must happen to each and every one of them that gives him some glimpse of his future life and arouses his ambition to strive for it. As Prof. Cooley says, "A man can hardly fix his ambition upon a literary career when he is perfectly unaware, as millions are, that such a thing as a literary career exists." A clear vision of a congenial field is that one fundamental circumstance in anyone's career.

Provision of a clear view of a congenial field is, then, a primary consideration in the problem of the utilization of the capacities of the individual. Given the inevitability of work, or, if that is not granted at large, at least the unquestionable desirability of it, the issue becomes vital to the degree of demanding preparation quite as much as the issues of the care of the body and the use of the mind.

Maclaurin, Richard C. Address to National Educational Association, Boston, 1910.
Ward, Lester F. Applied Sociology.

Given the eternal principle of human variation, and, as a result of its insistence, variation in fields of work to meet it, again a vital issue demands attention. The factors of the problem resolve themselves then into acceptance of a life of work for the individual as a useful member of society, recognition of variation in human capacities, and of variation in possibilities of the utilization of those capacities.

The solution of the problem should be a matter of consideration early in the college course of the student. The freshman year as a point of departure offers two disadvantages: First, the student is too absorbed by the novelty of her situation and by the process of mental and spiritual adjustment to it to allow any residue of her attention for her future; second, at least one year of college work is an essential basis upon which to build a knowledge of the student. A year provides at least some slight indication of the work she does best. High-school work is too likely to be mechanical college preparation to constitute a fair criterion of real capacity.

At the opening of her sophomore year, however, the student enters upon a different phase of her educational development. A certain degree of adjustment has been essential to her survival, an acceptance of possible future demands upon her has come with observation of the graduation and dispersal of one class; she is at a critical point where she can be withdrawn into three years of absorption in concerns entirely unconnected with the outside world or where she can begin to take her part as a woman in permanent issues. At this period of awakening social consciousness, the girl is no longer a child. The risk of forcing her to an immature choice in presenting to her at the age of 20 the possible opportunities of her life is not great. Moreover, presentation of opportunity in no way implies irretrievable bonds to one occupation, but rather a chance for preliminary trials of strength in different forms of contest. That greater freedom is henceforth permitted the student in her choice of electives implies that the college recognizes her as a responsible being, and should logically imply an obligation on its part to give her a basis for her choice.

Suppose, then, in the sophomore year a course of regular academic standing is offered, the content of which is concerned with vocations open to women. The course should aim to present in connection with each field of work: First, an accurate conception of the special occupation and the group of coordinated occupations, e. g., secretarial work with its subdivisions into stenographers, clerks, bookkeepers, statisticians, registrars, etc.; second, the qualities demanded by the work; third, the preparation required in special outside courses and

that required by intelligent grouping of college electives; fourth, the advantages and disadvantages of the occupation, including salary, hours, mental and physical demands, opportunities for advancement; fifth, its social significance. To supplement the unbiased presentation of the instructor, at least one successful representative from each main field of work should give to the class the results of her experience. A large body of alumnae stands behind each college as a committee available and competent to supply such a demand.

The laboratory work of such a course on vocations should be actual investigation. To illustrate, if a student is interested in salesmanship, she should look into the course given in preparation for the work, interview educational directors in the large stores and teachers of salesmanship in public schools for the first-hand information about the work, and make a report on the results of her investigation. If her interest proves permanent, some of her apprenticeship in store-work can be covered during vacation. If she decides that she prefers bacteriology or interior decorating, she has some real knowledge of conditions which she has gained while still in college as a basis for her change of choice, and she has not had to waste time after graduation in aimless drifting. She has, moreover, gained invaluable social education in her experience with the world's work.

Such a course on vocations offers an honest basis for vocational guidance. In but a small minority of young people is the natural bent strong. For the undetermined student, options must be offered before direct guidance can be attempted.

To supplement the course, however, and to supply more direct guidance, the instructor or counsellor should card-catalogue her students as carefully as a physician catalogues his patients. By accurate personal data, by recorded faculty reports, by information gained from all available academic and home sources, perhaps at some future time by psychological tests, such a complete record of the student should throw light on her particular aptitudes. Conferences based on sound impersonal data should aid the student to do three things: To make an intelligent selection of subjects from the curriculum; to develop self-insight without sentimentality; to find out what she wishes to do.

The present system of faculty advisors is vitiated because in spite of the good strategic position of the teacher, she is likely to be prejudiced by over-valuation of her own field through insufficient knowledge of other fields, and because her mode of living prevents her of necessity from possessing the view of life gained by participation in work outside of the academic world.

Through discussion with the different faculty members, however, the counsellor would have at her disposal the consultation with spe-

cialists which is essential for careful diagnosis. Such a diagnosis should include details of physical as well as mental capacity.

The counsellor must know by preliminary investigation through a background of research the resources and problems of vocations open to women. Through cooperation with men and women in occupations she would have current information regarding the vocations; at the same time she would provide the employers with knowledge of the possibilities which the college offers to them.

An important part of such a system of vocational guidance should be the follow-up work. Failure in a vocation may result not from incapacity, but from a wrong type of work in the right vocation. The beginner's school may be exceptionally difficult, her employer demanding, her library hampered by trustees, her chances for success weakened by perplexity as to causes of failure, since lack of experience affords her no key to the situation. The office of the college counsellor should be able to tide over the difficulties of beginners.

Guidance by any one person is an egregious error and piece of effrontery on which is founded the current charlatanism of deserved disrepute. With one office, however, as a clearing house for contributions from faculty, parents, students, employers, both economy of effort and efficient administration of resources would be secured. In the final analysis the student becomes her own guide under the best conditions for efficiency that human experience can provide.

The consideration of any new system involves several features. In this case, the student, the college curriculum, and society.

Wherever the student has had the stimulus which President Eliot calls the life-career motive the effect on him has been wholly desirable.

Says President Eliot:

In every college a perceptible proportion of the students exhibit a languid interest, or no interest, in their studies, and therefore bring little to pass during the very precious years of college life. . . . All of us adults do our own best work in the world under the impulsion of the "life-career" motive. There is nothing low or mean about these motives, and they lend on the people who are swayed by them to greater serviceableness and greater happiness—to greater serviceableness because the power and scope of individual productiveness are thereby increased; to greater happiness because achievement will become more frequent and more considerable, and to old and young alike happiness in work comes through achievement.¹

President Eliot speaks of men, but his words are equally significant for women, who perhaps have more to gain by a life-career motive than men. Not only might the perceptible proportion of indifferent students be affected, but the percentage of "no vocations"

¹ Eliot, Chas. W. Life-career Motive in Education. Address to National Educational Association, Boston, 1910.

might be lowered by a motive which concerned itself with helping the rich girl to greater service through achievement. A step might even be taken toward the solution of the problem of the married women who rust in disuse. John Dewey says:

A vocation means nothing but such a direction of life activities as renders them perceptibly significant to a person, because of the consequences they accomplish, and also useful to his associates. The opposite of a career is neither leisure nor culture, but aimlessness, capriciousness, the absence of cumulative achievement in experience, on the personal side, and idle display, parasitic dependence upon others, on the social side. Occupation is a concrete term for continuity.¹

The objection to a claim for the need of careful choice of a vocation is the common dictum that women go into occupations only until they marry. In the light of Prof. Dewey's definition of a vocation, such an objection shows its triviality and irrelevance. An answer which might be yielded is that marriage would in no way lessen the values of a well-chosen vocation. The knowledge acquired and experience gained remain a permanent equipment which through choice or necessity may at any time be of active service.

A second objection to involving the college in vocational choice is the alleged lack of time. Under the present system a college student has nearly one-third of the year devoted to vacations. No able-bodied young woman needs or, if she has something better to do, desires so much time for recuperation. An abiding interest will call into service much of that time toward special preparation without injuring health or happiness. During the college year, too, a curriculum which provided for more experimental and less book work could require more time without risk of overwork.

If the student finds it possible and profitable to make between the curriculum and her future vocation a correlation which is conscious and intelligent, not accidental, she will demand certain standards of that curriculum. To be specific, the young woman who elects the profession of law, or medicine, or teaching, will have distinct aims in her courses in the history, economics, and government group, or in science, or in education and the subjects she wishes to teach. The young business woman will have a new interest in psychology, in sociology, in English, in modern languages, in whatever bears upon her chosen type of business. The student who wishes later to prepare herself for any form of domestic science and art work has a motive in selecting her courses in chemistry, biology, physiology, education, sociology, and art. Any vocation which would refuse to correlate in some degree with college courses would, if a reputable vocation, reflect severely on the quality of the college work.

¹ Dewey, John. *Democracy and Education*, p. 256.

The effect of motivated demands upon the curriculum would be, first, to vitalize college courses by an enrichment of content and by the renaissance of the faculty; second, to unify courses by making them correlate with each other and with a definite future goal; third, to unify the faculty aim. This correlation of studies with vocations would tend to replace promiscuous absorption of courses for immediate academic purposes by original thinking on permanent issues. The unity between present and future work would supply a valuable economic and social asset by furnishing knowledge of the world's conditions and in consequence greater power to deal with them. Thus, even if the chosen vocation were never followed, it would in its effect on the individual provide the best disciplinary work possible.

The final factor, society, is inevitably involved, first, by any institution which can provide leaders; second, by any system which will help to give it the maximum working efficiency of its members; third, a corollary of the last, by any reduction of wastage. That a relation between the student and her college course can be brought about to help consummate such imperative ends has been the aim of this piece of work.

"Nurture does not consist in the mere coddling of the weak," says Ward. "It consists in freeing the strong." To enable a person to select and successfully pursue a career is setting free the strong to become leaders of the race.

The ideal of democracy, as realized in the college, too frequently expresses itself in an attempt to turn all intellects into the same mold. A more truly democratic treatment of much of our college material would be to deflect it into directions where it would count to some useful purpose through realization of a development impossible in the college. True democracy does not demand a college training for all, but an opportunity for the highest development of individual capacity. A system of vocational guidance will not only discover all possible uses of the college for the students who enter, but it will also discover cases of particular abilities to which the college can not minister, and will direct those cases into their necessary fields of preparation. The student who is now dismissed as "not college material," with all the humiliation of such dismissal, may then take her place creditably in some other field. By a discriminating choice of the student body, based upon quality rather than quantity, the college can perform a more truly democratic service to society in the development of leaders and in the offering of real equality of opportunity.

A student body charged with purpose and energized by a knowledge of principles behind society is ready to tender to the world the maximum of its power. The waste through failure, the waste through partial success which is just sufficient to inhibit effort toward

change but not enough to permit self-expression except outside the vocation, the waste by the social detachment of women debarred from work, all waste, as John Dewey says, is due to isolation.

His remedy is getting things into connection with one another so that they work easily, flexibly, and fully. The connection or organization which would encourage growth and prevent waste can be made at least in part by the college in relating its education intimately to life. This problem of unity is part of the call of the age. It is at the basis of the evolutionary ideas which have forced experimentation by laboratory methods into the college work, and it lies behind the present effort to secure unity of college and working life through the development of the one into the other.

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