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Bryn Mawr College

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Vol. 37

BRYN MAWR COLLEGE.

THE

PRESIDENT'S REPORT

TO THE

BOARD OF TRUSTEES,

For 1884 and 1885.

PHILADELPHIA:
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1885.

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BRYN MAWR COLLEGE.

Report of the President to the Trustees for 1884.

TO THE TRUSTEES OF BRYN MAWR COLLEGE:

In presenting to you a report for the year ending Tenth month 10th, 1884, I congratulate you upon the progress made during the year in preparation for the actual work of the College, and upon the lively satisfaction with which all interested in the Institution have received the announcement that it would be opened for the reception of students in 1885.

The work of the year has been of two kinds, first, the completion of the necessary buildings, and second, the organization of the College by forming a scheme of study and instruction and by the selection of a Faculty.

A general plan of the buildings for the College had been formed by Dr. Taylor during his lifetime and work upon them was begun by him, so that the Trustees have been, to a considerable degree, but the agents to complete his designs. After much thought, and seeking advice from those acquainted with the whole subject of College requirements, Dr. Taylor had determined to erect one building for purposes of instruction, and to place near it four dormitories to accommodate from thirty to fifty students each. To these he purposed to add another edifice to serve as a common dining hall; and also that in connection with this or some one of the buildings there should be a hall for gymnastic exercises. Moreover, in designing Taylor Hall

Preliminary Statement.

he intended at an early day to erect near it an edifice which should contain laboratories, and perhaps rooms for illustrative collections.

He wished to avoid the strain and crowded life incident to placing one hundred or more students in one building, which, beside accommodations for their residence, should also contain class-rooms and the other necessary accompaniments of collegiate instruction. Hence his plan for several distinct edifices.

The only marked deviation from his plans made by the Trustees has been to attach a dining-room and kitchen to the dormitory now known as Merion Hall, so that its inmates will not be obliged to go out to another building for their meals.

In the Eighth month, 1879, Dr. Taylor began the erection of the building now called Taylor Hall, and also a residence for fifty students, then designated as Cottage No. 1. When work upon these was suspended at the beginning of the winter of 1879-80, the foundations of both buildings had been finished and the base courses laid. During that winter Dr. Taylor accumulated on the grounds a large quantity of materials for the operations of the coming year, but these preparations were cut short by his decease in the First month, 1880.

The
Charter.

As soon as the Trustees were legally informed of their appointment under his will, care was taken by some of their number, that the property at Bryn Mawr should not suffer from lack of proper oversight, and legal counsel was consulted as to the steps to be taken to obtain a charter for the College.

At an informal meeting held by the Trustees, Second month 10th, 1880, Francis T. King was recognized as their President in accordance with the will of Dr. Taylor; a committee was formed to procure a charter under the laws of Pennsylvania, and a form of application for one was adopted. It was known that Dr. Taylor had a positive wish that the Institution should not be called after his own name, and the title "The Trustees of Bryn Mawr College," was chosen as that of the future corporation. This name was the one given to his estate by the original Welsh settler, as descriptive of the "high hill" upon which the College now stands. It has the

advantage of being the same as that borne by the railway station and post office near by, and time has confirmed its appropriateness.

The charter in its present form was approved Fourth month 5th, 1880. At the same meeting a "Committee on Buildings" was appointed to act until the organization of the Trustees. This committee was directed to give due attention to existing contracts, and to proceed with the erection of the buildings already begun.

The charter was granted by the Court of Montgomery County, Fifth month 15th, 1880; and at a meeting of the Trustees held on the 20th, the Board was duly organized by the appointment of officers and of standing committees on finance, on buildings and grounds, and on the organization of the College.

The character of the Academic Building had been determined already, but the Trustees felt that the responsibility for the other structures devolved upon them, and that very careful inquiry was needful before going forward with their construction. For this reason work was carried forward upon Taylor Hall only, and at the meeting held Tenth month 28th, 1880, the building committee reported the Hall under roof. Meanwhile the question of attaching dining-rooms and kitchens to each of the dormitories, or the erection of a separate structure to contain them, was seriously discussed. Plans were prepared for the completion of Cottage No. 1, but proved to be so expensive that they were considerably modified, and for adequate reasons the site of the building was changed to that now occupied by Merion Hall. Buildings.

Dr. Taylor had hoped to finish his buildings in 1881, but at the close of that year the Building Committee having reported an estimate of the sum required to meet all outlays before the opening of the College, the Trustees were so impressed with the importance of preserving the estate intact in order to supply the future needs of the College, that they decided to instruct

the Building Committee to resume work in the Spring of 1882, but to spend a limited amount only during that year.

The
Grounds.

A plan for the proper disposal of the buildings, present and prospective, upon the grounds, was adopted in the Second month, 1882, which assigned sites for four dormitories, to be placed about a quadrangle extending northward from Taylor Hall.

Attention had been given to the best mode of laying out and planting the grounds, and on the 29th of Ninth month, 1882, a plan for the grounds and planting, designed by Vaux & Co., of New York, was presented and approved. The purchase of the lot at the southeast corner of Merion Avenue and the Gulf Road, was announced and confirmed at the same meeting. The official year of 1882 closed with the meeting held on the 27th of Tenth month, 1882, at which report was made that the total expenditures for buildings to that date had been \$97,474.46, of which Dr. Taylor had disbursed \$14,127.51.

Bids for the finishing of Cottage No. 1, were presented, and it was thought best to modify the superstructure somewhat, so as to make it less costly.

WORK IN 1883.

In the First month, 1883, in deference to the wishes of the President of the Board, a Vice-President was appointed who could give more constant attention to the various concerns of the College than it was possible for the President to do because of the distance of his home from Philadelphia, and his many important engagements.

The modification of the plan of Cottage No. 1, and bids for its completion were approved Second month 9th, 1883; and a contract was made therefor. A bell was placed in the tower of Taylor Hall during the summer, a door was opened at the end of the north corridor towards the Gulf Road, and a porch was constructed for it. Plans for a chemical laboratory to occupy the third-story rooms at the north end of Taylor Hall were made, and the work upon it begun. On the 15th of Eighth

month a force of men began the grading of the lawn under the direction of Vaux & Co. Plans for the heating and ventilation of the buildings, for a cistern to contain 76,000 gallons of rain-water, and for a laundry and boiler house, were submitted.

In order to determine when it would be wise to open the College, careful estimates were again made as to the cost of completing the buildings and grounds, of furnishing the former and of procuring the necessary appliances for instruction. It was evident that this would considerably exceed the income derived from the estate during the following year and a half, but after providing that whatever sum was withdrawn from the principal should be refunded by an annual appropriation from the income until the loss was replaced, the Trustees determined that a circular should be prepared announcing the opening of the College in the autumn of 1885, and giving necessary information as to the requirements for admission, terms, &c. The circular prepared in accordance with this conclusion was adopted, Tenth month 26th, 1883, and its distribution ordered.

The official year thus ended with Cottage No. 1, now named Merion Hall, under roof, with work on Taylor Hall advanced, and a large part of the grading of the grounds accomplished, while positive measures had been taken toward the opening of the College.

OPERATIONS DURING THE FISCAL YEAR 1884-85.

We have now reached the beginning of the last fiscal year, the operations of which are more properly covered by this report. At the first meeting held in it, the Trustees resolved that in order to preserve some record of the life of Dr. Taylor a brief memoir of him should be prepared while the facts of his history were yet accessible and were fresh in the memory of his friends. Such a memoir was accordingly written and accepted by the Board. An engagement was also made with an artist of merit to paint a portrait of Dr. Taylor from photographs in the possession of his family.

Taylor
Hall.

During this year but little has been done toward the completion of Taylor Hall. Three rooms in the third-story have been fitted up as a chemical laboratory, a professor's room, and a lecture-room, respectively.

The laboratory has been provided with tables for twenty-six students, has been properly supplied with gas-fittings for heat and light, with a large sink, and with two fume closets of good size. Shelvings and closets for glassware and chemicals, and a table for the professor's private work, have been furnished. The lecture-room has a well arranged table for experimental illustrations, and raised platforms for the students. The apparatus and chemicals are yet to be purchased.

In the second-story will be placed the laboratories for Biology and Botany, with a lecture-room for them conjointly. The plans for these laboratories have been sketched, and the preparation of the material will be ordered as soon as working drawings have been made by the Architect.

The iron stairway of the tower and the main stairways of the building have been finished. The mill work for the wood finishing of the interior of the hall, except the floors, has been wrought, and a force of carpenters is engaged in putting it up. The floors of the cellars have been laid with a good coating of sand and cement, and seven heaters have been set at proper points for the supply of hot air to the whole structure.

Except the chemical laboratory, all the rooms have been furnished with grates for heat and ventilation.

Merion
Hall.

Merion Hall one year ago had just been roofed in. Its fourth, third and second-stories are now completed, except some re-adjustment of the plumbing of the bath-room wing, which was not satisfactory. The first-story and basement are nearly finished, and the whole presents a very pleasing appearance within and without. Although the expenditure upon it has been so great that it is to be hoped future dormitories can be built at a very much less cost for each student accommodated, yet the architectural beauty of the hall will ever give an agreeable aspect to the College premises, and will justify its cost by the pleasure it will impart to visitors and residents.

The Gymnasium, for which the plans were still incomplete a Gymnasium year ago, and the site of which was then undetermined, is now under roof. The building impresses the beholder as adapted to its uses, and as a brick edifice it makes an agreeable contrast with Merion and Taylor Halls. It promises to be well suited to its purpose, as a light, airy, attractive building, within which students may find the complete unbending from brain work, and the cheerful exercise which are essential to their health.

The expenditures upon the gymnasium thus far have been \$8,424.00. and there does not appear any reason to expect that the total cost will exceed the amount anticipated when its erection was ordered by the Trustees.

The Laundry and boiler house has been roofed and plastered, Laundry. but the setting of the boilers and apparatus has not been begun. The building is a very plain one, but not more so than its uses justify, and when covered with vines it will not detract from the pleasing appearance of the buildings as a group. There have been paid on the contract for its erection \$4,000.00.

A Well, seven feet in diameter, is being sunk beside the laundry, to furnish the water supply for the College, except what Water Supply. may be drawn from the cistern for laundry purposes.

A brick Cistern for rain-water has been constructed on the northeast side of Merion Hall, and is now completed. It has been built with much care so that it will probably last many years without repairs. An overflow pipe of terra-cotta, ten inches in diameter, has been laid from this cistern to the Gulf Road.

A Stable has been placed on a good site, and at a suitable Stable. distance from the other buildings. It was removed from the rear of one of the Cottages on Yarrow Street, and has cost \$512.16. There will have to be some expense incurred in supplying it with water, and making a proper road for approach to it; but when these are done, the cost will still fall much within the original estimate.

Grounds. The grounds have had much labor expended upon them during the year. The front lawn reaching to and around Taylor Hall, has been graded, planted and sown; and the walks and roads have been laid in a substantial manner. The playground in front of Merion Hall has been graded, and the broad walk surrounding the quadrangle which includes the buildings has been laid, except a part in the rear of the gymnasium and Merion Hall. Beside the trees and shrubs set upon the lawn, a choice collection, sufficient for the whole grounds, has been set in a nursery near Taylor Hall, ready for planting next spring. This work has been very expensive despite all care to reduce its cost. The whole amount expended for grading, stone, screenings for roads and walks, manure, seeds, terra-cotta drains, trees and shrubs, planting and care of the grounds, with the charge of the engineers for plans, visits and superintendence has, been \$9,343.65.

President's House. Plans and specifications for a house for the President of the College were prepared, and a contract for its erection was made in the Eighth month last; and on the second of the Ninth month work upon it was begun. The cost of the house is to be \$13,220. The walls are nearly ready for the second set of joists, and the whole will probably be roofed in before the Twelfth month. The contractor has agreed to finish the house by the 1st of Fifth month, 1885.

EXPENDITURES.

The total expenditures which have passed through my hands since First month 1st, 1883, amount to \$82,515.67. Of this sum \$1,387.12 have been spent upon the lot and House for President, which is to be considered as an investment. This and sums paid for repairs of the three cottages on the College premises, reduce the expenditures for buildings and organization to \$85,454.47. Of this sum the Committee on Buildings and Grounds have ordered \$79,518.12; the Executive Committee have ordered \$936.35.

The estimated cost of finishing the buildings and grounds, and of preparing for the opening of the College is as follows:

| | |
|---|--------------|
| Taylor Hall, | \$16,544 00 |
| Merion Hall, | 23,853 54 |
| Laundry and Cistern, | 4,535 00 |
| Gymnasium, | 8,424 00 |
| Grounds, | 3,000 00 |
| Gas Apparatus and Out-door Lamps, | 2,400 00 |
| Tenant House and Roads, | 2,000 00 |
| Heating Apparatus, | 9,358 00 |
| Incidentals, | 1,500 00 |
| Salaries, | 5,000 00 |
| | <hr/> |
| | \$71,614 54 |
| Furniture, | 13,000 00 |
| Library and Apparatus, | 5,000 00 |
| | <hr/> |
| | 89,614 54 |
| Add to this the expenditures since First Mo. 1st, 1883, | \$85,415 00 |
| | <hr/> |
| Total, | \$175,029 54 |

ESTIMATED RECEIPTS.

| | |
|--|-------------|
| Interest accumulated to First Mo. 1st, 1883, | \$20,000 00 |
| Income for 1883, | 42,000 00 |
| “ “ 1884, | 42,000 01 |
| “ “ 1885, | 25,000 00 |
| | <hr/> |
| | 129,000 00 |
| | <hr/> |
| There will be withdrawn from capital at least, | \$46,029 54 |

THE ORGANIZATION OF THE COLLEGE.

The American College has grown up to meet the wants and aspirations of the people of the United States. Its history is a part of the nation's history. While it has to a limited degree been modeled after the institutions for higher learning in Europe, it differs from them. It has been adapted to the necessities of a people who have found themselves compelled to devote their chief energies to subduing the elements of a new continent to their use and comfort, yet who have had an ever growing desire for the solid advantages and mental graces derived from intellectual culture. The conception of the functions of a college and of its general course of instruction has been changing of late, and the subjects under discussion have been chiefly these:

1st. The relative proportions which the ancient languages, the modern languages, and natural science should have in a scheme of collegiate education.

2d. The amount of freedom which shall be granted to students in the choice of the branches of learning they will pursue.

3d. How to combine a sufficiently wide range of disciplinary study and acquaintance with the principles of modern knowledge, with some thoroughness in one or two departments of it.

The frequently recurring discussion as to the use and place of Greek and Latin in education has left such confidence in their value for this end, that the authorities of all colleges of note, with one exception, have retained them in those courses of study which lead to the degree of Bachelor of Arts.

In most cases, other courses of study have been arranged to meet the wants of students who wished to avoid Greek and Latin, and these lead to a special degree, as Bachelor of Science, of Letters, &c. While there is much to recommend this plan, good reasons may be urged in favor of the view that the one degree of Bachelor of Arts should testify as far as practicable, to a variety of courses of study, each of which shall give an equally extended and adequate intellectual training.

Degree of Bachelor of Arts. To meet all these considerations, it has been decided that the several courses of undergraduate study at Bryn Mawr shall culminate in the one degree of Bachelor of Arts; that Greek shall not be required in order to admission, but that because of its many advantages, especially in giving a better understanding of our own language and of scientific nomenclature, a short course in Greek must be taken by all students before graduation. As an equivalent for the three or four years given to the study of Greek by students who offer it at their entrance examination, those who omit it will be expected to have a good preparatory knowledge of French and German grammar, and to have read a specified amount in classical authors in those languages, and in addition they must pass successful examinations in the elements of Chemistry, of Physics, of Botany, or of Physiology.

Electives. To permit a choice of studies which shall take due cogni-

zance of the varying tastes and aptitudes of students, yet to restrict their range and to secure thoroughness in certain branches, the group system has been adopted. This is believed to meet the demands of modern thought on education more nearly than any other. It is so arranged that all graduates will have had a liberal culture in two ancient and three modern languages, in Mathematics, Philosophy, and some one science. It allows the student to elect congenial studies, but obliges her to confine herself to a group defined by the judgment of the College authorities. By devoting one year to each of certain subjects and two or four to others, it secures a sound knowledge of the elements of all the branches pursued, and such familiarity with two of them as will be a preparation for further study or for original research in them. Laying aside the usual division of the time spent at college into four yearly classes, it allows a student to advance more slowly or more rapidly as her strength and ability may determine, while by an adjustment of the course, sufficient time will be given to each department, an element essential to successful study. Furthermore it facilitates the plan of giving credit to students on admission for any progress they may have made beyond the stated requirements. Experience in the use of this system in other colleges has proven its excellence, and has given increased confidence in its adoption.

From the first consideration of the instruction to be given at Bryn Mawr, it has been felt that History should be taught in it by the best methods, and in such manner as to bring out the great laws which underlie historical movements and events. If properly presented, History should be especially attractive to women, as it gratifies and develops a taste for literature, and concerns itself with that subject of paramount interest, human life. Citizenship in a republic implies the duty of forming judgments upon those serious political and social problems which are continually arising. For the solution of these the light of history is essential, if only to prevent the repetition of the mistakes of the past and the misery of learning over again lessons which the sad experience of others should have taught

History.

us. The civil institutions of our country which seem so new, are really the outgrowth of ancient times, and there lie embedded in their familiar forms traces of the character and ways of our social ancestors. As the unsearched fields of this continent are rich in stores of paleontological and geological knowledge which our scientists are exploring with success, so the records of our local and national government supply material for historical research which will richly repay the investigator. For these reasons it is designed to assign to the department of History, a place befitting its intrinsic importance, and to foster it by all suitable means.

Modern
Languages.

If the advocates of Greek and Latin may justly plead, that beside their exceeding beauty of diction and power of expression, they demand attention because their literatures contain the forms and seed thoughts of much that is best in the present arts and learning, the modern languages have at least a more immediate claim upon our regard. English is at once the most flexible and the most copious of these, and in the hands of such Masters as Shakespeare, Tennyson and Ruskin, it vies with the classic tongues, while in its literature and in those of the French and German languages, may be found the best thoughts and ripest knowledge of all times. All will agree with President Eliot that whatever else may be learned no one is an educated person who has not a knowledge of the right use of his mother tongue. It is proposed, therefore, that every student at Bryn Mawr, shall devote two years to a course in English, which shall comprise its phonetics, its structure, history and literature. As a cognate language, German will be placed in the same department. Students who lose the mental discipline which Greek affords, should have that lack supplied as far as practicable. On this account it has been felt to be imperative that there shall be a department of Romance languages wherein French, especially, may be taught with such thoroughness and accuracy as to compensate in some degree for the loss of Greek. Instruction in French is so generally given in schools for girls that it is believed we may successfully require students to master its elements before admission, and to read some of

its classical authors. With the foundation thus laid, it is expected that French and the other Romance languages may become much more fully than they formerly were, the peers of Greek and Latin as disciplinary studies.

Among the various departments of science it has been necessary to select those most desirable as present forms of knowledge, and as most likely to be fruitful in the future life of students. Of these chemistry is easily chief. Treating of the atomic and molecular relations of matter, it is the basis of the allied sciences. Physics is closely connected with chemistry. It deals with the forces which bind and control all material things, and an acquaintance with it is necessary to the right understanding of mineralogy, geology and biology, so that instruction in its elements, at least, must be included in any wise scheme for a college. It is therefore intended to offer one year of Physics, until the enlarged means of the Institution will enable us to do full justice to it, and to place it in its deserved rank as a full department. Physics has an added merit, in that it supplies problems for the application of the higher mathematics.

Science.

It would seem natural to go on from these branches to mineralogy, as dealing with matter in its crystallized and agglomerate forms, and then to geology as the study of the larger masses which form the earth's structure. But acting upon the principle that whatever is attempted should be done as thoroughly as possible, it has been found necessary to postpone these sciences, as well as the kindred one, astronomy, until the resources of the College will permit them to be made electives with adequate provision for teaching them.

Passing by these, biology has been chosen. Devoted to the consideration of matter under the control of those forces which have been termed vital, that is, to the study of the structure and functions of living things, it leads to a knowledge of our own body, with the laws of health, and has relation to almost all personal and social duties.

Starting with the commonest principles of animate action and the simplest organizations, it soon separates into the great

divisions of animal and vegetable biology, or zoology and botany. In its higher developments, human physiology touches upon psychology, whose deeper investigations require an acquaintance with all that biology can teach as to the functions of the sentient portions of the human frame.

Beside their intrinsic worth as means of self-culture, physics, chemistry and biology afford a valuable preparation for the study of medicine; a profession to which an increasing number of women are successfully devoting themselves.

Philosophy. The too exclusive direction of modern research to the natural sciences, and the great increase of comfort and luxury arising from the practical applications of discoveries in them, have had a tendency to divert attention from metaphysics. It has seemed the more important therefore, that the latter should have its due place. Based no less than the natural sciences upon the observation of facts, deducing laws from them, and appealing to consciousness as certainly and as confidently as they, philosophy is necessary to that balance of culture which fits us for "complete living."

Beginning with the elementary facts of sensation and perception common to men and other animals, philosophy rises to an order of phenomena in men which transcend all those observed in inferior beings, and to his actions there is added a moral character. The moral order is found to be connected with reverence, and leads on to the consideration of religion.

Biblical Instruction. Although morals may to some extent be considered apart from Christianity, yet the highest morality, both as to precept and motive, is Christian. Hence the ethical instruction given will be chiefly an inquiry into the nature and application of the truths and principles of the Bible, that is, of Christian ethics.

To fill up the study of man as a part of nature, to meet the requirements of the trust imposed by the terms of the foundation upon those who may conduct the college, to care for the highest interests of life, and to engage in the noblest use of the faculties, direct religious instruction must be given. It is impossible that

students shall escape, nor is it wholly desirable that they should do so, the perplexing questions which affect the relation of science and religion. Assured that all truths must be consistent and that what is true in science cannot conflict with revealed religion, we should welcome sound knowledge from every quarter, and permit the full yet reverent investigation of every subject. It is thus that men learn, as Goethe has said, "to keep within the limits of the knowable," and to recognize that if science has to do with knowledge obtained through the senses and resting upon the uniformity of natural laws, there are also truths apprehended by the spiritual faculties, imparted by the Spirit of God, and essential to the well being of man.

Beside, therefore, the exercises of social and public worship, it is intended to add a series of lectures upon the history and authenticity of the Bible, with some exposition of its truths. To these may be joined some lectures upon the history of the Church during the first three centuries.

As students of all denominations are invited to the College and have a claim to its benefits, it will be imperative to respect the rights of conscience in others as sacred, while faithful to our own. The two are strictly compatible.

That a complete education should not neglect the sense of the beautiful with reference to expression in form and color as well as in literature, is admitted; but how far attention can be given to the former in a college is debatable. It would be inappropriate for us to attempt to compete with the Schools of Art now established in our large cities, or to endeavor to give a technical education in the fine arts any more than in medicine or photography.

But, inasmuch, as drawing is extremely useful in scientific study and in daily life, as it trains the powers of observation and the use of the hand, it will be taught in its simpler forms.

It is hoped that lectures upon the history and principles of art, properly illustrated, may be given at an early day, when the means of the College will admit of its being done well.

The demands upon the time and strength of students which instruction in music makes, and the certainty that proficiency

Art.

in it must be gained at the expense of thoroughness in the usual studies of a college, have sufficed, without appealing to other considerations, to exclude it from the course at Bryn Mawr.

Physical
Culture.

It should never be forgotten that education should be simply the best and most equable development of all our powers, bodily and mental. The aim of a college should be to have its students at thirty as perfect in body, mind and spirit as they are capable of becoming. The rudiments of a common school education are all-sufficient for the development of some minds. To go beyond this simply overtaxes and overloads them. Others again may take with advantage the instruction of a higher school or academy. Most should stop short of collegiate study. It would hurt, not help them. As Dr. Coulston has pointed out lately, (*Popular Science Monthly* for January, 1884), many girls become pale, some stunted in growth and nervous, from bad air, confinement, wearisome study, and a strained, cheerless, artificial school life. He more than hints at insanity as an occasional result of an overtaxed brain, with privation from the out-door exercise and joyousness which every young person should have. But he and other like writers, admit that all this is the exception, and that with reasonable care girls may pass through school life with good health. The experience of colleges for women has proven that if students enter free from disease and live under proper sanitary regulations, they enjoy as good health as when at home.

The precautions to be taken, then, are to admit those students only who have mental capacity for collegiate work, to provide in the buildings and general mode of life the best sanitary conditions possible, and finally to add special facilities for agreeable and skilfully regulated exercise.

Reference has already been made to the gymnasium and the play-ground. The former is large enough to permit one hundred and fifty or two hundred students to enjoy systematic exercise, and also, to some extent, in-door recreation in stormy weather. The apparatus of Dr. Sargent will be introduced. His system of carefully prescribed gymnastics will be used, a

system adapted to bring into action all the muscles, and to cause a graceful and equable development of the whole body. But a good building and apparatus are of little value without some one to direct their intelligent use. Hence it is proposed to have the gymnasium under the superintendence of a directress, who, from a thorough knowledge of Dr. Sargent's methods, can successfully apply them, and who can inspire the students with a love for the health-giving effects of well regulated exercise.

Dr. Taylor in his will expressed his desire that care should be taken in the college to educate teachers of a high order.

Our search after instructors for Bryn Mawr has made it apparent that not from lack of ability but of opportunity for thorough training, few women are prepared for positions as professors.

It would be wholly aside from the purposes of the college to attempt to duplicate in it the work so well done by Normal Schools, but in the regular instruction of the college much can be done to fit women for the higher grades of teaching, and by establishing fellowships it will be possible to lay the foundation for a training which shall qualify women to give instruction of the highest grade. On this account, and also that women of ability may be aided in self-culture, five fellowships have been founded. They are to be offered to graduates of colleges, or to others who have attained equal proficiency by prolonged study, and who shall furthermore have shown ability and attainments which qualify them to make good use of the advantages which the fellowships will supply. The presence of such fellows will create an atmosphere of intellectual activity and zeal in the college, will strengthen undergraduates in an earnest life as students, and will inspire professors with greater interest in their duties by calling into requisition their highest powers of instruction and the fullest knowledge of their subjects.

To carry out more perfectly the purpose expressed in these fellowships, it seems desirable that the college should facilitate the attendance at foreign universities of some of its graduates.

In consequence, a scholarship of \$500 a year has been established to be awarded annually by the Trustees to a graduate of Bryn Mawr, who shall be recommended by the Faculty and deemed by the Trustees a proper recipient of the opportunities it will afford.

Scholarships. It was announced last year that a few scholarships would be established. Three annually, or twelve in all, are opened to members of the Society of Friends. These scholarships will pay \$200 out of the \$350 charged for tuition and residence in the college. Already there have been four applications for them.

The Library. As an ample library is so great a necessity, it has been decided that, starting with empty shelves, \$3000 yearly will be required for the purchase of books. The head of each department will indicate the books and periodicals most needed by it, and those likely to be used most frequently for reference will be placed in cases near the recitation room or the laboratory of that department. Scarcely less essential than books is a well trained librarian, who can suggest lists of books to the Faculty, purchase at the best rates, arrange the subdivisions of the library, make catalogues of works, authors and subjects, direct the reading of students, and aid them in finding what they require. A Librarian skilled in the best system of library management has not yet been found.

Students. Up to this date twenty-one applications for admission as students have been received, and most of the applicants may be expected to enter the college. A large number of young women are known to be preparing for Bryn Mawr, and it is probable that the college will open with at least thirty-five students.

In closing it may be permitted to recall the fact that the founding of the college has been in the providence of God, and that He has assigned to us the care and privilege of shaping its character. It should therefore be a work of faith,

of prayer and of hope. Committing its interests to Him, we may humbly yet with confidence, invoke His blessing upon it.

Respectfully submitted,

JAMES E. RHOADS.

BRYN MAWR COLLEGE.

Report of the President to the Trustees for 1885.

THE year just closed has been marked by the realization of the plans of the Trustees in the organization of the College and the beginning of the work of instruction.

In accordance with the announcement previously made, the College was opened for the reception of students on the 15th of Ninth Month last, at which time the autumn entrance examinations began; lectures and class-work began on the 21st, and on the 23d, the ceremonies of the inauguration of the College took place.

On the latter occasion, a large number of invited guests filled the assembly room and adjacent spaces in Taylor Hall, among whom were many officers of universities and colleges, together with prominent citizens from this and the adjacent States.

To the great regret of all, the President of the Board of Trustees was unable to be present because of temporary illness. His duties as Chairman were filled by Philip C. Garrett, who read a portion of Scripture, after which an appropriate prayer was offered.

The Chairman presented letters expressive of regret at their inability to be present and of wishes for the success of the College, from Governor Pattison, of Pennsylvania, from General John Eaton, the United States Commissioner of Education,

and from the Presidents and Professors of several universities and colleges. He read a letter from Joseph Bevan Braithwaite, of London, of whom he spoke as the friend of Dr. Taylor, as a scholar and a minister of the Society of Friends, to whose views of Christian truth Dr. Taylor had referred in his will as a standard of the doctrines he wished upheld at the College.

The President of the College then read a statement respecting its origin, the character of its founder, the plans devised by him for its buildings, and the scope given to it by the Trustees. He gave the reasons for the adoption of its standard of requirements for admission, and of the relative importance assigned in its curriculum to the classical and modern languages, to mathematics, to history, science, philosophy and art, and closed by addressing the Faculty and students.

President D. C. Gilman, of the Johns Hopkins University, then gave an admirable address, in which he referred to the opening of the College as one of the most remarkable steps in the progress of modern culture. He defined the position of the institution as one of modest independence, asking no excuses and demanding no recognition but that which is earned. He spoke in grateful remembrance of Dr. Taylor, and discussed the difference between institutions which are built and those which are planted. He regarded Bryn Mawr as a seed destined to grow and flourish. He then explained very clearly the arrangement of courses of collegiate study known as the "group system," as one reconciling liberty and authority, freedom and law, elective courses and a prescribed curriculum. Avoiding the notion that there is but one curriculum for a college education, and the notion that there should be no curriculum whatever, the group system provided several courses or groups of studies, each of which has distinctive characteristics, and one of which must be taken as a binding choice by every candidate for academic honors. The student may elect which group he prefers, but the constituents of that group have been predetermined by the authorities, and are not to be fitfully modified. * * *

A liberal education in our day calls for instruction in lan-

guage and literature, in mathematics and the natural sciences, in history and philosophy, and the proportion of these elements may be endlessly modified. * * * Ever since the revival of learning, classical training has been found the most convenient, successful and fruitful discipline which can be offered in schools and colleges to average minds. But there are natures that will not be governed by an enforced schedule, and shall such minds get all their training away from schools? Because they turn away from the classics, shall they not learn the sciences? * * * Now, the group system enables the scholar who desires the original, old fashioned, highly recommended college course of studies to follow it in the company of those who, like himself, believe in it and love it. But, on the other hand, another group of studies, based on science or upon history, or upon modern languages or literature, may be chosen by the student who does not prefer the old curriculum."

This address was followed by one from President Chase, of Haverford College, who pleaded for a comprehensive education which should pay regard to the merits both of the classics and of the natural sciences, which "contemplates no narrow or one-sided training," but "aims at a complete culture." "There are good educations and good educations, but there is one the best entitled to be called liberal and generous, and from that best and highest scheme the languages of Greece and Rome cannot be excluded." He was glad that this fact has been recognized in Bryn Mawr College, and that the degree of Bachelor of Arts, which represents the most liberal ideal of general and preparatory culture, cannot be obtained there without some knowledge of Greek as well as of Latin.

James Russell Lowell, who had kindly responded to the invitation of the Trustees to be present, was introduced to the audience, and at once the well known nobleness of his character, his manly presence, his cordial frankness, the felicity of his expressions, and the subtle humor of his words, drew all hearers to him with delighted expectation. He referred to a visit he had made to Philadelphia forty years ago, and to the impression then made upon him by the "Friends" with whom he came in contact. "Never shall I forget," he said, "the

placidness of their manners, the unpretentiousness of their homes, as far removed from meanness as from luxury; the beauty of their lives, a beauty and grace of line and proportion like that of a Doric temple; more than all, the great kindness which they showed to me—a troublesome young fellow.”

* * * “I am not here,” he said, “to pay off that debt, but to express my gratitude, and if it had been other than a Quaker who had founded this College, I should not have been here to-day.” He had once had a prejudice against small colleges, but was converted to a different opinion by a visit to William’s College. They are of great use as seminaries of culture where it would not otherwise have existed. Americans take too much credit to themselves in reference to education. Our lack is a want of thoroughness, and a disposition to value study chiefly as a means of making a livelihood. The object of a university education was not to help a man as a bread-winner, but rather to be the life-long sweetener of all the bread he ever earns. The object of a liberal education is to make cultivated men and women. He was glad English was to be taught here, for there is a great laxity in the use of English in this country. Sometimes there is an over-accuracy, which he attributed to the public schools. He wished to express his unqualified pleasure at being here. He had been prejudiced against new colleges, for he thought it better to add to the foundations already existing. Antiquity has a vast weight in culture. He never went to Oxford without being inspired by hearing the murmur of immortal feet; he missed that here; but we can produce here men and women who are truly civilized, who know the difference between literature and printed matter. As to the method of teaching he believed that of more importance than what is taught. When the revival of learning took place it was called the “New learning.” Could we get an ideal teacher, she would give to her scholars, no matter if she were only teaching the multiplication table, an idea that it was the “New learning.” It should be the aim to give life to teaching, and he was glad of seeing this institution devoted to the training of teachers.

The occasion was altogether auspicious, and the College has

entered upon its career with universal good wishes for its success, so that it has but to fulfil kind expectations by worthy performance.

THE OFFICERS OF INSTRUCTION AND GOVERNMENT.

At the date of my last report there had been four members only of the Faculty appointed. Since that time the following additions have been made to the officers of instruction and government, viz:

EDMUND B. WILSON, Ph. D., Associate Professor of Biology.

EDWARD WASHBURNE HOPKINS, Ph. D., Associate Professor of Greek, Sanskrit and Comparative Philology.

EDWARD H. KEISER, Ph. D., Associate Professor of Chemistry and Physics.

WOODROW WILSON, A. M., Associate in History.

PAUL SHOREY, Ph. D., Associate in Greek and Latin.

JEAN JACQUES STÜRZINGER, Ph. D., Associate Professor of the Romance Languages.

PROFESSOR PLINY E. CHASE, of Haverford College, Lecturer on Psychology and Logic.

ANNA E. BROOMALL, M. D., Consulting Physician and Lecturer on Personal Hygiene.

ANNA E. FULLERTON, M. D., Lecturer on Human Physiology and Hygiene.

HETTY N. STOKES, Lady in Charge of Merion Hall.

ELIZABETH MCCALL, Librarian.

SARAH MCMURTRIE, Teacher of Elementary German.

LOUISE BONAME, Teacher of Elementary French.

CAROLYN C. LADD, Directress of the Gymnasium.

Attention has been given to the selection of an Associate Professor of German, but no appointment has yet been made.

J. RENDEL HARRIS, who was appointed Lecturer on the Bible and Biblical Study, resigned on account of his return to England.

With the exception of the Lecturers and the Associate in

Botany, all these officers have entered upon their duties, and are performing them with alacrity and zeal. Indeed, the spirit of united action and of loyal devotion to the interests of the College which has been manifested by the officers and teachers is all that could be wished.

Each of the instructors has justified the expectations formed at the time of his or her appointment, by attainments, by skill in teaching, and by personal fitness for the duties assumed. The students have found that the teaching they receive invests the subjects examined with new interest, and they are enthusiastic in their work.

The scheme for the departments of instruction and for the arrangement of the courses of study adopted last year, has been found convenient in practice, and to work without difficulty, but a larger experience will be required to determine its full value. Advantage is taken of the intimate relation subsisting between various branches of knowledge to make the instruction given in one department aid the student in comprehending more readily that given in another. Thus the ancient and modern languages are made to contribute towards an understanding of the elements of philology, and to the study of history, while the latter is so taught as to throw light upon the literatures of the countries under discussion.

The Biological and Chemical Laboratories are already well equipped with apparatus and material, and the instruction given in them is of a high grade of excellence.

We are indebted to the kindness of Professor Spencer T. Baird, of the United States Fish Commission, for a valuable series of specimens of marine invertebrata, contributed for purposes of illustration in the work of the Biological Laboratory.

The Students. There are now in the College forty-two students; of these four are holders of fellowships, two others are graduates, one was admitted from another college, and the remaining thirty-five were admitted after having passed the entrance examinations.

At the summer examinations, which began Sixth Month 23d, there were forty candidates, only one of whom was examined

upon all the subjects of any group required for admission ; the others offered parts only of such groups, with the design of taking the remainder in the autumn or at some future time.

The autumn examinations were attended by thirty-eight candidates, of whom thirty-five entered the College. The total number of candidates at the two examinations was forty-seven, five of whom failed to pass.

Not all the students have yet chosen their major electives, but at present the numbers attending upon the classes are as follows :

| | |
|------------------------------|----|
| Greek, | 9 |
| Latin, | 19 |
| English, | 25 |
| French, advanced, | 6 |
| Italian, | 2 |
| Elementary French, | 8 |
| Elementary German, | 6 |
| Mathematics, | 31 |
| History, | 7 |
| Biology, | 9 |
| Chemistry, | 9 |

The characters of the students have been so developed by home training, and they have entered college with such well defined purposes, that there has been no necessity for any administration of discipline other than to inform them of the necessary routine of daily duties. The instructors have been well satisfied with the general interest and diligence in study they have manifested.

About one-half of the books ordered for the library have been received, numbering nearly one thousand volumes. The Librarian is arranging them according to the Dewey system, which will be carried out from the beginning, and will greatly facilitate the use of the library for purposes of reference.

The various Departments at Washington have sent their reports to the Library, including those of the census of 1880, the reports on trade and commerce, and those of the Smithsonian Institution. Valuable gifts have also been received

The
Library.

from Dr. Henry Hartshorne, Dr. Edward W. Hopkins, Susan Longstreth, and the late Mary Anna Longstreth, and from the estate of the late William S. Vaux. The constant demand for the books to illustrate the teaching of the professors, attests the care with which they have been chosen, and justifies the expenditure of a larger sum for them than had at first been contemplated.

Buildings. At the date of my last report, work remained unfinished upon Taylor Hall, the Gymnasium, the President's house, and upon the grounds. The tenant house had not been begun. During the year the interior wood work of Taylor Hall has been finished, the biological and botanical laboratories have been fitted up for convenient use, and the building has been placed in a condition for occupation. It has proven upon trial to be well adapted to its purposes, and amply repays the expense and care its construction has entailed.

MERION HALL has been supplied with suitable fire places, with a bridge from the walk to the rear entrance, with a fire-escape at its eastern end, and with additional plumbing to be used in case of fire.

THE GYMNASIUM has had dressing rooms and lockers placed in it, together with a complete set of apparatus furnished by Dr. D. A. Sargent, and nothing seems wanting to fit it to fulfil the objects for which it is designed.

THE HEATING APPARATUS, since the addition of another boiler, appears to be adequate, and to work satisfactorily. But it will be necessary to wait until severe weather occurs in order to test it properly, and until then the final payments on the contract will be reserved.

THE TIRRILL GAS APPARATUS is working well. It supplies a uniform light, and the gas produced is superior in this respect to the yield of other gasolene machines. The severest test of it has been in the laboratories. Some adjustment of the Bunsen burners was found necessary, but it now yields a clear blue flame, and does not appear to be inferior in any respect to coal gas for laboratory use.

THE WATER SUPPLY. A sufficient supply of water is so

vitaly necessary to the Institution, that prudence has demanded that provision should be made for it on a liberal scale. The rain-water cistern has hitherto met all the requirements of the boilers and of the laundry. The Artesian well has been sunk to a depth of 400 feet, but has not yet yielded water enough for all the wants of the College, so that the drilling is to be continued at least to the depth of 450 feet. The stream which drives the wheel of the water works was much reduced by the long-continued droughts of the summer, and it was found necessary to supplement the works by a horse-power pump. The latter has worked satisfactorily, and the two have furnished an abundant supply. To make the storage of water all that could be desired, a jet syphon pump, worked directly by steam, was placed so that it will drive the water which collects in the dug well above the Artesian well into the rain-water cistern. This gives us the command of an additional three thousand gallons of water every other day, in case it shall be needed.

THE TENANT HOUSE was finished and occupied about the 1st of Ninth Month, and yields a rent which covers 5 per cent. interest on its cost.

THE PRESIDENT'S HOUSE is in complete order, and is found to be commodious, well planned, and substantially built. The lot has been graded and a road-way made to the stable. The latter is in good condition for use.

ACCOUNTS.

The expenditures which have passed through my hands during the year ending Tenth Month 8th, 1885, have been as follow :

| | |
|--|---------------------|
| By orders of the Committee on Buildings and Grounds, | \$105,952 97 |
| By orders of the Executive Committee, | 7,347 23 |
| Total. | <u>\$113,300 20</u> |

Of this there was expended upon TAYLOR HALL,

| | |
|--|------------------|
| For Building, including laboratory fittings, | |
| &c., | \$21,654 37 |
| “ Furniture, | 2,415 68 |
| “ Insurance, | 150 00 |
| | <u>24,220 05</u> |

MERION HALL :

| | | |
|-------------------------|-------------|-----------|
| For Building, | \$21,212 28 | |
| “ Furniture, | 7,487 03 | |
| “ Insurance, | 150 00 | |
| | <hr/> | 28,849 31 |

GYMNASIUM :

| | | |
|-------------------------|------------|----------|
| For Building, | \$7,387 39 | |
| “ Apparatus, | 1,633 25 | |
| “ Insurance, | 100 00 | |
| | <hr/> | 9,120 64 |

LAUNDRY AND BOILER HOUSE :

| | | |
|--------------------------|------------|----------|
| For Building, | \$2,928 31 | |
| “ Furniture, | 99 25 | |
| | <hr/> | 3,027 56 |
| GAS APPARATUS, | | 1,366 43 |

GROUNDS :

| | | |
|---|--|----------|
| For Roads, Grading, Planting, &c, | | 7,899 73 |
| “ Sewage System, | | 509 90 |

WATER SUPPLY :

| | | |
|------------------------------|------------|----------|
| For Artesian Well, | \$2,257 95 | |
| “ Horse Pump, | 86 04 | |
| “ Water Works, | 53 92 | |
| | <hr/> | 2,397 91 |

| | | |
|-------------------------|--|----------|
| TENANT HOUSE, | | 2,058 14 |
|-------------------------|--|----------|

STABLE :

| | | |
|--------------------------------|----------|--------|
| For Building, | \$133 00 | |
| “ Horse, Wagon, &c., | 507 75 | |
| | <hr/> | 640 75 |

PRESIDENT'S HOUSE :

| | | |
|-------------------------|-------------|-----------|
| For Building, | \$12,680 04 | |
| “ Grounds, | 985 23 | |
| “ Stable, | 422 39 | |
| “ Insurance, | 200 00 | |
| | <hr/> | 14,287 66 |

| | | |
|-------------------------------|--|----------|
| RAIN WATER CISTERN, | | 2,407 30 |
|-------------------------------|--|----------|

COTTAGES, 1 AND 2 :

| | | |
|-----------------------------|----------|--------|
| For Improvements, | \$214 20 | |
| “ Furniture, | 633 56 | |
| | <hr/> | 847 76 |

| | |
|---|--------------|
| DEAN'S HOUSE: | |
| " Improvements and Repairs, | \$445 91 |
| HEATING APPARATUS AND WATER SUPPLY, | 6,000 00 |
| ARCHITECT, | 1,803 72 |
| FREIGHT, | 257 58 |
| BIOLOGICAL LABORATORY: | |
| For Apparatus and Supplies, | 988 32 |
| CHEMICAL AND PHYSICAL LABORATORY: | |
| For Apparatus and Supplies, | 420 21 |
| LIBRARY, | 653 38 |
| OFFICE EXPENSES: | |
| For Advertising, | \$872 43 |
| " Professor's Travelling Expenses, | 370 06 |
| " Printing, | 275 80 |
| " Rent, Salary of Clerk, Postage, Station- ery, &c., | 1,044 65 |
| " Expenses of Opening Ceremonies, | 535 00 |
| | 3,097 94 |
| Current expenses of this academic year, | 2,000 00 |
| Total, | \$113,300 20 |

ESTIMATES.

The estimated expenditures for the fiscal year 1885-86 are as follows:

| | |
|---|-------------|
| ACADEMIC DEPARTMENT: | |
| For instruction, salaries, | \$23,143 00 |
| " supplies for departments, | 2,000 00 |
| " library, | 3,000 00 |
| " scholarships, | 600 00 |
| " fellowships, | 2,200 00 |
| " wages, fuel, repairs, care of grounds, &c., for academic department, | 4,840 60 |
| " incidentals, office, &c. | 1,000 00 |
| | \$36,783 60 |
| Receipts from income, | \$42,000 00 |
| Receipts from tuition, | 4,000 00 |
| | \$46,000 00 |
| | 36,783 60 |
| Balance, | \$9,216 40 |

**EXPENDITURES FOR BUILDINGS FOR BRYN MAWR
COLLEGE.**

| | |
|---|--------------|
| Expenditures from First Mo. 1st, 1883 to Eleventh Mo. 7th, 1885:— | |
| Taylor Hall, | \$25,581 02 |
| Merion Hall, | 66,725 44 |
| Laundry and Boiler House, | 8,903 88 |
| Gymnasium, | 17,425 43 |
| Farm House, | 2,058 14 |
| President's House, | 13,864 79 |
| Cottages 1 and 2, | 300 81 |
| Cottage 3, | 586 36 |
| Expended by the Trustees before 1st Mo. 1st, 1883, | 95,463 01 |
| “ “ Dr. Taylor, “ “ “ “ “ | 14,127 51 |
| Total, | \$245,036 39 |

The absence of suitable lodgings for the professors in the immediate vicinity of the College has made it necessary to provide them. To this end two of the cottages upon the premises have been furnished, and an arrangement has been made whereby they can have a comfortable home at a moderate cost, without pecuniary loss to the College.

The constant inquiries as to the preparation needed in order to enter the College and the number of students who are under training for admission to it, make it probable that the number who enter next year, though fewer than those who entered this year, will still be larger than our present buildings can accommodate. These buildings are now so nearly filled by students and instructors that some provision for resident students is imperative, and the attention of the Trustees is earnestly called to this subject.

In conclusion it would be most ungrateful not to acknowledge the abundant blessings which have attended the College from its inception. These are experienced daily, and should incite us to endeavor so to conduct the Institution as to draw down upon it a continuance of the Divine favor.

JAMES E. RHOADS.

Bryn Mawr, Tenth Month 8th, 1885.

BRYN MAWR COLLEGE.

THE

PRESIDENT'S REPORT

TO THE

BOARD OF TRUSTEES,

For the year 1885-86.

PHILADELPHIA:

WM. H. PILE'S SONS, PRINTERS, No. 422 WALNUT STREET.

1886.

BOARD OF TRUSTEES.

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Treasurer.

DAVID SCULL, JR.,
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JAMES WHITALL, Philadelphia. FRANCIS R. COPE, Philadelphia.
JOHN B. GARRETT, Bryn Mawr. PHILIP C. GARRETT, Philadelphia.
EDWARD BETTLE, JR., Philadelphia.

ACADEMIC APPOINTMENTS.

JAMES E. RHOADS, M. D., *President of the College.*
M. CAREY THOMAS, PH.D., *Dean of the Faculty and Professor of English.*
EMILY L. GREGORY, PH.D., *Associate in Botany.*
EDMUND B. WILSON, PH.D., *Professor of Biology.*
CHARLOTTE ANGAS SCOTT, D.Sc., *Associate Professor of Mathematics.*
EDWARD WASHBURN HOPKINS, PH.D., *Associate Professor of Greek, Sanskrit,
and Comparative Philology.*
PAUL SHOREY, PH.D., *Associate in Greek and Latin.*
EDWARD H. KEISER, PH.D., *Associate Professor of Chemistry.*
WOODROW WILSON, PH.D., *Associate in History.*
J. JAMES STÜRZINGER, PH.D., *Associate Professor of Romance Languages.*
HERMANN COLLITZ, PH.D., *Associate Professor of German Literature and
Language.*
PLINY E. CHASE, LL.D., *Professor of Philosophy and Logic in Haverford
College, Lecturer on Psychology and Logic.*
J. RENDEL HARRIS, A. M., *Professor of Bible Languages and Ecclesiastical
History in Haverford College, Lecturer on the Bible and Biblical Study.*
ANNA E. BROOMALL, M. D., *Professor in the Women's Medical College of
Pennsylvania, Consulting Physician and Lecturer on Personal Hygiene.*
JOSEPH G. RICHARDSON, M. D., *Professor of Hygiene in the University of
Pennsylvania, Lecturer on Human Physiology and Hygiene.*
CAROLYN C. LADD, *Directress of the Gymnasium.*
ROSE CHAMBERLIN, Graduate in Honors, Girton College, Cambridge University,
England, *Instructor in Modern Languages.*
JEANNETH S. BROWN, Graduate of the "Harvard Annex," *To assist in the
Instruction in Greek and Latin.*
EFFIE A. SOUTHWORTH, late Fellow in Biology in the College, *To assist in the
Biological Laboratory.*

BRYN MAWR COLLEGE.

REPORT OF THE PRESIDENT TO THE TRUSTEES, FOR THE YEAR
1885-86.

I respectfully submit to you my Third Annual Report of the condition and progress of Bryn Mawr College.

My last report referred to the circumstances attending the opening of the College, and the beginning of its duties as an educational institution. The present one covers the first year of instruction which closed Ninth Month 15th, 1886. The year has been a prosperous one. All departments of the College have contributed harmoniously and efficiently to its success, and to its chief end, the advancement of the students in learning and in the development of personal character.

The general arrangement of the courses of study adopted by the College, and which, as I stated last year, had been put into use, has proved satisfactory.

It has been found easy under it to adjust the succession of subjects taken by undergraduates, so that an order from the more simple to the more difficult is observed, the knowledge of one branch is made introductory to that of another, and due thoroughness in each is secured. It assigns to each student a well defined and sufficiently difficult course from admission to graduation, with a judicious adaptation to her special capacities and future occupations. It thus avoids the objections to one uniform course for all students regardless of their mental

characteristics or anticipated pursuits, and the equally serious ones attaching to an almost unlimited choice by the student among a large number of unrelated subjects, with its consequent danger of superficial study and imperfect mental culture. It secures the hearty co-operation of the student with the instructor in the attainment of accurate knowledge, it aids resolute application to prescribed studies, and from the start sets before the student a goal to be reached. She expects to complete the group of required and elective studies which has been chosen by her, while each half-year's examination marks a stage of progress towards the fulfilment of the entire course.

It has been found advisable to permit students to spend a year in college before determining finally upon their choice of major courses of study. It is true that in some instances, students are so mature in judgment and so clearly discern the subjects to which they should devote a large share of their attention, that they are able to decide upon entering college as to the branches in which they will specialize. But this is not generally the case, and no disadvantage arises from a delay of a half year or a year. This time may be well occupied with required studies, and after students have become familiar with the subjects offered, and with their own ability to master some rather than others, they can make a more judicious selection than would be possible otherwise. Some young women, for example, have had almost no opportunity for a practical acquaintance with the natural sciences, and after a year in the Biological or Chemical laboratories, develop a taste for the branches of knowledge taught in them and a facility in the pursuit of them, of which they were previously unaware. All quickly learn, however, that every path leading to a degree involves severe study, diligent application, and persistence.

The system adopted by the College has a further advantage in an institution that offers graduate instruction, in that it marks off distinctly the courses taken by undergraduates from those followed by graduates. This prevents the former from attempting advanced work for which they are not suffi-

ciently mature, and for which their previous preparation has not been adequate.

No disadvantages, but on the contrary, many benefits have attended the presence of graduates in the college. To be prepared to give instruction to them, exacts the selection of professors with corresponding qualifications, and that proper appliances for such teaching be supplied. This entails some increase of expense, which is compensated however, by the excellence of the teaching given, and by the greater efficiency of the College as an educational agency.

The holders of fellowships have found the opportunities for extended study afforded them, to contribute to a more thorough scholarship, and to a better preparation for teaching, should they design entering upon that profession.

THE OFFICERS OF INSTRUCTION AND GOVERNMENT.

Of the staff of officers and instructors reported last year eleven have been engaged in teaching in the College.

The changes have been as follow:

EDMUND B. WILSON, PH. D., Associate Professor of Biology, has been made Professor of Biology.

HERMANN COLLITZ, PH. D., of the University of Halle, has been appointed Associate Professor of German.

EMILY L. GREGORY, PH. D., Associate in Botany, has returned from Germany where she has been engaged for two years in the study of Botany under Professor Schwendener, of Berlin, and at the University of Zurich, and has entered upon her duties.

J. RENDEL HARRIS, A. M., Professor of Bible Languages and Ecclesiastical History, in Haverford College, whose resignation of the position of Lecturer on the Bible and Biblical Study on account of his return to England, was reported last year, has been re-appointed.

GEORGE S. FULLERTON, A. M., Professor of Intellectual and Moral Philosophy in the University of Pennsylvania, has been appointed Lecturer on Psychology and Logic as a substitute for Professor Pliny E. Chase, whose state of

health has rendered him temporarily unable to fulfil the duties of the position.

JOSEPH G. RICHARDSON, M. D., Professor of Hygiene in the University of Pennsylvania, has been appointed Lecturer on general Hygiene, in the place of Dr. Anna M. Fullerton resigned.

ROSE CHAMBERLIN, a Graduate in Honors (Modern Languages tripos, first class,) of Girton College, Cambridge University, England, has been appointed Instructor in Modern Languages.

JEANNETH S. BROWN, a graduate of the "Harvard Annex," has been appointed to assist in the instruction in Greek and Latin while continuing her studies.

EFFIE A. SOUTHWORTH, B. S., late Fellow in Biology in the College, has been appointed an assistant in the Biological Laboratory.

THE STUDENTS.

In addition to the forty-two students reported last year as having entered the college, two others were admitted. This made the entire number for the first academic year forty-four; of whom five held fellowships, three were graduates of other colleges; thirty-four were regular students, one was a special student; forty-one were resident in the college, and three were non-resident.

The numbers taking the branches of study indicated below, were as follow:

Greek, 9; Advanced Greek, 1; Elementary Greek, 20; Latin, 18; English, 31; Advanced English, 1; French, 3; Old French, 1; Elementary French, 7; Elementary German, 7; History, 7; Advanced History, 1; Mathematics, 31; Advanced Mathematics, 1; Biology, 8; Animal Morphology, 2; Chemistry, 10; Personal Hygiene, 35.

The health of the students generally has been remarkably good. With the exception of a few who were excused for special reasons, the students have used the Gymnasium. Of those who did so, 94 per cent. made a general gain in physical vigor

during the year; 69 per cent. increased in weight; and 92 per cent. in strength of chest. If it be permitted to draw an inference from an experience so brief, it would be that college life with its regular habits and its occupations full of purpose, is positively favorable to health.

The conduct of the students has been marked by earnest devotion to study, regular attendance upon class exercises, zest in intellectual pursuits, and a cheerful compliance with the few regulations necessary for the comfort of associate life. Occasions for household worship have been well attended, and the results of previous home training have been apparent in the cheerful, practical Christian spirit that has pervaded the students as a class.

INSTRUCTION.

It is scarcely necessary to repeat the details of the instruction given, as it has conformed very nearly to the schedule published in the PROGRAM. The number composing each class, the special subjects, and the time devoted to each, are stated in the annexed table; but some explanations are required to supplement the information it conveys.

Greek. There were class exercises five times weekly, which included lectures upon subjects relating to the texts read by the class. Dr. E. W. Hopkins had also a class two hours weekly during the second semester for reading Greek at sight. Eight students attended it regularly, and in this way read the whole of one Greek play, and portions of Plato's Phædo. The private reading assigned for the year, was completed by two-thirds of the class. By the remainder a part of it was deferred.

The class in Elementary Greek acquired a knowledge of grammatical forms and of a limited vocabulary that will be useful in the study of other languages. Three of this class will be able to enter upon the major course in Greek during the current year. An advanced course in Greek was also given.

Latin. Beside the ordinary class-work and lectures five times weekly, voluntary lectures in Latin were delivered by

Dr. Paul Shorey during the second semester upon the Early History and Topography of the City of Rome, and upon topics in Latin Literature. The exercises in Prose Composition were also conducted in Latin. Nearly all the private reading assigned, was done by the students.

English. The instruction in English consisted of lectures by Professor Thomas upon the Study of Language, the reading of some Anglo-Saxon prose texts, together with lectures upon the History of Anglo-Saxon Literature and of English Literature from the earliest times to that of Chaucer, inclusive. These lectures were supplemented by much private reading, including specimens of early English from the time of the Conquest to that of Chaucer, closing with a careful study of Chaucer for six weeks. Direction and instruction were also provided for an advanced course.

German. A class in Elementary German was formed for those students that did not offer that language upon matriculation; and in addition to the regular exercises five times weekly, a class for conversation met three times weekly. All of this class, after one year's instruction, passed an examination in German equivalent to that required for matriculation.

French. Lectures were given by Dr. Stürzinger daily upon the History of French Literature from 1500 to 1636, special attention being given to Corneille's "Le Cid." These lectures were delivered in French, and the students were required to take notes upon them in French. The notes were afterwards submitted to the Professor, who criticised their grammar and composition, so that the students might acquire greater facility in writing French. The students were also required to supplement the knowledge given in the lectures by private reading directed by the professor.

Graduate classes in Old French met daily, and in Italian three times a week.

An Introductory class in French met five times weekly for those students that did not present French upon matriculation; and a class for conversation in French met three times a week, which was open to all students who might wish to attend.

History. The instruction in History was given by class exercises and by lectures upon special topics, illustrative of important epochs or of political principles. The study of Ancient History comprised that of Greece and Rome, conducted simultaneously, until that of the former merged in that of the latter. The teaching of Modern History included an outline of European History from the fall of the Western Empire to the establishment of the Empire of Charles the Great.

The attention of students was directed to the influence of leading historical characters upon contemporary events, and the students prepared biographical notices of them, which were read to the class and commented upon by the professor. Instruction was provided for the Fellow in History, who is now continuing her studies in Zurich.

Mathematics. In Mathematics a class of 31 members studied the Solid Geometry and the Plane and Spherical Trigonometry required for graduation. Five of them will take the major course in Mathematics during the year 1886-87. Advanced instruction was provided for the holder of the fellowship in mathematics.

Chemistry. The course in Chemistry was preceded by lectures for ten weeks upon Elementary Physics. These lectures were well illustrated by the apparatus now in possession of the College, but were not accompanied by laboratory practice as they should have been, because we have as yet no Physical Laboratory.

The instruction in Chemistry was given by lectures, examinations and laboratory practice. During the first half-year, the non-metallic elements were considered, and in the second half-year the metallic elements and general inorganic Chemistry. Organic Chemistry is not reached until the second semester of the second year of the course.

Biology. The students of the first year's course in Biology, in addition to five lectures weekly, had laboratory practice for eight hours a week until the winter recess, and then six hours weekly until the end of the year. They examined the structure of typical animals and plants, first of familiar species, then of unicellular organisms, working thence progressively upwards, and taking the higher animals and plants, ending

with the embryological development of the chick. They thus became acquainted with the fundamental laws of Biology, and were able to form a conception from actual observation of the minute structure of living creatures.

An advanced class was engaged in the study of Animal Morphology.

Hygiene. Eight lectures upon Personal Hygiene were given to the undergraduates by Dr. Anna E. Broomall, Physician to the College. These had special relation to an intelligent care of health during life at college.

Public Lectures. There were two public lectures given at the College. The first was by Henry Blackburn, on "The Art of Painting in Water Colors." The second lecture was by William Hayes Ward, D. D. L.L. D., Director of the Wolfe Expedition to Babylonia. Dr. Ward gave in outline an account of the journey of the expedition from which he had recently returned, and of its archaeological discoveries. The lecture was illustrated by Assyrian and Babylonian tablets, cylinders, signets and other objects of antiquarian interest, and was full of fresh information upon the important topics discussed.

Melvil Dewey, Chief Librarian of the Columbia College Library, gave a useful address to the students upon Libraries, Their Uses and Management, and upon Librarianship as a profession for women.

There were no candidates for a degree, and the academic year closed on the 11th of Sixth Month.

THE LIBRARY.

The Library contains at present 2500 volumes,* selected with immediate reference to the studies pursued in the several departments. The Library is open from 8 A. M. to 10 P. M. for the use of students, who have free access to the shelves. Books may be registered and taken out between 9 A. M. and 3 P. M. There are 70 periodicals, general and special, taken; those most important for each department having been chosen by the instructor representing it. The Library is arranged in

* The number of volumes has increased to 4000 since the above was written.

accordance with the decimal system of classification devised by Melvil Dewey, Chief Librarian of Columbia College. This system is now used in Columbia, Wellesley and other college libraries, and is considered by many experienced librarians to be the most satisfactory yet proposed, as it makes the subject-matter of the library more thoroughly and easily accessible than any of the other schemes of classification now in use. A complete card catalogue of subjects and authors keeps pace with the new additions to the library; and shelf-lists and shelf-labels aid readers in finding what they wish without being obliged to ask assistance.

The Library has received during the past year, a nearly complete bound set of "The Nation," and a partial set of "The American Naturalist," given by Stuart Wood of Philadelphia; a fac-simile of the Williams MSS., given by Dr. James E. Rhoads; also various publications of the United States Government and of the State of Pennsylvania. Three valuable series of journals were added during the year. A complete set of Crelle's "Journal für Die Mathematik," 1824-1881, was purchased for the Mathematical Department; the "Annalen der Chemie," 1824-1881, and the "Berichte der Deutschen Chemischen und Gesellschaft," 1868-1883, for the Chemical Department. These journals will be kept complete.

The thanks of the College are due to the authorities of Columbia College, of Harvard College and of the Academy of Natural Sciences of Philadelphia, for loans of valuable books to graduate students under guarantees for their proper use and safe return.

The plan of placing the most strictly technical scientific books on shelves adjacent to the laboratories has been found to promote their use, and to leave more space in the Library.

THE LABORATORIES.

The Chemical Laboratory is amply supplied with the apparatus, appliances and materials needed for all the operations required in the courses offered by the college. The room originally designed for a weighing room has been enlarged and is now used for the chemical library, and as a private room for the professor. This increases the space available for labora-

tory work in the other rooms, and removes the books from the destructive action of the chemicals.

The Physical apparatus is sufficient to illustrate the brief course given in Physics. But several students now at the College wish to take a two years' course in Physics, and it is very desirable that provision be made as early as practicable for this purpose. A temporary laboratory placed near the Laundry, could be supplied with heat and light at a small cost, and I would respectfully call the attention of the Trustees to the pressing importance of providing such a laboratory, and of opening a department of Physics not later than the scholastic year 1887-88.

This would enable us to delay for a few years carrying into effect the design of Dr. Taylor to erect a separate building for laboratories. Such a building should be erected soon, and should contain laboratories for Chemistry, Physics, and for both divisions of Biology, animal and vegetable, with lecture rooms and space for collections to illustrate the teaching given in each department. The funds for this object ought not to be drawn from the present endowment, all of which is needed for current expenses, which must increase as the College meets the obligations of a growing institution conducted with an intelligent regard to the demands upon it. May it not be hoped that some friend of liberal education will provide for this very necessary addition to the teaching facilities of the College.

A small collection of minerals has been given to the College by George Vaux, to which additions have been made by Margaret B. Harvey, of Ardmore, Pennsylvania.

The Biological Laboratory has been furnished with a series of typical skeletons, with many specimens of the lower animal forms, and with the physiological and other apparatus requisite for the second year's course.

This department has received a complete set of the eggs of the birds common around Philadelphia, as a gift from Samuel Nicholson Rhoads, of Haddonfield, New Jersey; also a set of bird skins comprising those of most of the birds in the same region. For the latter the College is indebted to the kindness of David Seull, who also enabled the department to procure a

set of stuffed pigeons, which includes the most prominent varieties, and shows the great changes of form undergone by a single species.

The Botanical Laboratory has been supplied with work tables, water supply, cases for apparatus, and a carefully chosen set of appliances, as microscopes, etc. A room has been formed in the adjacent corridor for the use of the instructor, who will also have a lecture room for her classes.

A herbarium will be provided for this department, and the College has received the gift of a complete collection of the ferns of Montgomery County (except one very rare species) from Margaret B. Harvey, as the beginning of such a collection.

CONTRIBUTIONS TO KNOWLEDGE.

It has been the aim of the College to limit the time devoted by the instructors to their pedagogical duties, so that they might have leisure for study and research. That this plan has not been fruitless, is evinced by the publication of the following books and papers, viz: Edmund B. Wilson, Ph. D., has been engaged in conjunction with Professor William T. Sedgwick, Ph. D., of the Massachusetts Institute of Technology, in the production of a work entitled "General Biology," of which part first has just been issued. This is to be followed by another volume.

Two papers were read by E. W. Hopkins, Ph. D. before the American Oriental Society in Boston, in Fifth Month, 1886; one "The Warrior Caste in India;" the other, "Lexicographical Notes from the Mahābhārata." Both are given in abstract in *The Proceedings of the Society*, (*Boston, May, 1886.*) The first will be published in full in the *Journal of the Society*.

Two papers prepared by E. H. Keiser, Ph. D., were published in "The American Chemical Journal," vol. viii, Nos. 1 and 2. The first describes an apparatus invented by him, and is entitled "A New Apparatus for Measuring Gases and Making Gas Analysis;" the second is "A Lecture experiment for Showing the Composition by Volumes, of Nitrous and Nitric Oxides."

A paper on "The Binomial Equation, $\mathcal{L}^p - 1 = 0$," by Charlotte A. Scott, D. Sc., was published in "The American Journal of Mathematics."

Emily L. Gregory, Ph. D., has published as her Inaugural Dissertation for the degree of Doctor of Philosophy in the University of Zurich, a monograph upon the "Comparative Anatomy of the Filz-like Hair-covering of Leaf Organs."

Other members of the Faculty are engaged upon work not yet completed.

BUILDINGS.

As Merion Hall was nearly filled by resident students and instructors, it became apparent that another dormitory must be erected if the College was to receive all qualified applicants for admission. Plans were therefore prepared for a Hall which should accommodate about fifty-five students. The experience gained in the use of Merion Hall has enabled us to avail ourselves of its most desirable features, to apportion the different kinds of rooms to the actual demands of students, and to meet the requirements of business economy in its construction. It is believed that these particulars have been combined in the new building, Radnor Hall, and that it will prove to be adapted to its uses. Work was begun upon it Fifth Month, 14th, 1886, and the contract requires the completion of the west wing by the 16th of Eleventh Month next; but owing to delay from causes apparently insurmountable, it is not probable that it can be occupied before the first of the coming year. Meanwhile lodgings have been secured for those students who could not be placed in Merion Hall.

The Artesian Well which at last report had been drilled to a depth of four hundred feet, was sunk to a distance of four hundred and fifty feet from the surface without procuring a sufficient supply of water. By the use of a horse-power pump to supplement the water wheel for a few weeks in the autumn, the works at the north end of the premises will furnish the Institution with water, and there seems to be no present need to seek another source of supply.

JAMES E. RHOADS.

TABLE OF SUBJECTS AND TERMS
OF STUDY.

| Subject. | Particular Subjects. | No. in Class. | Term of Study. |
|--------------|--|---------------|----------------------------------|
| GREEK. | Greek Prose..... | 6... | 9 mo. 21, '85, to 6 mo. 11, '86 |
| | Homer.—Odyssey..... | 6... | 9 mo. 21, '85, to 2 mo. 2, '86 |
| | Apology and Crito of Plato..... | 5... | 9 mo. 21, '85, to 2 mo. 2, '86 |
| | Medea of Euripides..... | 5... | 2 mo. 2, '86, to 6 mo. 11, '86 |
| | Homer's Iliad..... | 5... | 2 mo. 2, '86, to 5 mo. 15, '86 |
| | Elementary Greek Class. Grammar and first two chapters of Xenophon's Memorabilia..... | 16... | 1 mo. 6, '86, to 6 mo. 9, '86 |
| LATIN. | Prose Composition, Xenophon's Memorabilia, two chapters, Homer's Iliad, three books..... | 3... | 1 mo. 6, '86, to 6 mo. 9, '86 |
| | Odes of Horace..... | 17... | 9 mo. 21, '85, to 2 mo. 2, '86 |
| | Livy..... | 7... | 9 mo. 21, '85, to 2 mo. 2, '86 |
| | Prose Composition..... | 15... | 9 mo. 21, '85, to 6 mo. 11, '86 |
| | Horace and Virgil..... | 15... | 2 mo. 2, '86, to 6 mo. 11, '86 |
| HISTORY. | Tacitus' Germania and Agricola..... | 10... | 2 mo. 2, '86, to 6 mo. 11, '86 |
| | Weekly Lectures in Latin upon early History of the City of Rome, and on some of the Latin Poets..... | 7... | 9 mo. 21, '85, to 2 mo. 3, '86 |
| | Of Greece..... | 7... | 9 mo. 21, '85, to 6 mo. 9, '86 |
| | Of Rome..... | 7... | " " " " " " |
| | Advanced Course in Constitutional History..... | 1... | 1 mo. 6, '86, to 6 mo. 11, '86 |
| MATHEMATICS. | Algebra..... | 30... | 9 mo. 22, '85, to 10 mo. 26, '85 |
| | Solid Geometry..... | 26... | 11 mo. 3, '85, to 1 mo. 27, '86 |
| | Plane Trigonometry..... | 29... | 10 mo. 27, '85, to 1 mo. 23, '86 |
| | Advanced Mathematics..... | 1... | 9 mo. 21, '85, to 6 mo. 10, '86 |
| BIOLOGY. | General Biology. Unicellular Organisms..... | 8... | 9 mo. 23, '85, to 2 mo. 2, '86 |
| | Elementary Physiology and Laboratory Work..... | 8... | 9 mo. 21, '85, to 6 mo. 11, '86 |
| | Advanced Biology. Animal Morphology..... | 2... | " " " " " " |
| CHEMISTRY. | Inorganic Chemistry, non-metals..... | 7... | 9 mo. 21, '85, to 2 mo. 3, '86 |
| | Inorganic Chemistry, metals..... | 7... | 2 mo. 5, '86, to 6 mo. 4, '86 |
| ENGLISH. | History of Language, History of Anglo-Saxon Literature, Reading of simple Anglo-Saxon Prose Texts..... | 27... | 9 mo. 21, '85, to 2 mo. 2, '86 |
| | History of English Literature to Chaucer, inclusive.—Private Reading..... | 27... | 2 mo. 3, '86, to 6 mo. 11, '86 |
| FRENCH. | Elementary Course—Pronunciation, Grammar, Sight Reading..... | 7... | 9 mo. 25, '85, to 1 mo. 30, '86 |
| | Advanced Course—History of French Litt. 1500-1636, especially of Corneille's "Le Cid"..... | 3... | 2 mo. 8, '86, to 6 mo. 11, '86 |
| | Conversation Classes three times a week..... | 1... | 9 mo. 23, '85, to 6 mo. 11, '86 |
| GERMAN. | Old French..... | 1... | " " " " " " |
| | Elementary Course..... | 6... | 9 mo. 21, '85, to 6 mo. 11, '86 |
| ITALIAN. | Conversation Classes three times a week..... | 1... | " " " " " " |
| | Historical Grammar, with Reading of Texts..... | 2... | 2 mo. 3, '86, to 6 mo. 11, '86 |

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BRYN MAWR COLLEGE

THE

PRESIDENT'S REPORT

TO THE

BOARD OF TRUSTEES

FOR THE YEAR 1886-87

PHILADELPHIA:

FRIENDS' PRINTING HOUSE, S. W. COR. SIXTH AND ARCH STS.

1887

ACADEMIC APPOINTMENTS.

JAMES E. RHOADS, M.D., *President of the College.*

M. CAREY THOMAS, PH.D., *Dean of the Faculty and Professor of English.*

A. B., Cornell University, 1887; studied at the Johns Hopkins University, 1877-78; University of Leipsic, 1879-82; Ph.D., University of Zürich, 1882; Sorbonne and the Collège de France, 1883.

EMILY L. GREGORY, PH.D., *Associate in Botany.*

L. B., Cornell University, 1881; private student in the botanical laboratories of Professor Wigand, University of Marburg, of Professor Reinke, University of Göttingen, and of Professor Schwendener, University of Berlin, 1881-83; private student in botanical laboratory of Professor Goodale, Harvard University, and in charge of the work of the Harvard Annex, 1883-84; Teacher of Botany in Smith College, 1884; Ph.D., University of Zürich, 1886.

EDMUND B. WILSON, PH.D., *Professor of Biology.*

Ph. B., Yale College, 1878; Fellow in Biology, Johns Hopkins University, 1879-81; Ph. D., Johns Hopkins University, 1881; Assistant in Biology in the Johns Hopkins University, 1881-82; studied in the Universities of Cambridge and Leipsic, and at the Biological Station, Naples, 1882-83; Lecturer on Biology, Williams College, Mass., 1883-84; Lecturer on Comparative Anatomy and Physiology in the Massachusetts Institute of Technology, 1884-85.

CHARLOTTE ANGAS SCOTT, D.Sc., *Associate Professor of Mathematics.*

Lincoln, England. Graduate in Honors, Girton College, Cambridge, 1880; B.Sc. University of London, 1882; Lecturer on Mathematics in Girton College, Cambridge, 1880-84; lectured in connection with Newnham College, 1880-83; D.Sc., University of London, 1885.

EDWARD WASHBURN HOPKINS, PH.D., *Associate Professor of Greek, Sanskrit, and Comparative Philology.*

A. B., Columbia College, 1878; Fellow in Literature, Columbia College, 1878-81; University of Leipsic, 1878-81; University of Berlin, 1880; Ph. D., University of Leipsic, 1881; Sorbonne and the Collège de France, 1881; Assistant in Latin and Instructor in Zend in Columbia College, 1881-84.

PAUL SHOREY, PH.D., *Associate Professor of Greek and Latin.*

A. B., Harvard College, 1878; University of Leipsic, 1881-82; University of Bonn, 1882; American School of Classical Studies, Athens, 1882-83; Ph. D., University of Munich, 1884.

EDWARD H. KEISER, PH.D., *Associate Professor of Chemistry.*

S. B., Swarthmore College, 1880; Assistant in Chemistry in Swarthmore College, 1880-81; S. M., Swarthmore College, 1881; Fellow in Chemistry, Johns Hopkins University, 1882-84; Ph. D., Johns Hopkins University, 1884; student at the Royal School of Mines, Freiberg, Saxony, 1884; Assistant in Chemistry in the Johns Hopkins University, 1884-85.

WOODROW WILSON, PH.D., *Associate Professor of History and Political Science.*

A. B., Princeton College, 1879, and A. M., 1882; studied common, statute and international law at the University of Virginia, 1879-81; Fellow in History, Johns Hopkins University, 1882-84; Ph. D., Johns Hopkins University, 1886.

J. JAMES STÜRZINGER, PH.D., *Associate Professor of Romance Languages.*

Wylen, Switzerland. University of Marburg, 1875-76; University of Leipsic 1876-77; Sorbonne and the Collège de France, 1877-78; Ph. D., University of Zürich, 1879; studied in London, Cambridge, and Oxford, 1879-81; Privatdocent at the University of Bonn, 1882-85.

HERMANN COLLITZ, PH.D., *Associate Professor of German Literature and Language.*

Bleekede, Hanover, Germany. University of Göttingen, 1875-78; University of Berlin, 1878-81; Ph.D., University of Göttingen, 1878; Privatdocent in the University of Halle, 1885-86.

CHARLES A. PERKINS, PH.D., *Associate in Physics.*

A.B., Williams College, 1879; Fellow in Physics, Johns Hopkins University, 1883-84, and Ph.D., 1884; Assistant in Physics, Johns Hopkins University, 1884-87.

GEORGE S. FULLERTON, A.M., *Lecturer on Psychology and Logic.*

Adjunct Professor of Intellectual and Moral Philosophy in the University of Pennsylvania.

J. RENDEL HARRIS, A.M., *Lecturer on the Bible and Biblical Study.*

Professor of Biblical Languages and Ecclesiastical History in Haverford College; late Associate Professor of New Testament Greek in Johns Hopkins University.

J. MCK. CATTELL, PH.D., *Lecturer on Physiological Psychology.*

ROSE CHAMBERLIN, *Instructor in French and German.*

Great Yarmouth, England. Graduate in Honors, Newnham College (Mediæval and Modern Languages Tripos, First Class), University of Cambridge, England, 1886.

FREDERIC S. LEE, PH. D., *Instructor in Physiology and Histology.*

A.B., St. Lawrence University, 1878, and A.M., 1881; Ph.D., Johns Hopkins University, 1885; studied at the University of Leipsic, 1885-86.

MOSES S. SLAUGHTER, A.M., *Instructor in Latin.*

A.B., Asbury University, Indiana, 1883, and A.M., 1886; Fellow in Latin, Johns Hopkins University, 1885-87.

FLORENCE E. PIERCE, *Librarian.*

CAROLYN C. LADD, *Directress of the Gymnasium.*

Studied under Dr. Sargent, 1884-85; student in the Women's Medical College of Philadelphia.

ANNA E. BROOMALL, M.D., *Consulting Physician of the College.*

Professor in the Women's Medical College of Philadelphia.

BRYN MAWR COLLEGE.

REPORT OF THE PRESIDENT FOR THE YEAR 1886-87.

To the Trustees of Bryn Mawr College :

I respectfully submit to you my Annual Report for the fiscal year ending Ninth Month 1st, 1887.

The second academic year of the College closed on the 10th of Sixth Month, June, last. It has been one of progress, marked by a further organization of courses of instruction and the erection of buildings. It has given an encouraging evidence that the endeavor to supply our students with good teaching, based upon sufficient preparation on their part, has met the wishes of many, and that the policy which the College has adopted in these respects should be continued, with a constant aim at yet better achievement.

Since the opening of classes in advanced German under Dr. Hermann Collitz, the major courses in language and literature now offered by the College comprise Comparative Philology, Sanskrit, Greek, Latin, English, Anglo-Saxon, German, Gothic, Old High German and Middle German, French, Old French, Italian, and Spanish. Elementary courses are provided in Greek, French and German for students that have not passed examinations in those languages upon admission.

In almost every instance, students taking these preliminary courses have been able at the end of the year to pass successfully examinations equivalent to those required for matriculation in the same subjects, a gratifying indication that they have been well taught.

The department of Vegetable Biology, under Dr. E. L. Gregory, has completed its first year, and the foundation has been laid for future success and expansion. Collections for a herbarium have been begun and a room with the necessary appliances has been provided for the pressing of plants and for the disposal of prepared specimens.

The addition of Dr. Lee to the instructors in biology will afford them important aid, while an increase in the apparatus for illustrating physiology, and the enlargement of the collections for use in the laboratories will render the facilities for instruction in both divisions of biology very satisfactory during the next scholastic year.

Inquiries for graduate instruction in history have been so frequent that arrangements have been made for an advanced course in History and Politics for the year 1887-88. In this extension of the historical courses the interests of the undergraduates have not been overlooked, as an Associate in History will be added to the department in 1888. Dr. Woodrow Wilson will also continue to give personal supervision to their classes, and will himself conduct those in Political Science.

PERSONAL CHANGES.

The following changes in the corps of instructors have occurred :

By the decease of Professor Pliny E. Chase, which terminated the illness that had prevented him from assuming the duties of his lectureship, the College was deprived of the cooperation of a scholar of varied learning, in whose character were united the highest moral and religious traits. George S. Fullerton, A. M., Professor of Intellectual and Moral Philosophy in the University of Pennsylvania, who gave us during the past year the benefit of his scholarship and skill as an instructor, has been reappointed Lecturer on Psychology and Logic.

Dr. Joseph G. Richardson had delivered but a few lectures upon Hygiene when he was very suddenly removed by death. His removal has left a vacancy that has not yet been filled. It is intended, however, that the students shall have opportunities for instruction in Hygiene before graduation.

WOODROW WILSON, Ph. D., Associate in History, has been made Associate Professor of History and Political Science.

J. RENDEL HARRIS, A. M., Professor of Biblical Languages and Ecclesiastical History in Haverford College, has been reappointed Lecturer on the Bible and Biblical Study.

CHARLES A. PERKINS, Ph. D., late Assistant in the Physical Laboratory of The Johns Hopkins University, has been appointed Associate in Physics.

FREDERIC S. LEE, Ph. D., has been appointed Instructor in Physiology and Histology.

MOSES S. SLAUGHTER, A. M., late Fellow in Latin in The Johns Hopkins University, has been appointed Instructor in Greek and Latin.

ELIZABETH MCCALL has resigned the position of Librarian, after two years of efficient service spent in arranging and cataloguing the library in accordance with the system which will hereafter be followed. Florence E. Pierce has been appointed Librarian in her stead.

ROSE CHAMBERLIN, a Graduate in Honors of Girton College, Cambridge University, England, has been reappointed Instructor in Modern Languages.

ARTHUR L. FROTHINGHAM, JR., Ph. D., Professor of Archæology in Princeton College and Editor of the *American Journal of Archæology*, has consented to give a series of lectures fortnightly, upon Greek and Roman Architecture, beginning after the winter recess.

HETTY N. STOKES, who for two years has had charge of Merion Hall, felt that she must resign her position in obedience to the claims of her family. It is due to her to express the sincere regret of the College at the loss of her presence and coöperation, and the high estimate placed by all connected with it upon the tact, the social grace, the christian wisdom and the practical efficiency with which she performed her duties.

ELIZABETH W. LORE has been chosen to take charge of Merion Hall; and Hannah T. Shipley, of Cincinnati, to take charge of Radnor Hall.

The enrolment of students was sixty-three, of whom four were holders of fellowships, five others were graduates of other colleges, fifty were candidates for the B. A. degree, three were special students, who upon admission did not expect to complete the courses required for graduation, and one was a

“hearer.” Of the fifty-three undergraduates, thirty-four were admitted in 1885, and nineteen in 1886. One hundred and seven students, including seventy-one persons, have been enrolled in the two years which have elapsed since the College began its duties; of these, twelve have held fellowships, six others have been graduates, and fifty-three have been undergraduates. They have come from the following States:— Pennsylvania, 29; New York, 12; Maryland, 7; Massachusetts, 4; Colorado, 3; New Jersey, 2; Connecticut, 2; Rhode Island, 2; Ohio, 2; Nebraska, 1; Michigan, 1; Indiana, 1; Iowa, 1; Kansas 1; California, 1; New Hampshire, 1; Nova Scotia, 1.

The subjects chosen by the students for their major courses of study are not without interest. By forty-six students that entered in the years 1885 and 1886, the following major courses have been selected: Greek and Latin, 15; Greek and English, 1; Greek and Mathematics, 4; Latin and English, 1; Latin and German, 1; English and French, 1; English and German, 3; German and French, 4; Mathematics and Physics, 1; History and Political Science, 5; Chemistry and Animal Biology, 9; Chemistry and Vegetal Biology, 1. Thus it appears that of 26 who chose two languages in combination, 15 took the two ancient ones, 8 took modern ones, and 3 combined an ancient and a modern language. The proportion selecting Physics would doubtless have been larger had there been a department of Physics during the first two years of the College.

The establishment of fellowships and the admission of graduate students have already been fully justified by the results. Of those who have availed themselves of these opportunities, one has been continuing the study of history at the University of Zurich to fit herself more perfectly for giving collegiate instruction in history; another holds a professorship of history in one of the best colleges for women; a third has a responsible position in the United States Bureau of Agriculture, where her exact knowledge of lower animal and vegetable forms is applied to the investigation of parasites hurtful to plant and animal life. A fourth is a teacher of Greek and Latin in a State Normal

School, in which also one of the graduate students finds a field for her full acquaintance with French and German. Another is a teacher of mathematics in a school for girls in the city of New York, while the remainder are preparing for teaching in its higher grades.

Earnestness of purpose, with readiness to conform to the unwritten rules of right conduct and to uphold a true standard of college life, have marked the students as a whole. Besides attendance upon the household worship of the College, they have maintained voluntary meetings for social religious exercises, and an association for some form of Christian endeavor.

The use of the Gymnasium has become more constant, and has been combined with much out-door exercise in walking and lawn-tennis. Of those who used the Gymnasium 77 per cent. gained in general physical vigor, and 96 per cent. in strength of chest. At the close of the year, excepting some temporary fatigue, all the students but one who was habitually an invalid, left the College in good health.

Radnor Hall was so far completed at the close of the winter recess, First mo. 6th, 1887, that it was partially occupied from that date. Its construction, heating and ventilation have proved satisfactory under the test of actual use, and it will make an attractive residence for students.

A temporary Physical Laboratory has been built, the floor space of which is 27 by 55 feet in dimensions, its foundation walls are of stone and the superstructure of wood. It is conveniently divided so as to give space for a lecture room, for storing apparatus, and for laboratory practice. It will suffice for the immediate wants of the department, and will be useful at all times for some purpose. It is much to be desired, however, that the erection of the building to accommodate the four laboratories, for Physics, for Chemistry, and for both branches of Biology, to which reference has been made in a previous report, be not too long delayed. Already the space occupied by the laboratories in Taylor Hall is needed for the library and for class rooms; and the construction of such a building as

that for which the plans are now being matured, would render still more complete the facilities for scientific teaching offered by the College.

THE LIBRARY, which occupies rooms in Taylor Hall, contains 4500 volumes, an increase of 2000 volumes during the year. The College gratefully acknowledges a generous gift of 400 volumes of English Literature, comprising a complete set of Grosart's edition of the English Poets, together with a number of valuable books for the same department.

The Library has also received the following gifts, viz. :—A copy of "Astronomical Observations, made at The Royal Observatory," by Piazzi Smith, given by Elizabeth B. Chase; "Vassar College," by Lossing, given by Vassar College; "Codex Sinaiticus," by Scrivener, given by Professor J. R. Harris; "Elements of Geometry," by Halsted, given by the Author; "De Historia Plantarum," by Theophrastus, given by Wayne MacVeagh; "Philosophia Eclectica," by Cartier, given by Wayne MacVeagh; "Geological Survey of Pennsylvania," and Atlas, given by the State Geological Survey; "Letters from the Frontier," and a number of volumes of *The Nation*, designed to complete the set given by Stuart Wood, given by Mrs. McCall; "Manual of Medicine," by Hartshorne, given by Dr. Hartshorne; "Dictionarum Decem Linguarum," by Calepinus, given by William Kershaw, Ph. D.; "Nineteen Beautiful Years," by Willard, given by Frances E. Willard; "Phantasms of the Living," two volumes, given by R. Pearsall Smith.

A number of pamphlets have been received from kind donors, also the publications of the Smithsonian Institution, together with those of the United States and State Governments.

Eighty-five periodicals and journals, English, German, French and Italian, are taken for the reading rooms, most of them channels of fresh knowledge in science or literature. The Library is open from 8 A. M. to 10 P. M. Students have free access to the shelves for books to be read in the Library, and may take out such books as they desire. A fund of \$3,000 per annum is appropriated by a Committee of the

Trustees to the various departments, to be expended for books in accordance with the suggestions of the professors.

The books are arranged and classified by topics, according to the decimal system of Melvil Dewey, Chief Librarian of Columbia College. A card catalogue, both subject and alphabetical, is kept up to date, and is always open to the students for consultation. The works relating to Chemistry, Physics, Biology and Botany are placed in cases adjacent to the laboratories of the respective sciences, where they can be used more readily by students and professors.

A special appropriation for the purchase of Sanskrit books has been made annually, and there have been procured a complete copy of the Mahābhārata, the Ramayana, and other works.

ART.—Three public lectures were given in the second half of the year by Rodolfo Lanciani, Professor of Archæology in the University of Rome, and Director of Excavations for the Roman and Italian Governments. The subjects were, “The Palace of the Cæsars;” “The House of the Vestal Virgins;” and “Recent Discoveries of Works of Art.” The lectures were freely illustrated by photographs, and were listened to with great interest by audiences of about three hundred persons, including members of the College.

The subjects for the public lectures have hitherto been chosen with the design that they should contribute to a knowledge of art, and be preliminary to a more ample treatment of its history. This purpose finds further expression in the lectures upon Greek and Roman architecture, to be delivered in the last semester of the next year by Dr. Frothingham. They will show briefly the relation of the ancient architectural forms of the Nile and Euphrates valleys to those of Greece and Rome, and will dwell more fully upon the latter and upon sculpture as an adjunct to architecture.

The College has given a stimulus to numerous schools for girls to prepare pupils for its matriculation examinations; that a large proportion of the candidates have passed these

examinations successfully, indicates the general good quality of the training received by them. Deficiencies have appeared chiefly in Latin and Mathematics, and in German and French when oral methods of teaching have not been combined with enough drill in grammar and the reading of authors differing in style.

The examiner in Latin states that grammatical forms and rules of syntax are generally well memorized; but too often candidates fail to see the significance of the relations of words to each other in a Latin sentence. To acquire this knowledge the student must have at least three years of careful instruction, exact as to the memory of forms, but beyond this an exercise in the peculiarities of Latin construction, and in discovering the author's train of thought.

In Mathematics the most noticeable deficiency has been in Arithmetic, arising from the habit of working by rules rather than by thinking out the process by which the problem is to be solved. When, therefore, a question is framed with the intent to encourage thought and apply principles, the candidate is sometimes at a loss. More attention should be given to the working of mixed questions involving a practical application of the principles studied. The real nature of interest, with the use of percentage, for example, might be illustrated by questions requiring a knowledge of the underlying principles. In Algebra the candidates perform the mechanical operations well, but in some instances lack a clear understanding of the reasons for the steps taken. In Plane Geometry it is too often evident that propositions have been taught rather than the methods of geometrical reasoning. These are, however, the faults observed among much good work, and are mentioned only as suggestions for yet better methods of teaching. It is hoped that the marked success of the Bryn Mawr School in Baltimore, which is designed to train girls for college, may lead to the opening of similar schools elsewhere, so that candidates for admission to the College may find it easy to secure the training they require.

It has been found desirable that candidates for fellowships before entering upon their duties at the College shall decide

upon the special division of the subject of the fellowship to which they wish to give attention. The period of one year is so brief that concentration of effort upon some well-defined part of a wide field is essential to the most fruitful results.

Several papers have been read before learned societies, or have been contributed to various journals, by members of the Faculty. Among these have been: "Observations on the condition of Hindu Women According to the Mahābhārata," which was read by E. W. Hopkins, Ph. D., before the American-Oriental Society, and appears in its "Proceedings at New Haven, October, 1886."

"On the Vyūha or 'Battle Order' of the Mahābhārata;" "On Firearms in Ancient India;" "On Professor Bühler's *Manu*." Read by E. W. Hopkins, Ph. D., before the American-Oriental Society, and published in its "Proceedings at Boston, May, 1887."

"Die Neueste Sprachforschung und die Erklärung des Indogermanischen Ablautes." Published in *Beiträge zur Kunde der Indogermanischen Sprachen, Göttingen, 1886*; "Ueber das vergleichende Studium der niederdeutschen Mundarten." *Korrespondenzblatt des Vereins für niederdeutsche Sprachforschung*; "Wahrung Meines Rechtes." *Beiträge zur Kunde der Indogermanischen Sprachen*. XII. Band, Heft 3; "Das B im Theraeischen Alphabet," *Hermes*, vol. XXI. By H. Collitz, Ph. D.

"The Pores of the Libriform Tissue," by Emily L. Gregory, Ph. D. *Bulletin of the Torrey Botanical Club*. Vol. XIII.

"Remarks on the Conjugation of the Wallonian Dialect." By J. James Stürzinger, Ph. D. *Transactions of the Modern Language Association of America*. Vol. I.

"On the Action of Chlorine upon Pyridine," *The American Chemical Journal*, October, 1886; and "A New Pyrometer," *American Chemical Journal*. By Edward H. Keiser, Ph. D.

"The Study of Politics," *New Princeton Review* for March, 1887; "The Study of Administrations," *Political Science Quarterly* for June, 1887; "A Review of Von Holst's Consti-

tutional Law of the United States," *The Press* of Philadelphia.
By Woodrow Wilson, Ph.D. •

INSTRUCTION.—The following details of the method of instruction pursued have been presented by the staff of instructors :

Greek.—The first year's class in Greek read during the first semester with Dr. Shorey four books of the *Odyssey*, and with Dr. Hopkins three orations of Lysias. Plato's *Apology* was read in private by all the class, who were examined upon it afterwards. During the second semester, the class read with Dr. Shorey 1600 verses selected from the *Iliad*; with Dr. Hopkins the whole of Euripides' *Iphigenia in Tauris*. Sophocles' *Electra* was read in private by all the class. Throughout the year one hour a week was spent on Greek Prose Composition under the direction of the Assistant, Jeannette S. Brown.

The second year Greek class in the first semester read with Dr. Hopkins Sophocles' *Antigone*, and extended selections from Thucydides, three hours weekly; and twice weekly heard lectures from Dr. Shorey on the history of Greek Prose Literature. Euripides' *Electra* was read privately by all the class for examination.

During the second term the class read with Dr. Shorey Æschylus' *Prometheus Bound* and Plato's *Gorgias* twice weekly, and heard from Dr. Hopkins lectures on Greek grammar once weekly, with lectures on the history of Greek Poetry twice weekly. The private reading for this half-year was incorporated with supplementary work on the *Gorgias*.

Some students were permitted to divide the major course in Greek and defer a part of the second year's work until the following year.

The advanced course in Greek consisted of lectures by Dr. Hopkins once a week throughout the year on Greek grammar, with two recitations weekly the first semester and one the second, on texts and interpretations of Sanskrit, the Law Books, Epic and Rig Veda. The class also read with Dr. Shorey twice weekly during the first semester selections from Plato and Aristotle; and in the second semester once weekly from Pindar and Æschylus.

The Preliminary Greek Class had five hours' instruction weekly throughout the year, and read all that is required for admission to the first year's class in Greek.

Latin.—The first year's class in Latin read during the first semester, Cicero, *De Amicitia* and *De Senectute*, and one book of the *De Officiis*, with two books of the Odes of Horace, four times a week. There was one exercise weekly in Prose Composition. The private reading, consisting of twenty additional pages of the *De Officiis*, was accomplished. In the second semester students read the first book of Livy, nearly completed the Odes of Horace, and in connection with informal lectures on the poetry of the Augustan age, studied the *Eclogues* of Virgil, selected passages from the *Georgics*, and the last six books of the *Æneid*. The exercises in Latin Prose Composition were continued, and the private reading, consisting of the 7th and 8th books of the *Æneid*, was satisfactorily accomplished.

The work of the second year's class consisted of three hours a week of reading and linguistic study, and two hours a week of lectures on Roman Literature. During the first semester the students read in class, selections from the *Annals* of Tacitus, two hours weekly; selections from Juvenal one hour weekly. In private the students read letters of Pliny selected with a view to the illustration of the life of the Empire in more favorable aspects than those presented by Tacitus and Juvenal. During the second semester, students read in class selections from the 1st, 3d and 5th books of Lucretius, and in private the *Heautontimoroumenos* of Terence. Lectures on Latin grammar were given once a week during this semester.

The Lectures on Latin Literature were intended not so much to present a compendious summary of names and dates, as to fill the gaps in the student's knowledge necessarily left by a two-years course of reading. One hour of these lectures was given in Latin. The lectures consisted mainly of simple commentary on dictated selections from the *Appendix Virgiliana*, Lucan, Statius, Martial, and other rarely read poets of the Empire. Students were thus given selections from the writers discussed in their hand-book, and while the main object of

the course was accomplished, they learned to overcome the fear of spoken Latin that marks the average college graduate.

In the other lecture hour the outline of names and facts given in the hand-book was supplemented by topical lectures on Stoicism in Roman literature, the development of rhetoric and literary studies at home, and similar themes.

German.—The major course in German was that of the first year. The class met five times weekly for lectures on historical and comparative grammar of the German language, and the reading of Gothic and Middle High German texts. The latter includes selections from Hartmann von Aues' "*Armer Heinrich*," the "*Nibelungenlied*," Wolfram von Eschenbach's "*Parsival*," and from Walther von der Vogelweide. Besides this course, there were lectures by Dr. Collitz once weekly throughout the year giving a short review of the development of German Literature from the oldest times until Goethe's death. These lectures as well as those on German grammar were delivered in German.

The class in elementary German was taught by Rose Chamberlin. They studied the grammars of Otis and Whitney, and in about three weeks from the commencement of the course they began to read a selection from Grimm's "*Märchen*," and afterward read the following works: Schiller's "*Maria Stuart*," Goethe's "*Hermann und Dorothea*," "*Iphigenie*," selected portions of "*Faust*," Part I.; and at sight, Heyse, "*Das Mädchen von Treppi*," and selected portions of Goethe's "*Wilhelm Meister*." With the exception of two or three of its members this class knew nothing of German when they began, but at the close of the year eight out of ten passed an examination identical with that required for matriculation.

Conversation classes in German were held three times weekly throughout the year, and were attended by many students not pursuing German in the college course.

Romance Languages.—During the first half-year Dr. Stürzinger gave lectures in French upon Old French Grammar, with text reading in Forster's *Alfranzösisches Übungsbuch*. In the second semester the lectures were upon Old-French litera-

ture from the Ninth to the Fifteenth century, combined with the reading of texts in Bartsch's *Chrestomathie*. One hour a week was devoted to a review of the notes taken by the students, with corrections, and suggestions as to the practice of correct expression in writing French. Conversation classes in French were held three times weekly. The class in elementary French was taught by Rose Chamberlin. During the first semester they studied accidence and syntax, and read *Le Verre d'Eau*, by Scribe; Racine's *Athalie* and *Phèdre*, and parts of Corneille's *Cinna*. During the second semester they added historical grammar to the syntax, and read Corneille's *Le Cid*, Racine's *Andromaque*, Molière's *Le Bourgeois Gentilhomme*, *L'Avare* and *Les Femmes Savantes*; also extracts from the works of Victor Hugo, Châteaubriand, Daudet and Cherbuliez. Examinations upon the parts studied, written translations and sight reading were used throughout the year.

A graduate course was given by Dr. Stürzinger, consisting of a continuation of the old French course of last year; one hour was devoted to the syntax of Old French, two to the reading and explanation of numerous texts from the Twelfth down to the end of the Fifteenth century.

A course in Spanish comprised the grammar of the Spanish language, old and modern, together with the reading of the various texts of *The Cid Legend* from the Thirteenth down to the Nineteenth century, and of selections from Cervantes' *Don Quixote*.

English.—A class of forty, including two graduate students, met the Professor of English five times weekly throughout the year. The instruction consisted of lectures on English Literature from the time of Chaucer, exclusive, to that of Wordsworth and the so-called Lake School, inclusive. Private reading was assigned in connection with the lectures, and weekly, or fortnightly, recitations were held on the substance of the lectures and private reading.

Each member of the class was required to write an essay on the life and work of some English author, and most of the essays thus written were read and criticised in the presence of the class. It was furthermore found necessary to require all

the members of the class to study and pass an examination in Abbott's "How to Write Clearly." The other duties of the department made it impossible for the instructor to criticise the essays in a satisfactory manner, or to correct them in writing; but it was evident that the students were without previous instruction in writing English, and that essay writing should, as early as possible be made a regular and important portion of the English course. The reports handed in by the students at the end of the year showed that one and a half hours daily, exclusive of lectures, had been spent in work on English.

The work of the Fellow in English lay chiefly in examination and criticism of certain poems of Chaucer, with a view to determining their date and sequence, and in special studies on the poets of the first half of the seventeenth century.

History.—For special reasons the scheme of making the instruction in the history of France run parallel with that in the history of England throughout the year was changed. The history of England was completed in the first semester, and that of France taken up in the second. Advantage was taken of this change to make the method of instruction employed during the first semester somewhat different from that in the last. English history was taught backwards; a steady effort was made to render the lectures and all the class exercises a series of explanations of the conditions, geographical, social, and political, to be seen in the life of the English nation to-day, and all the chief and most pressing questions now agitating England were discussed as fully as possible. To such purposes voluntary "News-meetings," usually held one evening weekly throughout the year, were directly auxiliary. In these meetings the most important news of the day was considered, and the relations of passing events to their historic antecedents shown; the interest proved so great that the attendance much outgrew the limits of the class.

The History of the United States was also studied in the first semester, and the instruction was given almost wholly by lectures. In these consecutive narration was not attempted,

but exposition of carefully chosen representative periods or events.

During the second semester an elaborate series of lectures was given in French history, and the history of the Renaissance and Reformation. In the first series of lectures the object held in view by the instructor was to make conspicuous the several steps in the growth and policy of the monarchy, the causes of the Revolution, the political development of the present century, and the constituent elements of modern France. Under the Renaissance, its causes were fully discussed, as also the political and intellectual preparation of Italy, the leading characteristics of the Renaissance as shown in the works of the chief writers and artists, the great sea discoveries which opened the western doors of Europe, and, in general, the beginnings of modern influences.

The Reformation was considered in its connection with the Renaissance; the lives of the principal reformers were dwelt upon; and the Lutheran, the Genevan, and the English Reformation movements were contrasted.

Mathematics.—In the first semester a class of five students followed the course indicated in the announcements for the year; they heard lectures and worked problems in Algebra, advanced Trigonometry and Theory of Equations, Analytical and Modern Geometry of Two Dimensions, and elementary Dynamics.

In the second semester a class of four continued Analytical, and Modern Geometry of Two Dimensions, with the addition of elementary Differential and Integral Calculus, and Dynamics.

A graduate course was given upon Analytical Geometry of Two and of Three Dimensions, advanced Differential Calculus and Differential Equations.

Philosophy.—Professor Fullerton divided his lectures into three parts: during the first part, the class studied deductive and inductive logic, using Jevons's "*Outlines*" as an accompaniment to, and a basis for, the lectures, with frequent exercise in logical analysis.

During the second part, he lectured on psychology, and as-

signed the class portions of Lotze's "*Outlines*" to prepare previous to the lectures. The psychology was approached largely from the physiological side.

During the remainder of the year the class studied selected portions of the history of philosophy, devoting attention chiefly to the development of Idealistic Thought in Plato, Descartes, Locke, Berkeley and Hume, with some reference to Kant and to later schools. In lecturing on the history of philosophy certain propositions were dictated forming an outline of each system, which the class was expected to master, and which were freely discussed at the beginning of the later lectures. In all the teaching it was the endeavor of the instructor to use, as far as possible, the Socratic method, and to provoke free discussion, without which the student remains in an unwholesome condition of passivity, and is little benefited.

Professor J. Rendel Harris gave lectures once weekly throughout the year upon such topics as, The Messianic Hopes of the Jews and Gentiles; The Coming of Christ as to fulness of time and fitness of place; His relations to the Jewish Ritual and to the Sects of the Jews; The manner of life, modes of religious thought and worship of the early Christians. Private reading was assigned, with examinations upon the subjects discussed.

Dr. Rhoads gave a course of lectures once weekly throughout the year upon Ethics. The elements of our moral nature were considered; the basis of certainty in the knowledge of moral truth and duty; the principles of moral guidance; the various classes of duties; the moral aspects of current questions, such as the authority of law, the rights of property, the relations of employers and employed, the administration of charities, the restriction of the liquor traffic, vivisection, and Sabbath laws; and a brief survey was taken of ethical systems. Private reading of the authors referred to was assigned, and oral examinations were also used.

Animal and General Biology.—The undergraduate work was confined to the first year's (minor) course, which was pursued by twenty students. Of these, four entered the botanical course at the end of the first half-year, sixteen continued

and completed the courses in General Biology and Human Physiology.

With two exceptions the work was carried out in strict accordance with the plan given in the college Program. The exceptions are, first, that the course in Physiology was given in the second instead of the first semester, and second, that the course in Elementary Botany was omitted, an equivalent amount of work in General Biology having been substituted for it.

Two objects were kept in view throughout the course. The first was to impart such a knowledge of plants and animals as might be useful to all students, whether especially engaged in scientific studies or not; to give an acquaintance with the essential features of vital structure and actions; to teach the outlines of classification and the elements of human physiology, and to give the training that can only be acquired by long-continued practical study in the laboratory. The second object was to prepare students, both in biological knowledge and in acquaintance with the technical methods of laboratory work, for the more advanced work of the major course.

The course comprised the comparative study of a series of typical plants and animals, the more important of which have been *Protococcus*, *Yeast*, *Vorticella*, *Amœba*, *Bacteria*, *Moulds*, various representatives of the *Conjugatæ*, the *Liverwort*, *Moss*, *Fern*, *Flowering Plant*, *Hydra*, *Star-fish*, *Earthworm*, *Lobster*, various *Mollusks*, *Fish*, *Frog*, *Turtle* and *Cat*; but many others were more or less thoroughly examined for comparison. The course concluded with a careful study, theoretical and practical, of the development of the hen's egg. During the second semester a course was given in *Elementary Physiology*, which considered most of the more important actions of the human body.

Effie A. Southworth, a graduate student and Laboratory Assistant in Biology, followed a course of special study, partly under the direction of Dr. E. B. Wilson, partly under that of Dr. Gregory. Among other results of these studies she

submitted an essay on the Comparative Morphology of the Vertebrate Skull.

Vegetal Biology.—In the first semester a course was given adapted to the needs of those who had taken one year of work in General Biology. It comprised the morphology of the higher plants, and the principles of classification. This was followed by a general course beginning with the lowest forms of plant life and proceeding upward in the scale, so that a thorough study was made of the lower forms.

In the second semester the students that had spent a half-year in General Biology entered upon the study of General Botany, studying vegetable anatomy, the plant cell and plant tissues. They then took up the morphology of higher plants together with classification. In this semester an advanced student studied the mechanical system of plants, especially as exhibited in the monocotyledons, and worked out the anatomical structure of various plants.

The equipment of the Botanical laboratory has been increased through the year, and a skilful collector was engaged for three months in gathering materials and in arranging the herbarium.

Chemistry.—During the past year the lecture and laboratory courses in Chemistry have been upon second year's work or advanced chemistry. All the students who have taken these courses have previously had a year's training in general chemistry. The lectures of the first semester were upon the processes of analytical chemistry. The purpose of these lectures was to point out the characteristic properties of chemical substances, and to show how these properties may be employed for the detection and separation of the elements and their compounds.

During the second semester the lectures were upon organic chemistry. Typical carbon compounds were carefully studied, their behavior towards reagents and their general transformations were examined. The object constantly kept in view was to bring out as clearly as possible the beauty and simplicity of the relations that exist between the different classes of organic compounds.

The lectures in the first and second year's courses are intended to give the students a broad knowledge of general chemistry rather than to make them familiar with all the details in any one department of the science.

The laboratory work during the first semester and a portion of the second, was upon the methods of qualitative and quantitative analysis. The students were taught to apply practically the knowledge obtained in the lectures. A thorough system of questioning was carried on throughout the year, and by this means the students were prevented from following mechanically the methods of analytical chemistry. They were encouraged to devise new methods, and thus develop a scientific habit of thought.

In the latter part of the second semester the laboratory work consisted in the preparation and study of the more important organic compounds.

Several original investigations have been carried out in the chemical laboratory during the past year. A careful analysis has been made of the water which supplies Bryn Mawr College. The action of chlorine upon pyridine has been studied, and certain interesting transformations of this substance have been discovered. A new pyrometer has been devised by means of which high temperatures may be accurately and rapidly measured. Other investigations are still in progress.

Submitted to the Trustees at their meeting
held 10 mo., 14, 1887.

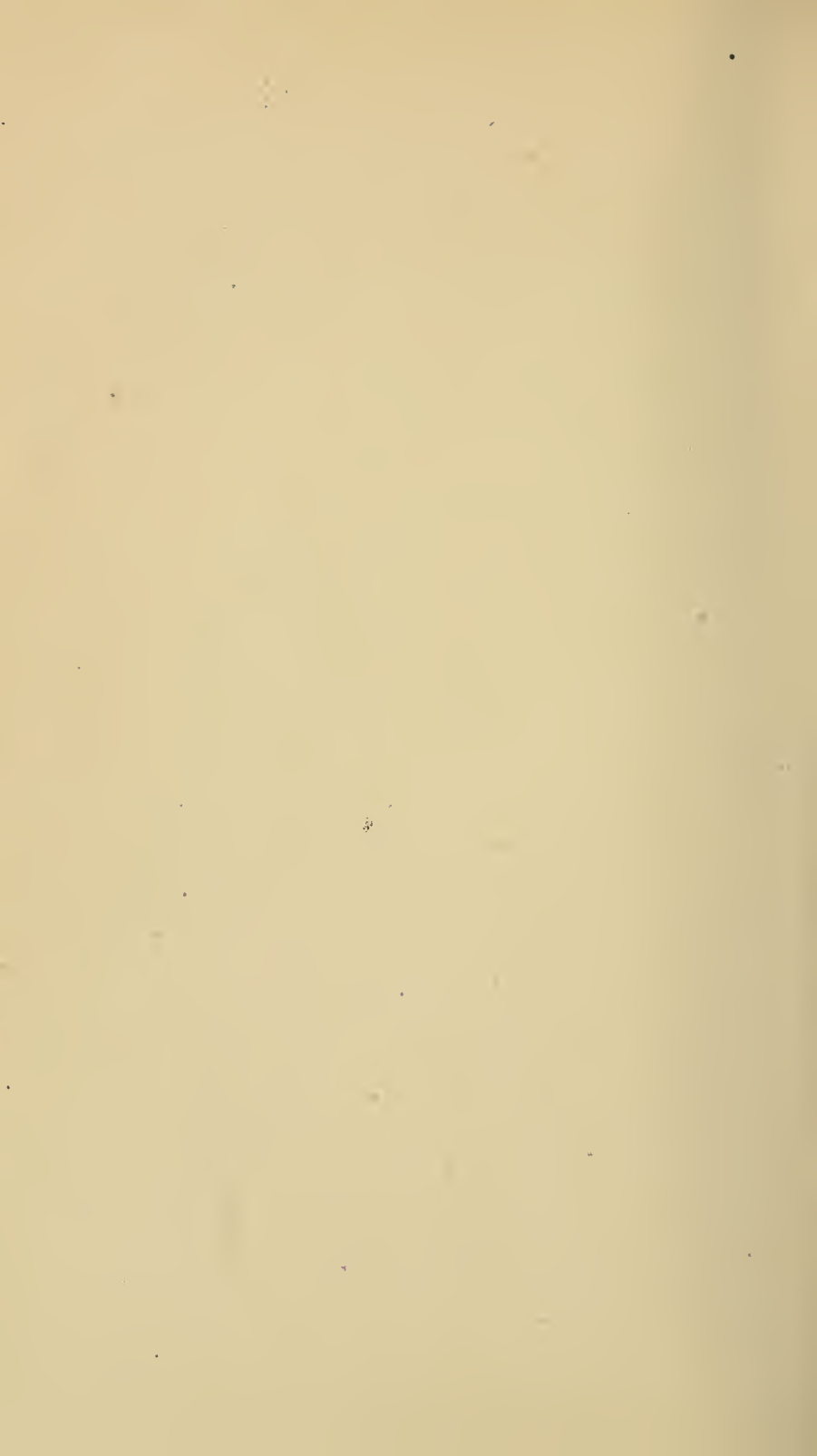
JAMES E. RHOADS.

TABLE OF SUBJECTS AND TERMS
OF STUDY.

| SUBJECT. | PARTICULAR SUBJECTS. | No. IN CLASS. | TERM OF STUDY. | |
|--|---|---|--------------------------------|--------------------------------|
| GREEK. | Greek Literature, Prose, | 4 | 10 mo. 4, '86, to 2 mo. 4, '87 | |
| | Greek Literature, Poetry, | 5 | 2 mo. 4, '87, to 6 mo. 7, '87 | |
| | Homer—Odyssey, | 7 | 10 mo. 4, '86, to 2 mo. 4, '87 | |
| | Homer—Iliad, | 7 | 2 mo. 4, '87, to 6 mo. 7, '87 | |
| | Thucydides, | 8 | 10 mo. 4, '86, to 2 mo. 4, '87 | |
| | Lysias, | 8 | 10 mo. 4, '86, to 2 mo. 4, '87 | |
| | Sophocles, Antigone, | 8 | 10 mo. 4, '86, to 2 mo. 4, '87 | |
| | Æschylus, Prometheus Bound, . . . | 7 | 2 mo. 4, '87, to 6 mo. 7, '87 | |
| | Plato's Gorgias, | 7 | 2 mo. 4, '87, to 6 mo. 7, '87 | |
| | Euripides, Iphigenia, | 10 | 2 mo. 4, '87, to 6 mo. 7, '87 | |
| | Lectures on Greek Grammar, . . . | 7 | 2 mo. 4, '87, to 6 mo. 7, '87 | |
| | <i>Elementary Greek</i> , Grammar, and Xenophon's Anabasis, Bks. I.-IV. Iliad, Books I.-III., | 7 | 10 mo. 4, '86, to 6 mo. 7, '87 | |
| | <i>Graduate Class</i> , Lectures on Greek Grammar, once weekly, | 1 | 10 mo. 4, '86, to 6 mo. 4, '87 | |
| | Selections from Aristotle and Plato, reading, twice weekly, | 2 | 10 mo. 4, '86, to 2 mo. 4, '87 | |
| | Selections from Pindar & Æschylus, <i>Graduate Class</i> , Sanskrit, once weekly | 1 | 10 mo. 4, '86, to 2 mo. 4, '87 | |
| | SANSKRIT. | Sanskrit, twice weekly, | 1 | 2 mo. 4, '87, to 6 mo. 4, '87 |
| | LATIN. | Juvenal, 1 hour a week, | 6 | 10 mo. 4, '86, to 2 mo. 4, '87 |
| Lectures on Literature, 2 hrs. a week, | | 6 | 10 mo. 4, '86, to 2 mo. 4, '87 | |
| Horace, 1 hr. a week, | | 17 | 10 mo. 4, '86, to 2 mo. 4, '87 | |
| Tacitus, 2 hrs. a week, | | 12 | 10 mo. 4, '86, to 2 mo. 4, '87 | |
| Latin Literature, 1 hr. a week, . . . | | 5 | 2 mo. 4, '87, to 6 mo. 7, '87 | |
| Horace and Virgil, 2 hrs. a week, . . | | 14 | 2 mo. 4, '87, to 6 mo. 7, '87 | |
| Lucretius, | | 9 | 2 mo. 4, '87, to 6 mo. 9, '87 | |
| Livy, Bk. I., | | 10 | 2 mo. 4, '87, to 6 mo. 9, '87 | |
| Lectures on Latin Grammar, | | 7 | 2 mo. 4, '87, to 6 mo. 9, '87 | |
| Cicero, Cato Major, De Officiis, . . | | 13 | 10 mo. 4, '86, to 2 mo. 4, '87 | |
| Latin Composition, 1 hr. a week, . . | | 12 | 10 mo. 4, '86, to 2 mo. 4, '87 | |
| Latin Composition, 1 hr. a week, . . | | 12 | 2 mo. 4, '87, to 6 mo. 3, '87 | |
| MATHE- MATICS. | | Solid Geometry, | 8 | 10 mo. 4, '86, to 2 mo. 4, '87 |
| | | Algebra and Trigonometry, | 11 | 10 mo. 4, '86, to 2 mo. 4, '87 |
| | | Advanced Mathematics, | 1 | 10 mo. 4, '86, to 6 mo. 7, '87 |
| | | Dynamics, | 5 | 10 mo. 4, '86, to 2 mo. 4, '87 |
| | | Algebra, Trigonometry and Theory of Equations, | 5 | 10 mo. 4, '86, to 2 mo. 4, '87 |
| | Analytical Geometry of Two Di- mensions, | 5 | 10 mo. 4, '86, to 2 mo. 4, '87 | |
| | Dynamics, | 4 | 2 mo. 4, '87, to 6 mo. 7, '87 | |
| | Differential and Integral Calculus, Analytical Geometry of Two Di- mensions, | 4 | 3 mo. '87, to 6 mo. 8, '87 | |
| | | 4 | 2 mo. 4, '87, to 6 mo. 7, '87 | |

Table of Subjects and Terms of Study, continued.

| SUBJECT. | PARTICULAR SUBJECTS. | NO. IN CLASS. | TERM OF STUDY. |
|---------------------|--|---------------|---------------------------------|
| HISTORY. | English History, | . 11 . | 10 mo. 4, '86, to 2 mo. 7, '87 |
| | History of the United States, | . 11 . | 10 mo. 4, '86 to 2 mo. 7, '87 |
| | History of France, | . 14 . | 2 mo. 7, '87, to 6 mo. 7, '87 |
| | History of Renaissance and Reformation, | . 15 . | 2 mo. 7, '87, to 6 mo. 7, '87 |
| BIOLOGY. | <i>Graduate Course, General Biology,</i> 3 hrs. a week, | . 1 . | 10 mo. 4, '86, to 6 mo. 7, '87 |
| | Laboratory Work, 6 hrs. a week, | . 20 . | 10 mo. 4, '86, to 2 mo. 4, '87 |
| | Elementary Human Physiology, 2 hrs. a week, | . 16 . | 2 mo. 15, '87, to 6 mo. 3, '87 |
| | General Biology, 3 hrs. a week, and Laboratory Work, 6 hrs. a week, | . 16 . | 2 mo. 14, '87, to 6 mo. 3, '87 |
| VEGETAL BIOLOGY. | Morphology of Higher Plants and General Anatomy, | . 1 . | 10 mo. 4, '86, to 2 mo. 11, '87 |
| | Botany, | . 5 . | 2 mo. 4, '87, to 6 mo. 7, '87 |
| | General Botany from Lowest Forms to Phanerogams, | . 1 . | 2 mo. 11, '87, to 6 mo. 10, '87 |
| CHEMISTRY | Analytical Chemistry, | . 6 . | 10 mo. 4, '86, to 2 mo. 7, '87 |
| | Organic Chemistry, | . 5 . | 2 mo. 7, '87, to 6 mo. 7, '87 |
| | Laboratory Work, 6 hrs. a week, | . 5 . | 10 mo. 4, '86, to 6 mo. 7, '87 |
| ENGLISH. | From Chaucer, exclusive, to Shakspeare, inclusive, | . 39 . | 10 mo. 4, '86, to 2 mo. 4, '87 |
| | Lectures on English Literature, from Chaucer exclusive, to 19th Century, inclusive, | . 36 . | 2 mo. 4, '87, to 6 mo. 7, '87 |
| FRENCH. | Old French, Grammar and Text Reading, | . 2 . | 10 mo. 4, '86, to 2 mo. 4, '87 |
| | Lectures on Old French Literature, 9th to 15th century, with Text Reading continued, | . 1 . | 2 mo. 4, '87, to 6 mo. 7, '87 |
| | <i>Graduate Course; Syntax of Old French 1 hr. a week, and reading texts from 12th to end of 15th century, two hours a week,</i> | . 2 . | 10 mo. 4, '86, to 6 mo. 7, '87 |
| | <i>Elementary French, Grammar and Reading, with Conversation classes,</i> | . 3 . | 10 mo. 4, '86, to 6 mo. 7, '87 |
| SPANISH. | Grammar of the Old and Modern Spanish, and Text Reading, | . 2 . | 10 mo. 4, '86, to 6 mo. 7, '87 |
| GERMAN. | Historical Grammar and reading of Middle High German and Gothic Texts, | . 1 . | 10 mo. 4, '86, to 2 mo. 4, '87 |
| | Lectures once weekly on German Literature, | | 10 mo. 4, '86, to 6 mo. 7, '87 |
| | <i>Elementary German, Grammar and Reading,</i> | . 10 . | 10 mo. 4, '86, to 6 mo. 7, '87 |
| PHILOSOPHY. | General Ethics and History of Ethics, | . 14 . | 10 mo. 4, '86, to 6 mo. 7, '87 |
| | Logic, | . 15 . | 10 mo. 5, '86, to 2 mo. 10, '87 |
| | Psychology, Lotze, | . 14 . | 12 mo. 16, '86, to 3 mo. 4, '87 |
| | History of Philosophy, | . 16 . | 3 mo. 4, '87, to 6 mo. 7, '87 |
| | Biblical Subjects and Church History | . 20 . | 10 mo. 4, '86, to 6 mo. 7, '87 |



BRYN MAWR COLLEGE.

THE

PRESIDENT'S REPORT

TO THE

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FOR THE YEAR 1887-88.

PHILADELPHIA:

FERRIS BROS., PRINTERS, S. W. COR. SIXTH AND ARCH STS.

1888

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ACADEMIC APPOINTMENTS.

JAMES E. RHOADS, M. D., *President of the College.*

M. CAREY THOMAS, PH.D., *Dean of the Faculty and Professor of English.*

A. B., Cornell University, 1877; studied at the Johns Hopkins University, 1877-78; University of Leipsic, 1879-82; Ph.D., University of Zurich, 1882; Sorbonne and the Collège de France, 1883.

EMILY L. GREGORY, PH.D., *Associate in Botany.*

L. B., Cornell University, 1881; private student in the botanical laboratories of Professor Wigand, University of Marburg, of Professor Reinke, University of Göttingen, and of Professor Schwendener, University of Berlin, 1881-83; private student in botanical laboratory of Professor Goodale, Harvard University, and in charge of the laboratory work of the Harvard Annex, 1883-84; Teacher of Botany in Smith College, 1884; Ph.D., University of Zürich, 1886.

EDMUND B. WILSON, PH.D., *Professor of Biology.*

Ph.B., Yale College, 1878; Fellow in Biology, Johns Hopkins University, 1879-81; Ph.D., Johns Hopkins University, 1881; Assistant in Biology in the Johns Hopkins University, 1881-82; studied at the Universities of Cambridge and Leipsic, and at the Biological Station, Naples, 1882-83; Lecturer on Biology, Williams College, Mass., 1883-84; Lecturer on Comparative Anatomy and Physiology in the Massachusetts Institute of Technology, 1884-85.

CHARLOTTE ANGAS SCOTT, D.SC., *Associate Professor of Mathematics.*

Lincoln, England. Graduate in Honors, Girton College, Cambridge, 1880; B.Sc., University of London, 1882; Lecturer on Mathematics in Girton College, Cambridge, 1880-84; lectured in connection with Newnham College, 1880-83; D.Sc., University of London, 1885.

EDWARD WASHBURN HOPKINS, PH.D., *Associate Professor of Greek, Sanskrit, and Comparative Philology.*

A. B., Columbia College, 1878; Fellow in Literature, Columbia College, 1878-81; University of Leipsic, 1878-81; University of Berlin, 1880; Ph.D., University of Leipsic, 1881; Sorbonne and the Collège de France, 1881; Assistant in Latin and Instructor in Zend in Columbia College, 1881-84.

PAUL SHOREY, PH.D., *Associate Professor of Greek and Latin.*

A. B., Harvard College, 1878; University of Leipsic, 1881-82; University of Bonn, 1882; American School of Classical Studies, Athens, 1882-83; Ph.D., University of Munich, 1884.

EDWARD H. KEISER, PH.D., *Associate Professor of Chemistry.*

S. B., Swarthmore College, 1880; Assistant in Chemistry in Swarthmore College, 1880-81; S. M., Swarthmore College, 1881; Fellow in Chemistry, Johns Hopkins University, 1882-84; Ph.D., Johns Hopkins University, 1884; student at the Royal School of Mines, Freiberg, Saxony, 1884; Assistant in Chemistry in the Johns Hopkins University, 1884-85.

WOODROW WILSON, PH.D., *Associate Professor of History and Political Science.*

A. B., Princeton College, 1879, and A. M., 1882; studied common, statute, and international law at the University of Virginia, 1879-81; Fellow in History, Johns Hopkins University, 1884-85; Ph.D., Johns Hopkins University, 1886.

- J. JAMES STÜRZINGER, PH.D., *Associate Professor of Romance Languages*.
 Wylen, Switzerland. University of Marburg, 1875-76; University of Leipsic, 1876-77; Sorbonne and the Collège de France, 1877-78; Ph.D., University of Zürich, 1879; studied in London, Cambridge, and Oxford, 1879-81; Privatdocent at the University of Bonn, 1882-85.
- HERMANN COLLITZ, PH.D., *Associate Professor of German Literature and Language*.
 Bleckede, Hanover, Germany. University of Göttingen, 1875-78; University of Berlin, 1878-81; Ph.D., University of Göttingen, 1878; Privatdocent in the University of Halle, 1885-86.
- CHARLES A. PERKINS, PH.D., *Associate in Physics*.
 A.B., Williams College, 1879; Fellow in Physics, Johns Hopkins University, 1883-84, and Ph.D., 1884; Assistant in Physics, Johns Hopkins University, 1884-87.
- ROSE CHAMBERLIN, *Instructor in French and German*.
 Great Yarmouth, England. Graduate in Honors, Newnham College (Mediæval and Modern Languages Tripos, First Class), University of Cambridge, England, 1886.
- FREDERIC S. LEE, PH.D., *Instructor (Associate elect) in Physiology and Histology*.
 A.B., St. Lawrence University, 1878, and A.M., 1881; Fellow in Biology, Johns Hopkins University, 1884-85, and Ph.D., 1885; studied at the University of Leipsic, 1885-86; Instructor in Physiology, St. Lawrence University, 1886-87.
- MOSES S. SLAUGHTER, A.M., *Instructor in Latin*.
 A.B., Asbury University, Indiana, 1883, and A.M., 1886; Fellow in Latin, Johns Hopkins University, 1885-87.
- FRANCES H. MITCHELL, PH.D., *Reader (non-resident) in Anglo-Saxon*.
 Ph.D., University of Zürich, 1888.
- JAMES HARKNESS, B.A. (Cambridge and London), *Associate (elect) in Mathematics*.
 Derby, England. Major Scholar, Trinity College, Cambridge, 1882; Graduate in Honors (8th Wrangler) in the Cambridge Mathematical Tripos, 1885; Mathematical Exhibitioner, London University Intermediate Arts Examination, 1885; Mathematical Scholar, London University B.A. Examination, 1887.
- HERBERT WEIR SMYTH, PH.D., *Associate (elect) in Greek and Latin*.
 A.B., Swarthmore College, 1876; and Harvard University, 1878; University of Leipsic, 1879-81; University of Göttingen, 1881-83; Instructor in Classics and Sanskrit, Williams College, 1883-85; Ph.D., University of Göttingen, 1884; Fellow by Courtesy and Lecturer on Greek, Johns Hopkins University, 1885-87; Reader in Greek Literature, Johns Hopkins University, 1887-88.
- MARY GWINN, PH.D., *Associate (elect) in English*.
 Studied at the University of Leipsic, 1879-82; University of Zürich, 1882; Sorbonne and the Collège de France, 1883; Fellow in English, Bryn Mawr College, 1885-87, and Ph.D., Bryn Mawr, 1888.
- WILLISTON WALKER, PH.D., *Associate (elect) in History*.
 A.B., Amherst College, 1883; Studied at Hartford Theological Seminary, 1883-86; University of Leipsic, 1886-88, and Ph.D., 1888.
- FRANKLIN H. GIDDINGS, A.B., *Resident Lecturer (elect) in Political Science*.
 A.B., Union College, 1887; author of "The Report on Profit-Sharing," published in the Seventeenth Annual Report of the Massachusetts Bureau of Statistics and Labor, "The Sociological Character of Political Economy," and (with Professor Clark) of "The Modern Distributive Process," etc.

ALFRED COOK, PH.D., *Associate (elect) in Philosophy.*

A.B., Northwestern University, 1877, and A.M., 1880; Ph.D., University of Halle, 1886; Fellow by Courtesy in Johns Hopkins University, 1887-88.

CHARLES FLINT MCCLUMPHA, PH.D., *Instructor (elect) in Anglo-Saxon.*

A.B., Princeton College, 1885; University of Leipsic, 1885-88, and Ph.D., 1888.

FLORENCE M. PEIRCE, *Librarian.*

CAROLYN C. LADD, *Directress of the Gymnasium.*

Studied under Dr. Sargent, 1884-85; Student in the Woman's Medical College of Philadelphia.

ANNA E. BROOMALL, M.D., *Consulting Physician of the College.*

Professor in the Woman's Medical College of Pennsylvania.

GEORGE S. FULLERTON, A.M., *Lecturer on Psychology and Logic.*

Adjunct Professor of Intellectual and Moral Philosophy in the University of Pennsylvania.

J. RENDEL HARRIS, A.M., *Lecturer on the Bible and Biblical Study.*

Professor of Biblical Languages and Ecclesiastical History in Haverford College; late Associate Professor of New Testament Greek in the Johns Hopkins University.

JAMES MCKEEN CATTELL, PH.D., *Lecturer on Physiological Psychology.*

Lecturer on Psycho-Physics in the University of Pennsylvania.

ARTHUR L. FROTHINGHAM, JR., PH.D., *Lecturer on Archæology.*

Ph.D., University of Leipsic, 1883; Fellow of Johns Hopkins University, 1882-85; Editor of the American Journal of Archæology; Professor of Archæology in Princeton College.

BRYN MAWR COLLEGE.

REPORT OF THE PRESIDENT FOR THE YEAR 1887-88.

To the Trustees of Bryn Mawr College :

I respectfully submit to you the following Report for the fiscal year ending Eighth Month 31st, 1888, which included the third academic year of the College, extending from Tenth Month 3d, 1887, to Sixth Month 8th, 1888.

The increase in the number of instructors, and the addition of a department of Physics, have brought with them the expected advantages. Fuller and more varied courses have been offered in Greek, Latin, English and Biology. These have included courses for students that had already spent two years upon what are known as major courses, who by this arrangement will be enabled to devote a part of three or even four years to the subjects in which they specialise, while they also fulfil the other studies required by the College in order to graduation. Students who elect Biology or Chemistry as their chief subjects can now have the benefit of a preliminary year in Physics, if they so desire. In Greek, Latin and Animal Biology, the courses for the first and second years have been given coterminously, instead of in alternate years, as heretofore; an arrangement that will be extended next year to History and Mathematics, and which greatly facilitates the disposal in a proper order of succession of the studies taken by each student.

A schedule of class exercises has been adopted which will still further promote this end, without abridging the freedom of election by the students among the more than thirty groups of study now open to them. This schedule will also render it feasible to place all the regular class exercises, including those

of the laboratories, between the hours of 8 A. M. and 4 P. M., leaving the remainder of the day free for exercise and study, a point of much importance to the health of the students and their success in study.

The number of graduate students who desired instruction in Anglo-Saxon made it necessary to appoint a Reader in Anglo-Saxon, and Frances H. Mitchell, Ph.D., was placed in that position. More permanent provision for this need has been made by the appointment of an Instructor in Anglo-Saxon for the year 1888-89. The English department will be further strengthened by the addition of an Associate in English, which will enable it to give more adequate instruction in essay writing and style than has been possible hitherto. In the departments of French and German, experience has shown that students are not sufficiently familiar with these languages when they enter College to follow what would seem to be the most desirable method, that of studying first the earliest literatures and forms of the languages; and it has been arranged that in the future the more modern portions of the French and German literatures shall be studied in the first year of the course, and the more ancient in the second year.

The instruction in Greek will be extended next year by a course in Greek Archæology, to be given by Dr. H. W. Smyth, which will be of interest both to students of Greek and of Art. These lectures will be illustrated, but for this purpose the College should have a larger collection of photographs, models and other representations of Greek art and customs. Gifts for such a collection in kind or in money would be gratefully received. The sum of \$500 would purchase a series of photographs that would form a very useful basis for such a collection.

Upon the last day of the academic year degrees were conferred for the first time. There were two candidates, one of whom received the degree of Doctor of Philosophy, the other that of Bachelor of Arts. The former, after four years of study at the Universities of Leipsic and Zurich, and at the Sorbonne and Collège de France, had spent three years at Bryn Mawr College. Her chief subject was English, and her secondary one was Greek. She presented an inaugural dissertation on "*The First Part of Beowulf*," which embodied an original investigation of the poem. That one of the first graduates should have taken the Doctor's degree, and that four other graduates should have been studying during the year for the same degree, give evidence of a desire for advanced instruction on the part of women who have completed a collegiate course, and point to the important place which such instruction may assume in the duties of the College.

The large classes in general Biology call for more room to accommodate them. The apparatus and collections lately purchased for the biological department also require more space. The rooms allotted to Botany are too small, and the shelf space for the library ought to be extended within two years. The need of a building, therefore, to comprise all the laboratories and thus leave Taylor Hall free for class-rooms and the library, becomes more obvious each year.

CHANGES IN THE OFFICERS OF INSTRUCTION AND GOVERNMENT.

For the coming year Associates have been added in the departments of English, Mathematics, and History, and the instruction in Psychology and the History of Philosophy, hitherto given by a non-resident Lecturer, will be entrusted to an Associate in Philosophy.

EDWARD W. HOPKINS, Ph.D., has been re-appointed Associate Professor of Greek, Sanskrit, and Comparative Philology.

EDWARD H. KEISER, Ph.D., has been re-appointed Associate Professor of Chemistry.

J. J. STÜRZINGER, Ph.D., has been re-appointed Associate Professor of Romance Languages.

FREDERIC S. LEE, Ph.D., has been advanced from Instructor to Associate in Physiology and Histology.

HERBERT WEIR SMYTH, Ph.D. (Göttingen), late Reader in Greek Literature at the Johns Hopkins University, has been appointed Associate in Greek and Latin.

Woodrow Wilson, Ph.D., has resigned his position as Associate Professor of History and Political Science, and FRANKLIN H. GIDDINGS, A. B., has been appointed Resident Lecturer on Political Science.

WILLISTON WALKER, Ph.D. (Leipsic), has been appointed Associate in History.

JAMES HARKNESS, A. B., Cambridge University, England, has been appointed Associate in Mathematics.

MARY GWINN, Ph.D. (Bryn Mawr), has been appointed Associate in English.

ALFRED COOK, Ph.D. (Halle), has been appointed Associate in Philosophy.

CHARLES FLINT McCLUMPHA, Ph.D. (Leipsic), has been appointed Instructor in Anglo-Saxon.

EMILY H. PIM has been placed in charge of Merion Hall, and HANNAH T. SHIPLEY continues in charge of Radnor Hall.

There have been eighty-one students enrolled in the College, an increase of eighteen over the previous year. Of these ten were graduate students, four of whom were holders of fellowships, and five were candidates for the degree of Doctor of Philosophy. There were sixty-seven students who were studying for the degree of A. B., three special students, and one "hearer." There were sixty-nine students resident in the College Halls, and twelve non-resident. The students are not subdivided into the usual classes, but of the undergraduates, twenty-eight entered in 1885; seventeen were admitted in 1886, and twenty-seven in 1887.

The average age upon admission of seventy-eight out of a total of eighty-one undergraduates, has been eighteen years and two and one-third months. This average is probably a little higher than it would otherwise have been, inasmuch as a few of the students that entered the first year had waited for the opening of the College.

The table at the end of this report will show the classes in the several departments, and the number of students composing each class. Apart from those classes in Greek, French and German which students have been obliged to attend to make up the knowledge of five languages requisite for graduation, there have been 28 members of classes in Greek; 36 of the various Latin classes; 42 of English; 18 of German; 8 of classes in advanced French, Italian and Spanish; 12 of Mathematical classes; 13 of classes in Political Science, and 45 of classes in Philosophy. 16 have attended lectures upon the Bible and Biblical Study; 16 have attended the courses upon Chemistry; 11 those upon Physics, and 25 those on Biology in its different subdivisions.

With scarcely an exception, the students have shown a spirit of zealous devotion to study, and they have as generally borne the harder test of painstaking labor to acquire those details of a subject which are necessary to exact knowledge, and which are sometimes uninteresting even when the subject is a favorite one.

The general standard of health among the students has been good. In the autumn William Blaikie, A.B., of New York, gave an inspiring and practical address upon athletics in the gymnasium. Class drills with suitable apparatus have been used more largely than heretofore, and a greater proportion of the students have attended the gymnasium with regularity. Hereafter, students will be required to report at regular intervals to the Directress of the gymnasium, so that there may be a more precise knowledge of their physical state; and the attention given by each to physical culture will be entered upon the record of her collegiate studies.

Ninety per cent. of the students have used the gymnasium,

some having been excused for special reasons. Of the former, fifty-five per cent. gained in weight, and over eighty-two per cent. increased in muscular strength. All of the undergraduates that entered in 1887, who attended the gymnasium, gained strength in some important respects.

The attendance of the students upon the household worship of the College has been encouraging, when it is borne in mind that it is voluntary. A large proportion of the students have usually been present on these occasions, which have been marked by religious fellowship and a devout spirit; and they thus do their part towards maintaining and extending the religious life of the College. The duty of the College towards its students in the matter of religion is a grave yet simple one. It is twofold; to maintain times for worship and spiritual ministrations, and to give systematic teaching upon the Bible as a book filled with truths of the highest moment, and to set forth Christianity as it is taught in it. It should be its constant care to make both these as perfect as may be possible.

A considerable number of candidates who do not intend to enter College continue to attend the examinations for matriculation simply to prove whether they have at command the knowledge they have gained at school; and the examinations are thus regarded as a climax to their school career. This practice gives pupils a stimulus to keep up a high grade of excellence in their work while at school, and sets before them a goal to be reached, both of which are aids to steady, systematic study. It is also a source of encouragement to teachers to have this test as one among many evidences of the success of their training.

INSTRUCTION.—The Program has given a full outline of the courses to be offered, and its scheme has been faithfully carried out, but there are details in the reports made by the instructors that have value and interest.

Greek.—The first year's class read with Dr. Hopkins Plato's "Apology" and Euripides' "Alcestis" twice weekly, in the first and second semesters respectively. At the close of each semester they were examined upon the private reading, in Xenophon's

"*Memorabilia*" for the first, and in Sophocles' "*Antigone*" for the second semester.

With Dr. Shorey they read selections from Homer's "*Odyssey*" equivalent to five books, twice weekly during the first semester. In the second semester they read with him portions from the "*Iliad*" equivalent to six books, selected so as to give the outline of the story and to include the finest passages. During the whole year, for one hour weekly, Dr. Hopkins conducted the class through advanced Greek prose composition with exercises and lectures.

The second year's Greek students read with Dr. Hopkins Æschylus' "*Agamemnon*," in the first semester, two hours weekly, and in the second semester Thucydides, selections from Books I, III, v. and VII. They read Sophocles' "*Electra*" as private reading, and were examined on it near the close of the semester. They also heard lectures from Dr. Hopkins twice weekly during the first semester, on the history of Greek poetry, and once weekly in the second semester, on the history of Greek grammar. With Dr. Shorey, for two hours weekly, in the first semester, they read rapidly parts of Books VI., VII. and VIII., of Herodotus. In the second semester they had lectures from Dr. Shorey on Greek prose literature from 480 B.C. to 330 B.C., which also included much reference to Greek history.

The post-major division of third year's class in Greek, three in number, heard lectures from Dr. Hopkins on the history of Greek poetry, twice weekly during the first semester, and read with him Aristophanes' "*Birds*," one hour a week. In the second semester they heard lectures one hour weekly on Greek grammar, and read Theocritus. Dr. Shorey's post-major class read one hour weekly in Plato's "*Republic*." The students were able to prepare the translation, so that a large part of the time was given to elucidation of the thought of the author.

Graduate Classes.—In the first semester Dr. Hopkins conducted a seminary of Bergk's "*Greek Lyric Poets*," and the class read Æschylus' "*Agamemnon*," "*Chaphora*" and "*Eumenides*." He gave lectures on Greek grammar from a comparative point

of view in the first, and on Greek syntax in the second semester.

The class also read selections from classic Sanskrit and Veda in the first, and from the Çakuntala in the second semester.

With Dr. Shorey the class had for one hour weekly throughout the year exercises in Aristotle's "*Rhetoric*," and in selected Odes of Pindar, with rapid reading and historical study of Demosthenes' "*Political Orations*."

Latin.—The department has sought to use Latin as a means of education. Inasmuch as the previous training of the students is too imperfect and the time of college study is too limited for minute technical work, without unduly ignoring special linguistic and critical study, it has for the present had two aims: (1.) To give the students facility in reading Latin; (2.) To lead them directly to the contents of the best Latin books, to the enjoyment of Latin poetry, and to the appreciation of Roman civilization. The first year of the major course (of five hours a week for two years), is mainly devoted to the first object. The exercises in Latin prose composition, one hour a week, were, for the first semester at least, mainly a review of elementary grammar. Two hours a week were given to the reading with M. S. Slaughter of Latin prose, Cicero's "*De Amicitia*," and Livy, Books XXI. and XXII.

The course in Horace and Virgil, two hours a week, was intended to awaken the students' æsthetic interest in Latin poetry, and to offer an introduction to the literature of the Augustan age. The odes of Horace were repeatedly read and reviewed; there were lectures on the life and art of Virgil and on allied topics; and the choicest passages of the "*Eclogues*" and "*Georgics*" were carefully studied in class. In connection with this work the students prepared as private reading and passed examinations on the 7th, 8th, 9th and 10th books of the "*Æneid*." Considerable prominence was thus given to the study of Virgil, who is too often laid aside just as the student is beginning to appreciate him.

The reading of the second year of the major course was

accompanied by a general survey of Latin literature, for one hour a week. A text-book was put into the hands of the students, and the lectures were devoted mainly to authors not read in class, or to bringing out the significance of Latin literature as the mediator between Greek thought and modern civilization.

During the first semester the reading of the students and the lectures converged upon the history of the Empire. Selections from Tacitus were read under M. S. Slaughter, four hours weekly; all of Book I. was read, and selections from Books II., III. and IV. Special attention was given to linguistic study. The reign of Tiberius was made the centre of the study of the period, and reports were read by members of the class on assigned topics. Parts of Juvenal (one hour weekly) were read in the class-room under Dr. Shorey; and the private reading, selections from Pliny's "*Letters*," was carefully done.

The second semester was given to the writers of the Republic; Plautus and Terence were read two hours weekly; and selections from Catullus and Lucretius one hour weekly. The "*Andria*" and "*Adelphi*" were carefully studied for the sake of the forms and syntax, and the *Heautontimoroumenos* was read in class. The short selections from Lucretius were supplemented by private reading in the same author, so as to give a fair conception of the poet. This second year also included exercises in Latin prose composition, with M. S. Slaughter, one hour a week for one semester, and lectures on Latin Grammar by Dr. Hopkins, one hour weekly.

Post-major work in Latin was attempted for the first time this year. For the present it will consist of (1) a course of rapid reading to acquire greater facility; and (2) a topical course in which some aspect of Roman civilization will be considered by the students. In the first course the students read this year under M. S. Slaughter, twice weekly, seventy-five of Cicero's "*Letters*," chosen to reveal the personal character of the author, and to give familiarity with his times. Reports on assigned topics were read by the class. In the second semester copious selections from the plays of Plautus were read,

close attention being given to the study of the language; and the "*Adelphi*" of Terence was read rapidly in class.

The subject of the second course, under Dr. Shorey, was the transmission of Greek ethical and religious conceptions through Lucretius, Cicero and Seneca to the Latin fathers. Only a beginning could be made, but the students, who did a large proportion of the work, read and reported intelligently on several books of Cicero, the instructor pointing out the relation to the Greek sources; and some idea of the after influence of the books read was obtained from the study of the "*Octavius*" of Minucius Felix. For this course and the Latin literature a shelf of special reference books, changed from time to time, was reserved in the Library by the instructors.

English.—A class of thirty-three, including two graduate students and one hearer, met the Professor of English four times weekly for the first year's course in Required English. The instruction consisted of lectures in language generally; linguistic laws in their relation to English; Anglo-Saxon Literature, with an introduction into Teutonic Mythology and heroic saga; and English Literature, including Chaucer, to the time of the Early Elizabethans. The private reading included among other works the greater part of Prof. Max Müller's and Prof. Whitney's books on the Science of Language; selected parts of Bain's and Richard Grant White's works on English; Lounsbury's "*English Language*;" Skeat's "*Principles of English Etymology*;" "*Beowulf*" and other Anglo-Saxon Poems, and the Eddas, in translation; Ten Brink's "*Early English Literature*;" parts of Earle's "*Anglo-Saxon Literature*;" and the greater part of Chaucer. Weekly recitations were held in the substance of the lectures and of the private reading. Dr. Frances Mitchell met the class weekly throughout the year, and read with them Skeat and Morris, "*Specimens of Early English*," Part II., the Prologue to the Canterbury Tales, and several of the Tales.

A class of four undergraduates who had already finished the courses of required English, and five graduates, pursued the first year of the major course in English as laid down in the

Program. After studying Siever's Anglo-Saxon Grammar, the class read the prose contained in Sweet's "*Anglo-Saxon Reader*," one thousand lines of "*Beowulf*," most of Wülcker's "*Kleinere Angelsächsische Dichtungen*," and the first seven Passus of Text B of "*Piers the Plowman*." Written translations of the parts of Avitus and of the Anglo-Saxon Genesis corresponding to Paradise Lost were made, and the alliterative romances of the West of England were assigned for special study, each student taking one or more.

Graduate Classes.—The chief graduate work of the year was in Anglo-Saxon, and graduate Anglo-Saxon classes met three or four times weekly throughout the year. The authentic poems of Cynewulf and parts of Ælfric and Alfred were read with Dr. Frances Mitchell. Throughout the year the Professor of English directed the special investigations of graduate students. A Dissertation on the Mythic Episodes in Beowulf, written by the Fellow in English while at Bryn Mawr, was accepted by the University of Michigan for a Master's Degree, that degree at Bryn Mawr being awarded to graduates of the College only. A copy of the thesis was deposited in the College Library. A Dissertation on "*Beowulf*," written by a candidate for the Degree of Ph.D., and accepted by the Faculty of Bryn Mawr College, will be published within the next three months.

Romance Languages.—The work done in the Romance Department during the year 1887–1888, under the instruction of Dr. J. J. Stürzinger, was as follows: 1. *Undergraduate courses.* Lectures in French on the History of French Literature from the Renaissance down to the French Revolution were given four times a week, and were prefaced by an outline of the History of French Literature during the Middle Ages. The students took notes in French, and had an hour assigned every week, or every two weeks, according to the importance of the subject under consideration, for written recapitulations of the lectures. These recapitulations served as lessons in French Prose Composition. They were carefully cor-

rected, and when required an additional hour was given to observations upon these corrections. An hour weekly was devoted to reading in the class-room, when special attention was paid to pronunciation; for the same hour the students generally memorized a short selected poem. Assigned Private Reading was done by the students in the following authors of the 17th and 18th centuries:—*Corneille, Pascal, Boileau, Lafontaine, Molière, Racine* and *La Bruyère*; *Fénélon, Le Sage, Regnard, Montesquieu, Voltaire, Diderot, Rousseau, Bernardin de St. Pierre* and *Beaumarchais*. The reading was tested by a written examination at the end of each semester.

2. *Graduate Courses*.—*a.* An Italian course was given twice a week throughout the year, consisting of lectures on grammar and on the works of Dante. These lectures were followed by the reading and interpretation of the greater part of the “*Inferno*” and “*Purgatorio*” of the “*Divina Commedia*.”

b. The *Spanish course* of three and four hours a week extended only to the New Year. It comprised the reading of two pieces of Calderon, “*El médico de su honra*” and “*El mágico prodigioso*,” the texts of which were criticised, and the pieces themselves compared with Shakespeare’s “*Othello*” and with the “*Faust*” legend.

c. From the New Year to the spring recess, a course in old French of three to four hours a week was given. At the beginning a few lectures on Old French grammar and dialects were delivered, and these were followed by class and private reading of texts of the eleventh, twelfth and thirteenth centuries, mostly taken from Bartsch’s *Chrestomathy*, if the whole text could not be used, and chosen especially from the epic poetry. The works of Gaston Paris, Léon Gautier and Aubertin were assigned, and used as sources of information upon the history of Old French literature.

The class in *Elementary French* devoted five hours weekly throughout the year to the study of the language under the instruction of Rose Chamberlin. During the whole period they studied grammar and idioms, using Whitney’s French

grammar, and writing translations. During the first semester they read Scribe's "*Le Verre d'Eau*," Racine's "*Athalie*," and selections from modern authors. In the second semester they studied Molière's "*Tartuffe*," and read largely from other plays of Molière at sight. They read also "*Le Petite Fadette*," by George Sand; "*Lettres de mon Moulin*," by Daudet; and selections from other leading authors. They had in addition two and a half hours weekly of lessons in conversation, chiefly with Mlle. L. Boname.

German.—The undergraduate work was confined to the first year's (minor) course, which was pursued by fourteen students in the first, and thirteen, including one graduate student, in the second semester. The class met Dr. Collitz four times weekly, the students at the same time being required to take part in Rose Chamberlin's conversational classes. Dr. Collitz gave lectures on German literature, delivered in German, and accompanied by the reading and explanation of pieces selected from Max Müller's "*German Classics*," from the fourth to the nineteenth centuries. The subject was divided in such a manner that the first semester was given to the history of Old and Middle High German literature, while in the second semester Modern German literature from the time of the Reformation down to Goethe's death was studied. An exception to this division seemed desirable in the case of the most prominent work in German literature; that is to say, the first part of Goethe's "*Faust*" was studied completely during the first semester, besides the older German literature. Throughout the year the class work was supplemented by private reading. During the first semester this consisted of selections from Middle High German authors, in modern German translation; and during the second semester, Lessing's "*Minna von Barnhelm*," Goethe's "*Hermann und Dorothea*" and "*Iphigenie*," and Schiller's "*Jungfrau von Orleans*" and "*Wilhelm Tell*."

Graduate Classes.—The graduate work, conducted by Dr. Collitz, included Gothic, Middle High German authors, and Teutonic grammar. In the first semester the elements

of Gothic grammar were studied, and the Gothic texts given in Braune's Grammar translated, five times a week. In the second semester the work was divided between lectures on The Comparative Morphology of the Teutonic languages, once weekly, and the study of Hartmann's poem, "*Der arme Heinrich*," and the "*Nibelungenlied*," in the original Middle High German, twice weekly.

The class in *Elementary German* was conducted by Rose Chamberlin, and throughout the year pursued the study of grammar and the writing of translations, using in this connection the grammars of Otis and Whitney, and Buchheim's German Reader. They prepared and read in class Schiller's "*Marie Stuart*;" Goethe's "*Hermann und Dorothea*," and his "*Iphigenie*;" and Freytag's "*Die Journalisten*." They also read at sight selections from Max Müller's German classics and some modern stories. The more advanced members of the class read in addition Goethe's "*Egmont*." The students attended conversation classes in German, conducted by Rose Chamberlin, two hours weekly.

History and Political Science.—The course in Political Science was divided into two parts, namely:

I. A three-hour course in Political Economy was given, which consisted of text-book drill in the elements of political economy, and in the history and analysis of modern French and German Socialism. The text-books used were Professor F. A. Walker's "*Political Economy*," and Professor R. T. Ely's "*French and German Socialism in Modern Times*." Full comment was made on these texts by the instructor; articles in current economic journals bearing upon topics developed in the class room were read and discussed; and passages in standard works, like Bagehot's "*Economic Essays*," Jevons's "*Money and the Mechanism of Exchange*," Mill's "*Political Economy*," and Professor Cairnes's latest work, were brought to the attention of the class, either by the instructor or through class reports.

II. A two-hour course on the Government of the United States was given. This course consisted of lectures only. It

was prefaced by a sketch, in about ten lectures, of the origin and development of government, such topics being discussed as the following: The Origin of Government; the Organization and Fundamental Ideas of the ancient State, both Grecian and Roman; the Rise and Character of the Mediæval State; the accumulation of all feudal powers in the hands of a king, who, like the kings of France, in a feudal sense owned his realm, and who, by virtue of possession, was absolute ruler in his own private right; the transformation of the polity of a possessing king into that of a controlling people; the dependent (colonial) State; the modern federal State, with its contrasts to both the ancient and the modern Confederation; etc. In the lectures on the Government of the United States the instructor traced the colonial preparations for our present forms of government, both state and national; showed how the Constitution of the Union was made (and made wisely) by a selection of provisions from tested colonial charters and constitutions, except in the one particular of the Electoral College, which was imported from an alien system, and which was immediately to break down; gave as clear an exposition as possible of the general features of the federal system; and added to this a systematic scheme of the state governments, laying special emphasis on *local* government, in its New England, Southern, and mixed (Western) types. The single endeavor which ran through the whole course as its connecting thread was to make the essential unity of our system of government appear,—to show that it is one system, not several,—that the governments of the States and the government of the Union are but several parts of one frame of Government, together constituting a single organism.

Graduate Course.—A graduate course of lectures was given four hours a week throughout the year, on the history of government, the comparative public law of modern states, viewed historically, and on modern constitutions.

Mathematics.—In the first semester a class of six in the required course followed the lectures and worked problems in Trigonometry and Solid Geometry, five hours a week; in the

second semester the course on Trigonometry was repeated for students unable to attend that given during the first half year.

The work of the second year of the major course was as follows: in the first semester there were lectures two hours weekly on Analytical Geometry of Three Dimensions taken by two students; and a course on Differential and Integral Calculus of three hours a week, followed by three students. In the second semester two students took a course on Newton, one hour a week, as a free elective; one on advanced Solid Geometry, two hours weekly; one on Differential Equations, two hours weekly; and one on the History of Mathematics, one hour weekly. The course on the History of Mathematics was given for the first time, and proved to be interesting and of practical value to the class. This subject has had a limited attention given to it hitherto in colleges, but is gaining ground in the universities of the continent of Europe.

Philosophy.—During the first part of the first semester the class under Professor Fullerton studied deductive and inductive logic, using Jevons's "*Outlines*" as an accompaniment to, and a basis for, the lectures, with frequent exercises in logical analysis.

Subsequently the class studied Psychology, and read assigned portions of Lotze's "*Outlines*," preparatory to the lectures. The psychology was approached largely from the physiological side, leaving, however, certain subjects to be discussed by the lecturer upon Physiological Psychology.

During the remainder of the year the class studied selected portions of the history of philosophy, devoting attention chiefly to the development of idealistic thought in Plato, Descartes, Locke, Berkeley and Hume, with some reference to Kant and to later schools. This was followed by a short course on the philosophy of theism, to which the previous discussions had naturally led.

In lecturing on the history of philosophy certain propositions were dictated, forming an outline of each system, which the class was expected to master, and which were freely discussed at the beginning of the later lectures. In all the teach-

ing it was the endeavor of the instructor to use, as far as possible, the Socratic method, and to provoke free discussion, without which the student remains in an unwholesome condition of passivity, and is little benefited.

A class of thirteen followed a course of twenty lectures by Dr. Cattell on Physiological Psychology, in which he discussed the sense organs in connection with the sensations and perceptions received through them; also the localization of the brain functions. He dwelt upon time, space, the association of ideas, consciousness and memory. Mental time and other phenomena were illustrated by experiments performed before the class.

Dr. Rhoads gave lectures once weekly throughout the year upon Ethics. The elements of our moral nature were considered; the universality of moral standards; the ground of obligation; the basis of certainty in the knowledge of moral truth and duty; the sources of moral law; the various classes of duties; and the moral aspect of current questions such as the authority of civil law; the rights of property; the relations of employer and employed; the administration of charities; the restriction of the liquor traffic; vivisection; and Sabbath laws. A brief survey was then taken of ethical systems and their bearing upon the promotion of the highest moral character. Private reading of authors referred to was assigned, and oral and written examinations were used.

J. Rendel Harris lectured once a week throughout the year on the life and times of St. Paul, the lectures being accompanied by private study on the part of the class, and the results tested by examinations.

ART.—A. L. Frothingham, Jr., Professor of Archæology in Princeton College, gave a course of lectures fortnightly after the winter recess, upon Greek and Roman Architecture, which were freely illustrated by the stereopticon and by drawings. The relations between the earlier architecture of Egypt, Babylonia and Assyria and that of Greece were first traced. This was followed by a study of Greek architecture, defensive, civic and religious, in prehistoric, Homeric and subsequent periods; of the development of the Doric and Ionic orders and

of the chief examples of their use; of polychromy in Greek architecture and sculpture, and of sculpture as an accessory to architecture. The study of Roman architecture was prefaced by a notice of the preceding Pelasgic or Umbrian, and Etruscan forms, and comprised the study of typical monuments of the kingly, republican and imperial times, and Roman architecture in the East.

Biology.—Twenty-three undergraduates and two graduates have followed the courses in Biology, who were distributed as follows: in the first year or minor course, ten students; in the second year or major course, thirteen students; in the graduate courses, two students.

The minor course comprised general Biology, from three to five hours a week throughout the year, with supplementary courses in Elementary Physiology by Dr. Lee, and in Elementary Botany by Dr. Gregory, making a total of five hours a week, with six hours of laboratory work.

The general scope and character of the instruction has not differed materially from that of former years, but an important modification has been made in its distribution, the greater part of the instruction relating to the elementary general biology of plants having been given by the Associate in Botany. The students have examined the structure of typical animals and plants, first of familiar species, then of unicellular organisms, working thence progressively upwards to the higher animals and plants, and ending in a careful study of the embryology of the chick.

The work in Botany under Dr. Gregory was conducted with the design to give a knowledge of a few types of the principal divisions of the vegetable kingdom, in order that students might have (*a*) a slight acquaintance with the most common forms of plants, and (*b*) trace the advance in complexity of organism until the highest forms of plant-life were reached. The latter was considered desirable as a foundation for understanding the principles of classification. The types selected were one or more of the most common forms of fungi, algæ, lichens, vascular cryptogams, gymnosperms and angiosperms.

The series closed with lectures on the rudiments of plant anatomy and physiology, and an historical sketch of the methods of classification of plants. In the second semester classification and its practical application to the study of flowering plants were treated.

The importance of a knowledge of elementary Physics and Chemistry for beginners in Biology has been apparent. With such a knowledge students easily master subjects that can otherwise be but slowly and imperfectly comprehended. To acquire this knowledge a collegiate course in Chemistry or Physics is not necessary, though highly desirable. Such courses as are given in high schools are amply sufficient, and it is suggested that, whenever practicable, students looking forward to a course in Biology should prepare themselves by acquiring such a knowledge of these two sciences.

The second year's course was intended to be a means of scientific training for general students, and a stimulus to, and preparation for, more advanced work.

The following courses were given: (1) In the first semester three lectures a week on Zoölogy, by Dr. E. B. Wilson; and (2) two lectures a week on the Comparative Anatomy of the Vertebrata, by Dr. Lee. In the second semester there were, (3) two lectures a week by Dr. E. B. Wilson on Theoretical Biology; and (4) three lectures weekly on Advanced Physiology and Histology, by Dr. Lee, with six hours of laboratory work weekly.

The work of this course, some of which is of considerable difficulty, and demands persistent and careful attention, has been followed with interest and vigor by the students.

Graduate Work.—Instruction has been given to two graduate students, one of whom entered with imperfect health and was unable to pursue her studies beyond the winter recess. The remaining student made a thorough review of the entire undergraduate courses. Her main work has been, however, special studies in Comparative Zoölogy and Vertebrate Embryology. This has been pursued by practical laboratory study, with frequent informal lectures. She has also carried out systema-

tic courses of reading on special topics, making occasional reports to her instructors.

The organization of the courses and the practical appliances of the laboratory have been greatly improved and developed during the year. The coming of Dr. Lee has made it possible for the first time to give both minor and major courses in the same year. In the work of the major course the new physiological apparatus and the zoological collection received from Naples have been of the greatest service; without them, indeed, the courses could not have been given.

Original Work.—In the course of the past year the following researches, among others, have been carried forward, or completed.

On the embryology of *Lumbricus*, with reference to the relations between the vertebrate and invertebrate types of structure. (Preliminary paper published in the "*American Journal of Morphology.*")

On the mechanism of the tissue-cells in *Hydra*. (Published in the *American Microscopical Journal*.)

On the theory of color-vision.

On the reproduction of lost parts in *Vermes* and *Arthropoda*.

On the action of light and heat on *Hydra* and other low forms of life.

Chemistry.—The work in Chemistry during the past year has been in the field of inorganic chemistry. The lectures of the first semester were devoted mainly to a study of non-metallic elements and their compounds. The chemical and physical properties of these substances, as well as their more important chemical transformations, were systematically studied, and the lectures were illustrated by a large number of lecture-table experiments.

In the early part of the second semester a course of twenty lectures upon the principles of chemistry was given. This was followed by lectures upon the metallic elements and compounds. In the study of metals the scheme of classification introduced by Professors Mendelejeff and Lothar Meyer was adopted and made the basis of the work.

The laboratory work began with a series of exercises in chemical manipulation. The elements and compounds were then taken up and studied in the order in which they had been considered in the lectures. During the second semester Professor Volhard's Exercises in General Chemistry was used as a guide in the laboratory work.

An experimental research upon the atomic weight of oxygen has also been carried on during the past year. The results that have been obtained thus far have been published in two papers.

Physics.—As no regular course in Physics had been given previous to this year, the first year's course only was offered. The class consisted of eleven students throughout the year, and the course announced in the Program was followed. Lectures and recitations upon them have been closely combined, part of the hour being usually given to each.

In the first semester, mechanics and electricity were studied, and the lectures were based upon the text-books, reading in which was assigned. In the second semester heat, light and sound were treated. In the teaching of each subject the plan followed was to consider, in the first place, the experiments which showed the facts that lie at the basis of the subject, and then to indicate what conclusion followed, making a sharp distinction between the logical and necessary deductions from the experiments, and the theories by which they are usually explained.

In the laboratory a very considerable number of experiments, mostly quantitative, were performed by each student, and written reports upon all of these were submitted to the instructor for examination. In addition such questions were asked as would make it certain that the student had a full understanding of the experiments and of the principles involved in them. It was found that in this way much greater definiteness was given to the ideas of the students than was possible otherwise, while they were familiarised also with the methods of practical physical measurement, and the quantitative determination of physical quantities.

THE LIBRARY now contains five thousand four hundred volumes, an increase of nine hundred volumes during the year. Though the increase in the number of volumes has not been as large this year as formerly, many valuable additions have been made in the form of complete sets of works, which have greatly enhanced the usefulness of the Library. The following gifts have been received: Zeisberger's "*Indian Dictionary*," and "*Discovery of America by Northmen*," by Eben Norton Horsford; given by Professor E. N. Horsford. "*Witnesses for Christ*," by J. K. Backhouse; given by Katharine Backhouse. "*Proceedings of Friends' Conference*." "*The Friend*," twenty-six volumes. "*Friends' Library*," nine volumes. "*Principles of Hygiene*," by Ezra M. Hunt, M. D.; given by the author. "*Home Sanitation*," by Ellen H. Richards; given by the author. "*Pennsylvania Archives*," six volumes. "*Colonial Record of Pennsylvania*," fourteen volumes. A number of pamphlets were given by Hermann Collitz, Ph.D., and other kind donors. The publications of the Smithsonian Institution, together with many of those of the United States and State Governments, have been received.

Ninety-five periodicals and journals, English, German, French and Italian, are taken for the reading rooms, most of them the channels of fresh knowledge in science and literature. The Library is open from 8 A. M. to 10 P. M. Students have access to the shelves for books to be read in the Library, and use the privilege very freely. They may take out such books as they desire, with one reservation,—instructors furnish the Librarian with lists of books to be held temporarily in the Library for consultation by their classes while certain subjects are under consideration.

The sum of three thousand dollars is annually appropriated by the Board of Trustees to the Library, and is apportioned to the various departments by its Library Committee, to be expended for books in accordance with the suggestions of the professors. The books are arranged and classified by topics, according to the decimal system of Melvil Dewey, Chief Librarian of Columbia College. A card catalogue, alphabetical and of

subjects, is kept up to date, and is always open to the students for consultation. The works relating to Chemistry, Physics, Biology and Botany are placed in cases adjacent to the laboratories of the respective sciences, where they can be used more readily by students and professors.

A special appropriation for the purchase of Sanskrit books has been made annually, and there have been procured complete copies of the Mahābhārata, the Ramayana, and other works.

Subscriptions made by the Library fund to The Philadelphia Library, with its one hundred and forty-five thousand volumes, and to the Mercantile Library, which contains one hundred and fifty thousand volumes, have given the students access to these Libraries; and by the generosity of the Council of the Academy of Natural Sciences, of Philadelphia, the use of its specially valuable collection of thirty thousand volumes has been granted to them.

Publications.—Members of the Academic staff have published papers of criticism, or those embodying the results of research, during the year, as follow :

E. W. Hopkins, Ph.D., has read three papers before the American Oriental Society, which have appeared in its "*Proceedings*" for October, 1888; two of which are, "Proverb Literature in India," and "An Explanatory Note" on the same. The third is the preface to a volume on "Civilization in India's Middle Ages," which is about to appear.

A review of W. J. Stillman's "On the Track of Ulysses," "*The Dial*" for May, 1888; by Paul Shorey, Ph.D.

"Recent Platonism in England," *The American Journal of Philology* for September, 1888; by Paul Shorey, Ph.D.

"Ἰφιθυμος und ved. kṣi," *American Journal of Philology*, Vol. VIII., No. 2, 1887; by Hermann Collitz, Ph.D.

"Die Herkunft des schwachen Präteritums der Germanischen Sprachen," read before the fifth annual convention of the

Modern Language Association of America, at Philadelphia, and published in *The American Journal of Philology*, Vol. IX., No. 1, 1888; by Hermann Collitz, Ph.D.

Together with Prof. Bechtel of the University of Göttingen, Dr. Collitz has continued the edition of the "Sammlung der Griechischen Dialekt-Inschriften," begun by him in 1884, of which Vol. III., No. 1, and Vol. IV., No. 2 (first division), were published, Göttingen, 1888.

"On the Embryology of the Lumbricus," *The American Journal of Morphology*; by Professor E. B. Wilson, Ph.D.

"On the Mechanism of the Tissue Cells in Hydra," *The American Microscopical Journal*; by Professor E. B. Wilson.

"Über die Verbrennung abgewogenen Mengen von Wasserstoff und über das Atomgewicht des Sauerstoffs," *Berichte der Deutschen Chemischen Gesellschaft*, Vol. XX., p. 2323; by E. H. Keiser, Ph.D.

"On the Combustion of Weighed Quantities of Hydrogen, and the Atomic Weight of Oxygen," *American Chemical Journal*, Vol. X., p. 269; by E. H. Keiser, Ph.D.

"On a Passage in the 'Oaths of Strasburg,'" *Modern Language Notes*, 1887, and continued in *Romania* for the same year; by J. J. Stürzinger, Ph.D.

A review of the Romance Articles of the First Volume of the Transactions of the Modern Language Association, as well as those of *The Modern Language Notes*, published in the *Romania* of 1887; by J. J. Stürzinger, Ph.D.

A review of Böhmer's *Romanische Studien*, containing Rhetian dialect studies; by J. J. Stürzinger, Ph.D.

A review of Darmesteter's pamphlet on The Demonstrative and Relative Pronouns; by J. J. Stürzinger, Ph.D. *Modern Language Notes*, 1887-88.

A review of Odin's "Studies of the French Dialects in Switzerland," *Modern Language Notes*, 1888; by J. J. Stürzinger, Ph.D.

The judicious and successful management of the funds of the Corporation by its Treasurer has contributed to the prosperity of the College, and has made it practicable to carry forward its plans in a more liberal manner than would otherwise have been possible.

Respectfully submitted to the Trustees at their meeting, held 10th mo. 12, 1888.

JAMES E. RHOADS.

TABLE OF SUBJECTS STUDIED AND TERMS OF STUDY.

| SUBJECT. | PARTICULAR SUBJECT. | INSTRUCTOR. | No. IN CLASS. | HOURS WEEKLY | TERM OF STUDY. |
|---|--|------------------|---------------|---------------------------------|---------------------------------|
| GREEK | History of Greek Poetry, | Dr. Hopkins. | 3 | 2 | 10 mo. 3, '87, to 2 mo. 10, '88 |
| | Greek Prose Composition, | " | 13 | 1 | 10 mo. 3, '87, to 6 mo. 8, '88 |
| | Æschylus' Agamemnon, | " | 7 | 1 | 10 mo. 3, '87, to 2 mo. 10, '88 |
| | Aristophanes' Birds, | " | 3 | 1 | 10 mo. 3, '87, to 2 mo. 10, '88 |
| | Plato's Apology, | " | 14 | 2 | 10 mo. 3, '87, to 2 mo. 10, '88 |
| | Lectures on History of Greek Grammar, | " | 6 | 1 | 10 mo. 3, '87, to 6 mo. 8, '88 |
| | Euripides' Alcestis, | " | 14 | 2 | 2 mo. 14, '88, to 6 mo. 8, '88 |
| | Thucydides, selections from Books I., III., V., VI., VII., | " | 8 | 2 | 2 mo. 14, '88, to 6 mo. 8, '88 |
| | Theocritus, | " | 2 | 1 | 2 mo. 14, '88, to 6 mo. 8, '88 |
| | Herodotus, | " | 7 | 2 | 10 mo. 3, '87, to 2 mo. 10, '88 |
| | Plato's Republic, | Dr. Shorey. | 3 | 1 | 10 mo. 3, '87, to 2 mo. 10, '88 |
| | Plato's Republic, | " | 8 | 1 | 2 mo. 14, '88, to 6 mo. 8, '88 |
| | Homer's Odyssey, | " | 13 | 2 | 10 mo. 3, '87, to 2 mo. 10, '88 |
| | Homer's Iliad, | " | 14 | 2 | 2 mo. 14, '88, to 6 mo. 8, '88 |
| | Greek Prose Literature, | " | 8 | 2 | 2 mo. 14, '88, to 5 mo. 8, '88 |
| | <i>Elementary Greek</i> , Grammar, Xenophon's Anabasis, Books I.—III., | M. S. Slaughter. | 3 | 5 | 10 mo. 3, '87, to 2 mo. 10, '88 |
| | Homer's Iliad, Books I.—III., Prose Composition, | " | 5 | 5 | 2 mo. 10, '88, to 6 mo. 8, '88 |
| <i>Graduate Class</i> , Analysis of Bergk's Greek Lyric Poets, | | 2 | 1 | 10 mo. 3, '87, to 2 mo. 10, '88 | |
| Read Æschylus' Agamemnon, Chæphora, Eumenides, | Dr. Hopkins. | 2 | 1 | 2 mo. 14, '88, to 6 mo. 8, '88 | |
| Lectures on Greek Grammar, | " | 1 | 1 | 10 mo. 3, '87, to 2 mo. 10, '88 | |
| Lectures on Greek Syntax, | " | 1 | 1 | 2 mo. 10, '88, to 6 mo. 8, '88 | |
| Aristotle's Rhetoric, selected Odes of Pindar, Demosthenes' Political Orations, | Dr. Shorey. | 2 | 1 | 10 mo. 3, '87, to 6 mo. 8, '88 | |
| Sanskrit Texts, Veda and Çakuntala, | Dr. Hopkins. | 1 | 2 | 10 mo. 3, '87, to 6 mo. 8, '88 | |
| Horace's Odes, and Virgil, | Dr. Shorey. | 13 | 2 | 10 mo. 3, '87, to 6 mo. 8, '88 | |
| SANSKRIT | | | | | |
| LATIN | | | | | |

TABLE OF SUBJECTS STUDIED AND TERMS OF STUDY [CONTINUED.]

| SUBJECT. | PARTICULAR SUBJECT. | INSTRUCTOR. | No. IN CLASS. | HOURS WEEKLY | TERM OF STUDY. | |
|---|--|---|-------------------|--------------|---------------------------------|----------------------------------|
| LATIN | Cicero, De Amicitia, Livy, Bks. XXII.-XXIX., | M. S. Slaughter. | . 11 . | . 2 . | 10 mo. 3, '87, to 2 mo. 10, '88 | |
| | Latin Prose Composition, | " | . 13 . | . 1 . | 10 mo. 3, '87, to 2 mo. 10, '88 | |
| | Lectures on Latin Literature, | Dr. Shorey. | . 14 . | . 1 . | 10 mo. 3, '87, to 2 mo. 14, '88 | |
| | Cicero, Letters, 75 in number, | M. S. Slaughter. | . 3 . | . 2 . | 10 mo. 3, '87, to 2 mo. 10, '88 | |
| | Tacitus, Annals, Selections, | " | . 7 . | . 2 . | 10 mo. 3, '87, to 2 mo. 10, '88 | |
| | Juvenal, | Dr. Shorey. | . 12 . | . 1 . | 10 mo. 3, '87, to 2 mo. 10, '88 | |
| | Advanced Latin Prose Composition, | M. S. Slaughter. | . 13 . | . 1 . | 10 mo. 3, '87, to 2 mo. 10, '88 | |
| | Lectures on Latin Literature, post-major class, | Dr. Shorey. | . 3 . | . 2 . | 10 mo. 3, '87, to 6 mo. 8, '88 | |
| | Livy, Bks. XXI, XXII. to ch. 46, | M. S. Slaughter. | . 11 . | . 2 . | 2 mo. 14, '88, to 6 mo. 8, '88 | |
| | Latin Prose Composition, minor, | " | . 12 . | . 1 . | 2 mo. 14, '88, to 6 mo. 8, '88 | |
| | Terence, Andria and Adelphi, Heautontimorumenos, | " | . 6 . | . 2 . | 2 mo. 14, '88, to 6 mo. 8, '88 | |
| | Plautus, Captivi, | " | . 4 . | . 2 . | 2 mo. 14, '88, to 5 mo. 23, '88 | |
| | Lectures on Latin Grammar, | Dr. Hopkins. | . 13 . | . 1 . | 2 mo. 14, '88, to 6 mo. 8, '88 | |
| | Lucretius and Catullus, | Dr. Shorey. | . 10 . | . 1 . | 2 mo. 14, '88, to 6 mo. 8, '88 | |
| | Lectures on Advanced Latin Literature, | " | . 14 . | . 1 . | 2 mo. 14, '88, to 6 mo. 8, '88 | |
| | Cicero and Minucius Felix, | " | . 4 . | . 2 . | 2 mo. 14, '88, to 6 mo. 8, '88 | |
| | Lectures on Latin Literature, | " | . 14 . | . 1 . | 2 mo. 14, '88, to 6 mo. 8, '88 | |
| | Catullus, Lucretius, | " | . 10 . | . 1 . | 2 mo. 14, '88, to 6 mo. 8, '88 | |
| | ENGLISH | English Grammar and Language | Dr. M. C. Thomas. | . 33 . | . 5 . | 10 mo. 3, '87, to 11 mo. 30, '87 |
| | | Mythology and Anglo-Saxon Literature, | " | . 33 . | . 4 . | 11 mo. 30, '87, to 2 mo. 3, '88 |
| Reading of Early English Selections | | Dr. F. H. Mitchell. | . 33 . | . 1 . | 10 mo. 3, '87, to 6 mo. 8, '88 | |
| Reading of Anglo-Saxon Texts | | Dr. M. C. Thomas. | . 4 . | . 3 . | 10 mo. 3, '87, to 6 mo. 8, '88 | |
| Reading of Anglo-Saxon and Early English | | Dr. F. H. Mitchell. | . 4 . | . 2 . | 10 mo. 3, '87, to 6 mo. 8, '88 | |
| Lectures on Literature from Conquest to Chaucer in- clusive, | | Dr. M. C. Thomas. | . 34 . | . 4 . | 2 mo. 13, '88, to 6 mo. 1, '88 | |

TABLE OF SUBJECTS STUDIED AND TERMS OF STUDY [CONTINUED.]

| SUBJECT. | PARTICULAR SUBJECT. | INSTRUCTOR. | No. IN CLASS. | Hours WEEKLY | TERM OF STUDY. |
|----------|--|---------------------|---------------|--------------|----------------------------------|
| ENGLISH | <i>Graduate Classes.</i> | | | | |
| | Investigation of Special Subjects in Anglo-Saxon, . . . | Dr. M. C. Thomas. | 1 | 2 | 10 mo. 3, '87, to 6 mo. 1, '88 |
| | Modern Literature (Browning), | " | 1 | 2 | 10 mo. 3, '87, to 6 mo. 1, '88 |
| | Anglo-Saxon, | Dr. F. H. Mitchell. | 3 | 2 | 10 mo. 3, '87, to 6 mo. 1, '88 |
| | <i>Elementary German</i> , Grammar and Reading, | Rose Chamberlin. | 19 | 5 | 10 mo. 3, '87, to 2 mo. 10, '88 |
| | Grammar and Reading, | " | 20 | 5 | 2 mo. 14, '88, to 6 mo. 8, '88 |
| | German Conversation, | " | 19 | 2 | 10 mo. 3, '87, to 6 mo. 1, '88 |
| | German Literature, | Dr. Collitz. | 14 | 4 | 10 mo. 3, '87, to 6 mo. 1, '88 |
| | German Literature, | " | 13 | 4 | 2 mo. 14, '88, to 6 mo. 8, '88 |
| | <i>Graduate Classes.</i> | | | | |
| FRENCH | Gothic Grammar, | " | 3 | 5 | 10 mo. 3, '87, to 2 mo. 10, '88 |
| | Comparative Teutonic Grammar, | " | 3 | 1 | 2 mo. 14, '88, to 6 mo. 1, '88 |
| | Middle High German, | " | 2 | 2 | 2 mo. 14, '88, to 6 mo. 1, '88 |
| | <i>Elementary French</i> , Grammar and Reading, | Rose Chamberlin. | 12 | 5 | 10 mo. 3, '87, to 2 mo. 4, '88 |
| | Reading, | " | 9 | 5 | 2 mo. 14, '88, to 6 mo. 8, '88 |
| | History of French Literature from 9th Century to 1630, | Dr. Stürzinger. | 3 | 5 | 10 mo. 3, '87, to 6 mo. 8, '88 |
| | Reading and Conversation, | Rose Chamberlin. | 12 | 1 | 10 mo. 3, '87, to 2 mo. 10, '88 |
| | Reading and Conversation, | " | 6 | 1 | 2 mo. 14, '88, to 6 mo. 8, '88 |
| | Conversation Class, | Louise Boname | 8 | 1½ | 10 mo. 3, '87, to 2 mo. 14, '88 |
| | Conversation Class, | " | 5 | 1½ | 2 mo. 14, '88, to 6 mo. 8, '88 |
| ITALIAN | <i>Graduate Classes</i> , Old French Grammar and Reading | | | | |
| | Texts, | Dr. Stürzinger. | 1 | 3 or 4 | 1 mo. 4, '88, to 6 mo. 6, '88 |
| SPANISH | Lectures on Grammar and on Dante, and reading of | " | 4 | 2 | 10 mo. 3, '87, to 12 mo. 22, '87 |
| | Divina Commedia, | " | 1 | 4 | 10 mo. 3, '87, to 12 mo. 22, '87 |
| | Critical Reading of Calderon, etc., | | | | |

TABLE OF SUBJECTS STUDIED AND TERMS OF STUDY [CONTINUED.]

| SUBJECT. | PARTICULAR SUBJECT. | INSTRUCTOR. | No. IN CLASS. | HOURS WEEKLY | TERM OF STUDY. |
|------------------------------|--|---------------------|---------------|--------------------------------|----------------------------------|
| MATHEMATICS. | Solid Geometry, | Dr. C. A. Scott. | 6 | 2 | 10 mo. 3, '87, to 2 mo. 8, '88 |
| | Trigonometry, | " | 5 | 2 | 10 mo. 3, '87, to 2 mo. 8, '88 |
| | Analytical Geometry of Three Dimensions, | " | 2 | 3 | 10 mo. 3, '87, to 2 mo. 10, '88 |
| | Differential and Integral Calculus, | " | 3 | 2 | 10 mo. 3, '87, to 2 mo. 10, '88 |
| | Differential Equations and Finite Differences, | " | 2 | 2 | 2 mo. 14, '88, to 6 mo. 8, '88 |
| | History of Mathematics, | " | 2 | 2 | 2 mo. 14, '88, to 6 mo. 8, '88 |
| | Newton, | " | 2 | 1 | 2 mo. 14, '88, to 6 mo. 8, '88 |
| | Solid Geometry, advanced, | " | 2 | 2 | 2 mo. 14, '88, to 6 mo. 8, '88 |
| | Required Trigonometry, | " | 4 | 2 | 2 mo. 14, '88, to 6 mo. 8, '88 |
| | Government, | Dr. W. Wilson. | 11 | 2 | 10 mo. 3, '87, to 2 mo. 10, '88 |
| | Political Economy, French and German Socialism, | " | 9 | 3 | 10 mo. 3, '87, to 2 mo. 10, '88 |
| | Government of the United States, | " | 11 | 2 | 2 mo. 14, '88, to 6 mo. 8, '88 |
| Political Economy, | " | 9 | 3 | 2 mo. 14, '88, to 6 mo. 8, '88 | |
| PHILOSOPHY | <i>Graduate Course</i> , History of Government, of Public Law and of Modern Constitutions, | Prof. Fullerton. | 1 | 4 | 10 mo. 3, '87, to 6 mo. 1, '88 |
| | Logic, | " | 18 | 2 | 10 mo. 3, '87, to 12 mo. 19, '87 |
| | Psychology, Lotze's "Outlines," | " | 10 | 1 | 10 mo. 7, '87, to 12 mo. 16, '87 |
| | Ethics, | Dr. Rhoads. | 12 | 1 | 10 mo. 4, '87, to 2 mo. 10, '88 |
| | Ethics, | " | 14 | 1 | 2 mo. 14, '88, to 6 mo. 8, '88 |
| | History of Philosophy, | Prof. Fullerton. | 17 | 2 | 1 mo. 17, '88, to 6 mo. 1, '88 |
| | Physiological Psychology, | Dr. Cattell. | 13 | 2 | 1 mo. 9, '88, to 3 mo. 24, '88 |
| | | Prof. J. R. Harris. | 16 | 1 | 10 mo. 5, '87, to 2 mo. 9, '88 |
| | | " | 17 | 1 | 2 mo. 14, '88, to 6 mo. 8, '88 |
| | | Dr. Keiser. | 15 | 5 | 10 mo. 3, '87, to 2 mo. 19, '88 |
| | | " | 15 | 5 | 2 mo. 14, '88, to 6 mo. 8, '88 |
| | BIBLE AND BIBLICAL STUDY | | | | |
| | | | | | |
| CHEMISTRY. | Inorganic Chemistry, Non-metals, Laboratory Work, | | | | |
| | Principles of Chemistry, Metals and their Compounds, Laboratory Exercises, | | | | |

TABLE OF SUBJECTS STUDIED AND TERMS OF STUDY [CONTINUED.]

| SUBJECT. | PARTICULAR SUBJECT. | INSTRUCTOR. | NO. IN CLASS. | HOURS WEEKLY | TERM OF STUDY. |
|---------------|---|--------------------|---------------|--------------|----------------------------------|
| PHYSICS . . . | Mechanics and Electricity, | Dr. Perkins. | . 11 . | . 5 . | 10 mo. 3, '87, to 2 mo. 10, '88 |
| | Sound, Heat and Light, | " | . 11 . | . 5 . | 2 mo. 14, '88, to 6 mo. 8, '88 |
| BIOLOGY . . . | Comparative Anatomy of Vertebrata, | Dr. F. S. Lee. | . 4 . | . 2 . | 10 mo. 6, '87, to 2 mo. 3, '88 |
| | Elements of Vegetal Biology, | Dr. E. L. Gregory. | . 9 . | 5 and 2 | 11 mo. 1, '87, to 2 mo. 3, '88 |
| | Systematic Botany, | " | . 9 . | . 2 . | 4 mo. 9, '88, to 6 mo. 8, '88 |
| | General Zoology, | Dr. E. B. Wilson. | . 4 . | . 3 . | 10 mo. 3, '87, to 2 mo. 10, '88 |
| | Theoretical Biology, | " | . 12 . | . 2 . | 2 mo. 14, '88, to 6 mo. 8, '88 |
| | Advanced Physiology and Histology, | Dr. F. S. Lee. | . 12 . | . 3 . | 2 mo. 14, '88, to 6 mo. 8, '88 |
| | <i>Graduate Class</i> , General Biology, Comparative Zoology, Vertebrate Embryology, | Dr. E. B. Wilson. | . 2 . | . 5 . | 10 mo. 3, '87, to 12 mo. 22, '87 |
| | <i>Graduate Class</i> , General Biology, Comparative Zoology, Vertebrate Embryology, | " | . 1 . | . 5 . | 1 mo. 4, '88, to 6 mo. 8, '88 |

BRYN MAWR COLLEGE.

THE

PRESIDENT'S REPORT

TO THE

BOARD OF TRUSTEES,

FOR THE YEAR 1888-89.

PHILADELPHIA:

FERRIS BROS., PRINTERS, S. W. COR. SIXTH AND ARCH STS.

1889

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ACADEMIC APPOINTMENTS.

JAMES E. RHOADS, M.D., *President of the College.*

M. CAREY THOMAS, PH.D., *Dean of the Faculty and Professor of English.*

A.B., Cornell University, 1877; studied at the Johns Hopkins University, 1877-78; University of Leipsic, 1879-82; Ph.D., University of Zürich, 1882; Sorbonne and the Collège de France, 1883.

EDMUND B. WILSON, PH.D., *Professor of Biology.*

Ph.B., Yale College, 1878; Fellow in Biology, Johns Hopkins University, 1879-81; Ph.D., Johns Hopkins University, 1881; Assistant in Biology in the Johns Hopkins University, 1881-82; studied at the Universities of Cambridge and Leipsic, and at the Biological Station, Naples, 1882-83; Lecturer on Biology, Williams College, Mass., 1883-84; Lecturer on Comparative Anatomy and Physiology in the Massachusetts Institute of Technology, 1884-85.

CHARLOTTE ANGAS SCOTT, D.Sc., *Associate Professor of Mathematics.*

Lincoln, England. Graduate in Honors, Girton College, Cambridge, 1880; B.Sc., University of London, 1882; Lecturer on Mathematics in Girton College, Cambridge, 1880-84; lectured in connection with Newnham College, 1880-83; D.Sc., University of London, 1885.

EDWARD WASHBURN HOPKINS, PH.D., *Associate Professor of Greek, Sanskrit, and Comparative Philology.*

A.B., Columbia College, 1878; Fellow in Literature, Columbia College, 1878-81; University of Leipsic, 1878-81; University of Berlin, 1880; Ph.D., University of Leipsic, 1881; Sorbonne and the Collège de France, 1881; Assistant in Latin and Instructor in Zend in Columbia College, 1881-84.

PAUL SHOREY, PH.D., *Associate Professor of Greek and Latin.*

A.B., Harvard College, 1878; University of Leipsic, 1881-82; University of Bonn, 1882; American School of Classical Studies, Athens, 1882-83; Ph.D., University of Munich, 1884.

EDWARD H. KEISER, PH.D., *Associate Professor of Chemistry.*

S.B., Swarthmore College, 1880; Assistant in Chemistry in Swarthmore College, 1880-81; S.M., Swarthmore College, 1881; Fellow in Chemistry, Johns Hopkins University, 1882-84; Ph.D., Johns Hopkins University, 1884; student at the Royal School of Mines, Freiberg, Saxony, 1884; Assistant in Chemistry in the Johns Hopkins University, 1884-85.

J. JAMES STÜRZINGER, PH.D., *Associate Professor of Romance Languages.*

Wylen, Switzerland. University of Marburg, 1875-76; University of Leipsic, 1876-77; Sorbonne and the Collège de France, 1877-78; Ph.D., University of Zürich, 1879; studied in London, Cambridge, and Oxford, 1879-81; Privatdocent at the University of Bonn, 1882-85.

HERMANN COLLITZ, PH.D., *Associate Professor of German Literature and Language.*

Bleekede, Hanover, Germany. University of Göttingen, 1875-78; University of Berlin, 1878-81; Ph.D., University of Göttingen, 1878; Privatdocent in the University of Halle, 1885-86.

CHARLES A. PERKINS, PH.D., *Associate in Physics.*

A.B., Williams College, 1879; Fellow in Physics, Johns Hopkins University, 1883-84; and Ph.D., 1884; Assistant in Physics, Johns Hopkins University, 1884-87.

ROSE CHAMBERLIN, *Instructor in French and German.*

Great Yarmouth, England. Graduate in Honors, Newnham College (Medieval and Modern Languages Tripos, First Class), University of Cambridge, England, 1886.

FREDERIC S. LEE, PH.D., *Associate in Physiology and Histology.*

A.B., St. Lawrence University, 1878, and A.M., 1881; Fellow in Biology, Johns Hopkins University, 1884-85, and Ph.D., 1885; studied at the University of Leipsic, 1885-86; Instructor in Physiology, St. Lawrence University, 1886-87.

JAMES HARKNESS, M.A. (*Cambridge and London*), *Associate in Mathematics.*

Derby, England. Major Scholar, Trinity College, Cambridge, 1882; Graduate in Honors (8th Wrangler) in the Cambridge Mathematical Tripos, 1885; Mathematical Exhibitioner, London University Intermediate Arts Examination, 1885; Mathematical Scholar, London University B.A. Examination, 1887.

HERBERT WEIR SMYTH, PH.D., *Associate in Greek and Latin.*

A.B., Swarthmore College, 1876; and Harvard University, 1878; University of Leipsic, 1879-81; University of Göttingen, 1881-83; Instructor in Classics and Sanskrit, Williams College, 1883-85; Ph.D., University of Göttingen, 1884; Fellow by Courtesy and Lecturer on Greek, Johns Hopkins University, 1885-87; Reader in Greek Literature, Johns Hopkins University, 1887-88.

MARY GWINN, PH.D., *Associate in English.*

Studied at the University of Leipsic, 1879-82; University of Zürich, 1882; Sorbonne and the Collège de France, 1883; Fellow in English, Bryn Mawr College, 1885-87; and Ph.D., Bryn Mawr, 1888.

FRANKLIN H. GIDDINGS, A.M., *Associate in Political Science.*

A.B., Union College, 1877; A.M., 1889; author of "The Report on Profit Sharing," published in the Seventeenth Annual Report of the Massachusetts Bureau of Statistics of Labor, "The Sociological Character of Political Economy," and (with Professor Clark) of "The Modern Distributive Process," etc.

CHARLES FLINT McCLUMPHA, PH.D., *Associate in Anglo-Saxon.*

A.B., Princeton College, 1885; University of Leipsic, 1885-88, and Ph.D., 1888.

CHARLES MACLEAN ANDREWS, PH.D.

A.B., Trinity College, 1884; Fellow in Johns Hopkins University, 1888-89; and Ph.D. 1889.

GONZALEZ LODGE, PH.D., *Associate in Latin.*

A.B., Johns Hopkins University, 1883; Professor of Greek and Latin, Davidson College, 1883-85; Fellow in Johns Hopkins University, 1885-86, and Ph.D., 1886; studied at the University of Bonn, 1886-89.

J. RENDEL HARRIS, A.M., *Lecturer on the Bible and Biblical Study.*

Professor of Biblical Languages and Ecclesiastical History in Haverford College; late Associate Professor of New Testament Greek in the Johns Hopkins University.

FLORENCE M. PEIRCE, *Librarian.*

CAROLYN C. LADD, M.D., *Directress of the Gymnasium.*

Studied under Dr. Sargent, 1884-85; M.D., Woman's Medical College of Pennsylvania, 1889.

ANNA E. BROOMALL, M.D., *Consulting Physician of the College.*

Professor in the Woman's Medical College of Pennsylvania.

IDA E. RICHARDSON, M.D., *Physician of the College.*

Professor in the Woman's Medical College of Pennsylvania.

AMELIA B. EDWARDS, PH.D., L.H.D., LL.D., *Non-resident Lecturer in Archaeology.*

BRYN MAWR COLLEGE.

REPORT OF THE PRESIDENT FOR THE YEARS 1888-89.

To the Trustees of Bryn Mawr College :

I respectfully submit to you a report for the fiscal year ending Eighth Month 31, 1889, which included the scholastic year that began Tenth Month 1st, 1888, and closed Sixth Month 6th, 1889.

The experience of the four years of the College has led to the adoption of slight changes, both in the requirements for admission and for graduation. After 1889-90 Physical Geography will no longer be required of every candidate for matriculation, but will take its place with the elements of Physics, Chemistry, Physiology, and Botany as a group of five scientific subjects, one only of which must be offered by every candidate. At the same time the examination in the subject chosen will be made more difficult. It is believed that an elementary yet faithful study of some branch of science gives a needed variety to preliminary studies, does not encroach unduly upon the time that should be devoted to language, history, and mathematics, directs the attention of the pupil to things rather than too exclusively to words, and brings into exercise the powers of observation and analysis. It also tends to cultivate that scientific habit of mind which takes nothing for granted except self-evident truths, and accepts as facts only observations that have been duly tested.

Moreover, it has been proved that such initial knowledge, when exact, is a positive aid to the student when she enters upon the scientific courses required for graduation. For the ends above indicated it is necessary that there should be some experimental knowledge of the subjects studied, and this demands not merely teaching illustrated by experiments, but

some laboratory practice. A few preparatory schools now give laboratory instruction in one or more scientific subjects, and it may be hoped that this mode of teaching the elements of science will become general, but the time has not come when laboratory tests should form a part of our examinations for matriculation.

The entrance examinations in English are sufficiently difficult to induce candidates to give definite attention to elementary English studies, and thus begin that acquaintance with the language and literature which must in all cases be enlarged by two years of collegiate study before graduation. But the great diversity of the books recommended by colleges for their preliminary examinations in English has caused much inconvenience to the schools, and has had a tendency to hinder them from giving to students as good a knowledge of English as they would otherwise have given. To lessen this embarrassment it has been announced that after 1890 candidates for admission to Bryn Mawr may offer at their entrance examinations in English the books recommended by the Commission of Colleges of New England as the equivalent of those recommended by this College. While the College has desired to aid the schools in the teaching of English, it has also increased its facilities for collegiate instruction in our language and literature. Great benefit has accrued from the course in essay writing with instruction in style, conducted by Dr. Gwinn, and followed by all the classes taking required English studies; and the want of such instruction, hitherto keenly felt, has now been supplied. Dr. McClumpha has conducted classes in Anglo-Saxon grammar and in the reading of Anglo-Saxon texts, as well as in early English grammar and the reading of early English texts. The graduate instruction also has been enlarged by a sub-division of the courses among the instructors in the department, so that the previous marked success of the teaching of this department has been exceeded.

When Bryn Mawr College was opened, all the principal universities and colleges of our country except one required

some knowledge of Greek as a requisite for receiving the degree of Bachelor of Arts. Accordingly when it was decided that but one degree—that of Bachelor of Arts—should be given to undergraduates, it was arranged that all candidates for that degree should give one year to the study of Greek.

This requirement has led a number of students who began the study of Greek within the college to continue it, and to make Greek one of their major subjects. But it has become apparent to the Faculty that students who devote their attention chiefly to scientific subjects are not usually fully repaid for one year's study of Greek by a corresponding knowledge of it, or by the mental discipline gained. It has been judged better that this class of students, therefore, should, if they desire it, be permitted to devote the corresponding year to the study of Latin, a language with which they already have had some acquaintance when admitted. With your concurrence, this change has been made, and while a course in Elementary Greek will still be offered, it is probable that the students taking it will go on with the study for two or three years so as to acquire familiarity with some portions of Greek literature. Students that specialise in Latin will be required either to perfect their knowledge of French or German, or to take the course in Elementary Greek.

The appointment of an Associate in Latin will render it possible to organize the Latin department more nearly after the scheme of the Greek department than has been the case hitherto, so that courses in Latin strictly adapted to graduate classes will be offered, and in the coming year for the first time since the opening of the college, all demands for instruction in Latin will be met by the organisation of minor, major, post-major, and graduate classes in Latin.

The need of a suitable collection of photographs, engravings, models and other illustrations for lectures upon Greek archaeology, was mentioned in the report for 1887-88. Through the kindness of a few friends of the College the nucleus of such a collection has been obtained, but it should be steadily enlarged until it shall become adequate to illustrate courses upon general archaeology and the history of art.

During the coming scholastic year the lectures on Greek archæology will be continued, and three lectures will be given before the college by Amelia B. Edwards, Ph.D., L.H.D., LL.D., on "The Buried Cities of Egypt," "The Story of an Egyptian Mound," and "Egypt the Cradle of Greek Art."

In Mathematics there have been the following additions to the instruction hitherto given: the required course has been repeated in the second semester instead of being given in the first semester only; a post-major course comprising lectures upon Higher Plane curves, Differential Equations and Theory of Functions has been given, and a special course has been given for the benefit of students wishing to take the second year in physics without electing mathematics as one of their chief subjects.

In the autumn of 1888 a lecture was given before the College by Professor Robert Ellis Thompson, of the University of Pennsylvania, on "Protective Tariffs," in which the reasons in favor of this system of imposts were ably presented. A short time after, Franklin H. Giddings, Associate in Political Economy in the College, gave an address upon "The Issues of the Presidential Campaign," stating with clearness, and in a scientific spirit, the political problems at that time before the country. In the Third month, 1889, Charles A. Perkins, Associate in Physics, gave a lecture upon the recently discovered relations between light and electricity, in which he repeated the experiments of Professor Hertz, and showed the reflection, refraction and polarization of magneto-electric waves. In Fourth month, 1889, Theodore W. Hunt, Ph.D., professor of Rhetoric and the English Language in Princeton College, delivered a lecture before the students in the English department upon Matthew Arnold as a prose writer. In the autumn of 1888, Leslie Alexander Lee, Ph.D., professor of Geology and Biology in Bowdoin College, gave an address upon The Methods and Results of Deep Sea Trawling, as illustrated upon the voyage of the U. S. Fish Commission Steamer, Albatross. All these lectures were listened to with appreciation and were recognized as instructive.

The whole number of students enrolled during the year was one hundred and sixteen, which was thirty-five more than the enrollment for the year 1887-88. Seventeen of them were graduates, of whom four held fellowships; five were "hearers," two were special students, and the remaining ninety-two were regular students. Of the students twenty-six were admitted in 1885, fourteen in 1886, twenty-seven in 1887, and forty-nine in 1888. Ninety-eight were resident in the college halls, and eighteen were non-resident. Since the opening of the College in 1885, thirty-three graduates have been admitted, representing twenty universities and colleges.

The students entered for the year 1889-90 already exceed in number those admitted last year, and the College halls of residence have been filled. It has not been possible for students to find suitable lodgings in the neighborhood of the college, except to a limited extent, and I would ask you seriously to consider the subject of erecting another hall, to be ready at the opening of the college in 1891.

At the close of the scholastic year the degree of Bachelor of Arts was conferred upon twenty-four candidates, all of whom except two had been for four years in attendance upon the College. These two had entered with more full preparation than the others, and were therefore able to complete the required studies in less time. The faithfulness with which this class pursued their studies, and ever sought to promote the best interests of the college, has won deserved and grateful recognition from the Faculty. It is gratifying to record that all of them left the college in their best state of health, with the exception of some temporary fatigue that soon passed away.

It is unquestionably true that successful students must work hard. If the health of a young woman can be maintained only by a life devoted to the care of it she is disqualified for collegiate study as well as for any other serious avocation. But when a student has the mental and physical ability to pass successfully the entrance examinations, there is,

with rare exceptions, no reason why she should not complete a course of collegiate study and enjoy as good health as if at home, provided she uses the sanitary measures prescribed, including systematic exercise, and also takes sufficient time for the study necessary for graduation. Some students of much more than average mental ability, but not strong physically, have chosen to extend their period of study for a degree by half a year or more, and the wisdom of this decision has been shown by a steady gain in physical vigor, together with advanced rank in their classes. It is much to be desired that parents and students should coöperate with the authorities of the College, so that when the latter recommend a less number of hours weekly for study, and an extension of the time required for graduation, their counsel shall be accepted. The truism has often to be repeated that education implies the safe and healthy development of the whole personality, together with the acquisition of knowledge, but that the latter may be useless without sound health.

The gymnasium has been used more freely than in any preceding year. Ninety per cent. of the students have been in attendance upon it,—the same proportion as last year,—but the general average of time given to it has increased, and has been a little over two hours weekly. Seventy-three per cent. of those taking gymnastic exercise have gained muscular strength, and sixty per cent. have increased in weight during the year. While much may be said in favor of outdoor sports and walking, experience does but confirm the judgment of experts that these do not supply the place of systematic exercise in the gymnasium. It is unavoidable that the latter should be somewhat monotonous, but the steady self-control that perseveres in such exercise, is rewarded by a better physical development and greater mental vigor than are known by students that resort to out-door sports irregularly, moved only by the pleasure they afford.

The College has been much indebted to ministers and members of various churches, who have addressed the students upon the invitation of associations formed by the latter for

philanthropic and religious activity. Especially are warm acknowledgments due to Lyman Abbott, D.D., for a very helpful and instructive address to the students upon the "Foundations of the Christian Faith;" and to Charles Wood, pastor of the First Presbyterian Church of Germantown, for a graceful and forcible discussion of the use of alcoholic drinks. The associations referred to have contributed towards the education of Indian children; the promotion of the work of the Pundita Ramabai; the support of a teacher at a mission school in India, and to the College settlement in New York City.

The twelve partial scholarships offered by the College (of \$200 a year each), were all awarded last year. Four of them were held by graduates, and whether held by regular students for four successive years, or for shorter periods by graduates or special students, these scholarships have had very satisfactory results. The increased knowledge of particular subjects gained by teachers of experience, who are thus enabled to spend a year in study, together with the refreshment of mind and enlargement of view such a year affords, tell advantageously upon their subsequent teaching. The five resident fellowships were all awarded near the end of the academic year, and four of the successful candidates were members of the graduating class. There were twenty-four candidates for these fellowships, and among those to whom it was impossible to make an award were some of such merit as to make it evident that gifts or bequests for increasing the number of fellowships would find worthy recipients. These fellowships would have increased utility could they more often be extended to two years, so as to permit the holders of them to spend at the college, free of expense, two of the three years required for the degree of Doctor of Philosophy. As this is not now practicable, fellowships by courtesy have been created, to be bestowed upon graduates that have held fellowships for one or more years and that continue their studies at the College. These fellowships are an award to merit, and are honorary only, not carrying with them any emolument. The Euro-

pean fellowship, bestowed for the first time, was given to Emily Greene Balch, of Boston, who proposes to use it in prosecuting sociological studies.

The examinations for matriculation were attended by thirty-two candidates in the autumn of 1888, and by fifty-seven in the summer of 1889.

The whole subject of examinations, including preliminary examinations, has aroused much discussion of late, and an increasing number of colleges are admitting students upon certificates of their former instructors, without examination. But all the experience of this College hitherto confirms the desirability of requiring candidates for admission to pass an examination conducted by the College. It is true that this excludes a very considerable number of students, but it enables the College to assume definite attainments on the part of students, and to escape elementary teaching that should be done in the schools. If, however, all candidates were obliged to come to the College for examinations, it would involve serious expense to those living at a distance. Arrangements have been made, therefore, to hold examinations in the summer at Baltimore and Germantown, and they will be held at other places where the College has representatives whenever circumstances will justify it.

The staff of instructors has increased from fourteen the first year to twenty-one the past year. The following changes have been made within the year:

FRANKLIN H. GIDDINGS, A.M., has been appointed Associate in Political Science.

WILLISTON WALKER, Ph.D., resigned his position as Associate in History, to accept a call to be Assistant Professor of Ecclesiastical History in Hartford Theological Seminary, and CHARLES MACLEAN ANDREWS, Ph.D. (Johns Hopkins University), has been appointed Associate in History.

CHARLES FLINT McCLUMPHA, Ph.D. (Leipsic), has been promoted to be Associate in Anglo-Saxon.

ALFRED COOK, Ph.D., resigned his position as Associate in Philosophy, and his duties have in part been assumed

by Paul Shorey, Ph.D., Associate Professor of Greek and Latin.

GONZALEZ LODGE, Ph.D. (Johns Hopkins University), has been appointed Associate in Latin.

J. RENDEL HARRIS, A.M., has returned from a year's absence in Syria, and has resumed his lectures upon the Bible and Biblical study.

EMILY H. PIM resigned the charge of Merion Hall, and Lydia V. Smith, who formerly occupied that position, has been reappointed to it. Hannah T. Shipley has been continued in charge of Radnor Hall.

ANNA E. BROOMALL, M.D., has been appointed Consulting Physician of the College, and Ida E. Richardson, M.D., Physician of the College.

INSTRUCTION.—From reports made by the instructors of the several departments it appears that the work done in them has been as follows:

Greek.—In the first semester the *minor* or first year's class read with Dr. Hopkins the greater part of Xenophon's *Memorabilia*, with comments, for two hours weekly. In the second semester the class, meeting twice weekly, read the whole of Euripides' *Medea*. As private reading they read and were examined upon Plato's *Apology* in the first semester, and Sophocles' *Ajax* in the second semester. They had also Greek prose composition once weekly throughout the year, accompanied by written exercises.

Under Dr. Shorey they read Homer for two hours a week through the year. The first term was given to the *Odyssey*, the second to the *Iliad*. The object of the instructor was to give facility in reading, and considerable ground was covered.

The *major* or second year's class in Greek read with Dr. Hopkins the *Prometheus* of Æschylus one hour weekly, in the first semester, and two hours weekly were given to lectures upon the history of Greek poetry. They also read in private Sophocles' *Electra*. In the second semester the class read three-fourths of Demosthenes' oration *On the Crown*, with

parallel passages from Æschines; and one hour weekly was given to lectures on Greek grammar. The private reading was Isocrates' *Panegyricus*.

Under Dr. Shorey they read for two hours weekly during the first semester selections from Herodotus (the Persian War), and from the *Persæ* of Æschylus. Facility in reading and the study of Greek history were the points emphasised in the instruction.

The *post-major* division, or the third year's Greek class, had lectures for one hour weekly throughout the year from Dr. Hopkins, upon the Greek drama. In the first semester they read parts of Æschylus, and in the second semester the *Œdipus* of Sophocles. They also read selections from Theocritus one hour weekly, during the first semester only.

With Dr. Shorey this class read Pindar for one hour a week through the year. Pindar has not hitherto been read by the undergraduates, and in the limited time little could be attempted beyond the intelligent enjoyment of some of the finest odes. Considerable attention was paid to the practical study of the metres.

The *post-major* course in Plato's *Republic*, one hour a week, was continued by Dr. Shorey from last year. The new students that joined the class had run over the work of last year in the summer. The philosophic instruction was confined to direct and simple commentary on the meaning of the text, and students were brought to see the uncertainty of all abstract, second-hand accounts of a great philosophic writer. The class attained, as a result of the two years' work, a most gratifying facility in reading, together with an unusual nicety of perception of delicate shades of meaning.

The fourth year's class read, with Dr. Hopkins, one hour weekly throughout the year. They completed the reading of Æschylus's *Oresteia*, and then took up extracts from Lucian's Dialogues of the Dead, *Of the Gods*, *Charon*, and the *Dream*. They also took the first year's course in Sanskrit, with lectures on the grammar, and easy reading.

Graduate Class. With Dr. Hopkins this class read advanced Sanskrit, which consisted of selections from

the Veda, for one hour a week throughout the year, and for another hour followed lectures on comparative philology.

Under Dr. Smyth the class, during the first semester, had a course one hour weekly in Greek dialects, read archaic inscriptions of the Ionic dialect, and interpreted fragments of Archilochus, Hipponax, Alcæus, and Sappho. In the second semester, a seminary met for one hour weekly to investigate Books IX. and XXIV. of the *Iliad* from the linguistic point of view (*digamma*, ἀπαξ λεγόμενα, etc.)

Greek Archaeology.—To this class post-major students, as well as graduates, were admitted. The history of Greek Sculpture from the earliest times to the Græco-Roman period, formed the subject of weekly (illustrated) lectures, especial prominence being given to the works of Pheidias, Praxiteles, and Scopas.

The class in Elementary Greek, under the direction of Dr. Smyth, gave five hours weekly throughout the year to the study of grammar and prose composition, which included instruction in White's First Lessons in Greek. They read also three books of the *Anabasis*, and three of the *Iliad*.

Latin.—The Latin work has been done essentially upon the lines laid down in previous years. The department has had two aims, (1) To give the students facility in reading Latin; (2) To lead them directly to the contents of the best Latin books, to the enjoyment of Latin poetry, and to the appreciation of Roman civilization. The minor and major years have been devoted mainly to courses of reading, with supplementary drill in Latin prose composition, and to a general survey of Latin literature. The private reading was, in the cases of some students in their first college year, partially remitted or allowed to be postponed. Generally, however, there has been a marked improvement in the ease with which students have done the private reading, and it is expected that this valuable feature of the course will be maintained unimpaired.

The course under Dr. Shorey in Horace during the first semester, and in Virgil during the second, followed by the *minor* or first-year's class for two hours weekly, was intended to

awaken the students' æsthetic interest in Latin poetry, and to offer an introduction to the literature of the Augustan age. The odes of Horace were read and reviewed; there were lectures upon the life and art of Virgil, and on allied topics. The students prepared as private reading, and passed examinations upon, Books VII., VIII., and IX. of the *Æneid*.

With Dr. Smyth the class read two hours weekly, Sallust's *Catiline*, in the first semester, and Livy, Book XXI., in the second. They also had one hour weekly of Latin prose composition throughout the year, which for the first semester consisted chiefly of a review of elementary grammar.

The reading of the *major* or second year's course was accompanied by a general survey of Latin literature for one hour a week under Dr. Shorey. A text-book was put into the hands of the students, and the lectures were devoted mainly to authors not read in class, or to bringing out the significance of Latin literature as the mediator between Greek thought and modern civilization. During another hour weekly they read selections from Juvenal, in the first semester, and from Catullus and Martial in the second. With Dr. Smyth they read two hours weekly, taking, in the first semester, selections from the *Annals* of Tacitus; and, in the second, selections from Plautus, Propertius, and Tibullus (about 1800 lines). The private reading of the class included selections from Pliny's *Letters* in the first semester, and from Cicero's *Letters* in the second.

This class also followed lectures one hour weekly for the first semester, given by Dr. Hopkins, on Latin grammar in its relations to other members of the Aryan group of languages; and in the second semester they read three-fifths of Plautus' *Captivi*.

The *post-major* work consisted of a one-hour course in rapid reading of selections from Cicero and Livy, in which some students attained great facility; and a one-hour course on the rhetoric and literary theories of the Romans. In the latter course the lectures and text-readings were supplemented by original papers from the students. Hereafter it will be possible to offer to the post-major classes, in addition

to the courses hitherto given, advanced work in Latin prose composition, and a course in the critical reading of texts. The appointment of an additional instructor in Latin will enable the department to provide for teachers and advanced students the minute discipline they require without sacrificing to this need the interests of the larger body of students who necessarily and properly regard Latin as only one of many elements of a broad literary culture.

English.—During the year fifty-seven undergraduates and seven graduate students followed the courses in English and Anglo-Saxon. A class of fifty-two met Dr. Thomas four times weekly for the second year's course in Required English. The instruction consisted of lectures covering the period from the time of Spenser to that of Tennyson and Browning; and included a short account of Italian literature and an excursus on French literature. The private reading included, beside other English authors, the greater part of Spenser, and nearly the whole of Milton and Shakespeare. Weekly recitations were held on the lectures and private reading. One hour a week was spent in essay work under Dr. Gwinn, each member of the class writing critical essays on subjects connected with English literature selected by herself. The marked improvement toward the end of the year showed the great need that had existed for some such systematic work in style and composition.

A class of undergraduates who had elected English as a major subject completed the fourth year in English under Dr. Thomas; four graduate students worked with the class throughout the year. The subject selected for the year's work was The Development of the School of Modern Poetry, and included a minute study of the works of Shelley, Byron, Keats and Wordsworth. All the difficult parts of their poetry were read in class and the work was accompanied by frequent essays and reports prepared by the students.

Graduate Classes.—Dr. Thomas met a class two hours weekly for work in Browning; during the year all the poems of Browning, with one or two exceptions, were commented on and discussed.

Dr. McClumpha conducted the following classes in Anglo-Saxon: (1) Siever's *Anglo-Saxon Grammar*, Sweet's *Principles of English Etymology*, accompanied by lectures on the Transition Period, and followed by the reading of parts of Chaucer. In connection with this work the students made dialectic studies from Morris and Skeat's *Specimens* and Wülcker's and Maetzner's *Readers*. The class met four hours weekly. (2) A class in Beowulf met twice weekly. Two thousand lines were translated, and a study was made of Sarazin's and Ten Brink's theories of the composition of Beowulf. The remainder of the year was spent on Sweet's *Archaic and Dialectal Reader*, in connection with which lectures were delivered on the North Mercian and Kentish dialects. (3) A class met twice weekly for the reading of *Exodus*, *Daniel*, and *Andreas*.

Throughout the year the instructors directed the investigations of graduate students. A dissertation on Beowulf was written by the Fellow in English, and a dissertation on Exodus was written by another graduate student: both were offered for the Master's Degree at Vassar, that degree at Bryn Mawr being awarded to graduates of the college only.

Romance Languages.—The *major*, or second year's class, under Dr. Stürzinger, followed for three hours weekly lectures on French literature, accompanied by two hours of reading and composition, during the first semester. In the second semester the class followed lectures for three or four hours weekly, and the remaining hours were spent in reading in class, except that one hour every two weeks was given to composition. The lectures on French literature included that of the 18th and 19th centuries, especial attention having been given to the authors subsequent to the Revolution. The students read in class *Hernani*, and in private, selections from the writings of Chateaubriand, Mme. de Staël, Vigny, Hugo, A. de Musset, G. Sand, Balzac and Mérimée. The private reading was tested by examinations at the end of each semester. The lectures were delivered in French, and weekly or fortnightly examinations were given upon the substance of the lectures. This class gave one and a half or two and a half

hours weekly to conversation and the reading of modern French authors with Mlle. Boname. In the last semester they thus read, with comments, some of the writings of Hugo, Ponsard, Emile Augier, and Scribe. Parts were memorised, and criticisms were written upon some of the poems read, as a further exercise in composition.

The class in elementary French, under Rose Chamberlin, studied Whitney's grammar, and read several plays of Molière and Racine, also much modern French. In the conversational class held one hour a week throughout the year were read *Le Neuveine de Colette* and *Le Roman d'un Jeune Homme Pauvre*.

Spanish.—The graduate course in Spanish, conducted by Dr. Stürzinger, during the greater part of the year consisted of grammatical instruction and exercises, combined with reading of modern texts in Knapp's *Spanish Grammar*, for three hours a week. During the remainder of the year one hour a week was given to lectures on historical grammar, and two hours to reading older texts. Thus nine books of the first part of Cervantes' *Don Quixote*, Calderon's drama, *El Principe Constante*, and a few of the *Cid Romances* (edition Michaelis), were read. In connection with this reading comparative historical literary study was pursued, and the works of Ticknor, Herder, Vogelin and Gautier were used for this purpose. For private reading the works of the modern authors, Fernan, Caballero, Juan Valera, and Breton de los Herreros, were assigned.

German.—A comparison between the Program for 1888 and the earlier Programs will show that in the arrangement of the German minor and major courses from the beginning of this year some important changes have taken place. According to our former plan the student would begin the study of German with historical grammar; the first year would be given to Gothic, Old High German and Middle High German; the second year to the history of German literature from the earliest to the present time. This plan proved to be not wholly satisfactory (See the President's Report for 1887-88, p. 8). The students entering the first year's class seemed

scarcely well enough acquainted with modern German to study the earlier forms of its development. The knowledge of German required by the entrance examinations has often been acquired rapidly, and the study of Middle and Old High German, if taken up without any further training in Modern High German, was difficult for the students, and rendered an advance in familiarity with modern German less rapid. For this reason the study of earlier German grammar has been transferred to the second year, and even there has been confined to Middle High German and to one or two hours weekly, leaving Gothic and Old High German, as well as a more thorough study of Middle High German, for the graduate courses. In consequence of this change the study of German literature has been divided between the two years so as to give one year to the authors since the middle of the last century, and one year to the period preceding that time. During each year lectures on literature are given (in German) twice weekly; and in addition to these lectures specimens selected from the chief authors are studied once weekly, the selections from Old and Middle High German being read in translations into Modern German. In order to give the students who take part of the course for one year only, some acquaintance with both periods, the modern literature is taken in the second year, together with Middle High German, while on the other hand during the first year the first part of Goethe's *Faust* is read once weekly in connection with lectures on earlier German literature. The trial of the new system, made during the last year, has fully justified our expectations.

The *minor*, or first year's course, under Dr. Collitz, comprised lectures delivered in German upon the history of German literature from the earliest times to the time of Klopstock, exclusive, twice weekly; lectures for one hour weekly upon the first part of Max Müller's *German Classics*, and for one hour weekly upon Goethe's *Faust* (first part). The private reading assigned was done, and examinations were given upon it at the close of each half year. It included Lessing, *Emilia Galotti*; Goethe, *Götz von Berlichingen*, *Iphigenie*; Schiller, *Don Carlos*,

Braut von Messina. The students also took part in a conversation class conducted by Rose Chamberlin twice weekly.

The *major*, or second year's course, as all the students had taken part of the course in literature during the foregoing year, was a combination of the former and the present plan. Lectures on literature, therefore, in this course, were delivered only once weekly, the object being the study of Schiller and of the latest literature since Goethe's death. Middle High German was studied for two hours weekly in the first, and once weekly in the second semester, when selected specimens from Schiller and from modern authors took the place of Middle High German during the second hour. One hour weekly during the whole year was given to a study of the second part of Goethe's *Faust*. The class work was accompanied by private reading, and twice weekly the students took part in Rose Chamberlin's German conversation class.

Graduate courses were given by Dr. Collitz in Gothic and in Middle High German. The course in Gothic included a comparative study of Gothic phonology and morphology. Braune's *Gothic Grammar* was used for the paradigms and the translation of Gothic texts. The course in Middle High German was intended to illustrate the classical period of Middle High German by specimens selected from its epic and lyric poetry. The first semester (one hour weekly) was given almost entirely to the *Nibelungenlied*, the second semester (two hours weekly) to selections from Walther von der Vogelweide, Wolfram's *Parzival*, Hartmann's *Iwein* and Gottfried's *Tristan und Isolde*.

The class in *Elementary German* met Rose Chamberlin five hours weekly throughout the year. The students had Joynes-Weissman's *Grammar* as a text-book. For a few weeks they read from Buchheim's *German Reader*, and then proceeded to Schiller's *Jungfrau von Orleans*. Other works read were Goethe's *Tasso*, Freytag's *Die Journalisten*, and numerous modern and classical extracts. Four of the class, who had received instruction previous to admission, passed their examination at the end of the first semester, the remainder at the end of the second semester.

The German conversation class was held twice weekly. On one evening the class was open to all that wished to attend it, and the exercises lasted one hour and a half. A new feature in this class was the holding of a debate on subjects interesting to the class in general, which called forth warm discussions. The other hour was for the major class in German. Here literary subjects were discussed, and specimens of literature were read aloud by the instructor.

History.—The instruction in the department of History, under Dr. Walker, has been designed to give the students a general outline of the development of European civilization. In pursuance of this aim two courses, each of five hours weekly, have been given during the year—one on the history of Greece and Rome from the earliest times to the fall of the Roman Empire, and the other on the general history of Europe from the invasion of the Roman Empire by the German tribes to our own day. Necessarily in so extended a field of instruction it has been impossible to attempt much more than an outline. The lecturer, therefore, offered two other courses of a more special character, one of two hours weekly, on the history of the Middle Ages; and the other, an elementary course of one hour a week on English History.

The course in Ancient History was taken by fifteen students during the first semester, and by twenty-four during the second. Throughout the first semester the history of Greece was the topic. After a brief preliminary course on the history and civilisations of Egypt, Assyria, Babylon, Judæa and Phœnicia, the story of Grecian life was taken up with the aid of Dr. Smith's larger history. The students were required to be familiar with the statements of the text-book, and in addition, about two-thirds of each exercise was spent in presenting the views of Grote, Curtius, Cox, and such other writers on Grecian history as were available in the library. Many chapters in these works were assigned to the students for private reading. During the second semester Merivale's General History of Rome was placed in the hands of the students as a guide to the history of the period, but even greater use was made of lectures. Much use was made of

assigned readings, which included passages from the writings of Mommsen, Ihne, Smith, Beesley, Capes and Gibbon.

The course on the history of modern Europe was followed by thirty-two students, exclusive of a considerable but variable number of *hearers*. The instruction was wholly by lecture and assigned readings, the students being held responsible not only for abstracts of the lectures but for the study of the readings as well. During the first semester the subjects treated included such themes as the causes of the fall of the Roman Empire, the establishment of the barbarian kingdoms, the rise of the Mohammedans, the extension of Frankish power, the origin of the feudal system, the Holy Roman Empire, the Crusades, the intellectual movement known as Scholasticism, the development of the papacy and its contest with the empire, the rise of the Italian republics, the growth of representative institutions and of royal power in England, France and Spain.

In the second semester attention was given to the Renaissance, to the Reformation, and to the great contest between the Germanic reformation principles and the counter-reformation movement originating in Spain, with its progress, till the peace of Westphalia in 1648. The topics next considered embraced such themes as the English constitutional struggle of the seventeenth century; the rise of the monarchy of Louis XIV., and the efforts of the states of Europe to check the growth of French power; the rise of Russia and Prussia; the great struggle of the Seven Years War, resulting in the extension of English supremacy in America and India; the new political and philosophical ideals of the eighteenth century, and the attempt to realise these theories in the American and French revolutions.

The private reading has been done by the students in general in painstaking and conscientious fashion, and has added much of thoroughness to the course of study.

Political Science.—Instruction was given by Franklin H. Giddings, A.M., in Political Economy, Economic History, the Development of Political Institutions, the History of Political Theories, Public Law, Administration and Finance, Charities and Correction.

In the first semester a course of three hours weekly was given in the principles of Political Economy, consisting of a drill in the theories of utility, value, capital, cost of production, competition, rent, price, and other fundamental problems of the science. Texts by different authors, representing different points of view, from the Ricardian to the historical and ethical, were used. In the second semester a three-hour course was given on English Economical History in the Middle Ages, accompanied by lectures on the economic structure of society. Beginning with a study of the economic life of the manorial community of the eleventh century, this course took up the growth of towns, the origin, constitution and functions of merchant and craft guilds, the mediæval theories of just price, and the legislative attempts to regulate prices and interest. These courses, with the lectures on Political Institutions, constituted the *minor*, or first year's course.

The *major* course included more advanced economic studies and lectures on such other branches of Political Science as Public Law and Administration. In the first semester a three-hour course was given on special economic questions, namely, (1) the Tariff History of the United States, (2) the Land Question, and (3) the Labor Question. This course was regarded as a valuable discipline in forming right habits of studying unsettled economic questions. The historical rather than the theoretical point of view was made prominent, attention being given chiefly to the influences that have determined economic policy hitherto, and to the grounds on which different men and parties have maintained opposing views. Each student obtained practice in the use of census returns and financial reports. The history of private property in land was reviewed, and modern experiments in labor legislation, arbitration, profit-sharing, and coöperation were discussed.

A two-hour course was given in the first semester on the development of Political Institutions and the History of Political Theories. The beginnings of political institutions in tribal customs were shown, the growth of tribes into states was explained, and the development of legislative, executive,

and judicial institutions in accordance with varying administrative necessities was traced. The consideration of political theories began with Aristotle, and reviewed the doctrines of Locke, Hobbes, Harrington, Mill, Spencer, Hegel, and Mulford. In the second semester a three-hours course on Administration was given. One hour of the three was devoted to a class study of methods of Charity and Correction. The other subjects considered were: Local and Municipal Administration in the United States, England, France, and Germany, the organization of the Civil Service, and Local Taxation in American States. Public Law was the subject of a two-hour course in the second semester. Important legal definitions were presented. The English Common Law and the Roman Law were compared, and those principles of English and American Constitutional Law which are the legal basis of civil liberty were taken up in detail, with constant reference to Constitutional History and to the Public Law of European States.

Four hours a week throughout the year were given by F. H. Giddings, A.M., to the direction of graduate studies. The subjects were: (1) The Development of English Pauperism since the eleventh century in its economic and administrative aspects, and (2) the Charities of Philadelphia. It is expected that the results of these studies will be published.

Mathematics.—In each semester a class in the *required* course followed the lectures and worked problems in Trigonometry and Solid Geometry five hours a week. A special course designed for students that wish to take the second year of Physics, and extending through one semester, was also given.

The *minor* or first year's course was followed by seven students, and consisted, in the first semester, of lectures twice weekly, by James Harkness, M.A., on Algebra, advanced Trigonometry, and Theory of Equations; once weekly by Dr. Scott, on Analytical and Modern Geometry of Two Dimensions; and once on Geometrical Conics and Newton. In the second semester, James Harkness, M.A., gave a course on Elementary Differential and Integral Calculus, twice weekly, and once weekly on Newton and elementary Dynamics.

Lectures for two hours weekly were given by Dr. Scott, on Analytical and Modern Geometry of two dimensions.

The *major* or second year's course was taken by one student, and was conducted in strict accordance with the Program. The *post-major* course was pursued by two students, who thus completed a three-years course, one satisfactory to the instructors and creditable to the students. The lectures for the year were, a course on higher Plane Curves, by Dr. Scott, in the first semester twice, in the second three times weekly, attended by both students; a course on Modern Geometry by Dr. Scott, twice weekly throughout the year, attended by one student; a course by James Harkness, M.A., on Differential Equations, three times weekly in the first semester, and one on Theory of Functions, twice weekly in the second semester. Each of these courses was attended by one of the students of the class.

Philosophy.—During the first part of the first semester the class under Dr. Cook studied deductive and inductive logic, using Jevons's Outlines as an accompaniment to and a basis for the lectures.

Subsequently the class studied Psychology, and read assigned portions of Lotze's "*Outlines*," preparatory to the lectures. These exercises extended to the winter recess only.

During the second half year a course of two hours a week in the history of modern philosophy was given by Dr. Shorey. The subject was treated as a portion of the history of European literature rather than from the point of view of any one school of metaphysics. The indispensable preparatory discipline in logic and psychology which will hereafter be given in the first semester by means of text-books, was represented by a few introductory lectures on philosophic terminology. There were also one or two lectures on the Renaissance and the transition from mediæval to modern philosophy. But the main work of the course was spent upon Descartes, Bacon, Locke and Kant. In the lectures a simple analysis and explanation of the more important works of these writers was given, and the students were induced to supplement the lectures by the reading of carefully chosen selections. A shelf of reference books selected

by the instructor, and renewed from week to week, was at all times accessible to the students, and was used by many of them. A not unimportant feature of the course was the discussion of questions suggested to the students by their reading or by the lectures and submitted to the instructor in writing.

In the study of Kant, little was accomplished beyond a simple presentation of his relation to the general philosophic movement initiated by Descartes, and of his decisive influence on subsequent speculation. The post-Kantian metaphysical constructions of Germany were treated only by occasional explanatory allusions to them as elements of 19th-century thought. It was thought that an English-speaking undergraduate will derive more permanent advantage from an intelligently-directed study of the works of Descartes, Bacon, Locke and Berkeley, which he can understand and read in the original, than from imperfectly apprehended abstract summaries of metaphysical systems, the meaning and value of which is still a matter of dispute, and the terminology of which cannot be adequately reproduced in any translation. The limited time also precluded direct treatment of ancient and mediæval philosophy, and of the modern empirical and evolutionist schools. In subsequent years the course will be extended by the introduction of a sketch of the history of ancient philosophy and of scholasticism, and by a brief supplementary outline of the systems of some modern writers, with indications of their influence on contemporary literature.

The teaching of philosophy labors under the peculiar difficulty that the instructor cannot present himself to his class as the expositor of a universally-accepted and demonstrated elementary doctrine. This difficulty, however, is not very seriously felt in the present course of undergraduate work. The instructor does not present himself to the students as the possessor of a ready-made doctrine which they are to accept on his authority, and reject when they learn, as they inevitably will, that it is rejected by some wiser men than he. He offers himself to them as a guide in the reading of certain great books in the world's literature, and in the acquisition of an acquaintance with philosophic terminology and methods that will enable

them, if they see fit, to read and judge independently the modern successors of these books. And with regard to the controversies that seem so new to untrained readers of popular science, he points out that the same problems have been debated in much the same spirit in every age, and that while the recent progress of physical science has greatly altered the form of statement of materialistic explanations of the universe, it has not made them a whit more conceivable, has not, except to the popular imagination, added to the force of the obvious analogies on which such systems rest, nor broken the barriers to their acceptance offered by the unity of consciousness, and the ethical and religious experience of mankind. Further intrusion of the instructor's opinion on students chosen from all classes of the community would only lead to misconceptions and impair the educational value of his work.

Dr. Rhoads gave lectures once weekly throughout the year upon Ethics. The elements of our moral nature were considered; the universality of moral standards; the ground of obligation; the basis of certainty in the knowledge of moral truth and duty; the sources of moral law; the various classes of duties; and the moral aspect of current questions such as the authority of civil law; the rights of property; the relations of employer and employed; the administration of charities; the restriction of the liquor traffic; vivisection; and Sabbath laws. A brief survey was then taken of ethical systems, and their bearing upon the promotion of the highest moral character.

Physics.—The first year's course, or *minor* course, in Physics, under Dr. Perkins, was directed to the study of Mechanics and Electricity, and followed closely the announcement in the Program. It comprised lectures five hours weekly throughout the year. In the first semester Lodge's *Mechanics* and Thompson's *Lessons in Electricity and Magnetism* were used by the students as books of reference, but the instruction consisted chiefly of the lectures, accompanied by abundant illustrations, and constant questioning of the students.

In the second semester no text-books were used in connection with the lectures on Sound, Heat, and Light; but Stew-

art's Elementary Treatise on Heat, and Ganot's Chapters on Light fairly represent the extent and nature of the treatment of the subjects. Especial attention was given to the order in which subjects naturally and logically present themselves, and the clue to this was found in the historical order in which the knowledge of those subjects has been unfolded.

In the second year's or *major* course, the subjects considered were Mechanics, Electricity, and Heat. The course began with an introduction to the theory of least squares and its application to simple physical problems. The lectures on Mechanics were confined mainly to the discussion of special problems. The students were required to read parts of the works of Minchin and Routh. In the treatment of electricity, selected portions of Mascart and Joubert were read by the class and supplemented by lectures. The discussion of Heat consisted essentially in the reading of Maxwell's text-book. In both the latter courses, however, the subjects were developed from an experimental basis, and distinction was constantly made between the necessary deductions from experiments and the theoretical explanations of them.

The laboratory work was carried on three hours weekly, and was in close conformity to the description given in the Program. The department has received from a member of the class of 1889 a gift of \$100 for the purchase of apparatus; a gift very gratefully acknowledged.

Chemistry.—The *major* or second year's course in Chemistry was given during the past year by Dr. Keiser. Nine students attended the lectures and worked in the laboratory. All these had taken the minor course in the previous year. In the early part of the course the subject of the lectures was a review of the more important topics of inorganic chemistry. The essential parts of the previous year's work were dwelt upon, and at the same time a more amplified and extended study was made of the properties of the elements and compounds, and of the theoretical principles of the science. An attempt was made to make the students familiar with the present state of knowledge in this department of the science. The subject of analytical chemistry was then taken up. The general methods of

procedure and the apparatus employed in quantitative work were described, and a systematic study was made of all the best methods of estimating and separating the elements. Volumetric and gasometric methods received considerable attention.

Throughout the year the laboratory has been open to students during seven hours, five days weekly. The work done in it during the early part of the year consisted in a detailed experimental study of the more important elements and compounds. The work was of such a nature that the students received considerable training in accurate observation, and at the same time in reasoning upon the results of their observations. Volhard's laboratory manual was used as a guide in this part of the work. This was followed by a series of exercises in qualitative analysis, and by practical work upon quantitative methods.

Organic chemistry was the subject of the lectures during the second semester. After a course of introductory lectures, in which a brief outline of the history of the development of the subject was given, the systematic and detailed study of the hydrocarbons and their derivatives was taken up. In the laboratory during this semester the larger part of the time was given up to a continuation of the quantitative work of the first semester, but towards the end of the year a few typical organic preparations were made.

One student pursued a five-hours course in post-major chemistry during the first semester.

Original Work.—The investigation upon the atomic weight of oxygen, an account of which has been published in the *American Chemical Journal*, has been continued. A new research, the object of which is to determine with greater accuracy the atomic weight of palladium, has also been carried on, and valuable results have been obtained, which will soon be published. Another investigation, upon a new method of estimating carbon-monoxide, and of determining combustible gases in gas analysis, is in progress.

Biology.—The general equipment of the laboratory has been in some degree extended, though most of the yearly appro-

priation has been expended for current wants. The most important additions have been a series of lecture charts to illustrate the courses in histology and embryology. The series of zoological charts has also been extended so as to be at present fairly adequate for our needs. The department has received from Robert H. Lamborn, Ph.D., the gift of a collection of the butterflies of Eastern New York and Pennsylvania, complete except as to a few rare nocturnal species, all finely mounted and placed in cases, with their correct scientific names attached. Also a collection of plants, made by the late James Lippincott, and presented by his widow, Anne S. Lippincott, of Philadelphia.

The total number of students under instruction in the department has been twenty-four, of whom sixteen have taken the minor course, three the major course, four a post-major course, three graduate courses, and one a special course of undergraduate work.

The *minor*, or first year's course, has conformed closely to the work outlined in the Program, but differed from that of former years in being divided from the beginning into two parallel complementary courses, one in general biology, the other in elementary anatomy and physiology. This change has been greatly to the advantage of the course as a whole, both theoretically and practically, and will be retained hereafter.

The *major*, or second year's courses, have been given as usual, and require no comment.

The principal feature of the year's work has been the character of the post-major and graduate courses, under which is included the Biological Seminary, organised this year. In the first semester regular courses were given by Dr. Wilson in comparative embryology, and by Dr. Lee in neurology, most of the laboratory work being done in connection with the latter course. In the second semester courses of work were laid out for each student separately, as an introduction to original work. An idea of the character of this work may be gained from the following brief outline of the various lines of work assigned :

(a) Comparative embryology of vertebrata, with special reference to the recent advance in the morphological study of the nervous system.

(b) The innervation of the heart, and the physiology of the peripheral nervous system.

(c) The histology of the cray-fish and of Arthropoda generally, with reference especially to the regeneration of lost parts in Crustacea.

(d) The regeneration of lost parts in Vermes.

(e) The embryology of the Isopoda, and of Crustacea in general.

Each student, in addition to her more special work, made a thorough study of the embryology of the chick.

The Biological Seminary was held weekly throughout the year, and was devoted in the main to systematic reports and discussions by the students upon the current literature of biology. No part of the work has proved more stimulating and interesting than this, and none has done more to develop the student's powers. In the latter part of the year the regular work of the Seminary was merged into a systematic set of lectures delivered by the students on the following topics :

(1) Two lectures on theories relating to the origin of metameric segmentation.

(2) One lecture on recent researches upon the morphology of *Peripatris*.

(3) Three lectures on Beard's researches upon the development of vertebrates, and some related morphological questions.

(4) Three lectures on Kleinenberg's studies upon the development of *Lopadorhynchus*, and upon the theory of development by substitution.

(5) Two lectures upon Gaskell's researches upon the morphology and physiology of the nervous system.

These lectures were very carefully and thoroughly elaborated by the students, and were highly successful.

In regard to original work, the studies referred to in the last report have been carried forward, and a number of others begun. The researches of Dr. Wilson upon the embryology of *Lumbricus* are now in course of publication, and will appear

this autumn in the *Journal of Morphology*. Dr. Lee has in the course of the year begun a series of researches upon the electrical phenomena of muscle and nerve, which was continued during the summer. One student carried forward her studies upon Kapffer's vesicle in the embryos of telostean fishes, and began the study of the embryology of certain Crustacea, which she continued at Wood's Holl the past summer. The studies of a second, on the regeneration of lost parts, are now well advanced, and promise to yield interesting results for publication next year. A third began an investigation upon the relation of the cardiac nerves and muscles which she intends to carry forward as a graduate student next year. Three students have continued their studies at Wood's Holl Biological Station during the summer.

The Library.—The accessions to the library during the year have been one thousand and sixty-five bound volumes, and numerous pamphlets. The library now contains six thousand two hundred and eighty-two volumes, chosen with reference to the immediate needs of the several departments of instruction. The following gifts have been received during the year, and have been gratefully appreciated: a gift of \$500 from Helen Erben, of Philadelphia, for the purchase of books for the English department, and of \$200 for illustrations of the courses in English; twenty-three photographs of objects of interest in Rome, and of English universities, of large size, framed and ready to be hung upon the walls, by Stuart Wood, Ph.D., who also gave copies of *Profit Sharing*, by Gilman, and of pamphlets published by the American Economic Association; the use of a share in the Philadelphia Library, from Hannah J. Smith, of Germantown, Philadelphia; the first thirty-three volumes of the *Quarterly Review*, and Ball's *History of Mathematics*, from Alice B. Gould; *High-Caste Hindoo Women*, by the Pundita Ramabai, from Mrs. Thompson; *Martyr Scenes*, from Katharine B. Backhouse; Purver's *Translation of the Bible*, two volumes; Besse's *Sufferings of the People called Quakers*, 2 volumes, and Smith's *Catalogue of Friends' Books*, from James Whitall; *The Message of Mayor Filler*, 1888, four volumes, from Richard C. McMurtrie;

Publications of the State of Connecticut, thirty volumes, from Williston Walker, Ph.D.; the publications of the Howard Association, fifteen volumes and numerous pamphlets from the Association; *Relation Between Religion and Science*, by Professor Le Conte; Hines' *International Record of Charities*; Professor Thompson's *Protection*; *Sermons*, by Frederick Robertson; subscriptions to *Harper's*, the *Atlantic*, and *Scribner's* monthlies, given anonymously; a large number of pamphlets from Hermann Collitz, Ph.D., and an unusually large number of the United States Government and State publications.

One hundred periodicals in English and other European languages are taken, the larger part of them devoted to special departments of research. The catalogue, which includes authors and subjects, has been kept in accordance with the decimal system of Melvil Dewey, Librarian of the Library of the State of New York, and is nearly complete, except as to the subjects of the periodicals. Arrangements have been made to carry forward additional work upon the catalogue during the coming year, so that it shall be complete. The Library is open from 8 A.M. to 10 P. M., and the immediate access to the shelves given to the students leads to a very large use of the books, both in the library and in the students' rooms. The plan of placing the books relating to branches of experimental science in proximity to the laboratories, is continued, as is also that of reserving for a time in the library books to which the instructors desire to refer their classes.

The students have access, without expense to themselves, to the Philadelphia Library and to the Mercantile Library of Philadelphia, each of which has about one hundred and fifty thousand volumes, besides valuable pamphlets; and the Academy of Natural Sciences of Philadelphia generously grants to our students the use of their library of thirty thousand volumes, a privilege peculiarly important to scientific students.

The space allotted to the Library is already too small, and this points to the importance of a provision whereby the laboratories may be removed to a suitable building and additional room be given to the Library in Taylor Hall.

Publications.—An essay read before the Oriental Society, at its session in Philadelphia, October, 1888, by E. W. Hopkins, Ph.D., "On the Quantitative Variations in the Mahābhārata Texts."

A Monograph in the twelfth volume of the Proceedings of the Oriental Society, also published separately, on "The Social and Military Position of the Ruling Caste in Ancient India." New Haven, 1889. By E. W. Hopkins, Ph.D.

"The Control of Industry," in the *Age of Steel* for Jan. 5, 1889; by Franklin H. Giddings, A.M.

A review of Patten's *Stability of Prices*; by F. H. Giddings, A.M.

"Internal Improvements," *The Chautauquan*, May, 1889; by F. H. Giddings, A.M.

A review of Gilman's *Profit-sharing* and of Dexter's *Building and Loan Associations*, by F. H. Giddings, A. M., *Political Science Quarterly*, June, 1889.

"The Cost of Production of Capital;" *Quarterly Journal of Economics*, July, 1889. By F. H. Giddings, A.M.

"On the Interpretation of the *Timæus*," by Paul Shorey, Ph.D. *American Journal of Philology*, Vol. IX., No. 4.

A Review of Odin's "*Patois du Canton de Vaud*," by J. J. Stürzinger, Ph.D., *Modern Language Notes*, October, 1888.

The following papers have been published by H. W. Smyth, Ph.D.

1. The Arcado-Cyprian dialect: *Transactions of the Am. Philol. Assoc.*, XVIII., 59-133.

2. Review of Roberts' *Greek Epigraphy*: *Am. Journ. Philol.*, IX., 354-359.

3. Review of Hoffmann's *De mixtis Græcæ linguæ dialectis*: *Am. Journ. Philol.*, IX., 489-491.

4. Translation of Weber's *Heilige Litteratur der Jaina*: two portions have been published in the *Indian Antiquary* of Bombay, Vol. XVII., Oct. and Dec., 1888.

5. A Review of Sterrett's *Epigraphical Journey in Asia Minor*, and *Wolfe Expedition to Asia Minor* (Papers of the Am. School of Classical Studies at Athens, Vols. II. and III.), in *The Classical Review*, Vol. III., 328-332.

The financial results of the year have been satisfactory, and this fact, taken in connection with the general prosperity of the institution, should awaken our lively gratitude.

Each year, however, calls imperatively for the expansion of the institution to meet just demands, most obvious to those familiar with its duties. The scientific departments require more ample as well as better adjusted accommodations and more perfect appliances, and the Science Hall should be erected as soon as the means to do so can be procured. Relatively large as is the annual appropriation for the Library, the need of books is often keenly felt; and in the near future another Hall of Residence should be built. While endeavoring, therefore, to make the best use possible of the means at our disposal, we can confidently appeal to men and women interested in a sound collegiate education for aid commensurate with the task that lies before us.

Respectfully submitted to the Trustees at their
meeting held 10th mo. 11, 1889.

JAMES E. RHOADS.

TABLE OF SUBJECTS STUDIED AND TERMS OF STUDY.

| SUBJECT. | PARTICULAR SUBJECT. | INSTRUCTOR. | No. IN CLASS. | HOURS WEEKLY | TERM OF STUDY. |
|--|--|--------------|---------------|---------------------------------|--------------------------------|
| GREEK | Greek Prose Composition, | Dr. Hopkins. | 5 | 1 | 10 mo. 1, '88, to 6 mo. 4, '89 |
| | Theocritus, post-major class, | " | 4 | 1 | 10 mo. 1, '88, to 2 mo. 1, '89 |
| | Æschylus' Prometheus, | " | 8 | 1 | 10 mo. 1, '88, to 2 mo. 1, '89 |
| | Greek Drama, Æschylus, post-major class, | " | 6 | 1 | 10 mo. 1, '88, to 2 mo. 1, '89 |
| | Xenophon's Memorabilia, | " | 4 | 2 | 10 mo. 1, '88, to 2 mo. 1, '89 |
| | Pindar, post-major class, | Dr. Shorey. | 8 | 1 | 10 mo. 1, '88, to 6 mo. 4, '89 |
| | Herodotus, | " | 10 | 2 | 10 mo. 1, '88, to 2 mo. 1, '89 |
| | Plato's Republic, post-major class, | " | 6 | 1 | 10 mo. 1, '88, to 2 mo. 1, '89 |
| | Homer, | " | 4 | 2 | 10 mo. 1, '89, to 6 mo. 4, '89 |
| | Sophocles' Oedipus, | " | 6 | 1 | 2 mo. 8, '89, to 6 mo. 4, '89 |
| | Euripides' Medea, | " | 4 | 2 | 2 mo. 8, '89, to 6 mo. 4, '89 |
| | Lectures on Greek Literature, | Dr. Hopkins. | 4 | 2 | 2 mo. 8, '89, to 6 mo. 4, '89 |
| | <i>Elementary Greek</i> , Grammar, Xenophon's Anabasis, Books I-III, | " | 9 | 2 | |
| | Grammar, Xenophon's Anabasis, Books I-III, | Dr. Smyth. | 11 | 5 | 10 mo. 1, '88, to 2 mo. 1, '89 |
| | Homer's Iliad, Books I-III, | " | 10 | 5 | 2 mo. 8, '89, to 6 mo. 4, '89 |
| | <i>Graduate Classes</i> . | " | 4 | 2 | 10 mo. 1, '88, to 6 mo. 4, '89 |
| | Æschylus' Orestes, | Dr. Hopkins. | 3 | 1 | 10 mo. 1, '88, to 6 mo. 4, '89 |
| | Lectures on Greek Grammar, | " | 9 | 1 | 2 mo. 8, '89, to 6 mo. 4, '89 |
| | Lectures on Comparative Philology, | " | 1 | 1 | 10 mo. 1, '88, to 6 mo. 4, '89 |
| | Demosthenes, On the Crown, | " | 8 | 2 | 2 mo. 8, '89, to 6 mo. 4, '89 |
| Greek Dialects, | " | 2 | 1 | 10 mo. 23, '88, to 6 mo. 4, '89 | |
| Lectures on Greek Archaeology, | Dr. Smyth. | 4 | 1 | 10 mo. 1, '88, to 2 mo. 1, '89 | |
| Lectures on Greek Archaeology, | " | 7 | 1 | 2 mo. 8, '89, to 6 mo. 4, '89 | |
| Sanskrit Grammar, Lanman's Reader, | Dr. Hopkins. | 2 | 1 | 10 mo. 1, '88, to 6 mo. 4, '89 | |
| <i>Graduate Class</i> , Advanced Sanskrit, | " | 1 | 1 | 10 mo. 1, '88, to 6 mo. 4, '89 | |

TABLE OF SUBJECTS STUDIED AND TERMS OF STUDY—[CONTINUED].

| SUBJECT. | PARTICULAR SUBJECT. | INSTRUCTOR. | No. IN CLASS. | HOURS WEEKLY | TERM OF STUDY. | |
|---|--|--|---------------------------------|------------------------------|--|--|
| LATIN | Tacitus, Germania and Agricola, | Dr. Smyth. | 8 | 2 | 10 mo. 23, '88, to 2 mo. 1, '89 | |
| | Lectures on Latin Grammar, | Dr. Hopkins. | 6 | 1 | 10 mo. 1, '88, to 2 mo. 1, '89 | |
| | Sallust, Catiline, | Dr. Smyth. | 12 | 2 | 10 mo. 23, '88, to 2 mo. 1, '89 | |
| | Lectures on Latin Literature, | Dr. Shorey. | 11 | 1 | 10 mo. 1, '88, to 2 mo. 2, '89 | |
| | Lectures on Latin Literature, | " | 8 | 1 | 2 mo. 8, '89, to 6 mo. 4, '89 | |
| | Catullus and Martial, | " | 10 | 1 | 2 mo. 8, '89, to 6 mo. 4, '89 | |
| | Livy, Book XXI, post-major class, | " | 5 | 1 | 10 mo. 8, '88, to 6 mo. 4, '89 | |
| | Horace, Selections, | " | 15 | 2 | 10 mo. 1, '88, to 2 mo. 1, '89 | |
| | Juvenal, Selections, | " | 10 | 1 | 10 mo. 1, '88, to 2 mo. 1, '89 | |
| | Latin Composition, | Dr. Smyth. | 13 | 1 | 10 mo. 23, '88, to 2 mo. 1, '89 | |
| | Latin Composition, | " | 9 | 1 | 2 mo. 8, '89, to 6 mo. 4, '89 | |
| | Plautus, Captivi, | Dr. Hopkins. | 6 | 1 | 2 mo. 8, '89, to 6 mo. 4, '89 | |
| | Tibullus, Propertius, | Dr. Smyth. | 9 | 2 | 2 mo. 8, '89, to 6 mo. 4, '89 | |
| | Cicero's Letters, | Dr. Shorey. | 7 | 1 | 2 mo. 8, '89, to 6 mo. 4, '89 | |
| | Advanced Latin Literature, post-major class, | " | 8 | 1 | 2 mo. 8, '89, to 6 mo. 4, '89 | |
| | ENGLISH | Lectures on History of English Literature, from Chaucer to Restoration; Short Account of Italian Literature, Essay Work, | Dr. M. C. Thomas. Dr. Gwinn. | 53 56 | 4 1 | 10 mo. 1, '88, to 2 mo. 1, '89 10 mo. 1, '88, to 2 mo. 1, '89 |
| | | Special Study of particular authors, Shelley, Byron, Keats, Leigh Hunt, etc., | Dr. M. C. Thomas. Dr. Gwinn. | 9 5 | 5 1 | 10 mo. 1, '88, to 6 mo. 4, '89 10 mo. 1, '88, to 6 mo. 4, '89 |
| Essay Work, | | | | | | |
| Lectures on History of English Literature, from Restoration to present time; Short Account of French Literature in 17th and 18th Centuries, | | Dr. M. C. Thomas. Dr. Gwinn. | 56 50 | 4 1 | 2 mo. 8, '89, to 6 mo. 4, '89 2 mo. 8, '89, to 6 mo. 4, '89 | |

TABLE OF SUBJECTS STUDIED AND TERMS OF STUDY—[CONTINUED].

| SUBJECT. | PARTICULAR SUBJECT. | INSTRUCTOR. | NO. IN CLASS. | HOURS WEEKLY | TERM OF STUDY. |
|--|--|------------------|---------------|--------------------------------|--------------------------------|
| ENGLISH . . . | <i>Graduate Classes.</i> | | | | |
| | Cædmon and Anglo-Saxon Dialects, | Dr. McClumpha. | 1 | 2 | 2 mo. 8, '89, to 6 mo. 4, '89 |
| | Cynewulf, Andreas, | " | 1 | 1 | 2 mo. 8, '89, to 6 mo. 4, '89 |
| GERMAN . . . | Chaucer, | " | 2 | 2 | 2 mo. 8, '89, to 6 mo. 4, '89 |
| | <i>Elementary German, Grammar and Reading,</i> | Rose Chamberlin. | 9 | 5 | 10 mo. 1, '88, to 2 mo. 1, '89 |
| | (Grammar and Reading,) | " | 8 | 5 | 2 mo. 8, '89, to 6 mo. 4, '89 |
| | German Conversation, | " | 11 | 1½ | 10 mo. 1, '88, to 2 mo. 1, '89 |
| | German Conversation, | " | 10 | 1 | 10 mo. 1, '88, to 2 mo. 1, '89 |
| | German Conversation, | " | 9 | 2 | 2 mo. 8, '89, to 6 mo. 4, '89 |
| | German Literature, | Dr. Collitz. | 11 | 3 | 10 mo. 1, '88, to 2 mo. 1, '89 |
| | German Literature, | " | 13 | 3 | 2 mo. 8, '89, to 6 mo. 4, '89 |
| | Reading, Faust, Part I, | " | 16 | 1 | 10 mo. 1, '89, to 2 mo. 1, '89 |
| | Reading, Faust, Part I, | " | 20 | 1 | 2 mo. 8, '89, to 6 mo. 4, '89 |
| | Reading, Faust, Part II, | " | 8 | 1 | 10 mo. 1, '89, to 2 mo. 1, '89 |
| | Reading, Faust, Part II, | " | 9 | 1 | 2 mo. 8, '89, to 6 mo. 4, '89 |
| | Reading, Middle High German, | " | 7 | 1 | 10 mo. 1, '88, to 2 mo. 1, '89 |
| Reading, Middle High German, | " | 8 | 1 | 2 mo. 8, '89, to 6 mo. 4, '89 | |
| German Literature, | " | 7 | 2 | 10 mo. 1, '88, to 2 mo. 1, '89 | |
| German Literature, | " | 8 | 2 | 2 mo. 8, '89, to 6 mo. 4, '89 | |
| <i>Graduate Classes.</i> | | | | | |
| Middle High German, | " | 2 | 2 | 10 mo. 1, '88, to 6 mo. 4, '89 | |
| Gothic, | " | 3 | 1 | 10 mo. 1, '88, to 2 mo. 1, '89 | |
| <i>Elementary French, Grammar and Reading,</i> | Rose Chamberlin. | 2 | 5 | 10 mo. 1, '88, to 6 mo. 4, '89 | |
| (Conversation and Reading,) | " | 11 | 1 | 10 mo. 1, '88, to 2 mo. 1, '89 | |
| History of French Literature of the 18th and 19th Centuries, | Dr. Stürzinger. | 10 | 5 | 10 mo. 1, '88, to 2 mo. 1, '89 | |

TABLE OF SUBJECTS STUDIED AND TERMS OF STUDY—[CONTINUED].

| SUBJECT. | PARTICULAR SUBJECT. | INSTRUCTOR. | No. IN CLASS. | HOURS WEEKLY | TERM OF STUDY. |
|--|--|------------------|----------------|--------------------------------|---------------------------------|
| FRENCH | History of French Literature of the 18th and 19th Centuries, | Dr. Stürzinger. | . 6 | . 5 | 2 mo. 8, '89, to 6 mo. 4, '89 |
| | Conversation and Reading, | Rose Chamberlin. | . 5 | . 1 | 2 mo. 8, '89, to 6 mo. 4, '89 |
| | Conversation Class, | Louise Boname. | . 15 | . 1 | 10 mo. 1, '88, to 2 mo. 1, '89 |
| SPANISH | Conversation Class, | " | . 5 | 1½ | 2 mo. 8, '89, to 6 mo. 4, '89 |
| | <i>Graduate Classes.</i> | | | | |
| | Lectures on Spanish Grammar, and Reading, | Dr. Stürzinger. | . 1 | . 3 | 10 mo. 1, '88, to 2 mo. 1, '89 |
| MATHEMATICS | Lectures on Spanish Grammar, and Reading, Cervantes, Calderon, etc., | " | . 1 | . 3 | 2 mo. 8, '89, to 6 mo. 4, '89 |
| | Solid Geometry, | Dr. Scott. | . 10 | . 2 | 10 mo. 1, '88, to 2 mo. 1, '89 |
| | Trigonometry, | Mr. Harkness. | . 8 | . 3 | 10 mo. 1, '88, to 2 mo. 1, '89 |
| | Algebra, advanced, | " | . 8 | . 2 | 10 mo. 22, '88, to 2 mo. 1, '89 |
| | Trigonometry, advanced, | " | . 8 | . 2 | 10 mo. 22, '88, to 2 mo. 1, '89 |
| | Theory of Equations, | " | . 8 | . 2 | 10 mo. 22, '88, to 2 mo. 1, '89 |
| | Dynamics of a Particle, | " | . 1 | . 2 | 2 mo. 8, '88, to 6 mo. 4, '89 |
| | Integral Calculus, | " | . 1 | . 2 | 10 mo. 1, '88, to 2 mo. 1, '89 |
| | Elementary Dynamics, | " | . 5 | . 1 | 2 mo. 8, '89, to 6 mo. 4, '89 |
| | Differential and Integral Calculus, | " | . 8 | . 2 | 2 mo. 8, '89, to 6 mo. 4, '89 |
| | Analytical Conics, | Dr. Scott. | . 8 | . 2 | 10 mo. 1, '88, to 2 mo. 1, '89 |
| | Newton, | " | . 6 | . 1 | 10 mo. 1, '88, to 2 mo. 1, '89 |
| | History of Mathematics, | " | . 1 | . 1 | 10 mo. 1, '88, to 2 mo. 1, '89 |
| | Differential Calculus, | " | . 1 | . 1 | 10 mo. 1, '88, to 2 mo. 1, '89 |
| | Higher Plane Curves, post-major class, | " | . 2 | . 2 | 10 mo. 1, '88, to 6 mo. 4, '89 |
| Modern Geometry, post-major class, | " | . 1 | . 2 | 10 mo. 1, '88, to 6 mo. 4, '89 | |
| Differential Analysis, post-major class, | Mr. Harkness. | . 1 | . 3 | 10 mo. 1, '88, to 6 mo. 4, '89 | |

| SUBJECT. | PARTICULAR SUBJECT. | INSTRUCTOR. | No. in CLASS. | HOURS WEEKLY | TERM OF STUDY. |
|-------------------|---|---------------|---------------|--------------|--------------------------------|
| POLITICAL SCIENCE | Political Economy, | Mr. Giddings. | 3 | 3 | 10 mo. 1, '88, to 2 mo. 1, '89 |
| | Political Economy, | " | 8 | 3 | 2 mo. 8, '89, to 6 mo. 4, '89 |
| | Advanced Political Economy, | " | 9 | 3 | 10 mo. 1, '88, to 2 mo. 1, '89 |
| | Political Institutions, | " | 9 | 2 | 10 mo. 1, '88, to 2 mo. 1, '89 |
| | Principles of Administration, | " | 11 | 3 | 2 mo. 8, '89, to 6 mo. 4, '89 |
| PHILOSOPHY | Constitutional Law, | " | 10 | 2 | 2 mo. 8, '89, to 6 mo. 4, '89 |
| | Logic, | Dr. Cook. | 12 | 1 | 10 mo. 1, '88, to 2 mo. 1, '89 |
| | Psychology, Lotze's "Outlines," | " | 9 | 1 | 10 mo. 1, '88, to 2 mo. 1, '89 |
| | Ethics, | Dr. Rhoads. | 15 | 1 | 10 mo. 1, '88, to 2 mo. 1, '89 |
| | Ethics, | " | 13 | 1 | 2 mo. 8, '89, to 6 mo. 4, '89 |
| CHEMISTRY | History of Philosophy, | Dr. Cook. | 10 | 2 | 10 mo. 1, '88, to 2 mo. 1, '89 |
| | Lectures on Analytical Chemistry; Laboratory Work, | Dr. Shorey. | 7 | 2 | 2 mo. 8, '89, to 6 mo. 4, '89 |
| | Lectures on Carbon Compounds; Laboratory Work, | Dr. Keiser. | 9 | 5 | 10 mo. 1, '88, to 2 mo. 1, '89 |
| | Advanced Chemistry, | " | 8 | 6 | 2 mo. 8, '89, to 6 mo. 4, '89 |
| | Mechanics and Electricity, | " | 1 | 5 | 10 mo. 1, '88, to 2 mo. 1, '89 |
| PHYSICS | Laboratory Work, | Dr. Perkins. | 8 | 5 | 10 mo. 1, '88, to 2 mo. 1, '89 |
| | Sound, Heat and Light, | " | 8 | 3 | 10 mo. 1, '88, to 2 mo. 1, '89 |
| | Laboratory Work, | " | 6 | 5 | 2 mo. 8, '89, to 6 mo. 4, '89 |
| | Theory of Errors, Mechanics and Electricity, | " | 6 | 3 | 2 mo. 8, '89, to 6 mo. 4, '89 |
| | Laboratory Work, | " | 1 | 5 | 10 mo. 1, '88, to 2 mo. 1, '89 |
| BIOLOGY | Elementary Thermodynamics, Geometrical and Physical Optics, | " | 1 | 4 | 10 mo. 1, '88, to 2 mo. 1, '89 |
| | Laboratory Work, | " | 1 | 5 | 2 mo. 8, '89, to 6 mo. 4, '89 |
| | General Biology, with Laboratory Work, | Dr. Wilson. | 16 | 3 | 10 mo. 1, '88, to 2 mo. 1, '89 |
| | General Biology, with Laboratory Work, | Dr. Lee. | 16 | 2 | 10 mo. 1, '88, to 2 mo. 1, '89 |

TABLE OF SUBJECTS STUDIED AND TERMS OF STUDY—[CONTINUED].

| SUBJECT. | PARTICULAR SUBJECT. | INSTRUCTOR. | No. IN CLASS. | HOURS WEEKLY | TERM OF STUDY. |
|-----------------------------------|---|---------------------|---------------|--------------------------------|--------------------------------|
| BIOLOGY | General Zoölogy, | Dr. Wilson. | 4 . . | 3 . . | 10 mo. 1, '88, to 2 mo. 1, '89 |
| | Comparative Anatomy, | Dr. Lee. | 3 . . | 2 . . | 10 mo. 1, '88, to 2 mo. 1, '89 |
| | General Biology, | Dr. Wilson, | 15 . . | 3 . . | 2 mo. 8, '89, to 6 mo. 4, '89 |
| | Advanced Biology, | " | 6 . . | 2 . . | 2 mo. 8, '89, to 6 mo. 3, '89 |
| | Elementary Physiology, | Dr. Lee. | 14 . . | 2 . . | 2 mo. 8, '89, to 6 mo. 4, '89 |
| | Neurology, post-major class, | " | 4 . . | 2½ . . | 10 mo. 1, '88, to 2 mo. 1, '89 |
| | Zoölogy and Embryology, post-major class, | Dr. Wilson. | 4 . . | 2½ . . | 10 mo. 1, '88, to 2 mo. 1, '89 |
| | Biology, post-major class, | Drs. Wilson and Lee | 4 . . | | 2 mo. 8, '89, to 6 mo. 4, '89 |
| | <i>Graduate Class</i> , Biology, | " | 2 . . | 2 . . | 10 mo. 1, '88, to 2 mo. 4, '89 |
| | Ancient History, | Dr. Walker. | 15 . . | 5 . . | 10 mo. 1, '88, to 2 mo. 1, '89 |
| | Modern History, | " | 33 . . | 5 . . | 10 mo. 1, '88, to 6 mo. 4, '89 |
| | History, | " | 1 . . | 1 . . | 10 mo. 1, '88, to 6 mo. 4, '89 |
| | History, Post-Major Class, | " | 1 . . | 2 . . | 10 mo. 1, '88, to 6 mo. 4, '89 |
| <i>Graduate Class</i> , | Dr. F. H. Giddings, | 2 . . | 4 . . | 10 mo. 1, '88, to 6 mo. 4, '89 | |

BRYN MAWR COLLEGE.

THE

PRESIDENT'S REPORT

TO THE

BOARD OF TRUSTEES,

FOR THE YEAR 1889-90.

PHILADELPHIA:

FERRIS BROS., PRINTERS, S. W. COR. SIXTH AND ARCH STS.

1890.

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ACADEMIC APPOINTMENTS.

JAMES E. RHODES, LL.D., *President of the College.*

M. CAREY THOMAS, PH.D., *Dean of the Faculty and Professor of English.*
A.B., Cornell University, 1877; studied at the Johns Hopkins University, 1877-78; University of Leipsic, 1879-82; Ph.D., University of Zürich, 1882; Sorbonne and the Collège de France, 1883.

EDMUND B. WILSON, PH.D., *Professor of Biology.*

Ph.B., Yale College, 1878; Fellow in Biology, Johns Hopkins University, 1879-81; Ph.D., Johns Hopkins University, 1881; Assistant in Biology in the Johns Hopkins University, 1881-82; studied at the Universities of Cambridge and Leipsic, and at the Biological Station, Naples, 1882-83; Lecturer on Biology, Williams College, Mass., 1883-84; Lecturer on Comparative Anatomy and Physiology in the Massachusetts Institute of Technology, 1884-85.

CHARLOTTE ANGAS SCOTT, D.Sc., *Associate Professor of Mathematics.*

Lincoln, England. Graduate in Honors, Girton College, Cambridge, 1880; B.Sc., University of London, 1882; Lecturer on Mathematics in Girton College, Cambridge, 1880-84; lectured in connection with Newnham College, 1880-83; D.Sc., University of London, 1885.

EDWARD WASHBURN HOPKINS, PH.D., *Associate Professor of Greek, Sanskrit, and Comparative Philology.*

A.B., Columbia College, 1878; Fellow in Literature, Columbia College, 1878-81; University of Leipsic, 1878-81; University of Berlin, 1880; Ph.D., University of Leipsic, 1881; Sorbonne and the Collège de France, 1881; Assistant in Latin and Instructor in Zend in Columbia College, 1881-84.

PAUL SHOREY, PH.D., *Associate Professor of Greek and Latin.*

A.B., Harvard College, 1878; University of Leipsic, 1881-82; University of Bonn, 1882; American School of Classical Studies, Athens, 1882-83; Ph.D., University of Munich, 1884.

EDWARD H. KEISER, PH.D., *Associate Professor of Chemistry.*

S.B., Swarthmore College, 1880; Assistant in Chemistry in Swarthmore College, 1880-81; S.M., Swarthmore College, 1881; Fellow in Chemistry, Johns Hopkins University, 1882-84; Ph.D., Johns Hopkins University, 1884; student at the Royal School of Mines, Freiberg, Saxony, 1884; Assistant in Chemistry in the Johns Hopkins University, 1884-85.

HERMANN COLLITZ, PH.D., *Associate Professor of German Literature and Language.*

Bleekede, Hanover, Germany. University of Göttingen, 1875-78; University of Berlin, 1878-81; Ph.D., University of Göttingen, 1878; Privatdocent in the University of Halle, 1885-86.

CHARLES A. PERKINS, PH.D., *Associate in Physics.*

A.B., Williams College, 1879; Fellow in Physics, Johns Hopkins University, 1883-84; and Ph.D., 1884; Assistant in Physics, Johns Hopkins University, 1884-87.

ROSE CHAMBERLIN, *Instructor in French and German.*

Great Yarmouth, England. Graduate in Honors, Newnham College (Mediæval and Modern Languages Tripos, First Class), University of Cambridge, England, 1886.

FREDERIC S. LEE, PH.D., *Associate in Physiology and Histology.*

A.B., St. Lawrence University, 1878, and A.M., 1881; Fellow in Biology, Johns Hopkins University, 1881-85, and Ph.D., 1885; studied at the University of Leipsic, 1885-86; Instructor in Physiology, St. Lawrence University, 1886-87.

JAMES HARKNESS, M.A. (*Cambridge and London*), *Associate in Mathematics.*

Derby, England. Major Scholar, Trinity College, Cambridge, 1882; Graduate in Honors (8th Wrangler), in the Cambridge Mathematical Tripos, 1885; Mathematical Exhibitioner, London University Intermediate Arts Examination, 1885; Mathematical Scholar, London University B.A. Examination, 1887.

- HERBERT WEIR SMYTH, PH.D., *Associate in Greek and Latin*.
A.B., Swarthmore College, 1876; and Harvard University, 1878; University of Leipzig, 1879-81; University of Göttingen, 1881-83; Instructor in Classics and Sanskrit, Williams College, 1883-85; Ph.D., University of Göttingen, 1884; Fellow by Courtesy and Lecturer on Greek, Johns Hopkins University, 1885-87; Reader in Greek Literature, Johns Hopkins University, 1887-88.
- MARY GWINN, PH.D., *Associate in English*.
Studied at the University of Leipzig, 1879-82; University of Zürich, 1882; Sorbonne and the Collège de France, 1883; Fellow in English, Bryn Mawr College, 1885-87; and Ph.D., Bryn Mawr, 1888.
- FRANKLIN H. GIDDINGS, A.M., *Associate in Political Science*.
A.B., Union College, 1877; A.M., 1889; author of "The Report on Profit Sharing," published in the Seventeenth Annual Report of the Massachusetts Bureau of Statistics of Labor, "The Sociological Character of Political Economy," and (with Professor Clark) of "The Modern Distributive Process," etc.
- CHARLES FLINT McCLUMPHA, PH.D., *Associate in Anglo-Saxon*.
A.B., Princeton College, 1885; A.M., 1888; University of Leipzig, 1885-88, and Ph.D., 1888.
- CHARLES MACLEAN ANDREWS, PH.D.
A.B., Trinity College, 1884; Fellow in Johns Hopkins University, 1888-89; and Ph.D., 1889.
- GONZALEZ LODGE, PH.D., *Associate in Latin*.
A.B., Johns Hopkins University, 1883; Professor of Greek and Latin, Davidson College, 1883-85; Fellow in Johns Hopkins University, 1885-86, and Ph.D., 1886; studied at the University of Bonn, 1886-89.
- THOMAS McCABE, PH.D., *Associate in Romance Languages* for 1890-91,
and Associate Professor of Romance Languages in 1891-92.
Studied at the Sorbonne and Collège de France, Paris, 1882; at the University of Rome, 1884; at the Universities of Zürich and Berlin, 1885; studied at the Johns Hopkins University, 1885-88; Fellow in Romance Languages, Johns Hopkins University, 1887-88; Ph.D., Johns Hopkins University, 1888; Instructor in Romance Languages, University of Michigan, 1888-89; Professor of Germanic Languages and Literature, The Indiana University, 1889-90.
- GEORGE A. BARTON, A.M., *Associate (elect) in Biblical Study and Semitic Languages*.
A.B., Haverford College, 1882; A.M., Haverford College, 1885; A.M., Harvard University, 1890.
- CHARLES COTTON BLACKSHEAR, PH.D., *Instructor in Chemistry*.
A.B., Mercer University, 1881; studied at Johns Hopkins University, 1886-90; Ph.D., Johns Hopkins University, 1890.
- LEAH GOFF, A.B., *Demonstrator in Biology*.
A.B., Bryn Mawr College, 1889.
- MABEL PARKER CLARK, A.M., *Reader in English*.
A.B., Bryn Mawr College, 1889; Fellow in English, Bryn Mawr College, 1889-90; A.M., Bryn Mawr College, 1890.
- FLORENCE E. PEIRCE, *Librarian*.
- HENRIETTA A. PALMER, *Assistant Librarian*.
- CAROLYN C. LADD, M.D., *Medical Examiner to the Gymnasium*.
Studied under Dr. Sargent, 1884-85; M.D., Woman's Medical College of Pennsylvania, 1889.
- ANNA DONALDSON McNAIR, *Director of the Gymnasium*.
A.B., Antioch College, 1886; Studied under Dr. Sargent, 1889-90.
- ANNA E. BROOMALL, M.D., *Consulting Physician of the College*.
Professor in the Woman's Medical College of Pennsylvania.
- IDA E. RICHARDSON, M.D., *Physician of the College*.
Professor in the Woman's Medical College of Pennsylvania.
- JULIA COPE, A.B., *Secretary to the College*.
A.B., Bryn Mawr College, 1889.

BRYN MAWR COLLEGE.

REPORT OF THE PRESIDENT FOR THE YEAR 1889-90.

To the Trustees of Bryn Mawr College :

The report now submitted to you covers the academic year beginning Tenth Month 1st, 1889, and ending Sixth Month 5th, 1890; also the fiscal year ending Eighth Month 30th, 1890.

The year has been marked by an increase in the number of instructors, by additions to the appliances for teaching, by the beginning of a third hall of residence for students, and by general progress in the various activities of the College.

It is my duty this year to call your attention more particularly to the needs of our scientific laboratories, for unless their capacity can be enlarged during the coming year, the efficiency of the scientific instruction given by the College, a very important department of its teaching, must be seriously restricted. The equipment of the laboratory for Physics has been enlarged by the purchase of some important pieces of apparatus. These have been bought in part from the annual appropriation made to the laboratory, and in part from donations in money made by a former student, whose gifts are gratefully acknowledged. The courses in Physics for the first year's class and the second year's class have both been given by Dr. Perkins. At first the lectures have treated of the simpler facts of the sciences, but have soon led the students to consider those conceptions of matter, force, and motion which are used by modern physicists to explain the phenomena of the inorganic world. The classes have given three or four hours weekly to laboratory practice, which has included measurements of time, motion, and magnitudes, together with experiments explanatory of the nature of light, electricity, heat, and sound. The

provision made for laboratory work in Physics, however, is inadequate, and the physical laboratories should be transferred from the temporary frame building they now occupy to a permanent Science Hall, planned so as to afford this necessary study every facility for experimental work. Since the facts of physical science come largely under mathematical laws, the study of Physics, in addition to other sources of vivid interest, presents many opportunities for the practical application of a knowledge of pure mathematics. To supply this knowledge so far as may be necessary for a two years' course in Physics, a special course in mathematics is provided for students that elect Physics as one of their chief subjects of study.

The classes in Biology comprised twenty-nine students, and represented a minor or first year's class, a major or second year's class, and a graduate class. The instruction in general Biology was chiefly given by Dr. Wilson, and that in Physiology by Dr. Lee. In the laboratory work they were assisted by Leah Goff, A.B., a graduate of Bryn Mawr College. In the teaching of biology, the student is first led to a careful study of the minute structure and functions of typical plants and animals. This is followed by an examination of some of the lowest and most simple living organisms, and a study of the relations of plants to animals and of the development of selected types from either kingdom. Thus a foundation is laid for later special studies in Zoology, Botany, and Physiology. As in previous years, original researches have been carried on, both by the instructors and the advanced students. These investigations have had as their object not merely to add a few new facts to the science, but rather to verify important hypotheses, or to discover biological principles of wide application. The results of some of these investigations have been published, while others await further study and observation.

The department has had valuable accessions to its library, partly from the library fund of the College, but chiefly from gifts made by one of the students interested in biological study. From Griffith E. Abbot, M.D., has been received a copy of

“Hough’s American Woods,” Part I. A small room has been fitted up to enable Dr. Lee to carry on experiments upon the effects of electricity on muscles and nerves. The keen interest hitherto shown by students in the study of Biology continues unabated, and the present space in the laboratories is too small for the number that propose to enter the classes next year. Unless, therefore, the construction of a Science Hall to contain all the laboratories can be begun at an early date the growth of this department will be very seriously checked. Biology is an attractive subject of study, not alone because it gives an insight into the secrets of vital phenomena, but also because it teaches scientific methods and modes of thought. The enthusiasm for this study should, therefore, receive every proper encouragement. The number of responsible positions now held by graduates trained wholly or in part in the biological laboratory of the College is an evidence of the quality of the instruction given.

The appointment of Dr. C. C. Blackshear as Associate in Chemistry will render it possible for Associate Professor Keiser to offer both the first and second year’s courses in Chemistry each year, instead of giving them in alternate years as has been the case hitherto. This will also enable the department to offer graduate as well as undergraduate courses, and for both of these the apparatus and materials are already at hand. But in the chemical as well as in the biological laboratories every table will then be occupied, so that for chemical students also a Science Hall is imperatively needed, unless next year some students are to be prevented from taking courses in such important subjects of study as chemistry and biology on account of insufficient laboratory accommodations. In this department, as well as in others, the students feel the quickened zest that comes from scientific discovery. The synthetic formation of fumaric acid effected by Dr. Keiser has apparently demonstrated the truth of the theory advanced by Professors Van Hoff and Wislicenus as to the constitution of physically isomeric compounds. The collection of minerals attached to the Chemical Laboratory has had an accession of

more than 200 specimens, the gift of Theodore W. Rand, of Philadelphia; and a number of other specimens were given by George Vaux, Jr., of Bryn Mawr.

In accordance with the announcement made last year the courses in Latin, conducted by Dr. Shorey and Dr. Lodge, have been extended so as to provide for minor, major, post-major, and graduate classes. Very considerable additions have been made to the works in the library for the use of Latin classes; and these now include, beside many others, a practically complete series of Latin texts, a good working library on Latin satire, and a copy of "Corpus Inscriptionum Latinarum." The design of the Latin instruction, as defined by Dr. Shorey in his former reports, has been adhered to. The aim is to give readiness and precision in reading Latin, an introduction to the life and literature of the Roman people, an appreciation of their organising and world-subduing power, and some idea of their answers to the questions in morals and philosophy that are raised by all progressive peoples.

The instruction in Greek has been conducted by Dr. Hopkins, Dr. Shorey, and Dr. H. W. Smyth. It has comprised five courses, one for beginners, and those for minor, major, post-major, and graduate classes. Dr. Hopkins has also taught an undergraduate (post-major) class in Sanskrit and Comparative Philology, and a graduate class in Sanskrit. During the second semester Dr. Smyth gave lectures, one hour weekly, upon Greek Sculpture from the period of Praxiteles onward, and one hour a week on Lessing's *Laocoon* and topics of art criticism. Attention is called to Dr. Hopkins's statement in his appended report of the aim of the courses in Sanskrit, and the reasons for restricting the study of it to the second year of the post-major course in Greek in the case of undergraduates.

Since the permission given last year to omit Greek from the studies required to secure a degree, the students that enter the beginners' class intend, in almost every instance, to continue the study for three or four years. This has given the class a common object, and has made it easier for

the members to gain an acquaintance with Greek nearly the equivalent of that demanded for matriculation. In the two years of the major course the department endeavors to secure that precision in the knowledge of Greek grammar and construction which is essential to the chief end in view,—an appreciation by the student of the spirit and modes of thought, the art, the philosophy, the social ideas, and the religion of the Greeks. For this purpose grammatical teaching is accompanied by much reading both in class and in private, and by lectures on the development of Greek literature, its genetic relation to later literatures, and its revelation of Greek life.

The large size of the classes in English, and the number of graduate as well as undergraduate courses given, has made it necessary to appoint another assistant in the department. Mabel P. Clark, A.M., a graduate of Bryn Mawr College, and the holder of the Fellowship in English last year, has been appointed Reader in English, and will assist in the essay work, which now receives due attention in the teaching of English in the College.

In the department of Romance Languages the vacancy left by the resignation of Associate Professor J. J. Stürzinger has been filled by the appointment of Thomas McCabe, Ph.D., as Associate in Romance Languages for the year 1890-91, and Associate Professor of Romance Languages in 1891-92. Dr. McCabe comes to Bryn Mawr from the Indiana University, where he was Professor of Germanic Languages and Literature. His reputation for scholarship and success in teaching leads to the expectation that under his care students will receive the culture and discipline which should come from the proper study of Romance literature.

The general subject of History is now divided. The teaching of political science, including the elements of constitutional law, political economy, and sociology, is conducted by Franklin H. Giddings, A.M., and that in history proper by

Dr. C. M. Andrews. In each division there have been minor, major, and graduate courses given ; and hereafter a post-major course will be offered in political science to students that have completed a major course and wish to prepare for graduate study. The appended reports of Franklin H. Giddings and Dr. Andrews point out the methods they have followed, and the subjects treated by them.

The following changes in the teaching of Philosophy are worthy of note. Dr. Shorey gave lectures three hours a week throughout the year, instead of two hours a week for one semester, as was the case the preceding year, and offered also direction in the advanced study of philosophy. The lectures, as stated by Dr. Shorey in his report, were first upon logic and then upon psychology. In connection with the latter subject, references were made to various philosophical writers as a preparation for the discussion of some points of the history of philosophy in the later lectures of the course.

Many causes have combined to create a demand that the study of the Bible shall have a more prominent place than has been assigned to it hitherto in American colleges. To a limited extent this demand has been met by the College, and for three years Professor J. Rendel Harris, of Haverford College, has lectured once a week on the Bible. The character of the lectures for the past year is indicated by his statement that the time has been occupied for the most part with study of the chronological and geographical verifications of some of the leading situations in the Old and New Testament records.

As the engagements of Professor Harris prevent him from continuing and extending this course, George A. Barton, A.M., has been appointed Associate in Biblical Study and Semitic Languages, and is expected to enter upon his duties in the College in the autumn of 1891. He will continue the present required course upon the books of the Bible, and will offer in addition elective and graduate courses. The elective courses

will include one course of three hours a week upon the same general topics as the required course, and another of two hours a week on New Testament Greek. In the graduate courses two hours weekly will be given to Hebrew, or to another of the Semitic group of languages. Through the kindness of Professor Harris the library already contains a number of works bearing upon the introductory study of the New Testament; but this collection should be much enlarged, and a good working library upon the Old Testament should also be procured. With the conviction that the sacred Scriptures will have an ever increasing power to promote the highest welfare of men it is much to be desired that a department of Biblical Study in the College should be liberally endowed, so that as far as possible permanence and efficiency may be given to the teaching of a subject so important. The College is indebted to Professor Harris for a cast of the Siloam Inscription, one of many contributions made by him to our materials in aid of Biblical study.

In the Twelfth Month last Amelia B. Edwards, Ph.D., LL.D., L.H.D., gave three public lectures at the College upon "The Buried Cities of Egypt," "Egyptian Sculpture," and "Egyptian Painting."

The lectures were attended on each occasion by audiences of about four hundred persons. They gave the results of the personal observations of Dr. Edwards in Egypt, an account of some of the most recent discoveries in Egyptian antiquities, and many conclusions of the most eminent Egyptologists upon the topics discussed. They were received with great satisfaction.

In the Third Month, 1890, Samuel W. Dike, LL.D., the Secretary of the National Divorce Reform League, gave an address before the students upon "The Family in its Relations to the State." Dr. Dike's long-continued investigation of this question, and his well-known familiarity with the statistics bearing upon it, enabled him to speak with authority, and gave force to the earnest moral convictions he expressed.

Although the number of students returning to College was reduced by the graduation of the first entire class in 1889, one hundred and twenty-one were enrolled during the year, an increase of fifteen over the previous year. Of these twenty-one were graduates, of whom five held fellowships and three were candidates for the doctor's degree. The undergraduates were one hundred in number, eighty-nine of whom were regular students, six were special students, and five were "hearers." Seven of the undergraduates were admitted in 1885; eleven in 1886; fifteen in 1887; twenty-four in 1888; and thirty-eight in 1889. Of the whole number of students one hundred and five were resident in the College halls and sixteen were non-resident. It may be noticed that the attendance of graduate students at the College has steadily increased from year to year.

The need of a third Hall of Residence for students was mentioned in my last report. To meet this necessity plans were prepared for a hall to accommodate sixty students, and ground was broken for its erection Fifth Month 10th, 1890. The style of the new hall follows that of the collegiate architecture of the Tudor period. The walls have been built of stone of a dark gray color, the cut-stone being of a lighter shade. The architectural effect is agreeable, and the arrangements for the comfort and health of the inmates are equal to those in the preceding halls. The hall is heated by air driven over steam-heated pipes by a fan, and it has a carefully devised system of ventilation.

The conferring of degrees took place at the close of the academic year, when fifteen candidates received the degree of Bachelor of Arts; and one, the holder of a fellowship for the year, was admitted to the degree of Master of Arts. The European Fellowship for 1890-91 was given to Katharine Morris Shipley, of Cincinnati, Ohio. An address to the graduating class and to the assembled friends of the College was made by Ira Remsen, Ph.D., acting President of Johns Hop-

kins University, upon the topic, "College Education and the Ability to Think." Expressing as it did Dr. Remsen's long experience as a university professor, the address was listened to with great interest and pleasure.

Except for the seriously depressing effects of the epidemic of influenza, the health of the students was generally good. The time given to physical training in the gymnasium reached an average of three hours a week during the year for each student enrolled. This average is quite satisfactory, and the beneficial effects of such steady attendance upon gymnastic exercises were shown by a gain in strength by eighty-five per cent. of those who were enrolled at the gymnasium, as shown by instrumental tests.

Carolyn Ladd Hall, M.D., has resigned the position of Director of the Gymnasium, but will continue to give the College the benefit of her experience and medical knowledge by acting as Medical Examiner to the Gymnasium. Anna Donaldson McNair, A.B., has been appointed Director. She is a graduate of Antioch College, and has taken a full course of training in the school conducted by Dr. D. A. Sargent, of the Hemenway Gymnasium, Cambridge, Mass.

In response to an invitation from the Trustees of Vassar College, the Faculty of Bryn Mawr College appointed three of its members to represent it at the celebration of the twenty-fifth anniversary of the completion of the first year of Vassar College. This delegation united with the representatives from many other institutions of learning in recognising the early and honorable part taken by Vassar College in advancing the collegiate education of women, and in offering to its authorities their felicitations upon its present prosperity.

No education prepares for "complete living" that does not quicken and nurture the spiritual life, and no force has been so potent in creating the best elements of modern civilization as the Christianity of the New Testament. While respecting, therefore, the religious convictions of the students, the College

has used such agencies for their spiritual welfare as were at its command. Daily morning worship has been maintained, and has been attended by a very large proportion of the students. A smaller number have been present at a meeting for worship held one evening each week. Attendance upon public worship on the First-day of the week is earnestly encouraged, and facilities to reach the places of worship in the neighborhood of the College have been freely offered. Meetings for social worship have also been conducted by the students themselves, as well as associations for the practical expression of Christian benevolence. The religious occasions at the College have usually been marked by a devout communion that has done much to promote the spirit of harmony which has distinguished the college life.

Examinations for matriculation were held in the summer of 1890, at Germantown, Philadelphia; Cambridge, Massachusetts; Baltimore; Cincinnati; and San José, California; beside those conducted at the College in the autumn of 1889, at the close of the first half-year, and in the summer of 1890. These examinations were attended by one hundred and eighteen candidates.

The instructors in the several departments have presented detailed statements of the actual work of the year and of the general scope of their teaching. These statements are embodied in the reports that follow :

Greek.—It is felt to be an advantage that the department offers to students the opportunity of beginning in college the study of Greek, despite the fact that a year only can be devoted to the preparation for the regular collegiate course. The student is at the outset introduced to proper methods of study, and is vigorously drilled in grammatical forms and in prose composition. While the course in elementary Greek disclaims the intention of covering the entire amount of reading required of candidates for admission, experience has shown that a faithful student has no difficulty in making up by her-

self what has not been pursued under the guidance of the instructor. The change in the regulations voted by the Trustees, to the effect that Greek should no longer be required of students who did not present that language for admission, went into operation last year; and by giving greater unity to the class, and greater coherence to the instruction, has proved a distinct gain. Most students now selecting this course intend to pursue Greek further in their college studies.

The strictly collegiate course in Greek is designed to open to the student some of the most interesting avenues of approach to Greek life and thought. In the first year grammatical principles are reviewed, and by a constant attention to syntax the instructor seeks to lay a foundation necessary to a proper appreciation of Greek literature by the student at a later period of study. In the second year attention is still devoted to grammar, but chiefly with a view to interpreting the meaning of the passage in question. The lectures on literature given in this year have proved a highly efficacious means of widening the horizon of the student before she approaches the deeper study of the language as literature.

In the post-major courses attention is directed to the interrelation of thought and event, to the literary quality of the masterpieces, to the harmonies of rhythm, and to the subtle delicacies of style. In the last two years much Greek is read. Side-lights are thrown upon literature by lectures on Greek sculpture. The artistic constitution of Greek creative genius, the close bond of sympathy between all products of Greek art, whether a tragedy of Sophocles, an oration of Demosthenes, or a statue of Praxiteles, are brought to the notice of the student.

During 1890-91 an opportunity will be afforded those who propose to become teachers, as well as others, of constant practice in advanced prose composition. Oral exercises will be a feature of this course. During the last two years of the collegiate course it is the aim of the department to offer to its students, so far as may be practicable in so short a period, personal contact with ancient life as manifested in Greek literature, to emphasise the characteristics of Greek thought,

to display the essential continuity of the Greek and modern scientific spirit, and to unfold in some degree what manner of men the Greeks were in their view of the ethical, philosophical, and æsthetical problems of life.

While the graduate student reads the more difficult philosophical and rhetorical works, she is taught to rely upon herself in confronting the problems of classical philology. Nothing is more quickening to the scientific spirit than to deal directly with the sources of literary history, or to encounter the difficulties of textual criticism. Papers have been prepared which record investigations, and it is expected that results will be reached that may merit publication.

In the first semester the minor, or first year's class, read with Dr. Hopkins, two hours weekly, the whole of Plato's *Apology* and *Crito*, and had one hour weekly of exercises and lectures on Greek Prose Composition. The private reading consisted of Lysias' oration *Against Eratosthenes*. With Dr. Smyth they read, two hours weekly, three books of the *Odyssey*. In the second semester the class read, with Dr. Hopkins, Euripides' *Alcestis*, and part of Sophocles' *Ajax*, the rest of the latter play being the private reading assigned. The class also practised writing Greek exercises one hour weekly, the exercises presented being corrected and returned for revision during the hour. With Dr. Smyth the class read, for two hours weekly, four books of the *Iliad*.

The major, or second year's class, heard from Dr. Hopkins during the first semester, two hours weekly, lectures on Greek Literature. The lectures treated of the history of Greek Poetry from the Homeric period to the time of Euripides, and the history of the texts read was copiously illustrated by specimens from the writings of the authors discussed. As a supplement to this course, and to render it more complete, the fragments of the Lyric Poets were read during one hour weekly, the class reciting selections from the Elegiac, Iambic, and Melic Poets. The private reading, *Prometheus* of Æschylus, was read by all the class except one, to whom an extension of time was allowed because of illness. With Dr. Smyth the class read in Herodotus, selections from Books VI. and VII., two hours weekly.

In the second semester the class read with Dr. Hopkins, for two hours weekly, *Selections from Thucydides*. Special attention was given to the style and construction of early Attic prose. Another hour weekly was employed in reading Euripides' *Iphigenia in Tauris*, nearly all of which was read in the class-room. The class heard lectures from Dr. Shorey, for two hours weekly, on the History of Greek Prose; and under his direction read the *Phædo* of Plato as private reading. In every case examinations were conducted upon the private reading.

The post-major class, under Dr. Hopkins, devoted one hour weekly throughout the year to Sanskrit grammar and reading. The class was shown the value of Comparative Philology, and introduced into the literature of the Hindus. A second hour was given to the *Agamemnon* of Æschylus, in which nearly all this play was read and commented on. A third hour weekly was given to Theocritus during the first semester; and during the second this class was united with the major class in a critical reading of the *Eumenides* of Æschylus, and some of the shorter *Dialogues* of Lucian. With Dr. Smyth this class, for two hours weekly, combined reading of Attic orators—selections from Antiphon, Andocides, Lysias, and Isocrates, with essay work. One hour fortnightly was given to advanced Greek Prose Composition. Under Dr. Shorey the class read the *Republic* of Plato, two hours weekly throughout the year. Dr. Smyth in the second semester gave lectures, two hours weekly, on Greek Sculpture from the period of Praxiteles, on Lessing's *Laocoon*, and topics of art criticism.

It has not been thought advisable to recommend the study of Sanskrit to the undergraduates of the classical department in general, since many students take chiefly a literary interest in Greek and Latin, and for them the loss of time entailed by undertaking to learn a language as difficult as Sanskrit is scarcely balanced by the advantage of knowing what little can be acquired in the course of one year's study. For this reason, as it seems necessary that all students of Greek should have at least some appreciation of the scientific side of the study of the classics, courses in classical philology are offered, which

introduce the student to the morphology of the classic languages, and make her familiar with such Sanskrit forms as explain the corresponding forms in Greek, while the course in Sanskrit is offered only to those whose interest lies in comparative philology, and who intend to pursue this study after graduation. For such students a beginners' course in Sanskrit is given in the second year of the post-major, which may be continued in the graduate course, since the Fellow in Greek will usually have paid enough attention to Sanskrit to enable her to continue with more advanced work. Such has hitherto been the case, and last year two courses in Sanskrit were given, one more advanced, to the Fellow who had already studied Sanskrit for a year, and one to members of the senior class.

Sanskrit may be pursued for either of two objects. It is a language that is in itself worthy of study, as the literature is of great interest and value. To take up Sanskrit as a literary study, requires, however, many years of preparation, to which the course of one or two years in college can be only an introduction. The student must in this case become a Sanskrit specialist, and devote nearly all her time to this one language. The second object in studying Sanskrit is to know comprehensively and at first-hand the interrelation of the Indo-European languages of which Sanskrit, Greek, and Latin are representatives.

From the latter point of view a knowledge of Sanskrit is of decided benefit and, indeed, necessary. An advanced scholar of the Greek language will find advantage from a knowledge of the connection which Greek has with its sister tongues, and Sanskrit, therefore, may be studied in the same way that Latin is studied for the purpose of illustrating and explaining Greek itself. In the case, however, of fellows and graduates that desire to study comparative philology, it is necessary to pursue Sanskrit, which may then be followed by Zend and Celtic.

With Dr. Hopkins, the Fellow in Greek read in Sanskrit, one hour weekly throughout the year, Lanman's *Reader*, Selections from the Mahâbhârata, Manu, Rig Veda and Sutra

literatures. In addition a class of two read two hours weekly Aristophanes, *Clouds*; Æschines, *versus Ctesiphon*; Demosthenes, *De Corona*; Isocrates, *Panegyricus*; Aristotle, *Poetics*. Their private reading was Æschines, *De Falsa Legatione*; Demosthenes, *De Falsa Legatione*; Isocrates, *Areopagiticus*, *Epistle to Demonicus*, to *Nictoteles* (1 and 2). The class also read with Dr. Smyth, two hours weekly, Longinus, *De Sublimitate*; Dionysius of Halicarnassus, *De Compositione Verborum*. They heard lectures on Æolic forms, contract forms, etc.; made a critical study of twenty-one verses of the first book of the *Iliad*; and read *Scholia* Cod. Ven. A., *Iliad* A., Homeric Hymns, v., to Demeter; III., to Hermes; and VI.—XXXIV.

With Dr. Shorey they read Aristotle's *Ethics*, Bks. I, II, III., during the first semester until the winter vacation. They also read privately Lysias, thirty-four orations, entire; Dionysius of Halicarnassus, *De Lysia Judicium*; Thucydides, Bks. I, II, III.

The class in Elementary Greek, under Dr. Smyth, gave five hours weekly throughout the year to the study of grammar and prose composition, and read three books of the *Anabasis*, and one and a half books of the *Iliad*.

Latin.—The instruction in the Latin department has kept in view two objects: (1) To give the students facility and accuracy in reading Latin; (2) To lead them directly to the contents of the best Latin books, to the enjoyment of Latin poetry, and to the appreciation of Roman civilisation. The courses have comprised minor, major, post-major, and graduate teaching. The first two years have been devoted mainly to courses of reading, with supplementary drill in Latin prose composition, and to a general survey of Latin literature. A seminary was organised for the graduate class, and the subjects to be treated have been adapted somewhat to the wishes of the class. The development of Latin comedy and kindred topics have been considered the past year. It is probable that next year a course on Roman satire will be given, treating of the development of satire among the Romans from the beginning of their literature until the time of Juvenal. Some attention may also be given in this course to the history of the manu-

scripts of Horace; and representative satires of Horace and Juvenal may be made the subject of critical interpretation.

The course under Dr. Shorey in Horace during the first semester, and in Virgil during the second, and followed by the minor or first year's class for two hours weekly, was intended to awaken the students' æsthetic interest in Latin poetry, and to offer an introduction to the literature of the Augustan age. The odes of Horace were read and reviewed; there were lectures upon the life and art of Virgil, and on allied topics. The students prepared as private reading and passed examinations upon Books VII., VIII., IX., and X. of the *Æneid*. With Dr. Lodge the minor class read two hours weekly. In the first semester Sallust's *Catiline* occupied them until the Christmas recess. For the remainder of the year the author studied was Livy. The class read Book XXI. and a third of Book XXII. The class also followed a course one hour weekly in Latin prose composition, and in conjunction with the usual exercises reviewed the grammar and read at dictation Nepos' *Life of Hannibal*.

The major or second year's class read two hours weekly with Dr. Lodge throughout the year. They began with Tacitus and read the *Germania* and *Agricola*, with one-half of the first book of the *Annals*. This occupied them until the first of March, from which time until the close of the year they read Ramsay's Selections from Tibullus and Propertius, aggregating more than 1800 lines. This class also wrote weekly exercises, reviewed the more abstruse parts of Latin syntax, and had some practice in translation at dictation. The private reading upon which this class was examined included selected Letters of Pliny for the first semester, and selected Letters of Cicero in the second. With Dr. Shorey the class heard lectures on the history of Latin literature, as in former years, and read selections from Juvenal, Martial, and Catullus.

The post-major class read with Dr. Lodge two hours weekly throughout the year. The author was Terence, and four plays were read,—*Andria*, *Heauton Timorumenos*, *Phormio*, and *Adelphi*. Especial attention was given to the peculiarities

of early Latin forms and syntax. A course in higher Latin composition, one hour weekly, was also followed, in the second semester of which some study was made of Nägelsbach's *Lateinische Stilistik*.

A graduate seminary was organised by Dr. Lodge, and a course of sixteen lectures was given treating of the development of Latin comedy and kindred subjects, such as the history of histrionic expression and the principles of comic versification. A part of the *Trinummus* of Plautus was made the subject of critical interpretation by the members of the seminary, who met weekly throughout the year. They also read towards the close of the year Allen's *Remnants of Early Latin*. With Professor Shorey the post-major and graduate students read the first, second, and parts of the third and fifth books of Lucretius, and studies in Cicero's philosophical works were conducted by him, one hour a week, throughout the year.

English.—During the year sixty-five undergraduates and six graduate students followed the courses in English and Anglo-Saxon. A class of sixty-five met Dr. Thomas four times weekly during the first two months, and three times weekly during the remainder of the year, for the first year's course in English. One hour a week was spent on the essay work under Dr. Gwinn, each member of the class writing three critical essays on subjects connected with English literature. The unsatisfactory nature of the English work in preparatory schools was shown by the fact that one-eighth of the class was conditioned on the first essay, and compelled to do additional work in composition before entering the essay class. The lectures treated the development of the English language and Anglo-Saxon and Early English literature to the time of the Elizabethan period. The greater part of the second semester was devoted to Chaucer, and during the last six months of the year Dr. McClumpha read with the class once weekly Chaucer's *Prologue*, *Knights Tale*, and *Nonne Prestes Tale*. The private reading included, among other works, Beowulf and the Eddas in translation, and the greater part of Chaucer. Weekly recitations were held by Dr. Thomas on the lectures and private reading.

A class of undergraduates met Dr. McClumpha five hours weekly throughout the year for the first year of the major course in English, as laid down in the Program. Siever's *Anglo-Saxon Grammar* was studied; prose selections from Sweet's and Zupitza's Readers, and the whole of Beowulf were read in class. Cynewulf's *Elene* was read at sight. In the latter part of the second semester the class began the study of Middle English. Lectures were given on the Transition Period; parts of Chaucer, and selections from Morris and Skeat's *Specimens*, were read.

Graduate Classes.—Dr. Thomas met a class two hours weekly for work in the Early English Drama. The Mystery Plays and the chief works of the pre-Shakespearean dramatists were read, and the main difficulties discussed in the classroom. The second semester was devoted to the critical reading of seven of Shakespeare's plays. In connection with these all of his other plays, except the histories, were studied privately by the members of the class. Three hours a week were spent in graduate essay work under Dr. Gwinn.

During the first semester a class in Beowulf met Dr. McClumpha twice weekly. The translation of the text was accompanied by lectures on the geography and ethnology of Beowulf, with special reference to Ten Brink's and Sarazin's recent investigations. The second semester was devoted to an historical and literary study of Chaucer. Selections from Piers the Plowman, Gower's *Confessio Amantis*, and the greater part of Chaucer were read in class and commented on. Lectures on Chaucerian grammar, versification, and phonology were given.

Under the guidance of Dr. McClumpha, a class met twice weekly for the study of historical English grammar. The grammatical work was illustrated by a critical reading of the text of Andreas. During the second semester lectures were given on the Transition Period, including the different English dialects, illustrated by selections from Maetzner's, Wülcker's, and Morris and Skeat's Readers.

Dr. McClumpha read, once weekly, portions of Cædmon's *Genesis*, and in connection with the work of the class a paper

on the "Parallelisms of Genesis" was written by one of the graduate students. This paper has been published.

A course of lectures on Teutonic Mythology was given by Dr. McClumpha once weekly, and in the second semester a class for the study of Anglo-Saxon met once a week under his guidance.

German.—The instruction in German has included in the past year a beginners' class, minor and major classes, and two classes for graduates. The course in elementary German was taught by Rose Chamberlin five hours weekly during the year, with eight members and three "hearers" in the class. The text-books used were Otis's *Elementary German*, Joynes-Meissner's *German Grammar*, and Buchheim's *German Reader*. The students began to read in two weeks, and in about three weeks later *Maria Stuart* was begun. The other works read during the year were Schiller's *Jungfrau von Orleans*, Goethe's *Hermann und Dorothea* and *Egmont*, Lessing's *Minna von Barnhelm*, Freytag's *Journalisten*, Schiller's *Der Neffe als Onkel*, besides numerous extracts from Max Müller's *German Classics*, and from writers in modern verse and prose.

In the minor course, under Dr. Collitz, two hours weekly were given to lectures illustrating the development of earlier German literature. One hour weekly was devoted to reading selections from the first part of Max Müller's *German Classics*, and another hour to reading, with comments, the first part of Goethe's *Faust*. This class under Rose Chamberlin gave one hour weekly during the year to German composition. Buchheim's *German Composition* was used as a text-book, and lectures on grammar and composition were combined with written exercises and written translations at sight. The private reading in the first semester was Lessing's *Emilia Galotti*, and Goethe's *Götz von Berlichingen*; in the second semester Goethe's *Iphigenie*, with Schiller's *Don Carlos* and *Brant von Messina*.

In the major or second year's course, lectures were delivered by Dr. Collitz twice weekly on the history of modern German literature from the middle of the eighteenth century to the present time. Another hour weekly was given by the

class to the reading of the second part of Goethe's *Faust*. The class also studied during a fourth hour the elements of Middle High German poetry. The major and minor classes attended together the course in German composition given by Rose Chamberlin. The private readings in the first semester consisted of Lessing's *Miss Sara Samson* and Goethe's *Clavigo* and *Tasso*; in the second semester of Schiller's *Wallenstein*, Chamisso's *Peter Schlemihl* and Scheffel's *Ekkehard*. The members of both the senior and major classes attended the conversation classes conducted one hour weekly by Rose Chamberlin.

Graduate Classes.—There were two graduate classes, one in Gothic, the other in Middle High German. That in Gothic was attended by four graduate students, and occupied two hours weekly. A comparative study of the Gothic sounds and inflections was made, and selections from Gothic texts were read.

The course in Middle High German was given once weekly to a special student.

The conversation class in German was conducted one hour weekly by Rose Chamberlin. The members met socially in the rooms of the students, and talked much more freely than when they met formally in the class-room.

Romance Languages.—The minor or first year's class during the first semester heard lectures once weekly from Dr. Stürzinger on French literature, from the time of the French Revolution to the present. They also gave two hours weekly to essay writing on authors of the nineteenth century, including those assigned for private reading, to wit: four pieces of Corneille; nine of Molière; six of Racine; and parts of Malherbe, Regnier, Pascal, Boileau, La Fontaine, La Bruyère, and Fénelon. Besides these selections from some of the more recent authors, as Flaubert and Alphonse Daudet, were made the subjects of essays and comments.

The major or second year's class, for two hours weekly, from October to Christmas, heard lectures from Dr. Stürzinger on the history of French literature, from the ninth to the seventeenth century. The lectures were delivered in French,

and at the beginning of each lecture-hour a short time was spent in questions upon the preceding lecture, put and answered in French. For the same period one hour a week was given to the reading of old French, which included parts of the *Chanson de Roland*. For the remainder of the year, after the winter vacation, the lectures on literature occupied three hours a week. The assigned reading included selections from Voltaire, Chateaubriand, Mme. de Stael, Beranger, Lamartine, Alfred de Vigny, Victor Hugo, Alfred de Musset, George Sand, Merimée, and Balzac.

The major and minor classes united in attendance on a course in French conversation and talks upon literature, conducted by Mlle. Louise Boname, held two hours weekly. Lectures were given on French grammar and composition, and the students prepared written translations into French, and practised writing French at sight.

In Italian, a course of one hour a week throughout the year was given by Dr. Stürzinger, in which the reading of Dante's *Divina Commedia*, begun in 1888, was resumed. Fifteen cantos of the *Inferno* and seventeen of the *Purgatorio* were read in class, and the intervening portions interpreted, so as to give a connected view of the whole.

In Spanish, Dr. Stürzinger gave a beginner's course of three hours weekly throughout the year. In the first semester two hours were given for grammatical drill, and one hour to the reading of easy texts in Knapp's *Grammar*. In the second semester the time in class was given to reading in Knapp's *Spanish Reader*, and five chapters of Cervantes' *Don Quixote*.

History.—There have been two courses of five hours each upon History, conducted by Dr. C. M. Andrews. The first, that on ancient history, traced the development of ancient civilisation through Egypt, Chaldea, Assyria, Babylonia, Palestine, Phœnicia, Greece, and Rome, and closed with the causes of the fall of the Roman Empire, the growth of the Christian Church, and the rise of the new nationalities. The second course, taking up the thread at this point, traced the development of European nationality and civilisation to the Treaty of

Westphalia, with a few lectures on the character of the history of the eighteenth century. It was intended that these two courses should form an unbroken and properly proportioned study of the progress of human history from earliest times. In pursuance of this object lectures only have been employed, and the results of discarding text-books have been eminently satisfactory. As additional aids outline maps have been used to some extent, and much private reading has been given. This reading has, on the whole, been faithfully done. A part of every hour in the class-room, the amount of time varying according to the character of the subject, was given to questioning and discussion, and at the same time many additional references were given, with suggestions for further study. The members of the class in modern history prepared written studies on assigned historical subjects during the first semester, nearly all of which were read to the class. During the second semester, instead of essays, topics were taken, which were critically examined and the results orally presented, such reports occupying from five to fifteen minutes. This work has been almost invariably well done.

To graduates two series of lectures were given. The first, taken by the Fellow in History, presented rather suggestively than exhaustively phases of historical definition, method, and criticism. The purpose was to examine the nature of history as a scientific study, the sources and the methods employed in the treatment of historical questions, and the character of historical criticism. The second course, on the History of Roman Law, was followed by two students during the first semester and by three during the second. The subject was treated with special reference to its historical importance. Detailed use was made of the text of the Twelve Tables of Gaius, of the *Corpus Juris Civilis*, and of the writings of Varro, Festus, Aulus Gellius, and Cicero. The study of the history of law was brought down to the present time.

Political Science.—The work in Political Science, under Franklin H. Giddings, A.M., was extended and organised during the year, so that, hereafter, students that have completed a major course and look forward to graduate work, can obtain an intermediate year of post-major instruction.

The minor or first year's course consisted, in the first semester, of lectures and class-work three hours weekly in Political Economy, and lectures two hours weekly on the Development of Political Institutions. In the second semester there were lectures three hours weekly on Economic History, and two hours weekly on Public Law. The aim was to acquaint the students with the fundamental principles of Politics and Economics, both theoretical and historical. In Political Economy the class was drilled in the problems of utility, value, capital, cost of production, competition, price, rent, and wages. The study of Economic History began with an examination of the economic structure of the manorial community of the twelfth century, traced the growth of industry and commerce and the rise of the wages class, analysed the industrial revolution of 1760–1846, and examined the modern organisation of capital. The study of Politics began with a review of theories and evidences bearing on the origin of political society, and after a survey of the evolution of the functions and structure of the State, passed on to the legal aspect of political life. The great rules of constitutional law, as the basis of civil liberty, were comparatively studied in their Continental, English, and American forms.

In the major or second year's course no lectures on Politics were given, in consequence of the transition, the year before, from a one-year to a two-years course; but lectures were given three hours weekly on advanced questions in Political Economy. The questions were: the land question, the labor question, socialism, and the history of economic theory. Students were directed in personal research involving the use of historical and statistical materials, and were required to keep up with current discussions in magazines and reviews. Hereafter, the subjects of the major course will alternate or vary from year to year, so that by taking the course in two successive years a student may secure post-major work and instruction.

Graduate Courses.—Two courses of lectures were given to graduate students. A course of one hour weekly through the

year on questions of economic theory, criticism, and method was given to students intending to teach. The other course, also of one hour weekly through the year, was on Modern Theories of Sociology. Sociology was defined as the fundamental social science that explains the general characteristics and laws of social phenomena—in terms mainly of biological and psychological principles—and affords a common basis for the historical and political sciences. The development of sociological theories was reviewed historically and critically, and an outline of sociological principles was offered. The original work in the study of pauperism, begun in 1888-9 by the Fellow in History, was continued through the year. The results are in preparation for publication.

Mathematics.—The work in the Mathematical Department was carried on in accordance with the Program.

The required Mathematics was given in full in the first semester, the Trigonometry being repeated in the second semester, to enable those students that wished to take their required Mathematics as a half-course throughout the year. In addition to the ordinary minor course, special arrangements were made in the second semester to enable certain students who took the required Mathematics in the first semester to pursue a part of the studies included in the minor course. Experience suggests that it may be found more convenient to give the required Mathematics in the second semester; accordingly, in the year 1890-91, it is proposed to give the Trigonometry only during the first semester, and to give both subjects, Trigonometry and Solid Geometry, during the second semester.

Two students completed the major course satisfactorily.

No post-major Mathematics was given during the year.

The holder of the Fellowship in Mathematics attended lectures on Modern Algebra, by Dr. C. A. Scott, from October to the winter recess, and twice weekly, from the spring recess to the end of the term.

She also attended lectures on the Theory of Functions, by James Harkness, A.M., throughout the year, as follows: Thrice weekly, from October, 1889, to the winter recess, the

lectures being supplemented by the reading of the standard French works on the subject. Five times weekly, from January, 1890, to the spring recess; the subjects treated were Riemann's *Surfaces*, the double Theta Functions, and Abelian Functions. Three times weekly, from the spring recess to the close of the term; the lectures were upon Klein's *Ikosaedron*, and the memoirs published by Klein and his pupils in the *Mathematische Annalen*. The course ended with a reading of one of Poncaré's papers.

Philosophy.—The program of work proposed in Philosophy was carried out as far as the limited time (three hours a week for one year) allowed. Two months were spent on the study of deductive logic; three or four months were given to psychology (the senses and the intellect), the text-books being supplemented by lectures; and about two months to lectures upon Descartes and Bacon, and an outline of the history of modern philosophy before Kant. Some saving of time will hereafter be effected by rigid compression, and omission of all but the fundamental elementary conceptions of logic and psychology, so that as much systematic instruction may be given in the history of philosophy as the limited prescribed course will permit.

Dr. Rhoads gave a course of lectures one hour weekly throughout the year on Ethics. Some of the subjects considered have been: the claims of ethics to rest on facts present to consciousness and universal among men, the elements of our moral nature, the authority of obligation, and the sources of moral law. Many classes of duties have been discussed, with the moral aspects of some contemporary social and political questions, such as the use of alcoholic drinks, the moral basis of the family and state, the treatment of criminal and dependent classes, and the relative duties of employers and employed. The teachings of natural and Christian ethics have been compared, and a short time was given to a review of ethical systems. The class has had assigned reading, and the lectures have been accompanied by discussion.

The required course of one hour weekly in Biblical study was conducted by Professor J. Rendel Harris. The time was

for the most part taken up with the study of the chronological and geographical verifications of some of the leading situations in the Old and New Testament records. Special attention was given to the date and direction of the Exodus, the political relations of the great empires of the East in the earliest times, and like topics. The topography of the Holy Land in general, and of Jerusalem in particular, was made a matter of careful study. Finally some weeks were given to a rapid review of the problems that attach themselves to the text of the New Testament.

Physics.—The minor and major courses, each of five hours weekly, were given by Dr. C. A. Perkins, and the plan outlined in the Program was followed. In the first course Lodge's *Mechanics* and Thompson's *Lessons in Electricity and Magnetism*, used heretofore as text books, were supplemented by Balfour Stewart's *Treatise on Heat*. Although regular recitations from the text-books are not used, it is found advantageous to employ these works as presenting an outline of the course, and that the illustrations of apparatus given in them render the construction and action of the apparatus used in the laboratory more readily understood.

In the major or second year's course special attention was paid to the subjects of Electricity and Thermodynamics. The mathematical theory of the former, and its application to electrical measurements, were presented as completely as the time would allow, and special efforts were made to enable the class to form physical conceptions in accordance with the latest discoveries of Hertz and other eminent investigators. In connection with the discussion of dynamos visits were made to neighboring electric lighting stations, including the Edison central station in Philadelphia.

In Thermodynamics, Maxwell's *Treatise on Heat* was read, and, in addition, the more fundamental differential equations were deduced and discussed. The laboratory work consisted largely in absolute and relative measurements in electricity.

Several important pieces of apparatus have been placed in the laboratory during the year, including a small Rowland grating, an electro-dynamometer, by Edelmann, and a very

fine cathetometer, with two telescopes and micrometers, by the Société Généroise. A standard meter, to be used in connection with this apparatus, made by the same firm, is already in the laboratory, and since the last report has been compared with the standard at the Johns Hopkins University. A small incandescent dynamo has also been ordered for the laboratory.

Chemistry.—The minor or first year's course in Chemistry was given during the year. In the beginning of the first semester a short course of introductory lectures preceded the regular five-hour course upon the non-metallic elements as described in the Program. The laboratory work, as in previous years, consisted of exercises in manipulation, in the use of accurate measuring and weighing apparatus, and in a detailed study of the properties and behavior of chemical elements and compounds. A new feature in the course consisted in the introduction of a number of new quantitative problems. Each student made accurate quantitative analyses of potassium chlorate, determined the gravimetric and volumetric composition of water, made analyses of the air, ammonia, etc., and determined the equivalent of zinc and other metals.

The greater portion of the second semester was devoted to a study of the metals and their compounds. A two-weeks course of lectures upon chemical laws and theory was also given. The laboratory exercises consisted in experiments, the object of which was to make the students familiar with the more important properties of chemical elements, and in work introductory to chemical analysis.

A special course in Chemistry was taken by a graduate student. This course consisted chiefly of laboratory work, but throughout the year lectures and recitations upon the carbon compounds, and upon selected topics, were held once a week. In the laboratory a number of careful quantitative analyses were made, and considerable time was given to the preparation of typical compounds. The experiments were so selected that the student had an opportunity to learn the general laws and principles of the science, as well as to become skilful in transforming typical compounds and their derivatives into one another.

The outfit of the chemical laboratory has been enriched by a gift of more than two hundred specimens of minerals and rocks by Mr. Theodore W. Rand, of Philadelphia.

Original Work.—An investigation upon the properties of physically isomeric compounds has been attended with some success. It was found that fumaric acid, a substance which has received considerable attention from chemists of late because of its physical isomerism and the theoretical interest connected with it, could be built up synthetically from simpler compounds. This research is still going on, and one or two others have been outlined for future attention.

Biology.—During the past year twenty-nine students have received instruction in this department, of whom twenty were in regular attendance in the minor course, three in the major course, three in graduate courses, and three have attended lectures without formal enrollment as members of a class.

The work of the minor or first year's course has been carried out along the same lines followed last year, as indicated in the Program. It has consisted of two parallel courses, one of which dealt especially with the lower forms of life, the relations of plants and animals, and the more general principles of the science; the other was devoted more largely to the higher forms of animal life, and had special reference to physiology. The laboratory work has been facilitated by the use of printed directions, specially drawn up for the purpose, that have proved to be of the utmost value both to students and instructors, and which, it is hoped, may be extended and perfected hereafter.

The major or second year's course has been given as usual, and calls for no special detailed comment. That portion of the course which treats of General Biology gives a systematic presentation of the more important facts of general morphology, with reference to the relations and classifications of animals. The course in Comparative Anatomy considers the morphology of vertebrates, and serves in part as a study of vertebrate homologies, in part as a preparation for the later study of Animal Physiology and Histology.

Almost the whole of the time of the Fellow in Biology has been devoted to special original investigation in animal morphology, and this work has been of such a character that it has seemed neither practicable nor desirable to follow the ordinary method of instruction by set lectures, but to replace these by courses of reading, personal conferences, and discussion upon the recent literature of biology, and immediate supervision of the laboratory studies.

The earlier part of the year was mainly occupied in working out the embryological development of one of the annelides (*Spirorbis*), the material for which was collected at the Wood's Holl marine laboratory last summer. This work is now well advanced, and is in part ready for publication.

During the latter part of the year her work related mainly to the regeneration of lost parts in the fresh-water annelides (*Lumbricalus*, etc.) and other animals. This work has been productive of new and interesting results, and contributes in an important degree to our knowledge of a subject that includes some of the most interesting and difficult of biological problems. She has also made practical studies of a number of animal types, and has thus extended her general knowledge of zoology.

Two other graduate students have pursued studies in advanced Physiology throughout the year. The principal work of these students consisted of an original investigation, under Dr. Lee's direction, of the effect of various drugs on the action of the heart. This research is now nearly complete, and is in course of preparation for publication. In addition to their special work, both these students devoted a considerable amount of time to more general advanced work in Physiology and Biology. One of them has also attended the lectures of the minor course, and has taken a part of the major course.

Investigations.—Dr. Lee has, in the course of the year, carried forward his studies on the electrical phenomena of muscle and nerve, and has fitted up a room for the special apparatus required in this delicate and difficult research.

The work of Dr. Wilson has been devoted in the main to studies on the embryology of the annelides—the development of *Polygordius*, *Hydroides*, *Tubifex*, and *Lumbricus*—but he has also devoted a considerable amount of time to an investigation of the action of light on the fresh-water “polyps” (*Hydra*), which has yielded new results of some interest to comparative physiology. The researches on the embryology of earthworms have been published in the course of the year in the *Journal of Morphology*.

The Library.—The accessions to the Library during the past year have been one thousand and ninety-three bound volumes and about two hundred pamphlets. The Library now contains seven thousand three hundred and seventy-six volumes, chosen with reference to the immediate needs of the several departments of instruction. The following gifts have been received during the year, and are most gratefully acknowledged: *Burke's Works*, eight volumes, and *Moore's Life of Sheridan*, from Edward Y. Hartshorne; Carson, *Constitution of the United States*, two volumes, from the Constitutional Centennial Commission; Sotheby, *Autographs of Milton*, from Catharine and Murray Shipley; *Mathematische Annalen*, twenty-four volumes, from Alice B. Gould; *Pennsylvania Reports of the Board of Public Charities*, seventeen volumes, from Dr. T. G. Morton; *Reports of Corrections and Charities of Michigan*, four volumes, from the Board of Commissioners; *Gardeners' Dictionary*, from Charles Hartshorne; *Report of the Public Charities of Illinois*, from Frederick H. Wines; Goodyear, *History of Art*, from the author; Blanc, *Vocabolario Dantesco*, from Cora A. Benneson; Kimber, *The Christian Church*, and *The Student*, for 1887, given anonymously; J. Tindall Harris, “Writings of the Apostle John,” two volumes; Miller, *Trade Organisations*, given by the author, J. Bleecker Miller; Camm, *Lexicon Pindaricum*, from Prof. J. Rendel Harris; *Fifth and Sixth Reports of the Bureau of Ethnology*, from Dr. Herbert W. Smyth; Sidgwick, *History of Ethics*, three copies, from Dr. J. E. Rhoads; Guizot, *Representative Government*, from Dr. C. M. Andrews; *Report of the Commissioners of Education*, four volumes, and *Bulletins from Haver-*

ford College Library ; Hoeffler's *Histoire de Mathematiques*, and Crellé, *Journal fur die reine und Angewandte Mathematik*, volumes ninety-two to ninety-seven, from Prof. C. A. Scott ; a large number of pamphlets, from Prof. Hermann Collitz, and a large number of United States Government and State publications.

Over one hundred periodicals in English and foreign languages are taken, the larger part of them devoted to special departments of research.

The catalogue, which includes authors and subjects, has been kept in accordance with the decimal system of Melvil Dewey, Librarian of the Library of the State of New York, and is nearly complete, except as to the subjects of periodicals. The Library is open from 8 A.M., to 10 P.M., and the immediate access to the shelves given to the student, leads to a very large use of the books, both in the Library and in the students' rooms. The plan of placing the books relating to branches of experimental science in proximity to the laboratories is continued, as is also that of reserving for a time in the Library books to which the instructors refer their classes.

The students have access for reference books, without expense to themselves, to the Philadelphia Library and the Mercantile Library of Philadelphia, each of which has about one hundred and fifty thousand volumes. The Academy of Natural Sciences of Philadelphia generously grants to our students the use of their library of thirty thousand volumes, a privilege peculiarly important to scientific students.

Publications.—The papers published by members of the Faculty during the year have been as follows :

Two essays read by E. W. Hopkins, Ph.D., before the Oriental Society in October, 1889, and published in the fourteenth volume of *The Oriental Journal* for 1890 ; one on "The Interpretation of a Passage in the Mahâbhârata ;" another on "Female Divinities in India."

An essay by E. W. Hopkins, Ph.D., on "The Quality of Sanskrit a-kâra," published in *The American Philological Journal* for July, 1889.

By Franklin H. Giddings, A.M., "A Review of Weiser's *Der Natürliche Werth*"; *Political Science Quarterly*, Vol. IV., No. 4, 681-684.

"The Province of Sociology"; *Annals of the American Academy*, Vol. I., No. 1, 66-77, and reprinted in pamphlet form, pp. 12.

A Review of MacVane's "*Working Principles of Political Economy*"; *Annals of the American Academy*, Vol. I., No. 1, 153-156.

By H. Collitz, Ph.D.: "Sammlung der griechischen Dialekt-Inschriften," edited by Dr. H. Collitz and Dr. F. Bechtel (cf. *Pres. Report* for 1887-88, p. 30): Vol. II., No. 2, and Vol. III., Nos. 2-4. Göttingen, 1888-90.

By E. H. Keiser, Ph.D.: 1. "Preliminary Experiments undertaken for the Purpose of Revising the Atomic Weight of Palladium." *Proceedings of the Chemical Section of the Franklin Institute*, April, 1889.

2. "Recent Synthetical Experiments in the Sugar Series." *American Chemical Journal*, Vol. II., 277.

3. "Redetermination of the Atomic Weight of Palladium." *Am. Chem. Jour.*, Vol. II., 398.

4. "On the Constitution of Hydroxylamine and its Derivatives." *Am. Chem. Jour.*, Vol. II., 480.

5. "Synthesis of Fumaric Acid." *Chemical News*, April 10, 1890; also *Am. Chem. Jour.*, XII., 90.

6. "Recent Synthetical Experiments in the Sugar Series." Part II. *Am. Chem. Jour.*, May, 1890, Vol. XII., p. 357.

By Dr. E. B. Wilson: "The Development of the Earth-worm;" *Journal of Morphology*.

By H. W. Smyth, Ph.D.: 1. "The Vowel System of the Ionic Dialect," pp. 5-138 of Vol. XX. of the *Transactions of the American Philological Association*; also issued separately.

2. "Weber's *Heilige Literatur der Jaina*, translated, *Indian Antiquary of Bombay* (continuation).

By Charles F. McClumpha, Ph.D.: 1. "Origin of 'The Flower and the Leaf.'" *Modern Language Notes*, for Nov., 1889.

2. "Differences Between the Scribes of Beowulf." *Modern Language Notes*, for April, 1890.

3. "The Parallelisms of the Anglo-Saxon Genesis." By Dr. McClumpha and Katharine Merrill, A.B. *Modern Language Notes*, for June, 1890.

The College continues to be indebted to the Treasurer and Finance Committee for their efficient management of its finances. Very grateful acknowledgements are also tendered to the contributors to a fund for the erection of a building to contain the laboratories, and to the "Students' Educational Fund." It is our confident expectation that a building for laboratory uses will be erected during the coming year. The funds for the erection of this building, and means to secure books for the library of the department of Biblical study, are the most immediate needs of the College.

It is believed that the essential aims of the Founder of the College have been thus far in its history in process of fulfillment, and, among them, his desire that its interior life should be marked by a reverent regard to Him from whom comes all our good.

Respectfully submitted to the Trustees at their
meeting held 10th mo. 10th, 1890.

JAMES E. RHOADS.

TABLE OF SUBJECTS STUDIED AND TERMS OF STUDY.

| SUBJECT. | PARTICULAR SUBJECT. | INSTRUCTOR. | No. IN CLASS. | Hours WEEKLY | TERM OF STUDY. |
|-----------------|---|--------------|---------------|------------------|----------------------------------|
| GREEK | Elementary Greek, Grammar, Xenophon's Anabasis, Book I. | Dr. Smyth. | 8 | 5 | 10 mo. 17, '89, to 2 mo. 8, '90 |
| | Elementary Greek, Grammar, Xenophon's Anabasis, Books II-III, Homer's Iliad, Books I-II, minor. | " | 9 | 5 | 2 mo. 17, '90, to 6 mo. 5, '90 |
| | Greek Prose Composition, minor class, | Dr. Hopkins. | 16 | 1 | 10 mo. 1, '89, to 6 mo. 5, '90 |
| | Homer's Odyssey, minor, | Dr. Smyth. | 17 | 2 | 10 mo. 1, '89, to 2 mo. 8, '90 |
| | Plato's Apology, minor | Dr. Hopkins. | 14 | 2 | 10 mo. 1, '89, to 2 mo. 8, '90 |
| | Homer's Iliad, minor, | Dr. Smyth. | 13 | 2 | 2 mo. 17, '90, to 6 mo. 5, '90 |
| | Euripides' Alcestis, minor | Dr. Hopkins. | 12 | 2 | 2 mo. 17, '90, to 6 mo. 5, '90 |
| | Euripides' Iphigenia, minor, | " | 7 | 1 | 2 mo. 17, '90, to 6 mo. 5, '90 |
| | Herodotus, major, | Dr. Smyth. | 5 | 2 | 10 mo. 1, '89, to 2 mo. 8, '90 |
| | Greek Lyric Poets, major, | Dr. Hopkins. | 6 | 1 | 10 mo. 1, '89, to 2 mo. 8, '90 |
| | Lectures on Greek Literature, major, | " | 5 | 2 | 10 mo. 1, '89, to 2 mo. 8, '90 |
| | Lectures on Greek Literature, major, | Dr. Shorey. | 5 | 2 | 2 mo. 17, '90, to 6 mo. 5, '90 |
| | Thucydides, major, | Dr. Hopkins. | 6 | 2 | 2 mo. 17, '90, to 6 mo. 5, '90 |
| | Advanced Greek Composition, post-major class, | Dr. Smyth. | 8 | 1 hour fringe | 10 mo. 1, '89, to 2 mo. 8, '90 |
| | Theocritus, post-major class, | Dr. Hopkins. | 7 | 1 | 10 mo. 1, '89, to 2 mo. 8, '90 |
| | Æschylus' Agamemnon, post-major class, | " | 3 | 1 | 10 mo. 1, '89, to 2 mo. 8, '90 |
| | Plato's Republic, post-major class, | Dr. Shorey. | 8 | 2 | 10 mo. 1, '89, to 6 mo. 5, '90 |
| | Attic Orators, post-major class, | Dr. Smyth. | 6 | 2 | 10 mo. 1, '89, to 2 mo. 8, '90 |
| | Greek Sculpture, post-major class, | " | 9 | 1 | 2 mo. 17, '90, to 6 mo. 5, '90 |
| | Greek Art, post-major class, | " | 7 | 1 | 2 mo. 17, '90, to 6 mo. 5, '90 |
| | <i>Graduate Classes.</i> | | | | |
| | Longinus' Treatise on the Sublime, | " | 2 | 2 | 10 mo. 1, '89, to 12 mo. 23, '89 |
| | Dionysius of Halicarnassus, "DeCompositione Verborum" | " | 2 | 2 | 12 mo. 1, '89, to 3 mo. 28, '90 |

TABLE OF SUBJECTS STUDIED AND TERMS OF STUDY—[CONTINUED].

| SUBJECT. | PARTICULAR SUBJECT. | INSTRUCTOR. | No. IN CLASS. | HOURS WEEKLY | TERM OF STUDY. |
|--|--|--------------|---------------|--------------------------------|--------------------------------|
| GREEK | Homer (Seminary), | Dr. Smyth. | 2 | 2 | 3 mo. 1, '90, to 6 mo. 5, '90 |
| | Æschylus' Eumœides, | Dr. Hopkins. | 6 | 1 | 2 mo. 17, '90, to 6 mo. 5, '90 |
| | Demosthenes' De Corona, | " | 2 | 2 | 1 mo. 6, '90, to 6 mo. 5, '90 |
| | Æschines, | " | 2 | 2 | 10 mo. 1, '89, to 2 mo. 8, '90 |
| | Aristophanes, | " | 2 | 2 | 10 mo. 1, '89, to 2 mo. 8, '90 |
| SANSKRIT | Sanskrit Grammar, Lanman's Reader, post-major, <i>Graduate Class.</i> | " | 5 | 1 | 10 mo. 1, '89, to 6 mo. 5, '90 |
| LATIN | Lanman's Reader, and Selections from Mahabhārata, | " | 1 | 1 | 10 mo. 1, '89, to 6 mo. 5, '89 |
| | Manu, Rig Veda, and Sutra Literature, | Dr. Lodge. | 25 | 1 | 10 mo. 1, '89, to 2 mo. 8, '90 |
| | Prose Composition, minor class, | " | 18 | 1 | 2 mo. 17, '90, to 6 mo. 5, '90 |
| | Prose Composition, minor class, | " | 28 | 2 | 10 mo. 1, '89, to 2 mo. 8, '90 |
| | Sallust, Catiline, Livy, Book XXI, minor, | " | 18 | 2 | 2 mo. 17, '90, to 6 mo. 5, '90 |
| | Livy, Book XXI continued, Book XXII, minor, | Dr. Shorey. | 25 | 2 | 10 mo. 1, '89, to 2 mo. 8, '90 |
| | Horace, Selections, minor, | " | 24 | 2 | 2 mo. 17, '90, to 6 mo. 5, '90 |
| | Horace and Virgil, Selections, minor, | Dr. Lodge. | 14 | 1 | 10 mo. 1, '89, to 6 mo. 5, '90 |
| | Prose Composition, major class, | " | 8 | 2 | 10 mo. 1, '89, to 2 mo. 8, '90 |
| | Tacitus, Germania and Agricola, Annals, Book I, major, | " | 10 | 2 | 2 mo. 17, '90, to 6 mo. 5, '90 |
| | Tibullus and Propertius, major, | Dr. Shorey. | 13 | 1 | 10 mo. 1, '89, to 2 mo. 8, '90 |
| | Juvenal, Selections, major, | " | 13 | 1 | 2 mo. 17, '90, to 6 mo. 5, '90 |
| | Catullus and Martial, major, | " | 12 | 1 | 10 mo. 1, '89, to 6 mo. 5, '90 |
| | Lectures on Latin Literature, major, | Dr. Lodge. | 4 | 1 | 10 mo. 1, '89, to 6 mo. 5, '90 |
| | Prose Composition, post-major class, | Dr. Shorey. | 9 | 2 | 10 mo. 1, '89, to 2 mo. 8, '90 |
| Lucretius, Selections, major class, | " | 11 | 1 | 2 mo. 17, '90, to 6 mo. 5, '90 | |
| Lucretius, Selections, post-major class, | Dr. Lodge. | 3 | 2 | 10 mo. 1, '89, to 6 mo. 5, '90 | |

TABLE OF SUBJECTS STUDIED AND TERMS OF STUDY—[CONTINUED].

| SUBJECT. | PARTICULAR SUBJECT. | INSTRUCTOR. | NO. IN CLASS. | HOURS WEEKLY | TERM OF STUDY. |
|-------------------|---|---------------------------------|--|--|--|
| LATIN | Cicero's Philosophical Works, post-major class, <i>Graduate Classes.</i> | Dr. Shorey. | 7 | 1 | 2 mo. 17, '90, to 6 mo. 5, '90 |
| | Plautus, | Dr. Lodge. " | 2 3 | 2 1 | 10 mo. 1, '89, to 6 mo. 5, '90 2 mo. 17, '90, to 6 mo. 5, '90 |
| ENGLISH | Lectures on English Grammar and Anglo-Saxon Literature, minor, | Dr. M. C. Thomas. Dr. Gwinn. | 66 57 | 4 1 | 10 mo. 1, '89, to 2 mo. 8, '90 10 mo. 1, '89, to 2 mo. 8, '90 |
| | Essay Work, minor, | | | | |
| | Lectures on History of English Literature, from the Conquest to Spenser, minor, | Dr. M. C. Thomas. Dr. Gwinn. | 63 58 | 4 1 | 2 mo. 17, '90, to 6 mo. 5, '90 2 mo. 17, '90, to 6 mo. 5, '90 |
| | Lectures on Chaucerian Grammar and Pronunciation, Reading of Chaucer, minor, | Dr. McClumpha. | 62 | 1 | 12 mo. 12, '89, to 2 mo. 8, '90 |
| | Lectures on Chaucerian Grammar and Pronunciation, Reading of Chaucer, minor, | " | 59 | 1 | 2 mo. 17, '90, to 6 mo. 5, '90 |
| | Anglo-Saxon, Siever's Grammar and Sweet's Reader, major, | " | 4 | 5 | 10 mo. 1, '89, to 2 mo. 8, '90 |
| | Middle English, various authors, major, <i>Graduate Classes.</i> | " | 3 | 5 | 2 mo. 8, '89, to 6 mo. 5, '90 |
| | Old English Drama, | Dr. M. C. Thomas. | 7 | 2 | 10 mo. 1, '89, to 2 mo. 8, '90 |
| | Essay Work, | Dr. Gwinn. | 2 | 3 | 10 mo. 1, '89, to 2 mo. 8, '90 |
| | Anglo-Saxon, Siever's Grammar and Cynewulf's Poems, | Dr. McClumpha. " " | 5 2 2 4 | 1 2 2 2 | 10 mo. 1, '89, to 2 mo. 8, '90 10 mo. 1, '89, to 2 mo. 8, '90 10 mo. 1, '89, to 2 mo. 8, '90 2 mo. 17, '90, to 6 mo. 5, '90 |

TABLE OF SUBJECTS STUDIED AND TERMS OF STUDY—[CONTINUED].

| SUBJECT. | PARTICULAR SUBJECT. | INSTRUCTOR. | No. IN CLASS. | HOURS WEEKLY | TERM OF STUDY. |
|---|---|-------------------|---------------|--------------------------------|--------------------------------|
| ENGLISH . . . | Chaucer, and pre-Chaucerian Poets, | Dr. McClumpha. | 4 | 2 | 2 mo. 17, '90, to 6 mo. 5, '90 |
| | Teutonic Mythology, | " | 3 | 1 | 10 mo. 1, '89, to 6 mo. 5, '90 |
| | Anglo-Saxon, | " | 1 | 1 | 2 mo. 17, '90, to 6 mo. 5, '90 |
| GERMAN . . . | English Drama, | Dr. M. C. Thomas. | 6 | 2 | 2 mo. 17, '90, to 6 mo. 5, '89 |
| | Essay Work, | Dr. Gwinn. | 6 | 3 | 2 mo. 17, '90, to 6 mo. 5, '90 |
| | Elementary German, Grammar and Reading, | Rose Chamberlin. | 15 | 5 | 10 mo. 1, '89, to 2 mo. 8, '90 |
| | Elementary German, Grammar and Reading, | " | 16 | 5 | 2 mo. 17, '90, to 6 mo. 5, '90 |
| | German Conversation, | " | 6 | 1 | 10 mo. 1, '89, to 2 mo. 8, '90 |
| | German Conversation, | " | 12 | 1 | 2 mo. 17, '90, to 6 mo. 5, '90 |
| | German Composition, minor and major, | " | 13 | 1 | 10 mo. 1, '89, to 2 mo. 8, '90 |
| | German Composition, minor and major, | " | 15 | 1 | 2 mo. 17, '89, to 6 mo. 5, '90 |
| | German Literature, minor, | Dr. Collitz. | 4 | 2 | 10 mo. 1, '89, to 2 mo. 8, '90 |
| | German Literature, minor, | " | 3 | 2 | 2 mo. 17, '90, to 6 mo. 5, '90 |
| | German Classics, minor, | " | 3 | 1 | 10 mo. 1, '89, to 6 mo. 5, '90 |
| | German Literature, major, | " | 10 | 2 | 10 mo. 1, '89, to 2 mo. 8, '90 |
| German Literature, major, | " | 8 | 2 | 2 mo. 17, '90, to 6 mo. 5, '90 | |
| Reading, Faust, Part I, minor, | " | 6 | 1 | 10 mo. 1, '89, to 2 mo. 8, '90 | |
| Reading, Faust, Part I, minor, | " | 6 | 1 | 2 mo. 17, '90, to 6 mo. 5, '90 | |
| Reading, Faust, Part II, major, | " | 9 | 1 | 10 mo. 1, '89, to 2 mo. 5, '90 | |
| Reading, Faust, Part II, major, | " | 8 | 1 | 2 mo. 17, '90, to 6 mo. 5, '90 | |
| Middle High German, major, | " | 6 | 1 | 10 mo. 1, '89, to 6 mo. 5, '90 | |
| <i>Graduate Classes.</i> | | | | | |
| Middle High German, | " | " | 1 | 2 | 10 mo. 1, '89, to 2 mo. 8, '90 |
| Gothic, | " | " | 4 | 1 | 10 mo. 1, '89, to 2 mo. 8, '90 |
| Gothic, | " | " | 3 | 1 | 2 mo. 17, '90, to 6 mo. 5, '90 |

TABLE OF SUBJECTS STUDIED AND TERMS OF STUDY—[CONTINUED].

| SUBJECT. | PARTICULAR SUBJECT. | INSTRUCTOR. | No. IN CLASS. | HOURS WEEKLY | TERM OF STUDY. |
|-------------------|---|------------------|---------------|--------------|--------------------------------|
| FRENCH | Elementary French, | Rose Chamberlin. | 4 | 5 | 10 mo. 1, '89, to 2 mo. 8, '90 |
| | Elementary French, | " | 6 | 5 | 2 mo. 17, '90, to 6 mo. 5, '90 |
| | French Conversation, | Louise Boname. | 5 | 3 | 10 mo. 1, '89, to 2 mo. 8, '90 |
| | French Conversation, | " | 3 | 3 | 2 mo. 17, '90, to 6 mo. 5, '90 |
| | French Composition, minor and major, | Rose Chamberlin. | 7 | 1 | 10 mo. 1, '89, to 2 mo. 8, '90 |
| | French Composition, minor and major, | " | 10 | 1 | 2 mo. 17, '90, to 6 mo. 5, '90 |
| | History of French Literature of 9th to 15th Centuries, minor, | Dr. Stürzinger. | 3 | 3 | 10 mo. 1, '89, to 2 mo. 8, '90 |
| | French Literature of 16th and 17th Centuries, minor, | " | 6 | 3 | 2 mo. 17, '90, to 6 mo. 5, '90 |
| | Modern French Literature, minor, | Louise Boname. | 6 | 1 | 2 mo. 8, '90, to 6 mo. 5, '90 |
| | French Literature of 18th and 19th Centuries, major, | Dr. Stürzinger. | 2 | 3 | 10 mo. 1, '89, to 2 mo. 8, '90 |
| ITALIAN | French Literature of 19th Century, major, | " | 2 | 2 | 2 mo. 17, '90, to 6 mo. 5, '90 |
| | Essays, major, | " | 2 | 1 | 2 mo. 17, '90, to 6 mo. 5, '90 |
| | French Historians of the 19th Century, major, | Louise Boname. | 4 | 1 | 10 mo. 1, '89, to 2 mo. 8, '90 |
| | Dante, Divina Commedia, Inferno, major, | Dr. Stürzinger. | 1 | 4 | 10 mo. 1, '89, to 2 mo. 8, '90 |
| | Dante, Divina Commedia, Selections of Purgatory and Paradise, major, | " | 1 | 4 | 2 mo. 17, '90, to 6 mo. 5, '90 |
| | Knapp's Grammar and Reading, minor, | " | 1 | 5 | 10 mo. 1, '89, to 2 mo. 8, '90 |
| | Knapp's Grammar and Reading, Selections of Don Quixote and Calderon, minor, | " | 1 | 5 | 2 mo. 17, '90, to 6 mo. 5, '90 |
| | Solid Geometry, | Dr. Scott. | 17 | 2 | 10 mo. 1, '89, to 2 mo. 8, '90 |
| | Trigonometry, | J. Harkness. | 13 | 3 | 10 mo. 1, '89, to 2 mo. 8, '90 |
| | Trigonometry, | " | 9 | 3 | 2 mo. 17, '90, to 6 mo. 5, '90 |
| MATHEMATICS | Advanced Algebra, Advanced Trigonometry, and Theory of Equations, minor, | " | 3 | 2 | 10 mo. 1, '89, to 2 mo. 8, '90 |

TABLE OF SUBJECTS STUDIED AND TERMS OF STUDY—[CONTINUED].

| SUBJECT. | PARTICULAR SUBJECT. | INSTRUCTOR. | NO. IN CLASS. | HOURS WEEKLY | TERM OF STUDY. |
|--|---|-----------------|---------------|--------------------------------|--------------------------------|
| MATHEMATICS. | Analytical Conics, minor, | Dr. Scott. | 3 | 2 | 10 mo. 1, '89, to 6 mo. 5, '90 |
| | Geometrical Conics, minor, | " | 3 | 1 | 10 mo. 1, '89, to 2 mo. 8, '90 |
| | Analytical Conics, minor, | " | 2 | 2 | 2 mo. 17, '90, to 6 mo. 5, '90 |
| | Analytical Conics, minor, | " | 3 | 2 | 2 mo. 17, '90, to 6 mo. 5, '90 |
| | Dynamics, minor, | J. Harkness. | 5 | 1 | 2 mo. 17, '90, to 6 mo. 5, '90 |
| | Analytical Geometry, major, | Dr. Scott. | 2 | 2 | 10 mo. 1, '89, to 2 mo. 8, '90 |
| | History of Mathematics, major, | " | 2 | 1 | 2 mo. 17, '90, to 6 mo. 5, '90 |
| | Integral Calculus, major, | J. Harkness. | 2 | 2 | 10 mo. 1, '89, to 2 mo. 8, '90 |
| | Analytical Geometry of Three Dimensions, major, | Dr. Scott. | 2 | 3 | 2 mo. 17, '90, to 6 mo. 5, '90 |
| | Differential Calculus, major, | " | 3 | 2 | 2 mo. 17, '90, to 6 mo. 5, '90 |
| | Differential Equations and Finite Differences, major, | " | 2 | 2 | 2 mo. 17, '90, to 6 mo. 5, '90 |
| | <i>Graduate Classes.</i> | | | | |
| | Modern Algebra, | " | 1 | 2 | 10 mo. 1, '89, to 2 mo. 8, '90 |
| | Modern Algebra, | " | 1 | 2 | 2 mo. 17, '90, to 6 mo. 5, '90 |
| | Theory of Functions, | J. Harkness. | 1 | 3 | 10 mo. 1, '89, to 2 mo. 8, '90 |
| | Multiple Theta Functions and Abelian Functions, | " | 1 | 2 | 2 mo. 17, '90, to 6 mo. 5, '90 |
| | Political Economy, minor class, | F. H. Giddings, | 15 | 3 | 10 mo. 1, '89, to 2 mo. 8, '90 |
| | Economic History, minor, | " | 16 | 3 | 2 mo. 17, '90, to 6 mo. 5, '90 |
| | Political Institutions, minor, | " | 12 | 2 | 10 mo. 1, '89, to 2 mo. 8, '90 |
| | Public Law, minor, | " | 14 | 2 | 2 mo. 17, '90, to 6 mo. 5, '90 |
| Land, Labor Question, etc., major, | " | 2 | 3 | 10 mo. 1, '89, to 2 mo. 8, '90 | |
| Advanced Political Economy, Socialism, and History of Economic Law, major, | " | 2 | 3 | 2 mo. 8, '90, to 6 mo. 5, '90 | |
| <i>Graduate Classes.</i> Political Economy, | " | 2 | 1 | 10 mo. 1, '89, to 6 mo. 5, '90 | |
| Sociology, | " | 3 | 1 | 10 mo. 1, '89, to 2 mo. 8, '90 | |
| Sociology, | " | 2 | 1 | 2 mo. 17, '90, to 6 mo. 5, '90 | |
| POLITICAL SCIENCE | | | | | |
| | | | | | |

TABLE OF SUBJECTS STUDIED AND TERMS OF STUDY--[CONTINUED].

| SUBJECT. | PARTICULAR SUBJECT. | INSTRUCTOR. | No. IN CLASS. | HOURS WEEKLY | TERM OF STUDY. |
|------------|--|--|---------------|--------------|---------------------------------|
| PHILOSOPHY | Logic, | Dr. Shorey. | 17 . | 2 . | 10 mo. 1, '89, to 12 mo. 1, '89 |
| | Psychology, | " | 17 . | 2 . | 12 mo. 1, '89, to 3 mo. 1, '90 |
| | History of Philosophy, | " | 17 . | 2 . | 3 mo. 1, '90, to 6 mo. 5, '90 |
| | Ethics, | Dr. Rhoads. | 16 . | 1 . | 10 mo. 1, '89, to 2 mo. 8, '90 |
| | Ethics, | " | 17 . | 1 . | 2 mo. 17, '90, to 6 mo. 5, '90 |
| | Biblical History, | J. Rendel Harris. | 20 . | 1 . | 10 mo. 1, '89, to 2 mo. 8, '90 |
| | Biblical History, | " | 21 . | 1 . | 2 mo. 17, '90, to 6 mo. 5, '90 |
| | Lectures on Inorganic Chemistry, minor, | Dr. Kaiser. | 9 . | 5 . | 10 mo. 1, '89, to 2 mo. 8, '90 |
| | Laboratory Work, minor, | " | 8 . | 6 . | 10 mo. 1, '89, to 2 mo. 8, '90 |
| | Lectures on Inorganic Chemistry, minor, | " | 10 . | 5 . | 2 mo. 17, '90, to 6 mo. 5, '90 |
| PHYSICS | Laboratory Work, minor, | " | 9 . | 6 . | 2 mo. 17, '90, to 6 mo. 5, '90 |
| | Post Graduate Chemistry, | " | 1 . | 1 . | 10 mo. 1, '89, to 2 mo. 8, '90 |
| | Mechanics and Electricity, minor, | Dr. Perkins. | 3 . | 5 . | 10 mo. 1, '89, to 2 mo. 8, '90 |
| | Laboratory Work, minor, | " | 5 . | 3 . | 10 mo. 1, '89, to 2 mo. 8, '90 |
| | Electricity, Sound, Heat, and Light, minor, | " | 3 . | 5 . | 2 mo. 17, '90, to 6 mo. 5, '90 |
| | Laboratory Work, minor, | " | 6 . | 3 . | 2 mo. 17, '90, to 6 mo. 5, '90 |
| | Mechanics, Electrostatics, and Magnetism, major, | " | 2 . | 5 . | 10 mo. 1, '89, to 2 mo. 8, '90 |
| | Laboratory Work, major, | " | 2 . | 4 . | 10 mo. 1, '89, to 2 mo. 8, '90 |
| | Elementary Thermodynamics, Geometrical and Physical | " | 2 . | 5 . | 2 mo. 17, '90, to 6 mo. 5, '90 |
| | Optics, major, | " | 2 . | 4 . | 2 mo. 17, '90, to 6 mo. 5, '90 |
| BIOLOGY | Laboratory Work, major, | Dr. Wilson. | 21 . | 3 . | 10 mo. 1, '89, to 2 mo. 8, '90 |
| | Lectures on General Biology, minor, | Dr. Lee. | 20 . | 2 . | 10 mo. 1, '89, to 2 mo. 8, '90 |
| | Lectures on General Biology, minor, | Drs. Wilson and Lee, and Leah Goff. | 26 . | 6 . | 10 mo. 1, '89, to 6 mo. 5, '90 |
| | Laboratory Work, minor and major, | Dr. Wilson. | 20 . | 3 . | 2 mo. 17, '90, to 6 mo. 5, '90 |
| | Lectures on General Biology, minor, | " | 20 . | 3 . | 2 mo. 17, '90, to 6 mo. 5, '90 |

TABLE OF SUBJECTS STUDIED AND TERMS OF STUDY—[CONTINUED].

| SUBJECT. | PARTICULAR SUBJECT. | INSTRUCTOR. | No. IN CLASS. | HOURS WEEKLY | TERM OF STUDY. |
|---------------|--|----------------------|---------------|--------------|--------------------------------|
| BIOLOGY . . . | Lectures on General Biology, minor, | Dr. Lee. | . 20 . | . 2 . | 2 mo. 17, '90, to 6 mo. 5, '90 |
| | General Zoology, major, | Dr. Wilson. | . 3 . | . 3 . | 10 mo. 1, '89, to 2 mo. 8, '90 |
| | Comparative Anatomy, major, | Dr. Lee. | . 3 . | . 2 . | 10 mo. 1, '89, to 2 mo. 8, '90 |
| | Advanced Physiology and Histology, | " | . 4 . | . 3 . | 2 mo. 17, '90, to 6 mo. 5, '90 |
| | Advanced Biology, | Dr. Wilson. | . 3 . | . 2 . | 2 mo. 17, '90, to 6 mo. 5, '90 |
| | <i>Graduate Class.</i> | | | | |
| | Biology, | Drs. Wilson and Lee. | . 3 . | | 10 mo. 1, '89, to 6 mo. 5, '90 |
| HISTORY . . . | Ancient History, | Dr. Andrews. | . 12 . | . 5 . | 10 mo. 1, '89, to 6 mo. 5, '90 |
| | Modern History, | " | . 17 . | . 5 . | 10 mo. 1, '89, to 2 mo. 8, '90 |
| | Modern History, | " | . 16 . | . 5 . | 2 mo. 17, '90, to 6 mo. 5, '90 |
| | <i>Graduate Classes.</i> | | | | |
| | History of Roman Law, | " | . 2 . | . 1 . | 10 mo. 1, '89, to 2 mo. 8, '90 |
| | History of Roman Law, | " | . 3 . | . 1 . | 2 mo. 17, '90, to 6 mo. 5, '90 |
| | Historical Definition, Method and Criticism, | " | . 1 . | . 1 . | 10 mo. 1, '89, to 6 mo. 5, '90 |

BRYN MAWR COLLEGE.

THE

PRESIDENT'S REPORT

TO THE

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FOR THE YEAR 1890-91.

PHILADELPHIA :

FERRIS BROS., PRINTERS, SEVENTH AND FILBERT STREETS
1891.

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ACADEMIC APPOINTMENTS.

JAMES E. RHOADS, LL.D., *President of the College.*

M. CAREY THOMAS, PH.D., *Dean of the Faculty and Professor of English.*

A.B., Cornell University, 1877; studied at the Johns Hopkins University, 1877-78; University of Leipsic, 1879-82; Ph.D., University of Zürich, 1882; Sorbonne and the Collège de France, 1883.

CHARLOTTE ANGAS SCOTT, D.Sc., *Associate Professor of Mathematics.*

Lincoln, England. Graduate in Honors, Girton College, Cambridge, 1880; B.Sc., University of London, 1882; Lecturer on Mathematics in Girton College, Cambridge, 1880-84; lectured in connection with Newnham College, 1880-83; D.Sc., University of London, 1885.

EDWARD WASHBURN HOPKINS, PH.D., *Associate Professor of Greek, Sanskrit, and Comparative Philology.*

A.B., Columbia College, 1878; Fellow in Literature, Columbia College, 1878-81; University of Leipsic, 1878-81; University of Berlin, 1880; Ph.D., University of Leipsic, 1881; Sorbonne and the Collège de France, 1881; Assistant in Latin and Instructor in Zend, Columbia College, 1881-84.

PAUL SHOREY, PH.D., *Associate Professor of Greek and Latin.*

A.B., Harvard College, 1878; University of Leipsic, 1881-82; University of Bonn, 1882; American School of Classical Studies, Athens, 1882-83; Ph.D., University of Munich, 1884.

EDWARD H. KEISER, PH.D., *Associate Professor of Chemistry.*

S. B., Swarthmore College, 1880; Assistant in Chemistry in Swarthmore College, 1880-81; S.M., Swarthmore College, 1881; Fellow in Chemistry, Johns Hopkins University, 1882-84; Ph.D., Johns Hopkins University, 1884; student at the Royal School of Mines, Freiberg, Saxony, 1884; Assistant in Chemistry, Johns Hopkins University, 1884-85.

HERMANN COLLITZ, PH.D., *Associate Professor of German Literature and Language.*

Bleekede, Hanover, Germany. University of Göttingen, 1875-78; University of Berlin, 1878-81; Ph.D., University of Göttingen, 1878; Privatdocent in the University of Halle, 1885-86.

JAMES HARKNESS, M.A. (Cambridge and London), *Associate in Mathematics.*

Derby, England. Major Scholar, Trinity College, Cambridge, 1882; Graduate in Honors (8th Wrangler) in the Cambridge Mathematical Tripos, 1885; Mathematical Exhibitioner, London University Intermediate Art Examination, 1885; Mathematical Scholar, London University B.A. Examination, 1887.

HERBERT WEIR SMYTH, PH.D., *Associate in Greek and Latin.*

A.B., Swarthmore College, 1876, and Harvard University, 1878; University of Leipsic, 1879-81; University of Göttingen, 1881-83; Instructor in Classics and Sanskrit, Williams College, 1883-85; Ph.D., University of Göttingen, 1884; Fellow by Courtesy and Lecturer on Greek, Johns Hopkins University, 1885-87; Reader in Greek Literature, Johns Hopkins University, 1887-88.

MARY M. GWINN, PH.D., *Associate in English.*

Studied at the University of Leipsic, 1879-82; University of Zürich, 1882; Sorbonne and the Collège de France, 1883; Fellow in English, Bryn Mawr College, 1885-87, Ph.D., Bryn Mawr College, 1888.

FRANKLIN H. GIDDINGS, A.M., *Associate Professor of Political Science.*

A.B., Union College, 1877, and A.M., 1889.

CHARLES McLEAN ANDREWS, PH.D., *Associate in History.*

A.B., Trinity College, 1884; Fellow in Johns Hopkins University, 1888-89; and Ph.D., 1889.

GONZALEZ LODGE, PH.D., *Associate in Latin.*

A.B., Johns Hopkins University, 1883; Graduate Scholar and Fellow, Johns Hopkins University 1883-86, and Ph.D., 1886; Professor of Greek, Davidson College, 1886-88; American School of Classical Studies, Athens, 1888-89; University of Bonn, 1889.

GEORGE A. BARTON, PH.D., *Associate in Biblical Study and Semitic Languages.*

A.B., Haverford College, 1882, and A.M., 1885; A.M., Harvard University, 1890, and Ph.D., Harvard University, 1891.

JOSEPH AUGUSTE FONTAINE, PH.D., *Associate Professor of Romance Languages.*

College of Sion, Nancy, France, 1879; Paris, 1880-81; Johns Hopkins, 1882-86, and Ph.D., 1886
Collège de France, Sorbonne, Ecole des Hautes Etudes, Ecole des Chartes, University of Bonn
1886-87; Instructor, University of Nebraska, 1887-89; Professor of Modern Languages in the
University of Mississippi, 1889-91.

ARTHUR STANLEY MACKENZIE, A.M., *Lecturer in Physics.*

A.B., Dalhousie College, 1885; Tutor in Mathematics, Dalhousie College, 1887-89; and Fellow,
Johns Hopkins University, 1890-91.

JAMES DOUGLAS BRUCE, A.M., *Associate in Anglo-Saxon.*

A.M., University of Michigan, 1883; University of Berlin, 1886-88; University of Strassburg
1888; Johns Hopkins University, 1889-90. Professor of Modern Languages, Centre College,
1890-91.

SAMUEL P. MULLIKEN, PH.D., *Associate in Chemistry.*

S.B., Massachusetts Institute of Technology, 1887; Associate in Chemistry, University of
Cincinnati, 1887-88; Ph.D., University of Leipsic, 1890; Fellow, Clark University, 1890-91.

THOMAS HUNT MORGAN, PH.D., *Associate Professor of Biology.*

B.S., State College, Kentucky, 1886, and M.S., 1888; Graduate Scholar, Johns Hopkins Univer-
sity, 1888-89; Fellow in Biology, Johns Hopkins University, 1889-90; Ph.D., Johns Hopkins
University, 1890; Adam T. Bruce Fellow, Johns Hopkins University, 1890-91. Studied at
the Marine Laboratories, Annisquam, 1886; Beaufort, 1888; U. S. Fish Commission, 1889; Bos-
ton Marine Laboratory, 1890; Johns Hopkins Marine Laboratory, Jamaica, 1891.

JOSEPH W. WARREN, M.D., *Lecturer in Physiology.*

A.B., Harvard College, 1871; University of Berlin, 1871-72; University of Leipsic, 1872-73; Uni-
versity of Bonn, 1873-79; M.D., Bonn, 1880. Assistant and Instructor in Physiology, Harvard
Medical School, 1881-91. Lecturer in Medical Department of the University of the City of
New York, 1885-86; Lecturer in Physiology, University of Michigan, 1889.

JACQUES LOEB, M.D., *Associate in Biology.*

M.D., University of Strassburg, 1884; studied, 1884-86, in the Physiological Laboratory of the
University of Berlin, under Professor Christiani, and also in that of Professor Zuntz of the
Agricultural College at Berlin; Assistant in Physiological Laboratory of Professor Fick at
Würzburg, 1886-88; Assistant in the Physiological Laboratory of Professor Goltz at Strass-
burg, 1888-90; studied at the Biological Station, Naples, 1890-91.

ROSE CHAMBERLIN, *Reader in German.*

Great Yarmouth, England. Graduate in Honors, Newnham College (Mediaeval and Modern
Languages Tripos, First Class); University of Cambridge, England, 1886.

MABEL PARKER CLARK, A.M., *Reader in English.*

A.B., Bryn Mawr College, 1889; Fellow in English, Bryn Mawr College, 1889-90; A.M., Bryn
Mawr College, 1890.

FREDERIC M. PAGE, *Reader in Romance Languages.*

Instructor in Languages, University of Virginia, 1880-81; Assistant Professor of Modern
Languages and Literature, University of the South, 1882-91.

AGNES MATHILDE WERGELAND, PH.D., *Reader in the History of Art.*

Christiania, Norway. Studied under the direction of Professor Konrad Mauer, Munich,
1884-86; University of Zürich, 1888-90; Ph.D., University of Zürich, 1890; Fellow, Bryn Mawr
College, 1890-91.

IDA HYDE, B.S., *Senior Student Assistant in the Biological Laboratory.*

S.B., Cornell University, 1891.

ANNA DONALDSON McNAIR, A.B., *Director of the Gymnasium.*

A.B., Antioch College, 1886; Studied under Dr. Sargent, 1889-90.

ANNA E. BROOMALL, M.D., *Consulting Physician of the College.*

Professor in the Women's Medical College of Pennsylvania.

IDA RICHARDSON, M.D., *Physician of the College.*

FLORENCE E. PEIRCE, *Librarian.*

JULIA COPE, A.B., *Secretary.*

A.B., Bryn Mawr College, 1889.

BRYN MAWR COLLEGE.

REPORT OF THE PRESIDENT FOR THE YEAR 1890-91.

To the Trustees :

The report which I now respectfully submit to you relates to the sixth academic year of the college, namely, the year ending Ninth month 1st, 1891.

Reference was made in the report for last year to the imperative necessity for the erection of a Science Hall that should contain all the laboratories of the college, and some gifts for the purpose of erecting such a hall were then gratefully acknowledged. Since then other benefactors of the college have added very generous contributions for the same object, and the time appears to have fully come when these gifts should be supplemented by a sufficient sum from the funds of the college to erect a building that shall be so commodious as to meet the needs of the departments of Biology, Chemistry, and Physics for an indefinite future, and that shall fulfill the liberal intent of those who have made its construction possible. If preparation be made this autumn there will be no difficulty in having the hall ready for use at the beginning of the next collegiate year. The building of the hall will give fresh vigor to the pursuit of scientific studies in the college, and will contribute to the prosperity of the institution in all its parts.

The erection of Denbigh Hall, also referred to in the last report, has been fully justified by the number of students seeking admission to the college. The hall was opened for students Second month 21st, 1891, and has given universal satisfaction by its simple yet beautiful style, and its adaptation to the comfort of its inmates. It will accommodate sixty-one students, and its rooms are much in request.

Evidences abound that it is a time of extraordinary activity in our country in all that relates to advanced education. One of these evidences is the desire of a rapidly increasing number of women to enter college. There is a pressure for admission to all the colleges for women in the eastern states, and new ones are being established almost yearly. This state of affairs creates an obligation that colleges for women, while enlarging their accommodations for resident students, shall also raise rather than lower the standard of their teaching. The best methods of instruction require that the individuality of students shall not be overlooked, that the proportion of teachers to students should be ample, and that adequate opportunity should be given for conference between professors and students upon the subjects of study. Hitherto the College has met these requirements, and the enlargement of the staff of instructors for the coming year, together with the increased space for classrooms and consulting-rooms that may be gained by the erection of the new hall, will enable us to meet them in the immediate future.

As the number of women graduates steadily increases more of them wish to continue study after they have taken their first degree, usually with the prospect of entering upon teaching or some other profession. The College, by its graduate courses, has met this want in some measure, but its usefulness in this respect could be much enlarged by the founding of more fellowships, a mode of promoting the higher education of women which is commended to its friends. Those who have already given to colleges for women may find satisfaction, and those who look towards giving to them an incentive, from the thought that to-day, perhaps more than in any previous period, the education of women affects the well-being of society. Already women are largely and efficiently engaged in individual or organized efforts to remove the evils that afflict society and to better the world. In these efforts they either supplement the labors of men in the same fields, or are taking up social and moral issues neglected by men. Moreover, in a country where a class of men of leisure scarcely exists, and where the honor in which a man is held is heightened by the fact that he is en-

gaged in some useful business, the diffusion of æsthetic culture and the maintenance of the spiritual side of life have devolved chiefly upon women. The presence therefore in all communities of women whose characters have been developed by a rightly balanced collegiate training will tend to elevate standards of taste, give nobleness to social aims, and promote living for the highest ends.

The department of Romance Languages and the whole college sustained a severe loss during the year. After a very brief illness, Thomas McCabe, Ph.D., died on the 22d of Second month, 1891. Although Dr. McCabe had been connected with the college but a short time, he had won the warm regard of his associates as an able scholar, an ardent student, a successful teacher, and an honorable man. His successor, Joseph A. Fontaine, Ph.D., has been Professor of Modern Languages in the University of Mississippi. Dr. Fontaine is a native of France, who to studies in France, Italy and Germany, has added a course in Romance Languages at the Johns Hopkins University. He will be assisted by Frederic M. Page, late Assistant Professor of Modern Languages at the University of the South, who has a familiarity with the languages and literatures he teaches, gained by long residence and study in the countries where these languages are spoken.

The library of the Romance department comprises an outline of French literature that enables the student to follow in a fairly satisfactory manner the development of the literature from its earliest monuments to the works of the best recent writers. The Italian and Spanish literatures are less adequately represented, but additions are yearly made to this department of the library.

The appended report of Dr. Collitz upon the department of German gives a distinct view of its organization and aims. Next year Rose Chamberlin will be released from teaching French, and will therefore be able to give her undivided atten-

tion to classes in German. To courses in Celtic and Norse hitherto offered to graduate students by Dr. Collitz, one in Slavonic is now added.

The resignation by Professor Edmund B. Wilson of the chair of Biology, which he had held from the opening of the college, and the resignation of Dr. Frederic S. Lee, were received with great regret. Dr. Wilson has won a deserved reputation for success in biological research and as a learned and inspiring teacher. Dr. Wilson and Dr. Lee resigned in order to accept positions in Columbia College, N. Y., and three appointments have been made to fill the vacancies thus created and to meet the growing demands of the biological school. Thomas Hunt Morgan, Ph.D., has been made Associate Professor of Biology, and will conduct the teaching in Morphology. Joseph W. Warren, M.D., has been appointed lecturer on Physiology, and will bring to his duties experience as a teacher and investigator gained during his connection with Harvard University. Jacques Loeb, Ph.D., the newly appointed Associate in Biology, has been engaged in duties as a demonstrator in the laboratories of Würzburg and Strassburg, and has become known by his physio'logical researches.

With the aid of a few friends of Biblical study the College has been able to buy a collection of works upon Hebrew and other Semitic languages numbering about 670 volumes. These, with the works upon the New Testament already in hand, will make the foundation of a good working library for this branch of study, which has been recently organized under the direction of George A. Barton, Ph.D.

Agnes M. Wergeland, Ph.D., who held the fellowship in history during the year 1890-91, has been appointed Reader in the History of Art, and will deliver a series of lectures in the year 1891-92 upon Architecture. These lectures will constitute a free elective course, and will treat of the Greek temple and dwelling-house, the Roman buildings, the Christian basilica,

and the mediæval cathedral. They will be illustrated by a fine collection of photographs and engravings, lent for the purpose by friends of the College.

Through members of its Faculty the College has shown an active sympathy with the endeavor to introduce the University Extension system of teaching into our country. It is inevitable that at first the lectures given in these courses should be of a popular character, that they may enlist attention and prepare the way for more serious work. It is to be hoped, and expected, that under the able guidance of those who direct the associations for University Extension, prominence will be given as early as may be feasible to measures which the experience of the English University boards has shown to be essential to solid results,—namely, courses of not less than ten or twelve lectures each, classes for conference, assigned reading, and proper examinations. As in England there should also be a corps of lecturers distinct from the professors of colleges and universities. They should be men and women of sound scholarship, who combine enthusiasm for popular education, with the tact, perseverance, and energy required to surmount the obstacles to be overcome in this form of education. Success in University Extension should be understood to mean nothing less than the development of a class of students whose mental discipline and attainments in learning shall approach those gained by a true university career. It is much to be desired that the members of university and college faculties should show their hearty sympathy with university extension by occasional lectures, but if through a generous self-sacrifice these already busy men and women have their time and energy too largely withdrawn from the teaching and research which are their chief interests, there will be danger lest the instruction given in our institutions for learning shall suffer serious deterioration without a corresponding gain in popular education.

The staff of instructors numbered twenty-six during the year, and the following promotions and appointments have

been made beside those already mentioned: Franklin H. Giddings, A.M., Associate Professor of Political Science instead of Associate in Political Science; J. Douglas Bruce, A.B., late Professor of Modern Languages in Centre College, Associate in Anglo-Saxon; Arthur S. Mackenzie, A.B., (Dalhousie University) Associate in Physics; Samuel P. Mulliken, Ph.D., (Göttingen) Associate in Chemistry; Rose Chamberlin, Reader in German. Florence E. Peirce has been reappointed Librarian, and Eva St. Clair Champlin, late librarian of Alfred University, has been made first Student Assistant in the Library. Anna Donaldson McNair, A.B., has been reappointed Director of the Gymnasium; Anna M. Broomall, M.D., consulting Physician of the College; Ida E. Richardson, M.D., Physician of the College. Lydia V. Smith, Susan S. Chase and Agnes M. Derkheim-Irwin have been reappointed as ladies in charge of Merion Hall, Radnor Hall and Denbigh Hall respectively.

There were one hundred and thirty-eight students enrolled during the year, an increase of seventeen over the previous year. Beside these, two graduates of the College holding its European fellowships were pursuing study at the universities of Paris and Leipsic. Among the students in attendance upon the College there were fourteen graduates of various universities and colleges, five of whom held fellowships; one hundred and twenty-two were candidates for the B.A. degree; one was a special student; and one a hearer. All of these students were resident in the college except nine. Since the opening of the college sixty-two graduates of thirty-one universities and colleges have taken courses of study at Bryn Mawr.

The number of students in the various departments during the year has been as follows: Greek, 42; Latin, 59; English, 86; German, 46; French, 23; Italian, 4; Spanish, 1; Philosophy, 16; History, 54; Political Science, 30; Mathematics, 35; Physics, 6; Chemistry, 24; Biology, 26.

Of the one hundred and twenty-two undergraduate students, forty-three have not yet chosen their groups or major subjects of study. But of those that have made a choice, 23 elected Greek;

29 Latin ; 6 English ; 10 German ; 9 French ; 22 History ; 21 Political Science ; 7 Mathematics ; 5 Physics ; 7 Chemistry and 7 Biology.

Since the opening of the College, 135 students have chosen the following combinations as their chief subjects ; to wit : Greek and Latin, 39 ; History and Political Science, 34 ; Biology and Chemistry, 18 ; French and German, 9 ; Mathematics and Physics, 7 ; English and Latin, 5 ; English and Greek, 4 ; German and Latin, 4 ; French and Latin, 3 ; Greek and Mathematics, 3 ; Greek and German, 2 ; English and German, 2 ; English and French, 2 ; Latin and Mathematics, 2 ; History and Physics, 1.

It will be observed that the study of Greek and Latin has proved most attractive ; next the choice has been guided by an interest in the development of civilization in the past, and in the study of present social problems. The third elective group has been chosen from a desire to gain insight into the facts of science and its methods of research, as well as to receive the training in habits of accurate thought which scientific study imparts.

The age at which women can enter college as under-graduates depends upon the standard of preparation insisted upon by the college, the skill and resources of the preparatory schools, and the ability of the candidate, including vigorous health. A larger proportion of the under-graduates that enter Bryn Mawr now have begun to prepare for college at an earlier stage of their school course than was the case with those who entered at first. Of the students entering in 1890 the average was eighteen years and eleven months. When, however, it shall have become as common in the case of girls for their whole course of study at school to be laid out with reference to their ultimate admission to college as is now the case with boys, a reduction of the average age of women upon admission to college and therefore at graduation may be anticipated. The recent discussion upon the importance of so arranging the whole course of secondary, collegiate and university study, that

graduates may enter upon business or professional life at an earlier age has received interested attention. It is believed that by better methods in the preparatory schools this period of study may be somewhat shortened. But attempts to take a degree at the College in less than four years, except in cases where the preparation had been unusually good, and sufficient to represent a full year of collegiate work, have not proved satisfactory ; and there has not been developed either in the Faculty or among the students as a class any sympathy with the shortening of the period of study for the B.A. degree, which has been proposed by some writers upon higher education.

Examinations for matriculation were held at the College just before the opening and close of the scholastic year ; and at the close of the first semester for those candidates only that expected to enter at the beginning of the second half-year. In the Sixth month examinations were also offered at Germantown, Philadelphia, Baltimore, Cincinnati, Chicago, San Francisco and Boston. These examinations were attended by one hundred and forty-two candidates, a few of whom took the examinations as a test of their progress in preparation for college ; others simply in order to secure the certificate granting admission to the College as a record of their proficiency in academic study. It is believed that by admitting the latter class of candidates to its examinations for matriculation the College renders a service to the cause of the secondary education of girls.

Not less than in former years thought has been given to other than the purely intellectual wants of the students. The attention to gymnastic exercises has been maintained, and with equally beneficial results. The average health of the students has been better than in the previous year, because of the absence of the influenza. The recreation essential to the mental, bodily, and spiritual well-being of hard-working students has been found in a variety of rational amusements, and in social occasions of various kinds within the circle of the members of the College.

The societies for philanthropic and missionary effort have been sustained, and the prevailing spirit among the students has been that of devotion to duty. A former student of the College, now a teacher in a mission school in India, has been partially supported. The College is represented in the College Settlement in New York City. An Indian pupil has been maintained at Hampton Normal School, Virginia, and contributions have been made towards the education of women in India.

There have been four lectures delivered before the College and invited guests. On the first occasion, Samuel L. Clemens (Mark Twain) delighted his hearers by one of his inimitably humorous readings. Professor J. Rendel Harris, of Haverford College, gave two lectures on "Recent Historical Evidences of the Early Date of the Gospels and of some Christian Doctrines." His materials were drawn largely from his own discoveries and researches, and were presented with great clearness and force. Later, Julia Ward Howe interested a large audience by her "Reminiscences of Longfellow and Emerson."

The College has been much indebted to several ladies and gentlemen who have made addresses before the students' associations, or before the students in particular departments. John MacIntosh, D.D., gave a full and instructive account of the aims and methods of University Extension. Grace H. Dodge, of New York, spoke of the working women's clubs of that city, with which she has been so closely connected. Umè Tsuda, of Japan, vividly described some of the customs of her own people. Maria P. Brace told of the progress and aims of the College Settlement of New York. Herbert Welsh, of Philadelphia, spoke of the relations of the United States government to the Indians, with special reference to the troubles among the Sioux. Stanton Coit told of the efforts made at Toynbee Hall, London, to raise the social condition of the people of the district in which the hall is placed. M. Paul du Chaillu spoke to the assembled College, and described in a graphic way some of his experiences as an African

explorer. Lucy Toulmin-Smith, of London, interested the classes in English by a lecture upon the early English Miracle Plays. Professor Richmond Mayo-Smith, of Columbia College, gave to the students in Political Science an instructive address upon the subject of Statistics, its Problems and Methods.

The degree of Bachelor of Arts was conferred upon eleven candidates at the close of the year. At the same time the degree of Doctor of Philosophy was conferred upon a candidate who had for three years pursued a course of study in English with German as a secondary subject; and the degree of Master of Arts was given to a candidate who had held the fellowship in Greek for the year. The European fellowship for the year 1891-92 was awarded to Lilian Vaughan Sampson of Germantown, Philadelphia. The address upon the occasion of conferring the degrees was made by Thomas Wentworth Higginson; in graceful and patriotic words he spoke of the influence exerted by our literature upon the national life, and of the social and political honors bestowed upon the best American writers.

It would be ungrateful to close this record of the year without recalling the presence and kindly words of James Russell Lowell at the opening of the College in 1885. As he then stood before us in the vigor of his ripened manhood, he moved all that heard him by the singular force of his personality. His courteous dignity, his familiarity with literature, his character as a poet, as a teacher of the right, as a representative of his country at foreign courts, as a lover of the venerable and yet the exponent of a true democracy, gave weight to his words in favor of an education that should produce women of culture. The supremacy which he always gave to the mental and spiritual over the material in living, made his sympathy with the young life of the College and his hope for its future an inspiration to strive for the best. Who that has felt the influence of his noble nature can forbear to regret that he has

gone from us, or to rejoice that he has lived for the good of our country and race?

From reports presented by the instructors in the several departments, the following statement of the work done in them has been compiled:—

Sanskrit and Greek.—The instruction in Sanskrit has been given by Edward W. Hopkins, and that in Greek by Dr. Hopkins, Dr. Paul Shorey, and Dr. Herbert Weir Smyth.

The minor or first year's Greek class recited with Dr. Hopkins three hours weekly throughout the year. They gave one hour throughout the year to Greek Prose Composition, writing exercises that were corrected weekly, and hearing occasional lectures on points in their work that required elucidation; the two hours remaining were devoted to recitations. During the first semester selected orations of Lysias were read; and during the second semester Plato's *Apology* and *Crito* were read entire. With Dr. Smyth the same class read twice weekly throughout the year from Homer's *Odyssey*, the story of the Phœaciens; Herodotus, *Book VIII.*, chapters I.—XC.; Demosthenes, the first and second *Olynthiac Orations*. The private reading for the first semester, Xenophon's *Memorabilia*, and for the second, Andocides' *Mysteries*, was completed, and the class examined upon it. In the course followed by this class the principles of grammar were reviewed, and attention was given to syntax, so that the students might be well prepared for future study.

The major or second year's class has done excellent work. With Dr. Hopkins they heard lectures two hours weekly for the first semester on Greek Literature. In the third hour they read Æschylus, *Prometheus Bound*. In the second semester all three hours were devoted to reading. Two hours were given to Thucydides, and one to the Lyric poets. In the former course, the greater part of the seventh book (*The Siege of Syracuse*) was read, and portions of the first and second

books also. In the Lyric course, extracts were read from all the Lyric poets from Callinus to Pindar, with constant notes on dialectic differences and comparisons with similar literature in Latin. The course in Thucydides was, as the nature of the text required, chiefly devoted to an understanding of the text and of the various syntactical questions involved. Beside the usual examinations at the end of each semester, occasional oral examinations were held on all these courses with satisfactory results.

With Dr. Smyth the class read two hours weekly for the first semester Sophocles' *Antigone*, and Demosthenes' *On the Symmories* and *For the Megalopolitans*.

With Dr. Shorey the class heard lectures on the history of Greek prose two hours weekly. The private reading for the first semester was Euripides' *Medea*; for the second, Plato's *Phædo*. These were read by all the students, who were also examined upon them.

While some attention is still given to grammar in the second year's course, the chief object has been to lead the student towards a study of Greek literature.

The post-major or third year's class, under Dr. Hopkins, gave two hours weekly in the first semester to reading Theocritus; in the second semester they read Lucian and Euripides' *Alcestitis*. Through the year a part of the time was given to work in Comparative Philology. With Dr. Smyth the class read, two hours weekly throughout the year, ten orations of Demosthenes, including *De Corona*.

Under the guidance of Dr. Shorey the class read Pindar one hour weekly throughout the year. In this class, as is usual, the attention of the students was directed to dialectic differences, and to comparison of forms with those in other languages, rather than to grammar, but especially to the literary features of the pieces read, to their artistic excellencies, and their relation to the productions of later writers.

To the graduate class Dr. Hopkins gave four hours weekly throughout the year. One hour was devoted to advanced Sanskrit, with the Fellow of the preceding year. The other two hours were devoted to readings from Demosthenes and

Æschines, including their orations *On the Crown*, and during the last of the second semester to Sophocles' *Antigone*.

The remaining hour was occupied by a course consisting of a comparison of syntactical forms and an analysis of the true meaning of syntactical relations, especially in Greek and Latin.

With Dr. Smyth the class read for two hours a week almost all the extant remains of the Lyric poets in the first two volumes of Bergk's edition, and of the inscriptions of the Aiolic and Ionic dialects in Cauer's *Delectus*.

The private reading consisted of the two orations, *On the Embassy* and Demosthenes' *Against Meidias*.

The class in Elementary Greek, under Dr. Smyth, gave five hours weekly throughout the year to the study of grammar and prose composition, and read three books of the *Anabasis*, and two books of the *Iliad*.

Latin.—The instruction in the Latin department has comprised minor, major, and post-major courses.

The course under Dr. Shorey, in Horace during the first semester, and in Virgil during the second, and followed by the minor or first year's class for two hours weekly, was intended to awaken the students' æsthetic interest in Latin poetry, and to serve as an introduction to the literature of the Augustan age. The odes of Horace were read and reviewed; there were lectures upon the life and art of Virgil, and on allied topics. The students prepared as private reading and passed examinations upon Books VII. and VIII. of the *Æneid* for the first semester, and upon Books IX. and X. for the second semester.

Under Dr. Lodge the class read two hours weekly from Sallust and Livy. In the first semester Sallust's *Catiline* was read, and then Livy was taken up. The class began at the beginning of Hannibal's march to Italy, and followed his movements as far as the narrative of the battle of Cannæ in Book XXII. They also devoted one hour weekly to Latin prose composition, and beside the usual exercises read at dictation Nepos' *Life of Hannibal*.

The major or second year's class read two hours weekly with Dr. Lodge throughout the year. The authors read were

Tacitus and the Elegiac poets. This class also wrote weekly exercises, and reviewed the more difficult parts of the syntax. In the second semester they heard in addition lectures on Roman Private Antiquities. They completed and were examined upon the assigned private reading, viz., Pliny, *Selected Letters*, and selected letters of Cicero.

With Dr. Shorey the class heard lectures on the history of Latin literature, and read selections from Pliny, Catullus, and Martial.

The post-major class read with Dr. Lodge two hours weekly throughout the year. In the first semester the subject of study was Terence, and in the second Plautus. One hour weekly during each semester was devoted to the critical study of a single play; the remaining hour was occupied in reading rapidly as many plays as practicable. Thus in the first semester the *Heauton Timorumenos* of Terence was made the subject of critical study, while the *Andria*, *Phormio*, and *Adelphia* were read rapidly. In the second semester the *Aulularia* of Plautus was read critically, the *Trinummus* and *Captivi* rapidly. By this means the class, while paying sufficient attention to the peculiarities of early Latin, read enough of each author to enable them to appreciate his literary characteristics. A further course of one hour weekly was devoted to the study of Roman style and periodology during the first semester, and to historical lectures on the syntax of the subordinate sentence during the second semester.

With Dr. Shorey the class heard lectures on advanced Latin literature, and read Lucretius, two hours weekly throughout the year.

English.—During the year eighty-six students followed the courses in English. A class of seventy-eight met Professor Thomas four times weekly during the year. The instruction consisted of lectures on which full notes were taken by the students for three hours weekly, and a weekly recitation or quiz on the subject matter of the lectures and on the private reading. This weekly review has proved of the greatest value; it affords the students an opportunity to ask any questions that may have arisen in connection with their work,

and the hour, especially in the latter part of the course where modern literature is treated, has been an hour of discussion in which many of the students have taken part. The lectures covered the period from the time of Spenser to that of Tennyson, and included a short account of Italian literature and an excursus on French literature. The private reading done by all the students taking the course included, besides other English authors, the greater part of the poetry of Spenser, Milton, most of Shakespeare's plays, and the chief poems of Scott, Burns, Wordsworth, Coleridge, and other modern poets.

A class of under-graduates who had elected English as one of the major subjects of their group, met Professor Thomas three hours weekly. Two graduate students and two special students in English worked with the class throughout the year. The subject of the year's work was the Development of Modern Poetry, and the work included a study of the lives and works of Shelley, Byron, Keats, Wordsworth, Coleridge, and Rossetti. All their poetry was read, together with all the more important critical essays in English, French and German, and papers and reports were prepared by the members of the class. It is to be regretted, however, that so few of the essays of French and German critics are to be found in the College library.

Seventy under-graduate students pursued a course of one hour weekly in essay-work on subjects connected with English literature, the subjects of the essay being chosen by the students themselves and submitted for approval to Dr. Gwinn. This course was conducted by Dr. Mary M. Gwinn, with the assistance of Mabel Clark, M.A., Reader in English.

A class of five advanced students pursued a course of two hours weekly in essay-work on the subjects connected with the Development of Modern Poetry under the direction of Dr. Gwinn.

Graduate instruction in essay-work was also given by Dr. Gwinn.

The following classes in Anglo-Saxon and Early English were conducted by Dr. Charles F. McClumpha:—1 (a). Anglo-Saxon Dialects twice weekly for one semester; 1 (b). Old Saxon (Heyne's *Laut und Flexionslehre*, and the greater part of the

Heliand) twice weekly for one semester ; 2. Anglo-Saxon Sight Reading (Boethius, Guthlac) twice weekly throughout the year ; 3. Beowulf once weekly throughout the year ; 4. Anglo-Saxon Grammar and Schmidt's edition of Anglo-Saxon Laws twice weekly throughout the year ; 5. Chaucer's Canterbury Tales twice weekly during the second semester.

The degree of Doctor of Philosophy was taken in the English department by Ida Wood, M.A., Vassar College ; Fellow, Bryn Mawr College, 1888-89, and Fellow by Courtesy, 1890-91.

German.—The beginners' class was conducted by Rose Chamberlin for five hours weekly.

The text-books used were Otis' *Elementary German*, Joynes-Meissner's *German Grammar*, and Buchheim's *German Reader*. The class read *Maria Stuart*, Schiller's *Jungfrau von Orleans*, Goethe's *Hermann und Dorothea* and *Egmont*, Lessing's *Minna von Barnhelm*, Freytag's *Journalisten*, Schiller's *Neffe als Onkel*, and extracts from Max Müller's *German Classics*, and selections of modern verse and prose. Students entering the minor or major course are understood to possess the knowledge of German which is required in the entrance examination, and which includes a good acquaintance with the elements of modern German grammar (especially of declension and conjugation) and a reading knowledge of modern German texts of average difficulty. Starting from this basis the department in its collegiate courses aims at making the students acquainted with the development of German literature in general and with some of its most prominent works in detail. The study of special works is also designed to give the students a facility in reading and understanding modern German ; for the same purpose the lectures on literature are delivered in German.

In the minor or first year's course lectures were given by Dr. Collitz (twice weekly) on the history of German literature from the middle of the eighteenth century to Goethe's death. In connection with these lectures, selections from the second part of Max Müller's *German Classics* were read and explained for one hour weekly.

With Miss Chamberlin, for one hour weekly, the class read critically the first part of Goethe's *Faust*. A second hour was given to exercises in German prose composition, the English to be translated being taken from leading English authors. These exercises were corrected and criticised in class. A third hour was spent in conversation classes. The class-room exercises and lectures were conducted in German. The students also prepared two essays each semester.

The private reading in the first semester was Lessing's *Emilia Galotti* and Goethe's *Götz von Berlichinger*; in the second semester Goethe's *Iphigenie* and Schiller's *Don Carlos* and *Braut von Messina*.

In the major or second year's course the lectures according to the Program would have been on earlier German literature. But as part of the students, in accordance with the former arrangement of the German courses, had studied the earlier literature in a previous year and part of them preferred to postpone this part of the German course until a later year, Dr. Collitz decided to give the two hours of weekly lectures to a special study of Goethe's life and works.

With Miss Chamberlin the class read for two hours weekly the greater part of the second part of *Faust*. Portions were carefully prepared, brought to class and criticised, and lectures were given on other parts upon which notes were taken and a final examination passed. Another hour weekly was given to practice in composition. The class also gave an hour weekly to conversation in German. The private reading included Lessing's *Miss Sara Sampson* and Goethe's *Tasso* in the first semester, Schiller's *Don Carlos*, Chæmisso's *Peter Schlemihl* and Scheffel's *Ekkehard* in the second semester.

A post-major course in German literature was organized for two students, who had completed the minor and the major course and wished to continue the study of German. Lectures on the most recent German literature, from Jean Paul up to date, were given by Dr. Collitz twice a week. For the rest of the course these students studied with Miss Chamberlin's class in the major course.

The study of earlier German literature in the original texts and the philological study of German are reserved for the graduate courses. The philological courses begin with the study of single languages or dialects and gradually proceed to the comparative study of Teutonic philology. The instruction is given with a view to original work on part of the students. Graduate courses were held during the whole year by Dr. Collitz in Middle High German (two hours weekly) and in Comparative Teutonic Philology (one hour); in addition during the first semester he conducted courses in Gothic (two hours), and during the second semester in Old High German (one hour), and Norse (one hour).

Romance Languages.—Under Dr. Thomas McCabe the minor or first year's class in French heard lectures two hours weekly during the first semester upon the literature of the eighteenth century. One hour weekly was spent in the critical reading of selections in prose and poetry from various authors. One hour weekly was given to French composition, and another to conversation in French. A post-major or third year's class gave one hour weekly to a critical reading of chosen authors, and another to a study of French syntax.

In Italian a beginners' class of four students gave one hour weekly to the study of Grandgent's Grammar and Harper's Italian *Principia II*.

In Spanish a class pursued critical readings of selected authors for three hours weekly throughout the semester.

The class in Elementary French under Rose Chamberlin studied Whitney's grammar and read Xavier de Maistre's *La Jeune Siberienne*, Super's *Reader*, one or more plays of Racine and Corneille, two or three plays of Moliere, and selections from Boileau. They also read copious selections from modern prose writers and poets, notably Victor Hugo, Dumas (college edition), and Theuriet.

Political Science.—The lectures and class-work under Franklin H. Giddings, A.M., were so rearranged as to substitute continuous five-hour courses in each subject for the alternating two and three hour courses of previous years. The economic subjects were brought together in the first semester, and the

courses on political institutions, administration, constitutional and international law were given in the second semester. The minor or first year's course began in the first semester with the fundamental drill in economic principles, the emphasis being placed on the problems of utility, value, capital, cost of production, competition, price, rent and wages. This was followed by work in economic history. Those parts of Roman law were presented that explain the origin of the legal definitions, rights and obligations of property and contract. Early mediæval usages and teachings in regard to money, interest and trade were examined. The economic structure of society in the twelfth and thirteenth centuries, as seen in manorial communities, towns and guilds, was carefully studied, and from that point the lectures traced the growth of industry and commerce and the rise of the wages class, analyzed the industrial revolution of 1760-1846, and examined the modern organization of capital. In the second semester the lectures dealt with the evolution of political society in its various forms, including the structure of the state and the varieties of government, and explained the more important principles of constitutional law in their American, English and Continental forms. The course concluded with a study of the administrative methods in state and municipal governments.

In the major or second year's course special attention was given to training in individual work. Topics immediately connected with the lectures were assigned to each member of the class, to be carefully worked up with the aid of a full list of authorities and references, and results reported. These reports, and the discussions they provoked, were the most valuable feature of the work. The economic subjects covered were bank currency, beginning with the English Bank Restriction Act of 1797 and reviewing the history of bank circulation in the United States; bimetallism, down to and including the silver legislation of 1890; and the tariff history of the United States, including the McKinley Act. The methods were mainly historical and statistical.

The political subjects included a general course in international law and selected topics in administration, among which

were state taxation, and the organization and work of state railroad commissions, boards of health and boards of education.

Two students pursued for one hour weekly, as special post-major work, a course of advanced critical study in economics, using Marshall's *Principles* as a basis. Two students took as post-major work the lectures on theories of sociology, one hour weekly, and one devoted a second hour weekly to special researches. The Fellow in History attended the lectures on sociology, but undertook no original work in this department.

History.—The usual courses of five hours each for the minor or first year's class, and for the major or second year's class, were conducted by Dr. Andrews weekly throughout the year. In the course on Ancient History, six weeks of the first semester were taken up with the study of pre-Grecian history. The civilization of Egypt, Palestine, Phœnicia, and the nations of the Mesopotamian valley, was examined with careful reference to its bearing on later history; and the attention of the class was called to the investigations of archæologists in Egypt, Chaldea, Persia, and Asia Minor, as throwing light on the history of these countries. The remainder of the year was spent on the history of Greece and Rome, closing with the rise of the Christian church and the new nationalities. In this course much assigned private reading was done, and outline map work was required. The second course, although an independent one, was so arranged as to be a continuation of the former course of the previous year. The lecturer followed the thread of European History to the French revolution, discussing the influence of the Church, the Holy Roman Empire, the Renaissance, the Reformation and religious wars, the theory of the Balance of Power, and the rise and fall of the French empire.

The work of the students outside of the class room consisted of a due amount of assigned reading, the preparation by each member of the class of an historical study, and the presentation orally by the more advanced students of topics which they had critically examined. The subjects for essays were generally of a character requiring thought, such as: Theories regarding the Origin of the Feudal System; The Economic Results of the Crusades; The Rise and Influence of the Benedictine Monks;

Frederic II. and his Court; The Political and Economic Work of Zwingli, and the Grand Design of Henry IV.

To a class composed of six post-major students and one graduate, a course of lectures was given two hours weekly on the Constitutional History of England to the Restoration, and on that of the United States to the Civil War. Members of the class made reports, more or less regularly throughout the year, on assigned subjects, and the whole class was required to take notes upon these, and was held responsible for them in the examination. The lectures treated the subject from the point of view of the history of the United States, and no attempt was made to examine in detail the constitutional history of England. As a partial outcome of this course, two of the students began studies in the colonial history of Pennsylvania, one taking as a subject the first company of traders, the other the history of smuggling to the period of the Revolution. These studies, begun in the second semester and therefore not yet completed, show care and considerable research. The thanks of the department are due to the Pennsylvania Historical Society for many facilities offered for the prosecution of these studies.

During the first semester a course of lectures on the history of Roman Law was given to the Fellow in History; this was, however, discontinued during the second semester to permit the Fellow to undertake an investigation into the social life of the early settlers of Pennsylvania, a study that will be continued during the coming year.

Philosophy.—Some slight changes were made in the prescribed course in Philosophy, with a view to obtain practically valuable results in the limited time allowed for the work. Experience shows that the student must be guided from the beginning to the unity of the great philosophies. The reading of the texts is here what laboratory work is in the physical sciences.

The method adopted by Dr. Paul Shorey was the following: Jevons's text-book was retained as a book of reference, but the instruction in formal logic was begun by lectures on the theory of the syllogism. The extra-logical matter with which the intro-

ductory chapters of text-books are encumbered was introduced only when required for the comprehension of syllogistic forms of reasoning. Inductive logic was not taught in connection with deductive, but was preceded by a general introduction to the elements of Psychology, based on the first four chapters of Sully's *Outlines*. The work of the remainder of the year was given to three or four leading topics in which the study of psychology and the history of philosophy were blended. These topics were: (1) The idea of cause in Plato, Aristotle, Descartes, Locke, and recent speculation, leading up to the theory of induction in Aristotle, Bacon and Mill; (2) The idea of space in modern psychology, studied in connection with the problem of idealism in Descartes, Locke, and Berkeley; (3) The psychology of imagination and memory, and the idea of time in recent psychology, with illustrations from the history of philosophy. In connection with the work on deductive logic the class read the fourth book of Locke's essays. This reading was supplemented by lectures, explanations of special difficulties, and a written examination. The study of deductive logic and the study of cause were accompanied by the reading of Bacon's *Novum Organon* and selections from Plato. During the second semester the class read selections from various elementary histories of philosophy, Berkeley's *Principles of Human Knowledge*, and consulted many works referred to in the lectures. Descartes' *Meditations*, in the original text, were read as a text-book in the class-room for a few weeks. The results of the year's work were very satisfactory.

Dr. Rhoads gave a course of lectures one hour weekly throughout the year on Ethics. Some of the subjects considered were: The claims of ethics to rest on facts present to consciousness and universal among men, the elements of our moral nature, the authority of obligation, and the sources of moral law. Many classes of duties were discussed, and the moral aspects of some contemporary social and political questions, such as the use of alcoholic drinks, the moral basis of the family and state, the treatment of criminal and dependent classes, and the relative duties of employers

and employed. The teachings of natural and Christian ethics were compared, and a short time was given to a review of ethical systems. The class had assigned reading, and the lectures were accompanied by discussion.

Physics.—During the past year, but one course in Physics, the “minor” course, was given. Besides this, one graduate student pursued special work in the laboratory.

The studies of the course were taken up by Dr. Perkins as announced in the Program, but somewhat more time than usual was given to mechanics, as it is believed that a thorough comprehension of mechanical principles forms the most satisfactory basis for a clear understanding of the rest of science.

In connection with the study of electricity, the modern fundamental conceptions as to the nature of electrical action were kept clearly in view, and the various phenomena were, so far as practicable, interpreted in the light of these conceptions. Attention was also called, as far as time allowed, to the modern commercial applications of electricity,—and in connection with this a visit was made to the neighboring electric lighting station at Haverford. The Bryn Mawr plant for the manufacture of ice was also visited, in connection with the study of the theory of steam engines and of heat transfers.

Physical Optics, the phenomena of diffraction and color, were made prominent in the course on Light. The laboratory work was general in its nature, and while nearly all the experiments were quantitative, they were planned rather with a view to help the students to a better appreciation of the principles involved than for exercises in manipulation.

Several new pieces of apparatus were added to the equipment of the laboratory. A new steam engine was purchased and placed with the dynamo in an adjacent building. An excellent standard barometer was also constructed and mounted by the side of the standard meter, upon the pillar supporting the cathetometer.

Chemistry.—The appointment of Dr. C. C. Blackshear as Instructor in Chemistry made it possible to give both the minor or first year’s course and the major or second year’s course in this department during the past year. Twenty-two students were

under instruction, and of these seventeen were in the minor and five in the major course. All the available working tables in the laboratory were occupied, and it was found necessary to increase the supply of chemicals and apparatus.

In the minor course three lectures a week upon general and descriptive chemistry were given by Dr. Keiser, and two upon topics in inorganic chemistry by Dr. Blackshear. Throughout the year the students in this course worked six hours a week in the laboratory, and followed the plan of work as laid down in the Program.

In the major course three lectures a week upon organic chemistry were given by Dr. Keiser, and two upon advanced inorganic chemistry by Dr. Blackshear. The laboratory work of the major students consisted of exercises in qualitative analysis, the preparation of typical organic compounds, and practice in quantitative chemical analysis.

As in previous years several original investigations have been carried on, and one of these upon the complete gravimetric synthesis of water has been described in an article published in the *American Chemical Journal*. Other experiments upon the purification of certain chemical compounds are still in progress.

Biology.—Under Dr. E. B. Wilson and Dr. Lee, twenty-nine students, exclusive of hearers, pursued courses in biology; of these seventeen took the minor or first year's course, nine the major or the second year's course, two were graduates, and one was a special student.

The work of the minor or first year's course was carried out along the lines indicated in the Program. It consisted of two parallel courses, one of which dealt especially with the lower forms of life, the relations of plants and animals, and the more general principles of the science; the other was devoted more largely to the higher forms of animal life, and had special reference to physiology. The laboratory work was facilitated by the use of printed directions, specially drawn up for the purpose, that have proved to be of the utmost value both to students and instructors, and which, it is hoped, may be extended and perfected hereafter.

In the major course, owing to the exceptional diligence and ability of the students, it was possible to give a more extended and advanced course than usual, and to discuss some subjects that would be ordinarily left to the post-major or graduate courses. Among the subjects thus discussed may be mentioned recent investigations into the phenomena of cell division, the structure of protoplasm, nature of sex, inheritance, and the origin of variation. In this way the students were introduced to some of the most fundamental and debatable problems of current biological discussion.

Researches.—The researches conducted by Dr. E. B. Wilson on heliotropism and color-discrimination in *Hydra*, which have extended over twelve years, have been completed, and the principal conclusions are set forth in an article in *The American Naturalist* for May, 1891. Dr. Wilson has also published, in the *Journal of Morphology*, an article on "The Origin of the Mesoblast in Annelids," a subject on which he has long been engaged.

The investigations of Harriet Randolph (Fellow in Biology last year) have just been published in the *Zoologischer Anzeiger* (Leipsic). This work, which was carried on in the laboratory under the direction of Dr. Wilson, has produced new results of very considerable value.

The Library.—The accessions to the Library during the past year have been one thousand three hundred and forty-five bound volumes, and about two hundred pamphlets. The Library now contains nine thousand three hundred and ninety-one volumes, chosen with reference to the immediate needs of the several departments of instruction. The following gifts have been received during the year, and are gratefully acknowledged: *Crelle, Journal für die reine u. angewandte Mathematik*, 3 vols., from Dr. C. A. Scott; *Mérimée, Œuvres*, 14 vols., Alys Whitall Smith, A.B., Bryn Mawr, 1889; *Mind*, 14 vols.; Janet, *Elements of Morals*, 2 copies, Dr. J. E. Rhoads; *Japanese Fairy World*, Wm. E. Griffis; *De Bow's Review*, vol. 30, Ida Wood; *Japanese Dictionary, Old Testament* (in Japanese) Umé Tsuda; *U. S. Geological Survey*, 3 vols., Dr. Smyth; *Ἀμλστ*, Geo. W. Childs; *Biblical Frag-*

ments from *Mt. Sinai*, Prof. J. Rendel Harris; Amherst College, Address by H. A. Frink; Giddings' *American Christian Rulers*, from the author; *Illinois Board of Public Charities*, Report; numerous United States and State publications. From the fund presented by Helen Erben 143 books were added to the English department of the Library. During the year there has also been added to the Library a valuable collection of works upon Hebrew and other Semitic languages and literatures numbering about 670 volumes.

Publications.—As in former years members of the Faculty have been engaged in researches and have made contributions to the knowledge of the subjects to which they devote special attention. They have published the following: By Dr. E. W. Hopkins: (1) "A Review of Taylor's 'Origin of the Aryans';" (2) "Accounts of the Creation in the Mahabharata;" (3) "Legends of the Mahabharata;" (4) "Earthly Paradise, and the Legend of Yarma;" (5) "The Interpretation of Rig Veda, VII., 79.4;" all published in *The Proceedings of The Oriental Society* for May, 1891.

By Dr. Charlotte Angas Scott: "On the Numerical Characteristic of Cubic Curves," *Haverford College Studies* for 1891.

By Dr. H. W. Smyth: "A Review of Meister's 'Zum Eleischen Arkodischen und Kyprischen Dialekte,'" in *The Classical Review*, 1891, vol. V., p. 62.

By Dr. Gonzalez Lodge: "The Gorgias of Plato," College series of Greek authors.

By Dr. Edward H. Keiser: (1) "The Complete Gravimetric Synthesis of Water," *American Chemical Journal*, January, 1891; (2) "Synthetical Experiments on the Sugars," *American Chemical Journal*, January, 1891; (3) "A Review of Erdmann's Chemische Präparaté," *Journal of Analytical and Applied Chemistry*, April, 1891.

By Dr. Hermann Collitz: (1) "On the Existence of Primitive Aryan *sh*," read before the American Oriental Society at its meeting in Princeton, October, 1890. An abstract of this paper is given in the *Proceedings of the American Oriental Society*, vol. XV., p. 65, and the paper will be published in full in the *American Journal of Philology*.

(2) A review of the first volume of Benfey's "Minor Essays," collected by Bezenberger (Berlin, 1890), in *The American Journal of Philology*, vol. XI., pp. 488-495.

(3) On the treatment of original *ai* in final syllables in Gothic, Old High German, and Old Saxon in *Bezenberger's Beiträge zur Kunde der Indogerman Sprachen*, vol. XVII., pp. 1-53.

By Dr. Edmund B. Wilson: (1) "The Heliotropism and Color Discriminations of the Hydra," *The American Naturalist*, July, 1891.

(2) "The Origin of the Mesoblast in Annelids," in *The Journal of Morphology* for May, 1891.

By Dr. Charles F. McClumpha: "Origin of 'The Flower and The Leaf,'" *Modern Language Notes*, November, 1889. "Differences Between the Scribes of 'Beowulf,'" *Modern Language Notes*, April, 1890.

By Dr. McClumpha and Katharine Merrill, A.B., Fellow in English, Bryn Mawr College, 1890-'91, "The Parallelisms of the Anglo-Saxon Genesis," *Modern Language Notes*, June, 1890.

Respectfully submitted to the Trustees at their
meeting held 10th mo. 9th, 1891.

JAMES E. RHOADS.

TABLE OF SUBJECTS STUDIED AND TERMS OF STUDY.

| SUBJECT. | PARTICULAR SUBJECT. | INSTRUCTOR. | No. IN CLASS. | HOURS WEEKLY | TERM OF STUDY. |
|-----------------|--|--------------|---------------|--------------------|--------------------------------|
| GREEK | Elementary Greek, Grammar, Xenophon's Anabasis, Book I, | Dr. Smyth. | 5 | 5 | 9 mo. 30, '90, to 2 mo. 7, '91 |
| | Elementary Greek, Grammar, Xenophon's Anabasis, Books II-III, Homer's Iliad, Books I-II, | " | 6 | 5 | 2 mo. 11, '90, to 6 mo. 4, '91 |
| | Greek Prose Composition, minor class, | Dr. Hopkins. | 9 | 1 | 9 mo. 30, '90, to 2 mo. 7, '91 |
| | Greek Prose Composition, minor class, | " | 8 | 1 | 2 mo. 11, '91, to 6 mo. 4, '91 |
| | Homer's Odyssey, minor, | Dr. Smyth. | 8 | 2 | 9 mo. 30, '90, to 2 mo. 7, '91 |
| | Lysias, minor, | Dr. Hopkins. | 9 | 2 | 9 mo. 30, '90, to 2 mo. 7, '91 |
| | Herodotus, VIII, 1-90, and Demosthenes, Olynthiacs, I, and II, minor, | Dr. Smyth. | 9 | 2 | 2 mo. 11, '91, to 6 mo. 4, '91 |
| | Plato's Apology, minor, | Dr. Hopkins. | 7 | 2 | 2 mo. 11, '91, to 6 mo. 4, '91 |
| | Sophocles, Antigone, and Demosthenes, Orations, major | Dr. Smyth. | 9 | 2 | 9 mo. 30, '90, to 2 mo. 7, '91 |
| | Æschylus, Prometheus, major, | Dr. Hopkins. | 6 | 1 | 9 mo. 30, '90, to 2 mo. 7, '91 |
| | Lectures on the History of Greek Poetry, major, | " | 9 | 2 | 9 mo. 30, '90, to 2 mo. 7, '91 |
| | Thucydides, major, | " | 11 | 2 | 2 mo. 11, '91, to 6 mo. 4, '91 |
| | Lyric Poets, major, | " | 12 | 1 | 2 mo. 11, '91, to 6 mo. 4, '91 |
| | Lectures on the History of Greek Prose, major, | Dr. Shorey. | 9 | 2 | 2 mo. 11, '91, to 6 mo. 4, '91 |
| | Advanced Greek Composition, post-major class, | Dr. Smyth. | 3 | 1 hour fratigly | 9 mo. 30, '90, to 6 mo. 4, '91 |
| | Greek Comparative Grammar, post-major class, | Dr. Hopkins. | 3 | 1 | 9 mo. 30, '90, to 2 mo. 7, '91 |
| | Greek Comparative Grammar, post-major class, | " | 2 | 1 | 2 mo. 11, '91, to 6 mo. 4, '91 |
| | Pindar's Odes, post-major class, | Dr. Shorey. | 5 | 1 | 9 mo. 30, '90, to 2 mo. 7, '91 |
| | Demosthenes, Olynthiacs and Philippics, post-major class, | | | | |
| | Lucian, and Euripides, Alcestis, post-major class, | Dr. Smyth. | 2 | 2 | 9 mo. 30, '90, to 6 mo. 4, '91 |
| | <i>Graduate Classes.</i> | Dr. Hopkins. | 2 | 1 | 2 mo. 11, '91, to 6 mo. 4, '91 |

TABLE OF SUBJECTS STUDIED AND TERMS OF STUDY—[CONTINUED].

| SUBJECT. | PARTICULAR SUBJECT. | INSTRUCTOR. | NO. IN CLASS. | HOURS WEEKLY | TERM OF STUDY. |
|--|---|--------------|---------------|--------------------------------|--------------------------------|
| GREEK | Melic Poets and Greek Dialects, | Dr. Smyth. | 3 | 2 | 9 mo. 30, '90, to 6 mo. 4, '91 |
| | Lectures on Comparative Syntax, | Dr. Hopkins. | 3 | 1 | 9 mo. 30, '90, to 6 mo. 4, '91 |
| | Æschines and Demosthenes, | " | 2 | 1 | 9 mo. 30, '90, to 6 mo. 4, '91 |
| SANSKRIT | Demosthenes and Sophocles, | " | 2 | 1 | 9 mo. 30, '90, to 6 mo. 4, '91 |
| | <i>Graduate Class.</i> | | | | |
| LATIN | Selections from Rig Veda, | " | 1 | 1 | 9 mo. 30, '90, to 6 mo. 4, '91 |
| | Prose Composition, minor class, | Dr. Lodge. | 26 | 1 | 9 mo. 30, '90, to 2 mo. 7, '91 |
| | Prose Composition, minor class, | " | 27 | 1 | 2 mo. 11, '91, to 6 mo. 4, '91 |
| | Sallust, Catiline, Livy, Book XXI, part, minor, | " | 27 | 2 | 9 mo. 30, '90, to 2 mo. 7, '91 |
| | Livy, Book XXI, continued, Book XXII, to Battle of Cannæ, minor, | " | 27 | 2 | 2 mo. 11, '91, to 6 mo. 4, '91 |
| | Horace, Selections, minor, | Dr. Shorey. | 26 | 2 | 9 mo. 30, '90, to 2 mo. 7, '91 |
| | Horace and Virgil, Selections, minor, | " | 27 | 2 | 2 mo. 11, '91, to 6 mo. 4, '91 |
| | Prose Composition, major class, | Dr. Lodge. | 11 | 1 | 9 mo. 30, '90, to 2 mo. 7, '91 |
| | Prose Composition, major class, | " | 10 | 1 | 2 mo. 11, '91, to 6 mo. 4, '91 |
| | Tacitus, Germania, Agricola, Annals, | " | 13 | 2 | 9 mo. 30, '90, to 2 mo. 7, '91 |
| | Tibullus and Propertius, major, | " | 14 | 2 | 2 mo. 11, '91, to 6 mo. 4, '91 |
| | Juvenal, Persius, Martial and Lucan, Selections, major, Catullus, Cicero's Letters, | Dr. Shorey. | 11 | 2 | 9 mo. 30, '90, to 2 mo. 7, '91 |
| Latin Style, post-major class, | Dr. Lodge. | 11 | 2 | 2 mo. 11, '91, to 6 mo. 4, '91 | |
| Latin Rhetoric, post-major class, | Dr. Shorey. | 1 | 1 | 9 mo. 30, '90, to 6 mo. 4, '91 | |
| Terence, post-major class, | Dr. Lodge. | 8 | 1 | 9 mo. 30, '90, to 6 mo. 4, '91 | |
| Plautus, post-major class, | " | 7 | 2 | 9 mo. 30, '90, to 2 mo. 7, '91 | |
| Lectures on English Literature, from Chaucer to the Restoration, exclusive, minor, | Dr. M. C. Thomas. | 5 | 2 | 2 mo. 11, '91, to 6 mo. 4, '91 | |
| Essay Work, minor, | Dr. Gwinn. | 63 | 4 | 9 mo. 30, '90, to 2 mo. 7, '91 | |
| | | 59 | 1 | 6 mo. 30, '90, to 2 mo. 7, '91 | |

TABLE OF SUBJECTS STUDIED AND TERMS OF STUDY—[CONTINUED].

| SUBJECT. | PARTICULAR SUBJECT. | INSTRUCTOR. | No. IN CLASS. | HOURS WEEKLY | TERM OF STUDY. |
|---------------|---|-------------------|---------------|--------------|--------------------------------|
| ENGLISH . . . | Lectures on English Literature after Shakespeare, minor | Dr. M. C. Thomas. | . 73 . | . 4 . | 2 mo. 11, '91, to 6 mo. 4, '91 |
| | Essay Work, minor | Dr. Gwinn. | . 71 . | . 1 . | 2 mo. 11, '91, to 6 mo. 4, '91 |
| | Poetry of the Nineteenth Century, major, | Dr. M. C. Thomas. | . 8 . | . 3 . | 9 mo. 30, '90, to 2 mo. 7, '91 |
| | Essay Work, major, | Dr. Gwinn. | . 5 . | . 2 . | 9 mo. 30, '90, to 2 mo. 7, '91 |
| | Poetry of the Nineteenth Century, major, | Dr. M. C. Thomas. | . 7 . | . 3 . | 2 mo. 11, '91, to 6 mo. 4, '91 |
| | Essay Work, major, | Dr. Gwinn. | . 6 . | . 2 . | 2 mo. 11, '91, to 6 mo. 4, '91 |
| | <i>Graduate Class.</i> | | | | |
| | Anglo-Saxon, Siever's Grammar and Sweet's Text, . . . | Dr. McClumpha. | . 1 . | . 1 . | 9 mo. 30, '90, to 2 mo. 7, '91 |
| | Anglo-Saxon, Elfred's and Ine's Laws, | " | . 1 . | . 1 . | 2 mo. 11, '91, to 6 mo. 4, '91 |
| | West Saxon, Elfred, | " | . 1 . | . 1 . | 9 mo. 30, '90, to 2 mo. 7, '91 |
| | Old Saxon, Helhand, | " | . 1 . | . 2 . | 2 mo. 11, '91, to 6 mo. 4, '91 |
| | Old English Dialects, | " | . 1 . | . 1 . | 9 mo. 30, '90, to 2 mo. 7, '91 |
| | Anglo-Saxon, Cynewulf, | " | . 1 . | . 1 . | 2 mo. 11, '91, to 6 mo. 4, '91 |
| | West Saxon, Elfred, | " | . 1 . | . 1 . | 9 mo. 30, '90, to 2 mo. 7, '91 |
| | Anglo-Saxon, Cædmon and Cynewulf, | " | . 1 . | . 1 . | 2 mo. 11, '91, to 6 mo. 4, '91 |
| GERMAN . . . | Anglo-Saxon, Beowulf, | " | . 1 . | . 2 . | 9 mo. 30, '90, to 6 mo. 4, '91 |
| | Anglo-Saxon, Elfred and Cynewulf, | " | . 1 . | . 1 . | 9 mo. 30, '90, to 2 mo. 7, '91 |
| | Anglo-Saxon, Cædmon, | " | . 1 . | . 1 . | 2 mo. 11, '91, to 6 mo. 4, '91 |
| | Anglo-Saxon, Cædmon, | " | . 2 . | . 1 . | 2 mo. 11, '91, to 6 mo. 4, '91 |
| | Chaucer, | " | . 2 . | . 1 . | 2 mo. 11, '91, to 6 mo. 4, '91 |
| | Elementary German, Grammar and Reading, | Rose Chamberlin. | . 13 . | . 5 . | 9 mo. 30, '90, to 2 mo. 7, '91 |
| | Elementary German, Grammar and Reading, | " | . 16 . | . 5 . | 2 mo. 11, '91, to 6 mo. 4, '91 |
| | German Conversation, | " | . 6 . | . 1 . | 2 mo. 11, '91, to 6 mo. 4, '91 |
| | German Composition, minor, | " | . 11 . | . 1 . | 9 mo. 30, '90, to 2 mo. 7, '91 |
| | German Composition, minor, | " | . 13 . | . 1 . | 2 mo. 11, '91, to 6 mo. 4, '91 |

TABLE OF SUBJECTS STUDIED AND TERMS OF STUDY—[CONTINUED].

| SUBJECT. | PARTICULAR SUBJECT. | INSTRUCTOR. | NO. IN CLASS. | HOURS WEEKLY | TERM OF STUDY. |
|--------------------------|--|------------------|---------------|--------------|---------------------------------|
| GERMAN | German Literature, minor, | Dr. Collitz. | 9 | 3 | 9 mo. '90, '90, to 2 mo. 7, '91 |
| | German Literature, minor, | " | 11 | 3 | 2 mo. 11, '91, to 6 mo. 4, '91 |
| | Reading, Faust, Part I, minor, | Rose Chamberlin. | 18 | 1 | 9 mo. '90, to 2 mo. 7, '91 |
| | Reading, Faust, Part I, minor, | " | 20 | 1 | 2 mo. 11, '91, to 6 mo. 4, '91 |
| | German Composition, major, | " | 5 | 1 | 9 mo. '90, to 6 mo. 4, '91 |
| | German Composition, major, | " | 4 | 1 | 2 mo. 11, '91, to 6 mo. 4, '91 |
| | German Literature, major, | Dr. Collitz. | 3 | 2 | 9 mo. '90, to 6 mo. 4, '91 |
| | German Reading and Criticism, major, | Rose Chamberlin. | 4 | 2 | 9 mo. '90, to 2 mo. 7, '91 |
| | Literary Criticism, Faust, Part II, major and post-major | " | 5 | 2 | 2 mo. 11, '91, to 6 mo. 4, '91 |
| | German Literature, post-major, | Dr. Collitz. | 2 | 2 | 2 mo. 11, '91, to 6 mo. 4, '91 |
| <i>Graduate Classes.</i> | | | | | |
| FRENCH | Middle High German, | " | 2 | 2 | 9 mo. '90, to 6 mo. 4, '91 |
| | Old High German, | " | 2 | 1 | 2 mo. 11, '91, to 6 mo. 4, '91 |
| | Gothic, | " | 2 | 2 | 9 mo. '90, to 2 mo. 7, '91 |
| | Outlines of Teutonic Philology, | " | 1 | 1 | 9 mo. '90, to 2 mo. 7, '91 |
| | Old Norse, | " | 1 | 1 | 2 mo. 11, '91, to 6 mo. 4, '91 |
| | Elementary French, | Rose Chamberlin. | 4 | 5 | 9 mo. '90, to 6 mo. 4, '91 |
| | French Composition, minor, | Dr. McCabe. | 12 | 1 | 9 mo. '90, to 2 mo. 7, '91 |
| | Lectures, Literature of the Eighteenth Century, minor, | " | 15 | 2 | 9 mo. '90, to 2 mo. 7, '91 |
| | Critical Reading, minor, | " | 13 | 1 | 9 mo. '90, to 2 mo. 7, '91 |
| | Conversation, | " | 11 | 1 | 9 mo. '90, to 2 mo. 7, '91 |
| ITALIAN | Critical Reading, post-major, | " | 1 | 3 | 9 mo. '90, to 2 mo. 7, '91 |
| | French Syntax, post-major, | " | 1 | 1 | 9 mo. '90, to 2 mo. 7, '91 |
| | Grandgent's Grammar and Harper's Italian Principia, II | " | 4 | 1 | 9 mo. '90, to 2 mo. 7, '91 |
| | Critical Reading, | " | 1 | 3 | 9 mo. '90, to 2 mo. 7, '91 |
| | Trigonometry, | J. Harkness. | 5 | 3 | 9 mo. '90, to 2 mo. 7, '91 |
| MATHEMATICS | | | | | |

TABLE OF SUBJECTS STUDIED AND TERMS OF STUDY—[CONTINUED].

| SUBJECT. | PARTICULAR SUBJECT. | INSTRUCTOR. | No. IN CLASSES. | HOURS WEEKLY | TERM OF STUDY. | |
|---|--|-------------------------------|-----------------|--------------|--------------------------------|--------------------------------|
| MATHEMATICS. | Trigonometry, | J. Harkness. | 9 | 3 | 2 mo. 11, '91, to 6 mo. 4, '91 | |
| | Solid Geometry, | Dr. Scott. | 9 | 2 | 2 mo. 11, '91, to 6 mo. 4, '91 | |
| | Advanced Algebra, Advanced Trigonometry, and Theory of Equations, minor, | J. Harkness. | 9 | 2 | 9 mo. 30, '90, to | |
| | Analytical Conics, minor, | Dr. Scott. | 8 | 2 | 9 mo. 30, '90, to 6 mo. 4, '91 | |
| | Geometrical Conics, minor, | " | 8 | 1 | 9 mo. 30, '90, to 2 mo. 7, '91 | |
| | Differential Calculus, minor, | J. Harkness. | 8 | 2 | 2 mo. 11, '91, to 6 mo. 4, '91 | |
| | Elementary Dynamics, minor, | " | 7 | 1 | 2 mo. 11, '91, to 6 mo. 4, '91 | |
| | Analytical Geometry, major, | Dr. Scott. | 5 | 3 | 9 mo. 30, '90, to 2 mo. 7, '91 | |
| | Analytical Geometry of Three Dimensions, major, | " | 4 | 2 | 2 mo. 11, '91, to 6 mo. 4, '91 | |
| | Integral Calculus, major, | J. Harkness. | 5 | 2 | 9 mo. 30, '90, to 2 mo. 7, '91 | |
| | Differential Equations major, | " | 5 | 2 | 2 mo. 11, '91, to 6 mo. 4, '91 | |
| | History of Mathematics, major, | Dr. Scott. | 6 | 1 | 2 mo. 11, '91, to 6 mo. 4, '91 | |
| | Higher Plane Curves, post-major, | " | 2 | 3 | 9 mo. 30, '90, to 6 mo. 4, '91 | |
| | Dynamics, post-major, | J. Harkness. | 1 | 2 | 9 mo. 30, '90, to 6 mo. 4, '91 | |
| | <i>Graduate Classes.</i> | | | | | |
| | POLITICAL SCIENCE | Modern Algebra, | Dr. Scott. | 1 | 1 | 9 mo. 30, '90, to 6 mo. 4, '91 |
| | | Elliptic Functions, | J. Harkness. | 1 | 1 | 9 mo. 30, '90, to 6 mo. 4, '91 |
| Theory of Functions, | | " | 1 | 2 | 9 mo. 30, '90, to 6 mo. 4, '91 | |
| Political Economy and Economic History, minor, | | Mr. Giddings. | 20 | 5 | 9 mo. 30, '90, to 2 mo. 7, '91 | |
| Political Institutions and Constitutional Law, minor, | | " | 17 | 5 | 2 mo. 11, '91, to 6 mo. 4, '91 | |
| Money, Bimetallism, and Tariff History of the United States, major, | | " | 7 | 3 | 9 mo. 30, '90, to 2 mo. 7, '91 | |
| Administration, major, | | " | 7 | 2 | 9 mo. 30, '90, to 2 mo. 7, '91 | |
| International Law, major, | | " | 8 | 2 | 2 mo. 11, '91, to 6 mo. 4, '91 | |

TABLE OF SUBJECTS STUDIED AND TERMS OF STUDY—[CONTINUED].

| SUBJECT. | PARTICULAR SUBJECT. | INSTRUCTOR. | No. IN CLASS | HOURS WEEKLY | TERM OF STUDY. |
|---|---|---|--------------|--------------|--------------------------------|
| POLITICAL SCIENCE . . . | Local Taxation, major, | Mr. Giddings, | 8 . | 3 . | 2 mo. 11, '91, to 6 mo. 4, '91 |
| | <i>Graduate Classes.</i> | " | 2 . | 1 . | 9 mo. 30, '90, to 6 mo. 4, '91 |
| PHILOSOPHY . . . | Political Economy, | " | 3 . | 1 . | 9 mo. 30, '90, to 6 mo. 4, '91 |
| | Sociology, | Dr. Shorey. | 8 . | 3 . | 9 mo. 30, '90, to 6 mo. 4, '91 |
| | Logic and Psychology | " | 9 . | 3 . | 2 mo. 11, '91, to 6 mo. 4, '91 |
| | History of Philosophy, | " | 7 . | 1 . | 9 mo. 30, '90, to 2 mo. 7, '91 |
| | Ethics, | Dr. Rhoads. | 10 . | 1 . | 2 mo. 11, '91, to 6 mo. 4, '91 |
| CHEMISTRY . . . | Lectures on General Inorganic Chemistry, minor, . . . | Drs. Keiser and Blackshear, | 16 . | 5 . | 9 mo. 30, '90, to 2 mo. 7, '91 |
| | Laboratory Work, minor, | " | 15 . | 6 . | 9 mo. 30, '90, to 6 mo. 4, '91 |
| | Inorganic Chemistry, minor, | " | 16 . | 5 . | 2 mo. 11, '91, to 6 mo. 4, '91 |
| | Organic Chemistry, major, | Dr. Keiser. | 6 . | 3 . | 9 mo. 30, '90, to 6 mo. 4, '91 |
| | Inorganic Chemistry, major, | Dr. Blackshear. | 6 . | 2 . | 9 mo. 30, '90, to 6 mo. 4, '91 |
| | Laboratory Work, major, | Drs. Keiser and Blackshear. | 5 . | 6 . | 9 mo. 30, '90, to 2 mo. 7, '91 |
| | Organic Chemistry, major, | Dr. Keiser. | 5 . | 3 . | 2 mo. 11, '91, to 6 mo. 4, '91 |
| | Inorganic Chemistry, major, | Dr. Blackshear. | 5 . | 2 . | 2 mo. 11, '91, to 6 mo. 4, '91 |
| | Laboratory Work, major, | Drs. Keiser and Blackshear. | 5 . | 6 . | 2 mo. 11, '91, to 6 mo. 4, '91 |
| | Mechanics and Electricity, minor, | Dr. Perkins. | 6 . | 5 . | 9 mo. 30, '90, to 2 mo. 7, '91 |
| | Laboratory Work, minor, | " | 6 . | 3 . | 9 mo. 30, '90, to 2 mo. 7, '91 |
| | PHYSICS . . . | Electrodynamics, Sound, Heat, and Light, minor, . . . | " | 5 . | 5 . |
| Laboratory Work, minor, | | " | 5 . | 3 . | 2 mo. 11, '91, to 6 mo. 4, '91 |
| Lectures on General Biology, minor, | | Dr. Wilson. | 17 . | 3 . | 9 mo. 30, '90, to 6 mo. 4, '91 |
| Lectures on General Biology, minor, | | Dr. Lee. | 17 . | 2 . | 9 mo. 30, '90, to 6 mo. 4, '91 |
| BIOLOGY . . . | Laboratory Work, minor and major, | Drs. Wilson and Lee, | 36 . | 6 . | 9 mo. 30, '90, to 2 mo. 7, '91 |
| | Laboratory Work, minor and major, | and Leah Goff. | " | " | " |
| | Laboratory Work, minor and major, | " | 23 . | 6 . | 2 mo. 11, '91, to 6 mo. 4, '91 |

TABLE OF SUBJECTS STUDIED AND TERMS OF STUDY—[CONTINUED].

| SUBJECT | PARTICULAR SUBJECT. | INSTRUCTOR. | No. IN CLASS. | HOURS WEEKLY | TERM OF STUDY. |
|--|---|--------------|---------------|--------------------------------|--------------------------------|
| BIOLOGY . . . | General Zoology, major, | Dr. Wilson. | . 11 . | . 3 . | 9 mo. 30, '90, to 2 mo. 7, '91 |
| | Comparative Anatomy, major, | Dr. Lee. | . 10 . | . 2 . | 9 mo. 30, '90, to 2 mo. 7, '91 |
| | Advanced Physiology and Histology, major, | " | . 7 . | . 3 . | 2 mo. 11, '91, to 6 mo. 4, '91 |
| | Advanced Biology, major, | Dr. Wilson. | . 10 . | . 2 . | 2 mo. 11, '91, to 6 mo. 4, '91 |
| HISTORY . . . | Ancient History, | Dr. Andrews. | . 23 . | . 5 . | 9 mo. 30, '90, to 2 mo. 7, '91 |
| | Ancient History, | " | . 22 . | . 5 . | 2 mo. 11, '91, to 6 mo. 4, '91 |
| | Modern History, | " | . 25 . | . 5 . | 9 mo. 30, '90, to 2 mo. 7, '91 |
| | Modern History, | " | . 24 . | . 5 . | 2 mo. 11, '91, to 6 mo. 4, '91 |
| | <i>Graduate Classes.</i> | | | | |
| | History of Roman Law, | " | . 1 . | . 1 . | 9 mo. 30, '90, to 6 mo. 4, '91 |
| | English Constitutional Law, | " | . 6 . | . 1 . | 9 mo. 30, '90, to 2 mo. 7, '91 |
| American Constitutional Law, | " | . 7 . | . 1 . | 2 mo. 11, '91, to 6 mo. 4, '91 | |

BRYN MAWR COLLEGE.

THE

PRESIDENT'S REPORT

TO THE

BOARD OF TRUSTEES,

FOR THE YEAR 1891-92.

PHILADELPHIA :

ALFRED J. FERRIS, PRINTER, 29 NORTH SEVENTH STREET.

1892.

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ACADEMIC APPOINTMENTS.

JAMES E. RHOADS, LL.D., *President of the College.*

M. CAREY THOMAS, PH.D., *Dean of the Faculty and Professor of English.*

A.B., Cornell University, 1877; studied at the Johns Hopkins University, 1877-78; University of Leipsic, 1879-82; Ph.D., University of Zürich, 1882; Sorbonne and the Collège de France, 1883.

CHARLOTTE ANGAS SCOTT, D.SC., *Professor of Mathematics.*

Lincoln, England. Graduate in Honors, Girton College, Cambridge, 1880, B.Sc., University of London, 1882; Lecturer on Mathematics in Girton College, Cambridge, 1880-84; lectured in connection with Newnham College, 1880-83; D.Sc., University of London, 1885.

EDWARD WASHBURN HOPKINS, PH.D., *Professor of Greek, Sanskrit, and Comparative Philology.*

A.B., Columbia Collège, 1878; Fellow in Literature, Columbia Collège, 1878-81; University of Leipsic, 1878-81; University of Berlin, 1880; Ph.D., University of Leipsic, 1881; Sorbonne and the Collège de France, 1881; Assistant in Latin and Instructor in Zend, Columbia Collège, 1881-84.

EDWARD H. KEISER, PH.D., *Professor of Chemistry.*

S. B., Swarthmore Collège, 1880; Assistant in Chemistry in Swarthmore Collège, 1880-81; S.M., Swarthmore Collège, 1881; Fellow in Chemistry, Johns Hopkins University, 1882-84; Ph.D., Johns Hopkins University, 1884; student at the Royal School of Mines, Freiberg, Saxony, 1884; Assistant in Chemistry, Johns Hopkins University, 1884-85.

HERMANN COLLITZ, PH.D., *Associate Professor of German and Teutonic Philology.*

Bleekede, Hanover, Germany. University of Göttingen, 1875-78; University of Berlin, 1878-81; Ph.D., University of Göttingen, 1878; Privatdocent in the University of Halle, 1885-86.

JAMES HARKNESS, M.A. (Cambridge and London), *Associate in Mathematics.*

Derby, England. Major Scholar, Trinity Collège, Cambridge, 1882; Graduate in Honors (8th Wrangler) in the Cambridge Mathematical Tripos, 1885; Mathematical Exhibitioner, London University Intermediate Art Examination, 1885; Mathematical Scholar, London University B.A. Examination, 1887.

HERBERT WEIR SMYTH, PH.D., *Professor of Greek and Latin.*

A.B., Swarthmore Collège, 1876, and Harvard University, 1878; University of Leipsic, 1879-81; University of Göttingen, 1881-83; Instructor in Classics and Sanskrit, Williams Collège, 1883-85; Ph.D., University of Göttingen, 1884; Fellow by Courtesy and Lecturer on Greek, Johns Hopkins University, 1885-87; Reader in Greek Literature, Johns Hopkins University, 1887-88.

MARY M. GWINN, PH.D., *Associate in English.*

Studied at the University of Leipsic, 1879-82; University of Zürich, 1882; Sorbonne and the Collège de France, 1883; Fellow in English, Bryn Mawr Collège, 1885-87; Ph.D., Bryn Mawr Collège, 1888.

FRANKLIN H. GIDDINGS, A.M., *Professor of Political Science.*

A.B., Union Collège, 1877, and A.M., 1889.

CHARLES MCLEAN ANDREWS, PH.D., *Associate in History.*

A.B. Trinity Collège, 1884; Fellow in Johns Hopkins University, 1888-89, and Ph.D., 1889.

GONZALEZ LODGE, PH.D., *Associate in Latin.*

A.B., Johns Hopkins University, 1883; Graduate Scholar and Fellow, Johns Hopkins University, 1883-86, and Ph.D., 1886; Professor of Greek, Davidson College, 1886-88; American School of Classical Studies, Athens, 1889-89; University of Bonn, 1889.

GEORGE A. BARTON, PH.D., *Associate in Biblical Study and Semitic Languages.*

A.B. Haverford College, 1882, and A.M., 1885; A.M., Harvard University, 1890, and Ph.D., Harvard University, 1891.

JOSEPH AUGUSTE FONTAINE, PH.D., *Associate Professor of Romance Languages.*

College of Sion, Nancy, France, 1879; Paris, 1880-81; Johns Hopkins 1882-86, and Ph.D., 1886, Collège de France, Sorbonne, Ecole des Hautes Etudes, Ecoles Chartes, University of Bonn, 1886-87; Instructor, University of Nebraska, 1887-89; Professor of Modern Languages in the University of Mississippi, 1889-91.

ARTHUR STANLEY MACKENZIE, A. M., *Associate in Physics.*

A.B., Dalhousie College, 1885, and Fellow, Johns Hopkins University, 1890-91. Tutor in Mathematics, Dalhousie College, 1887-89.

JAMES DOUGLAS BRUCE, A. M., *Associate in Anglo-Saxon.*

A.M., University of Michigan, 1883; University of Berlin, 1886-88; University of Strassburg, 1888; Johns Hopkins University, 1889-90; Professor of Modern Languages, Centre College, 1890-91.

THOMAS HUNT MORGAN, PH.D., *Associate Professor of Biology.*

B.S., State College, Kentucky, 1886, and M.S., 1888; Graduate Scholar, Johns Hopkins University, 1888-89; Fellow in Biology, Johns Hopkins University, 1889-90; Ph.D., Johns Hopkins University, 1890; Adam T. Bruce Fellow, Johns Hopkins University, 1890-91.

JOSEPH W. WARREN, M. D., *Associate Professor of Physiology.*

A.B., Harvard College, 1871; University of Berlin, 1871-72; University of Leipsic, 1872-73; University of Bonn, 1873-79; M.D., Bonn, 1880, Assistant and Instructor in Physiology, Harvard Medical School, 1881-91; Lecturer in Medical Department of the University of the City of New York, 1885-86; Lecturer in Physiology, University of Michigan, 1889.

ROSE CHAMBERLIN, *Reader in German.*

Great Yarmouth, England. Graduate in Honors, Newnham College (Mediæval and Modern Languages Tripos, First Class); University of Cambridge, England, 1886.

FREDERIC M. PAGE, *Reader in Romance Languages.*

Instructor in Languages, University of Virginia, 1880-81; Assistant Professor of Modern Languages and Literature, University of the South, 1882-91.

AGNES MATHILDE WERGELAND, *Reader in the History of Art.*

Christiania, Norway. Studied under the direction of Professor Konrad Mauer, Munich, 1884-86; University of Zürich, 1888-90; Ph.D., University of Zürich, 1890; Fellow, Bryn Mawr College, 1890-91.

MABEL P. CLARK, A. M., *Reader in English.*

A.B. Bryn Mawr College, 1889; A. M., 1890.

HARRIET RANDOLPH, PH.D., *Demonstrator in Biology.*

A.B., Bryn Mawr College, 1889; Fellow in Biology, Bryn Mawr College, 1889-90; studied at University of Zürich, 1890-92; Ph.D., University of Zürich, 1892.

HORACE C. RICHARDS, PH.D., *Instructor in Physics.*

A.B., University of Pennsylvania, 1889; Ph.D., University of Pennsylvania, 1891; Hector Tynedale Fellow in Physics, University of Pennsylvania, but studied at Johns Hopkins University, 1891-92.

ELMER P. KOHLER, PH.D., *Instructor in Chemistry.*

A.B., Muhlenburg College, 1889; studied at Johns Hopkins University, 1889-92; Ph.D., Johns Hopkins University, 1892.

ABBY KIRK, A.B., *Reader in English.*

A.B., Bryn Mawr College, 1892.

LEAH GOFF, A.B., *Assistant Demonstrator in Biology.*

A.B., Bryn Mawr College, 1889.

ANNA DONALDSON MCNAIR, A.B., *Director of the Gymnasium.*

A.B., Antioch College, 1886; studied under Dr. Sargent, 1889-90.

ANNA E. BROOMALL, M.D., *Consulting Physician of the College.*

Professor in the Women's Medical College of Pennsylvania.

IDA RICHARDSON, M.D., *Physician of the College.*

FLORENCE E. PEIRCE, *Librarian.*

JULIA COPE, A.B., *Secretary.*

A.B., Bryn Mawr College, 1889.

BRYN MAWR COLLEGE.

REPORT OF THE PRESIDENT FOR THE YEAR 1891-92.

To the Trustees :

THE subjoined report is for the fiscal year ending Eighth month 31st, 1892, and includes the seventh academic year of the college. This period has been to the college one of expansion and progress.

For the first time the Board of Trustees has been called to record the death of one of its members,—one most beloved and honored. Francis T. King was the friend of Dr. Joseph W. Taylor, and was early consulted by him in regard to the founding of a college for women. From the first Francis King evinced a keen and helpful interest in the plans for the college, and when, upon the death of Dr. Taylor, he was, by the will of the latter, made President of the Board of Trustees, he devoted his remarkable business talents to its organization and success. He attested his sense of the far-reaching importance of education by generously giving to it time, energy and means. His efforts did much to establish the system of public schools in North Carolina after the civil war, and he was actively interested in the welfare of four institutions of learning, including Johns Hopkins University of which he was also a trustee. Unless prevented by illness he was rarely absent from the meetings of our Board, coming from Baltimore to Philadelphia to attend them, and when present he inspired all by his contagious courage, cheerfulness and wise counsels. He held enlarged views as to the duties of the College and its sphere of action, and he intensely desired that its inner life might be steeped in that pure Christianity which, as a member of the Society of Friends, he knew and beautifully exemplified in his personal conduct.

On the day preceding the beginning of the last academic year the college was deprived of a valuable officer by the sudden death of Lydia V. Smith, who for several years had presided over Merion Hall. Her innate nobleness, her unselfish kindness, her ready sympathy and tact, her intelligent appreciation of the benefits of culture, and her sound judgment in practical affairs, were united with the graces of an experienced Christian, so that she was loved and trusted by those who knew her.

The school of Sanskrit, Greek and Latin, which has won a deserved reputation for scholarship and skilful teaching, has had a fellowship in Latin assigned to it, in addition to the one in Greek it had before. The library of this school contains a good working collection in Sanskrit, every piece of classical Latin extant that ought to be on its shelves for scientific and literary purposes, and also nearly every portion of classical Greek, including most of the texts recently discovered, together with a considerable number of critical editions and commentaries. Inasmuch as Greek philosophy, logic and ethics are at the origins of modern systematic thinking on these subjects, as our science finds its beginnings in Democritus and Aristotle, as our language owes its roots and forms largely to the Latin, Greek and Sanskrit, and our literature still needs to be modeled upon the excellences of the literatures of Greece and Rome, it is the aim of the college to provide liberally for this school. Assured that these studies are so far from being obsolete that American life to-day has need to be fed by the garnered fruits of Greek and Roman experience in art, culture and government, the college encourages those students who have an aptitude for classical studies to pursue them. While insisting upon the thorough linguistic study of Greek and Latin so essential to an appreciation of their finer shades of meaning and expression, much attention has been given to the literary aspects of the classical writings. The teaching in this respect has been chiefly entrusted to

Dr. Paul Shorey, whose mastery of his subject and excellent methods of teaching have given delight and benefit to successive classes of students from the opening of the college until now. It is, therefore, with a high estimate of his faithful services, that we record his transference to the University of Chicago. His successor, William C. Lawton, A.M., late Professor of Latin in Bowdoin College, will bring to his duties here an acknowledged reputation as a scholar and as a successful interpreter of classical authors.

The superior facilities offered by the College for the study of English continue to attract students to that department, especially graduate students, one of whom has completed the three years' course required for the degree of Doctor of Philosophy, and has presented an inaugural thesis of decided scientific merit.

With his wonted kindness and generosity, George W. Childs has established an annual prize for the best English essayist of the graduating class, and for this incentive to the study and practice of English style we are sincerely grateful.

A gift from Helen Erben, a former student in English, has supplied the library of this department with many desirable books, and has also furnished the means to procure a number of casts for the library and for the adornment of other parts of Taylor Hall.

Never before has the teaching of French, Italian and Spanish in the College been more successful than during the past year, and the future of the Romance department under its present instructors is full of promise. With the additions about to be made to the library this Autumn, it will have a good representation of French literature from the earliest times to the present, and the most important authors in Italian and Spanish are on its shelves; but the Italian and Spanish literatures should be more fully represented. It is greatly to be desired that the fellowship in Romance languages, already in

prospect, should be established so soon as the means to do it can be commanded.

The increased number of students, especially of graduates, taking courses in Mathematics, is an evidence of the confidence that has been awakened by the instruction given in this science. It is of interest to note that the Fellow in Mathematics for 1890-91 was the first woman to secure the privilege of attendance upon mathematical lectures for a full year at the university of Berlin, and that two graduate students from Europe will seek the instruction given by the department during the current year. The mathematical library will have important additions made to its works on higher mathematics this year, including one of great rariety and value.

The erection of "Dalton Hall" marks an era in the scientific work of the College, as it will at once supply abundant room and better facilities for all the classes in Physics, Chemistry and Biology, including Botany. None perhaps but those who have felt the pressure of the exigency can understand our sense of grateful indebtedness to those friends of the College who in its young days have come to its help with gifts to the amount of over \$30,000, and have thus rendered the building of this Hall possible. The Hall is 128 feet, 8 inches long, and 69 feet, 8 inches wide across the ends, the middle portion being narrower. The ends are three stories high, and the central portion is four stories in height. It is built of stone, and the walls are lined inside with bricks, an intervening space having been left between the stone and brick walls. This will make the building a dry one, and the walls having been painted of a buff color, there will be no dust from the disintegration of plaster upon the walls.

The basement is well lighted, and contains, besides heating and ventilating apparatus, a uniform temperature vault for physical experimentation, a dynamo room, a room for a chem-

ical forge, a work-shop for the biological department, with storage rooms for chemical and biological materials, and a room specially fitted for magnetic work.

The first floor is given to Physics, except that space is reserved for a laboratory for Botany, and one room for the lecturer in Botany. This story contains laboratories for the minor and major classes in physics, properly supplied with piers for experiments requiring a solid basis; rooms for heat measurements, for light measurements, for electrical measurements, a dark room, rooms for apparatus, professors' rooms, and a library for physics. There is also a good lecture room; and the botanical laboratory and professor's room are adequate for our present needs in that science.

The second story is wholly devoted to Biology, and contains laboratories for minor, major and graduate classes, for physiology and physiological chemistry, a preparation room, professors' rooms and a library. It has also a well appointed lecture room.

The third story is reserved for Chemistry. It contains laboratories for minor, major, and graduate classes, a research laboratory, a preparation room, a room for gas analysis, a balance room, a library, and rooms for professors.

The stories of the central portion of the Hall not being so high as those designed for the main laboratories, a fourth story in this part supplies a room for a Rowland grating, rooms for special biological investigations, accommodations for physiological psychology, and space for collections to illustrate scientific teaching.

The warming and ventilation of the building are effected by direct and indirect radiation from steam-heated pipes, and by two fans placed in the uppermost story to draw up and expel vitiated air.

The biological school has had a successful year; the teaching staff has included three able lecturers on animal morphology and physiology and a lecturer on botany, assisted by two efficient demonstrators.

It has been a cause of special satisfaction to be able to re-open the school of botany in this department upon a permanent basis. This study, as now pursued, possesses the same interest and educational value that attaches to animal morphology and physiology, and has for women the additional advantage that it can be more readily continued by them at their homes after graduation than the study of zoology.

An unusual interest in the study of Physics has been awakened during the past year by the Associate in Physics, A. S. Mackenzie, A.M., and the addition of an instructor to this department for the coming year, together with its transfer to a commodious laboratory, will place it upon a plane with the other scientific departments. Not only will it be more easy to conduct the minor and major courses parallel with each other, but greater facilities will be offered for the instruction of graduate students.

The department of Chemistry has attracted a larger number of students than heretofore, and besides the minor and major classes has had students in special graduate work. Dr. Mulliken, the Associate in Chemistry, has been called to Clark University, and Dr. Elmer P. Kohler has been appointed to fill his place. As has been its wont, the department has not only been successful in its teaching, but has also carried on original researches.

The withdrawal of Dr. Paul Shorey is felt, not only in the classical department, but also in his teaching of philosophy, and has hastened a change already in contemplation. Hereafter minor and major courses in Philosophy will be open to students of the second year, so that the study of philosophy may be combined with certain properly related subjects to form a group. To conduct the instruction in these courses as well as in the required course in Philosophy, Sidney Edward Mezes, A.M., has been appointed. Sidney E. Mezes

is a graduate of the University of California, has received the degrees of A.B. and A.M. from Harvard, and has given several years to graduate study in philosophy at Harvard University, and at the Universities of Heidelberg, Tübingen, and Berlin. In philosophical teaching the instructor will use, as far as may be desirable, the established conclusions of physiological psychology, so important in their practical bearing upon psychological questions; and when the courses are fully arranged, graduate instruction will be offered in psycho-physics. The relation between philosophy, morals, and religion is intimate, so that the instruction given in philosophy becomes of a serious importance. A well-directed study of the elements of psychology, of logic, and of those systems of thought which trace the relations of all forms of knowledge and seek to unify them, so broadens and strengthens character as to be a proper part of all collegiate education. To mature students, who have a special capacity for the study of philosophy, more advanced courses afford a fruitful dialectical training, and give a grasp of the widest generalizations. Moreover, with wise teaching, such studies should not result in that prolonged state of suspended judgment upon great questions which is sometimes seen, and which unfits men for the true work of life.

Closely associated with philosophy is a study of Political Science and of the philosophy of History. At a time when social questions are rife, and when our nation is stirred by the consideration of grave ethical problems touching its industrial and civil condition, it is a cause for special satisfaction that the department of History and Political Science combines in its teaching the warm humanitarian sympathy and well-balanced estimate of fundamental moral obligations, which are essential to the proper discussions of its topics.

The public exercises for the conferring of degrees took place on the 4th. of Sixth month, when the degree of A.B. was conferred upon fifteen candidates. The degree of Master of Arts was given to one candidate who had been engaged in

graduate study in Political Science, and the degree of Doctor of Philosophy was bestowed upon a candidate who for three years had pursued studies in English and in Teutonic Philology.

Francis A. Walker, LL.D., President of the Massachusetts Institute of Technology, gave an address to the graduating class and to the assembled friends of the College, in which he traced the introduction of natural science into the system of collegiate study in the United States, and the influence of these studies upon the advanced education of women. President Walker also made an earnest plea that the study of pedagogy in its widest aspects should be introduced into colleges for women, and be taught from a psychological point of view.

The promotions and appointments made in the corps of instructors and officers have been as follows: Charlotte Angas Scott, D.Sc., has been promoted to be Professor of Mathematics; Edward W. Hopkins, Ph.D., to be Professor of Greek, Sanskrit, and Comparative Philology; Edward H. Keiser, Ph.D., to be Professor of Chemistry; Hermann Collitz, Ph.D., to be Associate Professor of German and of Teutonic Philology; Herbert Weir Smyth, Ph.D., to be Professor of Greek; Franklin H. Giddings, A.M., to be Professor of Political Science; Joseph W. Warren, M.D., to be Associate Professor of Physiology; Rose Chamberlin to be Reader in German, and Arthur S. Mackenzie, A.M., to be Associate in Physics; William Cranston Lawton, A.M., late Professor of Latin in Bowdoin College, Maine, has been appointed Professor of Latin and Greek Literature.

Ida A. Keller, Ph.D., has been re-appointed Lecturer in Botany; Agnes Mathilde Wergeland, Ph.D., Reader in the History of Art; Mabel Parker Clark, A. M., Reader in English; Anna Donaldson McNair, A.B., Director of the Gymnasium; Harriet Randolph, Ph.D., has been appointed Demonstrator in Biology; Abby Kirk, A.B., Reader in English; Sidney E. Mezes, A.M., Lecturer in Philosophy;

Horace C. Richards, Ph.D., Instructor in Physics ; and Elmer P. Kohler, Ph.D., Instructor in Chemistry.

Florence E. Peirce has been re-appointed Librarian ; Anna M. Broomall, M.D., Consulting Physician of the College ; Ida E. Richardson, M.D., Physician of the College.

Susan S. Chase, Agnes M. Derkheim-Irwin, and Sophia Kirk, have been re-appointed to the charge of Radnor Hall, Denbigh Hall, and Merion Hall, respectively.

The entire number of students during the year was 169, an increase of 31 as compared with the enrollment for the preceding year. There were 27 graduate students, including the holders of five fellowships, the holder of the European fellowship, and a Fellow by Courtesy. The number of graduates was double that of the preceding year, and was nearly one-sixth of the whole number of students. Of the undergraduates 137 were candidates for the B.A. degree, 3 were "hearers," and 2 were special students. There were 158 of the students resident in the college halls, and 11 non-resident.

The distribution of the students among the several departments was as follows: Sanskrit and Comparative Philology, 2 ; Greek, 36 ; Latin, 75 ; English, 92 ; German, 46 ; French, 28 ; Spanish, 1 ; Italian, 5 ; History, 46 ; Political Science, 40 ; Philosophy, 28 ; Biblical Study, 30 ; History of Art, 12 ; Mathematics, 24 ; Physics, 7 ; Chemistry, 31 ; Biology, 42.

Two places have been added to those where examinations for matriculation have been held heretofore, to wit,—Wilmington, Delaware ; and Indianapolis, Indiana. To conduct these examinations involves so much labor and expense that candidates should understand it is impracticable to offer special examinations at other places or times than those announced. To pass examinations covering a large part of the subjects of study for the whole period of school life, is certainly a difficult test of proficiency. Yet it has proved an almost precise gauge of the fitness of candidates to pursue collegiate work. Where the preparation is begun in time, and the

school training has been good, any candidate likely to profit by the courses of study in college can successfully pass these examinations with no other inconvenience than temporary fatigue.

There were 136 candidates in attendance on the examinations held at the close of the academic year, and 73 at the examinations held at the opening of the year 1892-93.

From the origin of the College the discipline has been carried on with the co-operation of the students, and has required little formal regulation. With increased numbers and prolonged experience, the customs necessary to a satisfactory associate life have taken more distinct form, and the "Association of the Students of Bryn Mawr College for Self-Government" has been definitely established, with the concurrence of the Trustees. Through the officers of this Association, with the advice of the authorities, almost all matters requiring attention have been readily arranged. The conduct of the students and the life of the college have been almost ideal, and the students merit very warm approbation for the hearty and rational way in which they have applied the principles of self-government. The voluntary attendance upon the religious exercises of the college and upon meetings conducted by the students themselves on the evening of the first day of the week, has been very good, and a reverent, thoughtful spirit has prevailed in the college. The several modes in which the religious activity of the students has found philanthropic expression have been sustained, such as the Missionary Society, the Ramabai Circle, the College Settlement Membership, and the Reform Association. A graduate of the college will have the immediate direction of the College Settlement of Philadelphia, and a number of the graduates are active in uplifting agencies.

Notwithstanding the large expense caused by sinking an artesian well and placing in it a steam pump at a great depth,

the financial results of the year have been good, so that the condition and prospects of the College inspire gratitude and hope.

The following statements as to the work done in the several departments have been taken from reports made by the several instructors.

Sanskrit, Greek, and Comparative Philology.—The teaching in Sanskrit and Comparative Philology has been conducted by Dr. Edward W. Hopkins, and that in Greek by Dr. Hopkins, Dr. Paul Shorey, and Dr. Herbert Weir Smyth.

The students in Greek have in general completed the courses laid down in the Program of last year. Under Dr. Hopkins nine students in the minor or first year's course read in the first semester five orations of Lysias, two hours weekly, with daily drill on grammatical and syntactical questions. The class as a whole was not so well prepared as that of preceding years. One hour a week also was devoted to the usual study of Greek Prose Composition. The customary work was done by weekly exercises, either oral or written, with regular weekly Greek Composition in exercises, corrected and returned with due explanation of errors.

Under Dr. Smyth this class studied four-and-a-half books of the *Odyssey* during the first semester and a part of the second, devoting to the work two hours weekly. During the remainder of the year the class read selections from the sixth book of Herodotus.

The Private Reading was for the first semester Andocides' *Mysteries*, for the second semester Plato's *Apology*.

The major or second year's class, consisting in part of advanced Latin students, did excellent work during the entire year. In the first semester for three hours a week, they read the oration *On the Crown* by Demosthenes, and heard occasional half-hour lectures on subjects connected with this period of Greek literature. The class was so well prepared in Greek that a method of teaching was adopted with them, which has proved sufficiently successful to be recorded as an important part of the

Greek work for the year. Dr. Hopkins has been convinced that many students in classics would be benefited by some extempore practice in reading in class, and that such an exercise if allowed to take a not undue proportion of time from grammatical work and more strictly scholastic exercises, would not only give the student a better idea of Greek literature than it is possible to receive with the limited number of hours devoted to special authors, but would also tend to a better appreciation of the language in itself. He therefore devoted several hours at the close of the first semester exclusively to the reading at sight in class of several of the minor orations of Demosthenes. The result was even more satisfactory than had been hoped. With a little practice the class soon became familiar with the task of grasping a sentence as a whole,—the chief difficulty of classical translation—and before long read so satisfactorily that the same course was continued in the second semester.

In the second semester the class first read Sophocles' *Antigone*, three hours a week, making this play a centre for the whole of Sophocles' work. Constructions were illustrated freely from other writers, and more than usual attention was paid to the rhythmic portions and scanning of Greek choruses, in which the class did excellent work. After completing the *Antigone*, they took up each of the remaining plays of Sophocles on the lines laid down above, and were thus enabled to make a survey of that poet's writings as a whole. All the chief passages in each of the seven plays, excepting one, were read with understanding and appreciation by the class. There were nine, and for a part of the time ten, students in this class.

With Dr. Shorey the major or second year's class heard lectures for two hours weekly throughout the year, on the history of Greek literature. The lectures were mainly devoted to Homer, Herodotus, and the Greek Drama, and were accompanied by prescribed reading.

The private reading for this class in the first semester was Euripides' *Hippolytus*; for the second semester, Isocrates' *Panegyricus*. These were read by all the students, who were also examined upon them.

The post-major class, consisting of three advanced students in one course of one hour weekly and three students in another class of one hour weekly, read with Dr. Hopkins, Theocritus, the first fifteen idyls, and the *Agamemnon*, complete, during the first semester. In the second semester three students read once a week Sophocles' *Electra*. Hereafter one-hour courses will be discontinued, since unless, as in the case of Theocritus, the author is himself of the greatest interest, it is very difficult for the student to keep in touch with the work during the long interval of a week. The work of the first semester was eminently satisfactory, but that on the *Electra*, in the second semester, did not seem to be of so much interest to the students. For next year only two- and three-hour courses have been announced, so as to obviate this difficulty.

With Dr. Shorey the class read Plato's *Republic* two hours a week throughout the year. The entire *Republic*, with the omission of a few pages, was read, the class interpreting during the first semester, the instructor during the second. The reading of the text was accompanied by lectures, discussions, and prescribed readings, dealing mainly with the Platonic ethics as a whole, and the dialogues which illustrate the *Republic*.

With Dr. Smyth the class read Aristotle's *Poetics* one hour weekly throughout the year; and in the second semester an additional hour was given to the reading of three of the *Olynthiacs* and two of the *Philippics* of Demosthenes. The class also gave one hour fortnightly to advanced Greek Prose Composition.

The graduate work under Dr. Hopkins included lectures throughout the year on Comparative Philology once weekly, a beginner's course throughout the year in Sanskrit and a course in the Rig Veda given at the same time. The third hour was devoted to reading in the first semester Sophocles' *Tyrannus*, and in the second semester the *Edipus Coloneus*.

Under Dr. Smyth the graduate students read the whole of Pindar, including the fragments, two hours weekly throughout the year.

The class in Elementary Greek occupied five hours a week throughout the year in the study of the grammar, in reading of the Anabasis, Books I. and II., of the Iliad, Books I. and II., and in writing exercises from Woodruff's Manual of Greek Prose Composition.

Latin.—The instruction in Latin has been conducted by Dr. Paul Shorey and Dr. Gonzalez Lodge, and comprised minor, major and post-major courses, the last having been open to graduate students. At the beginning of the year, in order to release Dr. Shorey, who was partially occupied with philosophical classes, Dr. Lodge took charge of the minor class for five hours weekly until the winter vacation. For two hours weekly the class read the oration of Cicero, *pro Murena*, and in connection with the translation, the students were carefully drilled in accurate grammatical analysis. The two hours usually given by Dr. Shorey to Horace, were devoted to reading selections from Ovid's *Metamorphoses*, of which during the ten weeks the class read about eighteen hundred lines.

After the winter vacation the class read for two hours weekly with Dr. Lodge the first book of Livy, and finished the book at the close of the year. The class also continued its usual weekly exercises in Latin prose composition.

From the close of the winter vacation until the end of the academic year, for two hours weekly, the class under Dr. Shorey read the Odes of Horace. The odes were so interpreted as to lead the students to appreciate and enjoy Latin poetry of the Augustan age, and to trace its relations to other literatures. The class prepared, as private reading, Virgil, *Aeneid*, VII., VIII., for the first semester, and Virgil, *Aeneid*, IX., X., for the second semester.

The major class, with Dr. Lodge, pursued the following courses: 1. The Roman historians, Suetonius and Tacitus. The *Life of Augustus*, by Suetonius, formed the first part of this course, and the students were thus given an opportunity to form their own opinion of the character of Augustus from original sources. The history of Rome, as given in the life

of Augustus, was continued by the reading of selections from the first six books of Tacitus's *Annals*, covering all the principal events in the life of the Emperor Tiberius. This course occupied two hours weekly throughout the year. 2. A course one hour weekly throughout the year devoted to Roman Satire. Selected satires of Horace occupied the students until Christmas, when *Perseus* was begun, to be succeeded by Juvenal. In this way the students were enabled to mark the development of Roman satiric writing during more than a century. 3. The major class wrote weekly exercises, and during the second semester, in connection therewith, read the *Agricola* of Tacitus at sight.

Under Dr. Shorey, the class heard lectures one hour weekly throughout the year on Latin Literature. The lectures were accompanied by prescribed readings in Crutwell, and were confined in the main to authors not read by the class. The private reading, in *Selected Letters* of Pliny for the first semester, and *Selected Letters* of Cicero for the second semester, was duly completed.

The post-major class, under Dr. Lodge, read the same authors, Plautus and Terence, as in previous years, the only change having been that Terence was read in the second semester instead of the first. This class met twice weekly.

With Dr. Shorey this class read *Selections* from the first, third, and fifth books of Lucretius, one hour a week, throughout the year. During the second semester lectures were also given upon the philosophy of Epicurus, and on Lucretius as a poet.

English.—The instruction in English has been given by Dr. M. Carey Thomas, Dr. Mary M. Gwinn, James D. Bruce, A.M., and Mabel P. Clark, A.M., and comprised undergraduate and graduate courses in literature, essay-work, Anglo-Saxon and Middle English. Eight graduate and eighty-two undergraduate students have worked in the English department during the year.

In the first semester seventy-seven students, and in the second semester eighty-five students, met Dr. Thomas four times weekly throughout the year in English literature. The instruction consisted of lectures, on which full notes were taken by the students, and a weekly recitation, or quiz, on the subject matter of the lectures and on the private reading. The lectures began with a general introduction, and treated questions of interest to the student of English, such as the origin of language, and the development of the different families of languages, more especially of the Aryan family. The English language, its development, and points of special difficulty in grammar and usage, formed the subject of the lectures until Christmas: after Christmas the lectures covered the period of Anglo-Saxon and Early English literature to the time of Spenser, and included an account of Norse Mythology and literature, and an excursus on French Mediæval literature. The greater part of the second semester was devoted to Chaucer. The private reading done by all the students taking the course included, among other works, *Beowulf*, the *Eddas*, and the *Volsunga-Saga* in translation; the *Chanson de Roland*, and other *Chansons de Geste* in modern French translations, and the greater part of Chaucer. As in former years, the weekly review or quiz has been of great advantage to the students, affording the opportunity to ask questions, and teaching them to form and express an opinion on what they read. The course differs from that given in former years in that a lecture was substituted by Dr. Thomas for the hour heretofore given to the reading of Chaucer with the instruction of Anglo-Saxon; the special knowledge of Chaucer's pronunciation and grammar gained seeming neither to the instructors nor to the students themselves equivalent to the progress made in an additional hour of lecture-work.

Sixty-five undergraduate students pursued a course of one hour weekly in essay-work, thus completing the five hours of the required course in English: each member of the class wrote three critical essays on subjects connected with English

literature, the subjects being chosen by the students themselves and submitted for approval to Dr. Gwinn. This course was conducted by Dr. Mary M. Gwinn with the assistance of Mabel Clark, M. A., Reader in English, the essays being carefully corrected and graded. Dr. Gwinn was at home three hours of each week throughout the year, in order to enable each student to consult her in regard to the reading for her essays and talk over the corrections. A very large proportion of the students availed themselves of this opportunity. A Free Elective in essay-work was offered for the first time this year, and was taken by two students.

An undergraduate class of four students met J. D. Bruce, M. A., Associate in Anglo-Saxon, five hours weekly throughout the year, for the first year of the major course in English, as laid down in the Program. Siever's Anglo-Saxon Grammar, selections from Sweet's Reader, about one-fourth of Beowulf and transition English were studied during the first semester. The second semester was devoted to the literature of Early English. About eight weeks were given to the careful study of Chaucer. Four weeks were also devoted to the study of the English and Scotch ballads.

Graduate Classes.—A class of eleven students consisting of six graduates, one Fellow, and four undergraduates who had received special permission to enter the course, met Dr. Thomas two hours weekly throughout the year for work in the English drama. The most important treatises on dramatic writing, beginning with Aristotle's *Poetics*, were read and discussed by the class. The Mystery and Miracle plays and the chief works of the pre-Shakespearean dramatists were then read and reported on by the members of the class. The second semester was devoted to the critical reading of Shakespeare's Histories and to the chief plays of the Shakespearean and post-Shakespearean dramatists.

A class of four students pursued a course of three hours weekly in essay-work connected with the development of the English drama, under the direction of Dr. Gwinn.

J. D. Bruce, M. A., conducted three graduate classes in

Anglo-Saxon reading, meeting two hours weekly, and two classes in *Beowulf*, meeting respectively twice weekly and once weekly. The translation of the text of *Beowulf* was accompanied by lectures on the metre and on the critical interpretation of *Beowulf*.

The degree of Doctor of Philosophy was taken in the English department by Marguerite Sweet, A. B., Vassar College, Fellow, Bryn Mawr College, 1891-92, the subject of her dissertation being "The Third Class of Weak Verbs in Primitive Teutonic, with special reference to its development in Anglo-Saxon."

German.—The instruction in German has been given, as in former years, by Dr. Hermann Collitz and Miss Rose Chamberlin. There were in addition to an elementary course, minor, major, post-major, and graduate courses.

The Beginners' Class was conducted by Miss Chamberlin for five hours weekly.

In the minor or first year's course lectures were given by Dr. Collitz twice weekly on the history of German literature from the middle of the eighteenth century to Goethe's death. With Miss Chamberlin for two hours weekly the class read critically the first part of Goethe's *Faust* and selections from Goethe's *Götz von Berlichingen*. Two more hours under Miss Chamberlin were given to German prose composition, and to practice in German conversation.

The private reading, on which examinations were held during the term, was in the first semester Lessing's *Emilia Galotti*, Goethe's *Iphigenie*, and Schiller's *Braut von Messina*; in the second semester Schiller's *Don Carlos* and *Wilhelm Tell*.

In the major or second year's course lectures were delivered by Dr. Collitz, twice weekly on the history of German literature from the earliest times to the middle of the eighteenth century. In connection with these lectures, selections from the first part of Max Müller's *German Classics* were read and explained for one hour weekly. With Miss Chamberlin the class read once a week selections from the second part of Goethe's *Faust*. One hour weekly was given to practice in

German prose composition, and for another hour (together with the students in the minor course) Miss Chamberlin's conversational class was attended.

The private reading in the first semester was Lessing's *Miss Sara Sampson*, Goethe's *Clavigo*, Chamisso's *Peter Schlemihl*, and selections from Schiller's *Thirty Years' War*; in the second semester Lessing's *Nathan* and Scheffel's *Ekkehard*.

A post-major course in German literature was given for students who had completed the minor and the major course. Lectures were delivered by Dr. Collitz twice weekly on the most recent German literature (from the beginning of this century), and selections read from Jean Paul, Heine, Rückert, Uhland, etc., as well as from living German authors. For the rest of the course this class was joined by two students who had gone through the post-major of last year, in order to study with Miss Chamberlin, for two hours weekly, the Goethe-Schiller correspondence with reference to Goethe's and Schiller's principal works, and to practice (once weekly) the writing of essays in German.

The private reading in this course was selected from Goethe's and Schiller's works, and from German authors of the present time.

Advanced courses in Teutonic were given by Dr. Collitz, and were pursued by a graduate studying for the degree of Doctor of Philosophy. The work formed part of a systematic course in comparative Teutonic philology, which the German department is able to offer in co-operation with the English department. (Compare for a sketch of the whole course the Program for 1892 under "General Teutonic Philology.")

Throughout the year one hour weekly was given to an advanced course in Old Norse. Selected songs from the *Older Edda* were read and discussed as to their metrical form, their contents, and origin. For two hours weekly the course in Comparative Teutonic grammar was continued. Special attention was paid to reconstructing the primitive Teutonic sounds and inflections, in order to gain a simplified and reliable basis for the historical grammar of the single Teutonic lan-

guages. The course included a brief discussion of the elements of "phonetics" (physiology of sounds), especially of Melville Bell's ingenious system of vowels, whose advantages over the former systems are at present more and more generally acknowledged.

Romance Languages.—This department has been under the charge of Dr. Joseph A. Fontaine and Mr. Frederick M. Page.

The class in Elementary French, eight in number, met Mr. Page five times weekly throughout the year. Whitney's *Grammar* was studied and reviewed several times. They also used written exercises, based upon Whitney's *Grammar* and upon Daudet's *La Dernière Classe*. The translations into French were carefully corrected and revised. To accustom the students to the sound and construction of the language, there were one or more weekly readings in French, which afforded lessons in pronunciation, analysis, and translation. The following works were employed for the purpose: Super's *Reader*, *L'Ami Fritz*, (Eckmann-Chatrian), *La Mare Au Diable*, (Sand), *Le Buste*, (About), *La Bataille de Dames*, (Scribe), and *Hernani*, (Hugo).

The minor, or second year's class, twenty in number, heard lectures two hours weekly by Dr. Fontaine on the history of French literature of the 18th and 19th centuries, and faithfully prepared for examination a large amount of collateral reading. The class also met Mr. Page three hours a week, and beside regular recitations in grammar, notes were given in class bearing upon the more important grammatical questions. The class had also written exercises based upon material drawn from *Peppino*, and *La belle Nivernaise*, and wrote essays upon a variety of subjects. Dictations once weekly were used to illustrate the construction of the language, and the style of certain modern authors. The regular weekly reading in class has included *Le Romantisme Français*, *La belle Nivernaise* Gautier's *Voyages*, and *Les Femmes Savantes*. The instructors also read to the class as material for instruction and conversation, *Les Demoiselles de St. Cyr*, (Dumas), *Les Pre-*

cieuses Ridicules, (Molière), with extracts from *Le Medicin Malgre Lui*, and *L'Avare*, Daudet's *Le Porte-Drapeau*, *L'Elixir du Père Guacher*, *Les Petits Pâtes*, *La Mule du Pape*; Gui de Maupassant's *Le loup*, *La Parure*; extracts from *Madame Thérèse* (Erkman-Chatrion); Loti's *Les Femmes de Loti*, etc.

The assigned reading has included Voltaire's *Louis XIV.*, and *Société Francaise au XVII. Siecle*, *La Triade Francaise*, and portions of Gautier's *Voyages*, Musset, Lamartine, and Hugo, etc.

The major, or second year's class, heard lectures three times weekly from Dr. Fontaine on the French literature of the sixteenth and seventeenth centuries, accompanied by critical readings in the great authors of the same period. They also had studies in French composition, and practice in French conversation for two hours weekly.

The post-major, or third year's class, heard lectures twice weekly by Dr. Fontaine upon old French literature, with special reference to the development of epic poetry. Two hours weekly were given to the reading and interpretation of old French texts, and one hour a week to essays in French style and composition.

Italian.—A class of five began Italian and studied Grandgent's *Grammar*, supplemented by notes and exercises given by the instructor. The works read by the class embraced extracts from *Principia*, II., *Alberto* (De Amicis), *Promessi Sposi* and Dante's *Divina Commedia*.

Spanish.—A class of two began Spanish in Knapp's *Spanish Grammar*, and had exercises in translation into Spanish from the grammar and Irving's *Granada*. Their reading embraced stories of Caballero and Selgas, Alascon's *La Verdad Sospechora*; Cervantes' *La Gitanella* and selections from *Don Quixote*; and Valera's *Disertaciones Literarias*.

Semitic Languages and Biblical Literature.—Two courses were given in this department which is under the direction of Dr. George A. Barton. The required course on the Origin and Contents of the Biblical Books, occupying one

hour a week throughout the year; and a course on the Greek New Testament, which occupied two hours a week throughout the year. In the required course the time was occupied during the first semester in a study of the literary books of the Old Testament, in connection with the history and times of the various authors so far as known. The instruction was given by lectures, in connection with which W. Robertson Smith's "Old Testament in the Jewish Church," was read. During the first semester a Seminary was formed of volunteers from this class for the study of the Pentateuchal question. This Seminary met twice a month, and was faithfully attended by five or six of the students most interested. During the second semester questions connected with the New Testament books were studied. In connection with the lectures each student examined some question of interest for herself, and wrote an essay on it. Several, for instance, wrote satisfactory essays upon "The Authorship of the Fourth Gospel." During this semester the Seminary was continued, the topic for study being "The Sub-Apostolic Fathers."

In the course in the Greek New Testament a few lectures at the beginning of the year were devoted to the formation and character of the Greek dialect of the New Testament, after which during the first semester one hour a week was devoted to a study of the materials extant for amending the text of the New Testament, and the proper method of using them. The other hour was devoted to a careful study of the text of the Fourth Gospel. In this study questions of textual criticism and grammar were carefully noted, but especial attention was given to interpretation. About half the gospel of Mark was read by the class in private, and an examination on this was held at the end of the semester.

The second semester was devoted to a study of the Epistles of Paul. A few introductory lectures on his life were given, after which the time was devoted to a careful study of the following epistles: *I. and II. Thessalonians, Galatians, Romans, and I. Corinthians.*

The points especially studied were the same as those to which attention was directed in the first semester. The private reading of the second semester was the *Apocalypse*, which was included in the examination at the end of the course.

History.—The instruction in History was given by Dr. Charles M. Andrews. The undergraduate work in history during the year 1891–92 consisted as heretofore of two full courses of five hours a week each. The course in Ancient History included an outline of the civilization of Egypt, Chaldea, Babylonia, Assyria, Palestine, Phœnicia, Persia, Greece, Macedon, and Rome. In oriental history much account was taken of the results in archæological investigation, as showing the solidarity of ancient civilization, as well as the influence of that civilization upon the history of Greece and Rome. In the latter part of the course it was the constant aim of the lecturer to lay stress upon the spirit and influence of the two peoples, to trace their development, both political and social, to discover the causes which led to failure in the Grecian State, and decay in the Roman State, and to understand the contribution which each has made to later history. In addition to the note-taking upon the lectures, the class have done much private reading, not necessarily confined to the subjects treated by the lecturer. Some map-work has also been required, and there have been daily questionings and discussions.

In the second course, which began with the rise of the European nationalities, and extended to the French Revolution, there was more independent work done by the members of the class. The private reading was given to supplement the lecture notes, and there were monthly examinations, either written or oral, in addition to daily questions on the lectures. Each member of the class prepared an essay upon an assigned topic, such as the following: The Missionary Work of the Early Church; the Monk in the East and West; Intercourse Between England and the Continent During the Anglo-Saxon Period; Influence of the Revival of the Roman Law; Effect of the

Counter-Reformation Upon the Renaissance; Causes for the Decline of the Spanish Power. Each member made an oral report also to the class on some particular subject which had come up in the course of the year's work.

No post-major courses have been given, but three graduate courses were offered, of which the first two were open to graduate-students only. (1) Historical Methods, Definition and Criticism; (2) History of the Roman Law; (3) History of Continental Europe since 1815. The first course, enlarged by a number of lectures on the science and philosophy of history, was taken by two students. The second course, also enlarged by a more careful study of the text of the Twelve Tables, was taken by the same students; and the third, which, because of the limitation in time was confined to the history of France, Italy and the German Confederation, was taken by five students in the first semester and by four in the second.

In addition to these regular courses, the department has directed the work of two graduate students, one of whom has completed her first draft of an essay on the history of commerce and smuggling in the colony of Pennsylvania, which gives promise of good results. Two other graduate-students have taken the complete undergraduate courses in history.

Political Science.—The teaching in Political Science was given by Franklin W. Giddings, A.M. The minor and major courses, of five hours weekly each, were arranged as in the previous year, with economic subjects brought together in the first semester, political and legal topics in the second. The minor work in Political Economy included, as usual, both the elementary drill in theoretical principles, and lectures reviewing the development of economic history. The results of this plan have been eminently satisfactory. Economic principles are not left in the mind as abstractions merely; the student becomes familiar with their concrete phases in the facts of industrial and social growth. Much importance is attached also to

the work of the second semester, in which, as in the economic studies, two equally important and mutually qualifying aspects of the subject are presented together. It is the intention of the instructor that no student shall complete this course without a respectable knowledge, not only of the organization and working of state and general governments, but also of those elementary facts of common law that every intelligent citizen is presumed by the courts to know.

The special questions taken up in the first semester of the major course were: Systems of land tenure, the eight-hour-day agitation in the London County Council, and recent phases of Socialism. Each student was made responsible for particular parts of the work, and was taught how to collect material and to use statistical reports. In the second semester Aristotle's *Politics* was made the basis of a study of the history of political theories. The course of political doctrine was traced in the lectures through Machiavelli, Hooker, Hobbes, Harrington, Locke, Montesquieu, Burke and Bentham, and each student made a particular study of one author.

Five graduate students attended the graduate lectures in sociology. During the year Miss Emily G. Balch, Bryn Mawr European Fellow for 1889, completed, under the direction of Professor Giddings, from data collected during her residence in Paris, a study of systems of public relief in France, which will be published shortly.

Philosophy.—The work in the three-hour course of required philosophy was conducted by Dr. Paul Shory, and did not vary much from the course given in previous years. Deductive logic was taught by lectures, and the use of Jevons's text-book on logic. In connection with inductive logic, there were lectures and prescribed readings in Mill's *Logic*, Bacon's *Novum Organon*, and the *Dialogues* of Plato.

In psychology rather more time than usual was given to sensation and the physiology of the senses. In connection with the lectures the class made a careful comparative study of certain chapters of the text-book (Sully), and of James's *Psychology*.

The history of philosophy was taught mainly by the study of prescribed readings in Bacon, Locke, Berkeley, Descartes, and Plato. Francis' edition of Berkeley and Jules Simon's edition of *The Meditations of Descartes* were used as text-books by the class.

Dr. Rhoads gave a course of lectures one hour weekly throughout the year on ethics. The foundation of ethics upon facts universally observed among men and familiar to all self-reflective persons was stated, and the likeness and unlikeness of ethics to the natural sciences were shown. The psychological elements of our moral nature were examined, and the grounds of certainty in knowledge, the nature of obligation, and the sources of moral law were considered. Many classes of duties were discussed in the light of natural and Christian ethical principles; and also the moral aspects of social problems, such as the right of property, the nature and authority of the State, the restriction of the use of alcoholic drinks, the relations of employer and employed, and the treatment of the dependent and criminal classes. Porter's *Elements of Moral Science* was used as a text-book, but readings were assigned in Martineau, Calderwood, Spencer, Maurice, Robinson, Dymond, Dörner, Sidgwick, and other writers on ethics.

History of Art.—The lectures on the history of Art were given by Dr. Agnes M. Wergeland. The object of the instruction in the history of Art was to enable students of Greek and Latin literature and of history, to receive such æsthetic training as can be gained through the study of an outline of the origin and development of art. The course combined lectures with assigned reading, and was illustrated by photographs and casts. Two lectures weekly were devoted to the history of Architecture, and one hour weekly to that of Sculpture. The courses were free electives, and such was the interest of the students in the subjects that although the lectures were given for the first time a comparatively large number elected them. The first part of the year was chiefly occupied with an account of architecture and sculpture

before the period of Greek Art. Ancient art in Assyria, Egypt, etc., was thus presented, and the lectures were illustrated by the splendid works of Perros and Chipiez, portions of the texts of these works having been assigned to be read by the class.

The second semester was devoted to the study of Greek and Roman art in architecture and sculpture. The stress was laid upon a study of Greek sculpture and Roman architecture, and the lectures upon each of these subjects were illustrated by an almost complete collection of Brown's photographs lent by a friend of the college, which aided the students greatly in forming clear ideas of the subjects presented. Among the books read by the class were: Waldstein's *The Art of Phidias*; Murray, *The History of Greek Sculpture*; Reber, *The History of Ancient Art*. The lack of suitable books for reference in Architecture was keenly felt, Ferguson's *History of Architecture* being the only authority in English published for a long time past. The topics announced for the year include Mediæval Architecture, but time did not allow an extension to the Middle Ages, and this period will form the subject of a special course for the year 1892-93.

Mathematics.—The courses in mathematics have been given by Dr. Charlotte A. Scott and James Harkness, A.M. In the mathematical department the work in the minor and major courses has been carried on in accordance with the Program. The work has been the same as in preceding years, but some slight changes in the arrangement came into effect this year.

In elementary mathematics both courses (Trigonometry and Solid Geometry) were given during the second semester, the course in Trigonometry being given also in the first semester. While this repetition of the course in Trigonometry has now been provided for in several consecutive years, it may not be possible to arrange for it every year on account of the pressure of the other regular work.

The post-major courses have been more closely defined this year; four courses of lectures have been planned, and it is

expected that two of these will be given during each year. These courses have been planned especially to lead from ordinary undergraduate work to distinctively graduate studies; and an attempt will be made to give, each year, as graduate work, courses that form the natural continuation of the post-major work of the year before. The two post-major courses given during the year have been: Modern Theories in Analytical Geometry, in connection with the latter part of Salmon's Conics, three times weekly, by Dr. C. A. Scott; and a similar course in algebra, in connection with Chrystal's Algebra, Vol. II., twice weekly, by Mr. James Harkness. The entire course (five hours weekly) was attended by one undergraduate student and three graduate students.

In addition to the post-major work, graduate work was offered by Dr. C. A. Scott, who conducted individual seminary work in topics in geometry.

With Mr. James Harkness two graduates attended lectures two hours weekly throughout the year. The course was chiefly concerned with the theory of functions as developed by Cauchy and his school, but a considerable amount of attention was paid to Riemann's methods. In connection with Liouville's theorems the students were introduced to the subject of Elliptic Functions as handled by Weierstrass. An hour a week throughout the year was devoted to a study of problems suggested by the reading of Professor Craig's work on Linear Differential Equations with Uniform Coefficients.

Physics.—The instruction in physics was given by Arthur S. Mackenzie, A.M., Lecturer on Physics. Two courses in physics were given, each consisting of five hours of lectures weekly and two hours of laboratory practice twice weekly. In the two courses an outline of physics was covered. In the minor or first year's course a general view of the subject of physics was presented, in order to make the students familiar with its most important facts and laws; a careful and exact use of scientific phraseology was insisted upon, and a special effort was made to enable the class to grasp clearly

the conceptions underlying the subject of dynamics. In laboratory work the class made satisfactory progress in familiarity with the common methods of measurement and in the use of simple apparatus. At the same time the principles explained in the lectures were impressed upon their minds.

To the major or second year's class, the same subjects were again considered, but in a more advanced way; and the lectures developed the different branches according to the commonly accepted theories. This course was more mathematical than the minor, while the minor was more experimental. During this year relatively more time was devoted to Maxwell's *Theory of Heat* than to either of the other branches,—sound, or light, electricity,—and it is the design of the department while treating all branches each year, to lay special stress upon some one, thus bringing the student into contact with the work of original investigators, so that she can thereafter pursue further reading alone with profit to herself.

The laboratory work of the major class was chiefly devoted to experiments requiring exact measurements, and to repeating the work of some important investigators.

The apparatus in the laboratory has been increased by the addition of a new and large Queen's projection lantern for lecture purposes; a Fortin barometer, and a diffraction bench from the Geneva Society.

Chemistry.—The instruction in Chemistry was conducted by Dr. Edward H. Keiser and Dr. Samuel L. Mulliken.

Three classes of students received instruction in chemistry during the past year,—namely, minor, major, and post-major classes. The total number of students was thirty-three. As this number was larger than the number of working tables in the laboratory, it was necessary to provide temporary tables in an adjoining room for a portion of the minor class.

In the minor course three lectures weekly upon general inorganic chemistry were given by Dr. Keiser, and two reviews weekly by Dr. Mulliken. As in previous years the lectures served as an introduction to chemical science, and only

the more important facts and general principles were therefore emphasized, while in the reviews and recitations a more detailed study was made of chemical phenomena. Towards the close of the second semester a subject was assigned to each member of the class upon which to prepare a short lecture. These lectures were afterwards given before the class, and this feature of the work proved interesting and stimulating, and has aided in developing the powers of the students. The laboratory work was carried out very much as outlined in the Program. Some changes were made in the second semester, namely, the substitution of exercises in the preparation of compounds for certain detailed analytical reactions. These changes have proved satisfactory, and will be retained in future years.

In the major course lectures on theoretical chemistry, once weekly, and on organic chemistry, twice weekly were given by Dr. Keiser, and a course on inorganic chemistry and quantitative methods was given by Dr. Mulliken. In the laboratory the major students finished qualitative analysis towards the close of the first semester, and then took up exercises in the preparation of typical carbon compounds, and on quantitative analysis.

The post-major course consisted chiefly of laboratory work. Quantitative analyses, both gravimetric and volumetric, and preparations of organic and inorganic compounds were made. The course was varied in different instances to suit the requirements of individuals. A chemical seminary for post-major students was conducted once a week throughout the year by Dr. Keiser. The chief subject discussed in these meetings was the historical development of chemistry. Dr. Mulliken also gave several lectures on water analysis.

Investigations.—During the past year a research upon the metallic derivatives of acetylene was carried on in the laboratory. As a result of this work, the composition of the explosive silver and copper acetylides has been accurately established, and their constitution cleared up. An investigation

upon other acetyline compounds is still in progress. The results thus far obtained have been published in the *American Chemical Journal*.

Biology.—The instruction in biology was conducted by Dr. Thomas H. Morgan, Dr. Joseph W. Warren, Dr. Jacques Loeb, and Dr. Ida A. Keller.

In all forty-four students registered for courses in the biological department. Of these twenty-seven were in the minor or first year's course, eight were in the major course, two in the post-major, and eight were graduate students.

The work of the minor course was divided among the instructors, as follows: In the first semester the lectures in general biology were given by Dr. T. H. Morgan, and consisted of two parallel courses, designated A and B. Course A embraced the usual lectures on general biology proper, while course B was made supplementary to course A, and included lectures and demonstrations, and practical work in the class-room on a single group of animals.

The laboratory work corresponded to lectures in course A, and was carried on by Dr. T. H. Morgan, Dr. Jacques Loeb, and Miss Leah Goff (who for a time took Dr. Loeb's place), assisted by Miss Ida Hyde, and Miss Umé Tsuda.

In the second semester, Dr. Joseph Warren lectured four times a week to the minor students in general biology, covering the vertebrate portion of the work. He was succeeded in April and May by Dr. Loeb, who gave the part of the course on the development of the chick. Dr. Loeb was succeeded by Dr. Keller, who finished the course with lectures and laboratory work in systematic botany. The laboratory work of the second semester was carried on by Dr. Warren, Dr. Loeb, and Dr. Keller, assisted by Miss Hyde and Miss Tsuda.

The major or second year class had, during the first semester, a course of lectures four times weekly with Dr. Warren in physiology and histology. The usual six hours laboratory work accompanied the lectures. This was directed by Dr. Warren, with the assistance of Miss Hyde.

In the second semester of the major year, a course of lectures on general zoölogy was given by Dr. Morgan. Three lectures a week in general zoology alternated with lectures twice a week in the comparative anatomy of vertebrates by Dr. Warren.

After Easter the lectures in general zoology were devoted to more theoretical questions, and were given under the title of advanced biology. This course was given by Dr. Morgan.

The course for the special and post-major students calls for no special treatment. Miss Tsuda's work on the orientation of the axis of the frog's eggs should, on account of its excellence, have special mention.

Advanced lectures were given to the graduate students as follows :

A course of lectures, once weekly, running throughout the year, on vertebrate embryology, was given by Dr. Morgan.

A course of lectures, once weekly for a part of one semester, on special problems in physiology, was given by Dr. Warren.

A course of lectures, once weekly for the greater part of the year, on brain physiology, was given by Dr. Loeb.

A Journal Club met once fortnightly for reports and discussion of recent literature in morphology and physiology.

Alternating with the Journal Club the Reading Club met for an hour's reading and discussion. Theories of heredity were the topic for the year.

Advanced work in the laboratory was in all cases carried on by graduate students, the number of hours varying with the opportunities of the students. Laboratory work, in connection with private reading under direction of the instructors, is by far the most important feature of the advanced work.

Botany.—The special instruction in botany was given by Ida A. Keller, Ph.D. In the minor course in biology lectures for five hours a week for four weeks, were given in the latter part of the second semester. The lectures were principally upon the morphology of Phanerogams, with field excursions for observation and collections, and laboratory work, consist-

ing of the analysis of the plants found. This analysis included a study of the microscopical structure of the plants. A class of graduates followed a course of lectures, one hour weekly throughout the year, accompanied by two hours of laboratory practice. The lectures were upon topics connected with the morphology of cryptogams. One of the students was engaged, however, chiefly upon an investigation of the development of certain galls upon the filaments of *Vaucheria Germinata*,—an investigation to be completed in the spring of 1893.

The Library.—The accessions to the library during the past year have been nine hundred and nine bound volumes and about two hundred pamphlets. The library now contains ten thousand and four hundred volumes, chosen with reference to the immediate needs of the several departments of instruction. The following gifts have been received during the year, and are gratefully acknowledged :

Three pamphlets, "Tiamat," "Esarhaddon's Account of the Restoration of Ishtar's Temple at Erech ;" "Ashtoreth and Her Influence in the Old Testament," given by the author, George A. Barton, Ph.D. ; "A Problem of Psychology," given by the author, Mr. E. W. Scripture ; four pamphlets on biological subjects, given by the author, Dr. Jacques Loeb ; a subscription to "Punch" for the year 1891-92, given by Miss Estelle Reid ; the Hartford Seminary "Record," given by the Hartford Theological Seminary ; vols. 4, 5, 6, 7, of "Journal des Mathematiques," given by Dr. C. A. Scott ; three vols. of "Illustrirte Zeitung," from Dr. Hermann Collitz ; Swinburne, "Essays and Studies ;" Moore, "Learned Men's English ;" Schelling, "Ben Jonson's Timber," from Dr. M. Carey Thomas ; Michelet, "Life of Martin Luther," from R. Cadbury ; Clark and Giddings, "Modern Distributive Process," from Prof. Franklin H. Giddings ; Gatschet, "United States Geological Survey," given by Dr. H. W. Smyth ; Appleton, "Memorial and Lectures," given by the committee of publication ; "Cæsar, eight books of the Gallic War," and thirty volumes of the "Revue des deux Mondes" from Dr.

Paul Shorey; also an unusually large number of State and Government publications. From the fund presented by Miss Helen Erben, fifty volumes have been added to the English department. The catalogue of the library has been made more complete than heretofore, especially as to subjects. The library has been open to students from 8 A.M. to 10 P.M., and has been largely used by them, especially by reading and examination of the books in the reading room. Although the appropriation of \$3,000 a year for the purchase of books is large relative to the resources of the College, it is found each year too small to meet urgent requests for books, and a special endowment for the library would be of great benefit to the College.

The Gymnasium.—The equipment of the gymnasium has been enlarged during the year by the addition of several pieces of apparatus, including some Swedish bow-stalls and a horizontal ladder; while the floor of the running track has been laid with a rubber covering so as to add to its capacity for use. Exercise in the gymnasium has been attended by an increase in the girth of the chest, of the strength of the muscles of the back and chest, and of lung capacity in a large proportion of the students. This gain in strength has varied from about 45 per cent. in the graduate students to 75 per cent. in the first year's class. That is, 75 per cent. of the first year's class have grown stronger, and a smaller proportion have shown obvious physical gains each year, until in the case of the graduate students but 45 per cent. manifest a measurable gain. The formation of an Athletic Association among the students has quickened attention to out-door exercises, and led to increased attention to the playing of lawn-tennis.

Publications.—The following papers or works have been published by the members of the Faculty during the year:

By Dr. E. W. Hopkins.

1. "The Aryan Future," an essay published in the *Journal of Philology*, Vol. XII., 1892.

2. "Problematic Passages in the Rig Veda," a paper read before the Oriental Society, April, '92, and printed in the Society's Journal for the current year.

3. "Sanskrit *ahan*," *Oriental Society's Proceedings*, 1892.

4. "Note on Sanskrit *urva*," *Oriental Society's Proceedings*, 1892.

5. "Note on the Etymology of 'four,' *Journal of Philology*, 1892."

6. A review of Hoffmann's "Greek Dialects," *Journal of Philology*, December, 1891.

By Dr. Hermann Collitz :

1. A review of "The 'Monsee Fragments,' edited by George A. Hench," in *Modern Language Notes*, Vol. VI., No. 8, December, 1891.

2. A review of Jelinek's "Beiträge zur Erklärung der Germanischen Flexion," in *Anzeiger für deutsches Altertum*, Vol. XVII., 1891, p. 275.

3. "Die Herkunft des schwachen Präteritums der Germanischen Sprachen," reprinted from the *American Journal of Philology*, Vol. IX., in *Bezenberger's Beiträge*, Vol. XVII., p. 227, 1891.

4. "Über Fick's Vergleichendes Wörterbuch der Indogermanischen Sprachen," in the *American Journal of Philology*, Vol. XII., 1891, p. 293.

5. A review of Jackson's "Avestan Alphabet," *ibid.*, Vol. XII., p. 489.

6. A review of "Indogermanische Forschungen, hrsg. von Brugmann u. Streitberg," Vol. I., No. I., in *Anzeiger f. deutsch. Altert.*, Vol. XVIII., 1892, p. 169.

7. "Sammlung der Griechischen Dialektinschriften von H. Collitz und F. Bechtel. Vol. II., No. 3. Die Delphischen Inschriften von Joh. Baunack, I. Teil." Göttingen, 1892.

By George A. Barton, Ph.D. 1. "Tiamat."

2. "Esarhaddon's Account of the Restoration of Ishtar's Temple at Erech."

3. "Ashtoreth and her Influence in the Old Testament."

By Professor Franklin H. Giddings :

1. "Outlines of Lectures on Political Economy," with 1000 bibliographical references, pp. 35.

2. "Outline of Lectures on Sociology," pp. 18.

3. "Sociology as a University Study," *Political Science Quarterly*, December, 1891.

4. "The Nature and Conduct of Political Majorities," *Political Science Quarterly*, March, 1892.

By Charles Maclean Andrews, Ph.D.

1. "The Beginnings of the Connecticut Towns," *Annals of the American Academy of Political and Social Science*, October, 1890.

2. "The Theory of the Village Community," *Annals of the American Academy of Political and Social Science*.

3. "The Old English Manor, a Study in English Economic History," *The Johns Hopkins Press*, Baltimore, 1892.

By Charlotte Angas Scott, D.Sc., "On the Higher Singularities of Plane Curves," *American Journal of Mathematics*, for October, 1892.

Dr. Thomas H. Morgan, Ph.D.

1. "The Growth and Metamorphosis of Tornaria," *Journal of Morphology*, Vol. V., No. 3.

2. "Notes on the Development of the Frog," *American Naturalist*, December, 1892.

3. "A New Larval Form from Jamaica," *American Naturalist*, December, 1892.

4. "Spiral Modification of Metamerism," *Journal of Morphology*, October, 1892.

The Halls of Residence are now filled with students, and provision has been made for those who could not be accommodated in the Halls by securing a suitable house near the College premises. It is very desirable that enlarged accom-

modation should be provided at an early day for the yearly increase of students, and I would ask your favorable consideration of the proposal already made to you that another Hall of Residence should be erected during the current academic year.

Respectfully submitted to the Trustees at their
meeting held Tenth month 14th, 1892.

JAMES E. RHOADS.

TABLE OF SUBJECTS STUDIED AND TERMS OF STUDY.

| SUBJECT. | PARTICULAR SUBJECT. | INSTRUCTOR. | NO. IN CLASS. | HOURS WEEKLY | TERM OF STUDY. |
|-----------------|--|--------------|---------------|------------------|--------------------------------|
| GREEK | Elementary Greek, Grammar and Composition, Xenophon, | Dr. Smyth. | 5 | 5 | 9 mo. 29, '91, to 2 mo. 6, '92 |
| | Elementary Greek, Xenophon's Anabasis, Books I-II, Homer's Iliad, Books I-II, minor, | " | 6 | 5 | 2 mo. 10, '92, to 6 mo. 2, '92 |
| | Greek Prose Composition, minor class, | Dr. Hopkins. | 9 | 1 | 9 mo. 29, '91, to 2 mo. 6, '92 |
| | Greek Prose Composition, minor class, | " | 7 | 1 | 2 mo. 10, '92, to 6 mo. 2, '92 |
| | Homer's Odyssey, minor, | Dr. Smyth. | 8 | 2 | 9 mo. 29, '91, to 2 mo. 6, '92 |
| | Homer (continued) and Herodotus, minor, | " | 7 | 2 | 2 mo. 10, '92, to 6 mo. 2, '92 |
| | Lysias, minor, | Dr. Hopkins. | 9 | 2 | 9 mo. 29, '91, to 2 mo. 6, '92 |
| | Plato's Apology, minor, | " | 6 | 2 | 2 mo. 10, '92, to 6 mo. 2, '92 |
| | Demosthenes' De Corona, major, | " | 7 | 3 | 9 mo. 29, '91, to 2 mo. 6, '92 |
| | Sophocles, Antigone, major, | " | 8 | 3 | 2 mo. 10, '92, to 6 mo. 2, '92 |
| | Lectures on the History of Greek Poetry, major, | Dr. Shorey. | 10 | 2 | 9 mo. 29, '91, to 2 mo. 6, '92 |
| | Lectures on the History of Greek Prose, major, | " | 10 | 2 | 2 mo. 10, '92, to 6 mo. 2, '92 |
| | Advanced Greek Composition, post-major class, | Dr. Smyth. | 2 | 1 hour fr weekly | 9 mo. 29, '91, to 6 mo. 2, '92 |
| | Aristotle's Poetics, post-major class, | " | 2 | 1 | 9 mo. 29, '91, to 2 mo. 6, '92 |
| | Plato's Republic, post-major class, | Dr. Shorey. | 10 | 2 | 9 mo. 29, '91 to 2 mo. 6, '92 |
| | Plato's Republic, post-major class, | " | 9 | 2 | 2 mo. 10, '92, to 6 mo. 2, '92 |
| | Theocritus, post-major class, | Dr. Hopkins. | 3 | 1 | 9 mo. 29, '91, to 2 mo. 6, '92 |
| | Æschylus, Agamemnon, post-major, | " | 4 | 1 | 9 mo. 29, '91, to 2 mo. 6, '92 |
| | New Testament Greek, post-major class, | Dr. Barton. | 1 | 2 | 9 mo. 29, '91, to 2 mo. 6, '92 |
| | New Testament Greek, post-major class, | " | 2 | 2 | 2 mo. 10, '92, to 6 mo. 2, '92 |
| | Sophocles, Electra, post-major class, | Dr. Hopkins. | 3 | 1 | 2 mo. 10, '92, to 6 mo. 2, '92 |
| | Demosthenes, Olynthiacs and Philippics, post-major class, | Dr. Smyth. | 3 | 1 | 2 mo. 10, '92, to 6 mo. 2, '92 |

TABLE OF SUBJECTS STUDIED AND TERMS OF STUDY—[CONTINUED].

| SUBJECT. | PARTICULAR SUBJECT. | INSTRUCTOR. | No. IN CLASS. | HOURS WEEKLY | TERM OF STUDY. |
|--|--|--------------|---------------|--------------------------------|----------------------------------|
| GREEK | <i>Graduate Classes.</i> | | | | |
| | Sophocles, | Dr. Hopkins. | . 2 . | . 1 . | 9 mo. 23, '91, to 6 mo. 2, '92 |
| | Pindar, | Dr. Smyth. | . 2 . | . 2 . | 9 mo. 23, '91, to 6 mo. 2, '92 |
| SANSKRIT | Lectures on Comparative Philology, | Dr. Hopkins. | . 2 . | . 1 . | 9 mo. 23, '91, to 6 mo. 2, '92 |
| | Sanskrit Grammar, Lanman's Reader, | " | . 1 . | . 1 . | 2 mo. 10, '92, to 6 mo. 2, '92 |
| | <i>Graduate Class.</i> | | | | |
| LATIN | Selections from Rig Veda, | " | . 1 . | 1 hour frequently | 9 mo. 23, '91, to 6 mo. 2, '92 |
| | Prose Composition, minor class, | Dr. Lodge. | . 27 . | . 1 . | 9 mo. 23, '91, to 6 mo. 6, '92 |
| | Prose Composition, minor class, | " | . 28 . | . 1 . | 2 mo. 10, '92, to 6 mo. 2, '92 |
| | Cicero, Pro Murena, Livy, Book I, minor, | " | . 27 . | . 2 . | 9 mo. 23, '91, to 2 mo. 6, '92 |
| | Livy, Book I, continued, minor, | " | . 29 . | . 2 . | 2 mo. 6, '92, to 6 mo. 2, '92 |
| | Ovid, | " | . 2 . | . 2 . | 9 mo. 23, '91, to 12 mo. 17, '91 |
| | Horace, Selections, minor, | Dr. Shorey. | . 37 . | . 2 . | 1 mo. 6, '92, to 6 mo. 2, '92 |
| | Prose Composition, major class, | Dr. Lodge. | . 18 . | . 1 . | 9 mo. 23, '91, to 2 mo. 6, '92 |
| | Prose Composition, major class, | " | . 15 . | . 1 . | 2 mo. 10, '92, to 6 mo. 2, '92 |
| | Suetonius, Life of Augustus, Tacitus, Annals, major, | " | . 16 . | . 2 . | 9 mo. 23, '91, to 2 mo. 6, '92 |
| | Tacitus, Annals, continued, major, | " | . 14 . | . 2 . | 2 mo. 10, '92, to 6 mo. 2, '92 |
| | Horace, Perseus, Satires, major, | " | . 17 . | . 1 . | 9 mo. 23, '91, to 2 mo. 6, '92 |
| | Perseus, continued, Juvenal, Satires, major, | " | . 14 . | . 1 . | 2 mo. 10, '92, to 6 mo. 2, '92 |
| | Lectures on Latin Literature, major, | Dr. Shorey. | . 23 . | . 1 . | 9 mo. 23, '91, to 2 mo. 6, '92 |
| | Lectures on Latin Literature, major, | " | . 20 . | . 1 . | 2 mo. 10, '92, to 6 mo. 2, '92 |
| Lucretius, post-major class, | " | . 13 . | . 1 . | 9 mo. 23, '91, to 2 mo. 6, '92 | |
| Lucretius, post-major class, | " | . 11 . | . 1 . | 2 mo. 10, '92, to 6 mo. 2, '92 | |
| Plautus, post-major class, | Dr. Lodge. | . 2 . | . 2 . | 9 mo. 23, '91, to 2 mo. 6, '92 | |
| Terence, post-major class, | " | . 1 . | . 2 . | 2 mo. 10, '92, to 6 mo. 2, '92 | |

TABLE OF SUBJECTS STUDIED AND TERMS OF STUDY—[CONTINUED].

| SUBJECT. | PARTICULAR SUBJECT. | INSTRUCTOR. | NO. IN CLASS. | HOURS WEEKLY | TERM OF STUDY. | |
|---------------|--|------------------|---------------|--------------|--------------------------------|--|
| ENGLISH . . . | Lectures on the English Language and Anglo-Saxon Literature, | Dr. Thomas. | 79 . . . | 4 . . . | 9 mo. 29, '91, to 2 mo. 6, '92 | |
| | Essay Work, minor, | Dr. Gwinn. | 65 . . . | 1 . . . | 9 mo. 29, '91, to 2 mo. 6, '92 | |
| | Lectures on History of English Literature from the Conquest to Spenser, inclusive, | Dr. Thomas. | 86 . . . | 4 . . . | 2 mo. 10, '92, to 6 mo. 2, '92 | |
| | Essay Work, minor, | Dr. Gwinn. | 1 . . . | 1 . . . | 2 mo. 10, '92, to 6 mo. 2, '92 | |
| | Essay Work, free elective, | " | 2 . . . | 1 . . . | 9 mo. 29, '91, to 6 mo. 2, '92 | |
| | Anglo-Saxon, Siever's Grammar and Sweet's Reader, minor, | J. D. Bruce. | 4 . . . | 5 . . . | 9 mo. 29, '91, to 2 mo. 6, '92 | |
| | Middle English, various authors, minor, | " | 4 . . . | 5 . . . | 2 mo. 10, '92, to 6 mo. 2, '92 | |
| | <i>Graduate Classes.</i> | | | | | |
| | Old English Drama, | Dr. Thomas. | 11 . . . | 2 . . . | 9 mo. 29, '91, to 2 mo. 6, '92 | |
| | Essay Work, | Dr. Gwinn. | 4 . . . | 3 . . . | 9 mo. 29, '91, to 2 mo. 6, '92 | |
| | Old English Drama, | Dr. Thomas. | 9 . . . | 2 . . . | 2 mo. 10, '92, to 6 mo. 2, '92 | |
| | Essay Work, | Dr. Gwinn. | 1 . . . | 3 . . . | 2 mo. 10, '92, to 6 mo. 2, '92 | |
| | Anglo-Saxon, Bright's Reader, | J. D. Bruce. | 1 . . . | 2 . . . | 9 mo. 29, '91, to 6 mo. 2, '92 | |
| | Beowulf, | " | 2 . . . | 1 . . . | 11 mo. '91, to 6 mo. 2, '92 | |
| | Beowulf, | " | 1 . . . | 2 . . . | 9 mo. 29, '91, to 6 mo. 2, '92 | |
| GERMAN . . . | Elementary German, Grammar and Reading, | Rose Chamberlin. | 17 . . . | 5 . . . | 9 mo. 29, '91, to 2 mo. 6, '92 | |
| | Elementary German, Grammar and Reading, | " | 15 . . . | 5 . . . | 2 mo. 10, '92, to 6 mo. 2, '92 | |
| | German Conversation, | " | 13 . . . | 1 . . . | 9 mo. 29, '91, to 2 mo. 6, '92 | |
| | German Conversation, | " | 14 . . . | 1 . . . | 2 mo. 10, '92, to 6 mo. 2, '92 | |
| | German Composition, minor, | " | 8 . . . | 1 . . . | 9 mo. 29, '91, to 6 mo. 2, '92 | |
| | German Literature, minor, | Dr. Collitz. | 10 . . . | 2 . . . | 9 mo. 29, '91, to 2 mo. 6, '92 | |
| | German Literature, minor, | " | 4 . . . | 2 . . . | 2 mo. 6, '92, to 6 mo. 2, '92 | |
| | Reading, Faust, Part I, minor, | Rose Chamberlin. | 12 . . . | 2 . . . | 9 mo. 29, '91, to 2 mo. 6, '92 | |

TABLE OF SUBJECTS STUDIED AND TERMS OF STUDY—[CONTINUED].

| SUBJECT. | PARTICULAR SUBJECT. | INSTRUCTOR. | No. IN CLASS. | Hours WEEKLY | TERM OF STUDY. |
|---|---|------------------|---------------|--------------------------------|--------------------------------|
| GERMAN | Reading, Wallenstein, | Rose Chamberlin. | 13 . . . | 2 . . . | 2 mo. 10, '92, to 6 mo. 2, '92 |
| | German Composition, major, | " | 2 . . . | 1 . . . | 9 mo. 29, '91, to 2 mo. 6, '92 |
| | German Composition, major, | " | 1 . . . | 1 . . . | 2 mo. 10, '92, to 6 mo. 2, '92 |
| | German Literature, major, | Dr. Collitz. | 1 . . . | 2 . . . | 9 mo. 29, '91, to 6 mo. 2, '92 |
| | Max Müller, German Classics, major, | " | 1 . . . | 1 . . . | 9 mo. 29, '91, to 6 mo. 2, '92 |
| | German Reading and Criticism, Wallenstein, major, | Rose Chamberlin. | 5 . . . | 1 . . . | 9 mo. 29, '91, to 2 mo. 6, '92 |
| | German Reading and Criticism, Wallenstein, major, | " | 3 . . . | 1 . . . | 2 mo. 10, '92, to 6 mo. 2, '92 |
| | German Literature, post-major, | Dr. Collitz. | 1 . . . | 2 . . . | 9 mo. 29, '91, to 6 mo. 2, '92 |
| | Critical Study of the Goethe-Schiller Correspondence, post-major class, | Rose Chamberlin | 2 . . . | 2 . . . | 9 mo. 29, '91, to 6 mo. 2, '92 |
| | Essay Work, | " | 2 . . . | 1 . . . | 9 mo. 29, '91, to 6 mo. 2, '92 |
| FRENCH | <i>Graduate Classes.</i> | | | | |
| | Teutonic Philology, | Dr. Collitz. | 1 . . . | 2 . . . | 9 mo. 29, '91, to 6 mo. 2, '92 |
| | Old Norse, | " | 1 . . . | 1 . . . | 9 mo. 29, '91, to 6 mo. 2, '92 |
| | Elementary French, Grammar and Reading, | F. M. Page | 7 . . . | 5 . . . | 9 mo. 29, '91, to 2 mo. 6, '92 |
| | Elementary French, Grammar and Reading, | " | 6 . . . | 5 . . . | 2 mo. 10, '92, to 6 mo. 2, '92 |
| | French Composition, minor, | " | 19 . . . | 1 . . . | 9 mo. 29, '91, to 2 mo. 6, '92 |
| | French Composition, minor | " | 14 . . . | 1 . . . | 2 mo. 6, '92, to 6 mo. 2, '92 |
| | French, Literature of the Eighteenth and Nineteenth Centuries, minor, | Dr. Fontaine. | 16 . . . | 2 . . . | 9 mo. 29, '91, to 2 mo. 6, '92 |
| | French Literature of the Eighteenth and Nineteenth Centuries, minor, | " | 14 . . . | 2 . . . | 2 mo. 10, '92, to 6 mo. 2, '92 |
| | French Critical Reading and Conversation, | F. M. Page. | 19 . . . | 2 . . . | 9 mo. 29, '91, to 2 mo. 6, '92 |
| French Critical Reading and Conversation, | " | 14 . . . | 2 . . . | 2 mo. 10, '92, to 6 mo. 2, '92 | |
| French Composition, major, | Dr. Fontaine. | 4 . . . | 1 . . . | 9 mo. 29, '91, to 2 mo. 6, '92 | |
| French Composition, major, | " | 2 . . . | 1 . . . | 2 mo. 10, '92, to 6 mo. 2, '92 | |

TABLE OF SUBJECTS STUDIED AND TERMS OF STUDY—[CONTINUED].

| SUBJECT. | PARTICULAR SUBJECT. | INSTRUCTOR. | NO. IN CLASS. | HOURS WEEKLY | TERM OF STUDY. |
|-----------------|---|---------------|---------------|--------------|--------------------------------|
| FRENCH. . . . | French Conversation, major, | Dr. Fontaine. | 2 . . | 1 . . | 2 mo. 10, '92, to 6 mo. 2, '92 |
| | French Literature of the Sixteenth and Seventeenth Centuries, major, | " | 6 . . | 2 . . | 9 mo. 29, '91, to 2 mo. 6, '92 |
| | French Literature of the Sixteenth and Seventeenth Centuries, major, | " | 2 . . | 2 . . | 2 mo. 10, '92, to 6 mo. 2, '92 |
| ITALIAN | Old French, post-major class, | " | 1 . . | 3 . . | 9 mo. 29, '91, to 6 mo. 2, '92 |
| | Essays in French Style and Composition, post-major class, | " | 3 . . | 1 . . | 2 mo. 10, '92, to 6 mo. 2, '92 |
| | Grandgent's Grammar and Harper's Italian Principia, | F. M. Page. | 6 . . | 2 . . | 9 mo. 29, '91, to 2 mo. 6, '92 |
| SPANISH | Dante's Divina Commedia, | " | 3 . . | 2 . . | 2 mo. 10, '92, to 6 mo. 2, '92 |
| | Knapp's Grammar and Reading, | " | 1 . . | 1 . . | 9 mo. 29, '91, to 6 mo. 2, '92 |
| | Trigonometry, | J. Harkness. | 8 . . | 3 . . | 9 mo. 29, '90, to 2 mo. 6, '92 |
| MATHEMATICS. | Trigonometry, | " | 7 . . | 3 . . | 9 mo. 29, '90, to 2 mo. 6, '92 |
| | Solid Geometry, | Dr. Scott. | 9 . . | 2 . . | 2 mo. 10, '92, to 6 mo. 2, '92 |
| | Analytical Conics, minor, | " | 5 . . | 5 . . | 9 mo. 29, '91, to 2 mo. 6, '92 |
| | Algebra, Advanced Trigonometry, and Theory of Equations, minor, | J. Harkness. | 4 . . | 5 . . | 9 mo. 29, '91, to 2 mo. 6, '92 |
| | Elementary Differential and Integral Calculus, minor, | " | 4 . . | 5 . . | 9 mo. 29, '91, to 2 mo. 6, '92 |
| | Integral Calculus, Differential Equations, major, | " | 4 . . | 5 . . | 9 mo. 29, '91, to 2 mo. 6, '92 |
| | History of Mathematics, major, | Dr. Scott. | 5 . . | 1 . . | 2 mo. 10, '92, to 6 mo. 2, '92 |
| | Analytical Geometry of Two and Three Dimensions, major, | " | 4 . . | 4 . . | 2 mo. 10, '92, to 6 mo. 2, '92 |
| | Modern Methods in Analytical Geometry, post-major class, | " | 4 . . | 3 . . | 9 mo. 29, '91, to 6 mo. 2, '92 |
| | Lectures Introductory to Modern Algebraical Theories, post-major class, | J. Harkness. | 4 . . | 2 . . | 9 mo. 29, '91, to 6 mo. 2, '92 |

TABLE OF SUBJECTS STUDIED AND TERMS OF STUDY—[CONTINUED].

| SUBJECT. | PARTICULAR SUBJECT. | INSTRUCTOR. | NO. IN CLASS. | HOURS WEEKLY | TERM OF STUDY. |
|-------------------|---|----------------------------------|---------------|-----------------|---------------------------------|
| CHEMISTRY . . . | Inorganic Chemistry, major, | Dr. Mulliken. | 5 | 2 | 2 mo. 10, '92, to 6 mo. 2, '92 |
| | Laboratory Work, major, | Drs. Keiser and Mulliken. | 5 | 6 | 9 mo. 29, '91, to 2 mo. 6, '92 |
| | Organic Chemistry, major, | Dr. Keiser. | 5 | 3 | 2 mo. 10, '92, to 6 mo. 2, '92 |
| | Laboratory Work, major, | Drs. Keiser and Mulliken. | 5 | 6 | 2 mo. 10, '92, to 6 mo. 2, '92 |
| | Seminary, post-major class, | Dr. Keiser. | 3 | 1 | 9 mo. 29, '91, to 6 mo. 2, '92 |
| | Laboratory Work, post-major, | " | 3 | 1 | 9 mo. 29, '91, to 6 mo. 2, '92 |
| | Mechanics and Electricity, minor, | A. S. Mackenzie. | 4 | 5 | 9 mo. 29, '91, to 2 mo. 6, '92 |
| | Laboratory Work, minor, | " | 4 | 4 | 9 mo. 29, '91, to 2 mo. 6, '92 |
| | Sound, Heat, and Light, minor, | " | 3 | 5 | 2 mo. 10, '92, to 6 mo. 2, '92 |
| | Laboratory Work, minor, | " | 3 | 4 | 2 mo. 10, '92, to 6 mo. 2, '92 |
| PHYSICS | Theory of Errors, Mechanics and Electricity, major, | " | 4 | 5 | 9 mo. 29, '91, to 2 mo. 6, '92 |
| | Laboratory Work, major, | " | 4 | 4 | 9 mo. 29, '91, to 6 mo. 2, '92 |
| | Elementary Thermodynamics, Geometrical and Phys- ical Optics, major, | " | 4 | 5 | 2 mo. 10, '92, to 6 mo. 2, '92 |
| | Lectures on General Biology, minor, | Dr. Morgan. | 32 | 3 | 9 mo. 29, '91, to 2 mo. 6, '92 |
| | Laboratory Work, minor, | Drs. Morgan, Warren and Loeb. | 32 | 5 $\frac{1}{4}$ | 9 mo. 29, '91, |
| | Lectures on General Biology, minor, | " | 28 | 2 | 9 mo. 29, '91, to 2 mo. 6, '92 |
| | Advanced Physiology and Histology, major, | Dr. Warren. | 15 | 5 | 9 mo. 29, '91, to 2 mo. 6, '92 |
| | Laboratory Work, major, | " | 15 | 5 $\frac{1}{4}$ | 9 mo. 29, '91, to 2 mo. 6, '92 |
| | Lectures on General Biology, minor, | " | 28 | 5 | 2 mo. 6, '92, to 3 mo. 18, '92 |
| | Laboratory Work, minor, | Drs. Warren and Loeb. | 26 | 5 $\frac{1}{4}$ | 2 mo. 6, '92, to 5 mo. 10, '92 |
| BIOLOGY | Embryology of the Chick, minor, | Dr. Loeb. | 25 | 5 | 3 mo. 18, '92, to 5 mo. 10, '92 |
| | Botany, minor, | Dr. Keller. | 25 | 5 | 5 mo. 10, '92, to 6 mo. 2, '92 |
| | Laboratory Work, minor, | " | 25 | 5 | 5 mo. 10, '92, to 6 mo. 2, '92 |
| | Zoology, major, | Dr. Morgan. | 10 | 5 | 2 mo. 10, '92, to 3 mo. 22, '92 |
| | Zoology, major, | " | 10 | 3 | 3 mo. 22, '92, to 6 mo. 2, '92 |

TABLE OF SUBJECTS STUDIED AND TERMS OF STUDY—[CONTINUED].

| SUBJECT. | PARTICULAR SUBJECT. | INSTRUCTOR. | NO. IN CLASS. | HOURS WEEKLY. | TERM OF STUDY. |
|-----------------|--|-------------------------------|---------------|------------------|--------------------------------|
| BIOLOGY . . . | Comparative Anatomy, major, | Dr. Warren. | 10 . | 2 . | 3 mo. 22, '92, to 6 mo. 2, '92 |
| | Laboratory Work, major, | Drs. Morgan and Warren. | 8 . | 5½ | 2 mo 10, '92, to 6 mo. 2, '92 |
| | <i>Graduate Classes.</i> | | | | |
| | Advanced Botany, | Dr. Keller. | 4 . | 1 . | 9 mo. 29, '91, to 2 mo. 6, '92 |
| | Laboratory Work, | " | 4 . | 3 . | 9 mo. 29, '91, to 2 mo. 6, '92 |
| | Advanced Botany, | " | 2 . | 1 . | 2 mo. 10, '92, to 6 mo. 2, '92 |
| | Laboratory Work, | " | 2 . | 3 . | 2 mo. 10, '92, to 6 mo. 2, '92 |
| | Morphology, | Dr. Morgan. | 6 . | 1 . | 9 mo. 29, '91, to 2 mo. 6, '92 |
| | Laboratory Work, | | 5 . | | 9 mo. 29, '91, to 2 mo. 6, '92 |
| | Physiology of the Central Nervous System, | Dr. Loeb. | 6 . | 1 . | 9 mo. 29, '91, to 2 mo. 6, '92 |
| | Laboratory Work, | " | 6 . | | 9 mo. 29, '91, to 2 mo. 6, '92 |
| | Physiology of the Brain, | " | 5 . | 1 . | 2 mo. 10, '92, to 6 mo. 2, '92 |
| | Laboratory Work, | " | 5 . | | 2 mo. 10, '92, to 6 mo. 2, '92 |
| | Special Physiological Method, | Dr. Warren | 1 . | 1 . | 2 mo. 10, '92, to 6 mo. 2, '92 |
| HISTORY | Journal Club, | Drs. Morgan, Warren and Loeb. | 10 . | 1 hour frtightly | 9 mo. 29, '91, to 6 mo. 2, '92 |
| | Reading Club, | " | 10 . | 1 . | 9 mo. 29, '91, to 6 mo. 2, '92 |
| | Ancient History, | Dr. Andrews. | 12 . | 5 . | 9 mo. 29, '91, to 2 mo. 6, '92 |
| | Ancient History, | " | 16 . | 5 . | 2 mo. 10, '92, to 6 mo. 2, '92 |
| | Modern History, | " | 29 . | 5 . | 9 mo. 21, '91, to 2 mo. 6, '92 |
| | Modern History, | " | 27 . | 5 . | 2 mo. 10, '92, to 6 mo. 2, '92 |
| | <i>Graduate Classes.</i> | | | | |
| | Historical Definition, Method and Criticism, | " | 2 . | 1 . | 9 mo. 29, '91, to 6 mo. 2, '92 |
| | History of Roman Law, | " | 2 . | 1 hour frtightly | 9 mo. 29, '91, to 6 mo. 2, '92 |
| | History of the Nineteenth Century, | " | 4 . | | 9 mo 29, '91, to 6 mo. 2, '92 |

BRYN MAWR COLLEGE.

THE

PRESIDENT'S REPORT

TO THE

BOARD OF TRUSTEES,

FOR THE YEAR 1892-93

PHILADELPHIA :

ALFRED J. FERRIS, PRINTER, 29 NORTH SEVENTH STREET.

1893.

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ACADEMIC APPOINTMENTS.

JAMES E. RHODES, LL.D., *President of the College.*

M. CAREY THOMAS, PH.D., *Dean of the Faculty and Professor of English.*

A.B., Cornell University, 1877; studied at the Johns Hopkins University, 1877-78; University of Leipsic, 1879-82; Ph.D., University of Zürich, 1882; Sorbonne and the Collège de France, 1883.

CHARLOTTE ANGAS SCOTT, D.Sc., *Professor of Mathematics.*

Lincoln, England. Graduate in Honors, Girton College, University of Cambridge, England, 1880; B.Sc., University of London, 1882; Lecturer on Mathematics in Girton College, 1880-84; lectured in connection with Newnham College, University of Cambridge, England, 1880-83; D.Sc., University of London, 1885.

EDWARD WASHBURN HOPKINS, PH.D., *Professor of Greek, Sanskrit, and Comparative Philology.*

A.B., Columbia College, 1878; Fellow in Literature, Columbia College, 1878-81; University of Leipsic, 1878-81; University of Berlin, 1880; Ph.D., University of Leipsic, 1881; Sorbonne and the Collège de France, 1881; Assistant in Latin and Instructor in Zend, Columbia College, 1881-84.

EDWARD H. KEISER, PH.D., *Professor of Chemistry.*

S.B., Swarthmore College, 1880; Assistant in Chemistry, Swarthmore College, 1880-81; S.M., Swarthmore College, 1881; Fellow in Chemistry, Johns Hopkins University, 1882-84; Ph.D., Johns Hopkins University, 1884; Student at the Royal School of Mines, Freiberg, Saxony, 1884; Assistant in Chemistry, Johns Hopkins University, 1884-85.

HERMANN COLLITZ, PH.D., *Associate Professor of German, and Teutonic Philology.*

Beckede, Hanover, Germany. University of Göttingen, 1875-78; University of Berlin, 1878-81; Ph.D., University of Göttingen, 1878; Privatdocent in the University of Halle, 1885-86.

JAMES HARKNESS, A.M. (*Cambridge and London*), *Associate Professor of Mathematics.*

Derby, England. Major Scholar, Trinity College, Cambridge, 1882; Graduate in Honors (8th Wrangler), in the Cambridge Mathematical Tripos, 1885; Mathematical Exhibitioner, London University Intermediate Arts Examination, 1885; Mathematical Scholar, London University B.A. Examination, 1887.

HERBERT WEIR SMYTH, PH.D., *Professor of Greek.*

A.B., Swarthmore College, 1876, and Harvard University, 1878; University of Leipsic, 1879-81; University of Göttingen, 1881-83; Instructor in Classics and Sanskrit, Williams College, 1882-85; Ph.D., University of Göttingen, 1884; Fellow by Courtesy and Lecturer on Greek, Johns Hopkins University, 1885-87; Reader in Greek Literature, Johns Hopkins University, 1887-89.

MARY GWINN, PH.D., *Associate Professor of English.*

Studied at the University of Leipsic, 1879-82; University of Zürich, 1882; Sorbonne and the Collège de France, 1883; Fellow in English, Bryn Mawr College, 1885-87, and Ph.D., Bryn Mawr College, 1888.

FRANKLIN H. GIDDINGS, A.M., *Professor of Political Science.*

A.B., Union College, 1877, and A.M., 1889.

CHARLES McLEAN ANDREWS, PH.D., *Associate in History.*

A.B. Trinity College, 1884; Fellow in Johns Hopkins University, 1888-89, and Ph.D., 1889.

GONZALEZ LODGE, PH.D., *Associate in Latin.*

A.B., Johns Hopkins University, 1883; Graduate Scholar and Fellow, Johns Hopkins University, 1883-86, and Ph.D., 1886; Professor of Greek, Davidson College, 1886-88; American School of Classical Studies, Athens, 1888-89; University of Bonn, 1889.

GEORGE A. BARTON, PH.D., *Associate in Biblical Literature and Semitic Languages.*

A.B., Haverford College, 1882, and A.M., 1885; A.M., Harvard University, 1890, and Ph.D., Harvard University, 1891.

JOSEPH AUGUSTE FONTAINE, PH.D., *Associate Professor of Romance Languages.*

College of Sion, Nancy, France, 1879; Paris, 1880-81; Johns Hopkins University, 1882-86, and Ph.D., 1886; Collège de France, Sorbonne, Ecole des Hautes Etudes, Ecole des Chartes, University of Bonn, 1886-87; Instructor, University of Nebraska, 1887-89; Professor of Modern Languages in the University of Mississippi, 1889-91.

ARTHUR STANLEY MACKENZIE, A. B., *Associate in Physics.*

A.B., Dalhousie University, 1885; Tutor in Mathematics, Dalhousie University, 1887-89; Fellow, Johns Hopkins University, 1890-91.

JAMES DOUGLAS BRUCE, A. M., *Associate in Anglo-Saxon.*

A.M., University of Michigan, 1883; University of Berlin, 1886-88; University of Strasburg, 1888; Johns Hopkins University, 1889-90; Professor of Modern Languages, Centre College, 1890-91.

THOMAS HUNT MORGAN, PH.D., *Associate Professor of Biology.*

B.S., State College, Kentucky, 1886, and M.S., 1888; Graduate Scholar, Johns Hopkins University, 1888-90; Fellow in Biology, Johns Hopkins University, 1889-90; Ph.D., Johns Hopkins University, 1890; Adam T. Bruce Fellow, Johns Hopkins University, 1890-91.

JOSEPH W. WARREN, M.D., *Associate Professor of Physiology.*

A.B., Harvard College, 1871; University of Berlin, 1871-72; University of Leipsic, 1872-73; University of Bonn, 1873-79; M.D., Bonn, 1880; Assistant and Instructor in Physiology, Harvard Medical School, 1881-91; Lecturer in Medical Department of the University of the City of New York, 1885-86; Lecturer on Physiology, University of Michigan, 1889.

WILLIAM CRANSTON LAWTON, A. B., *Professor of Greek and Latin Literature.*

A.B., Harvard University, 1873; studied, University of Göttingen, 1876-77; Graduate Student, Harvard University, 1879-80; Member of Archaeological Expedition to Assos, 1881; studied, University of Berlin, 1882-83; Acting Professor of Greek, Boston University, 1890-91; Winkley Professor of Latin, Bowdoin College, 1891-92.

DICKINSON SARGEANT MILLER, PH.D., *Associate in Philosophy.*

A.B., University of Pennsylvania, 1888; Graduate Student, University of Pennsylvania, 1888-89; Fellow in Philosophy, Clark University, 1889-90; Morgan Fellow, Harvard University, 1890-91; Walker Fellow, Harvard University, 1891-92; University of Freiburg, 1892-93; Ph.D., University of Halle, 1893.

ELMER P. KÖHLER, PH.D., *Associate in Chemistry.*

A.B., Muhlenburg College, 1889; studied at Johns Hopkins University, 1889-92; Ph.D., Johns Hopkins University, 1892.

ROSE CHAMBERLIN, *Reader in German.*

Great Yarmouth, England. Graduate in Honors, Newnham College, University of Cambridge, England, 1886 (Mediæval and Modern Languages Tripos, First Class).

FREDERIC M. PAGE, *Reader in Romance Languages.*

Collège Chaptal, Paris; attended Studi Superiori, Florence; Instructor in Languages, University of Virginia, 1880-82; Acting Professor of Modern Languages and Literature, University of the South, 1882-83; Professor of Modern Languages and Literature, University of the South, 1883-91.

ABBY KIRK, A. B., *Reader in English.*

A.B., Bryn Mawr College, 1892.

HARRIET RANDOLPH, Ph.D., *Demonstrator in Biology and Reader in Botany.*
A.B., Bryn Mawr, 1889; Ph.D., University of Zürich, 1892.

LEAH GOFF, A.B., *Assistant Demonstrator in Biology.*
A.B., Bryn Mawr College, 1889.

EDGAR BUCKINGHAM, Ph.D., *Associate in Physics.*
A.B., Harvard University, 1887; Assistant in Physics, Harvard University, 1888-89; Assistant in Physics, University of Strassburg, 1889-90; University of Leipsic, 1890-91; Assistant in Physics, Harvard University, 1891-92; Tyndall Scholar of Harvard University, University of Leipsic, 1892-1893; Ph.D., University of Leipsic, 1893.

FLORENCE V. KEYS, A.B., *Reader in English.*
A.B., University of Toronto, 1891; Fellow in Greek, Bryn Mawr College, 1891-92; Fellow in English, Bryn Mawr College, 1892-93.

ANNA DONALDSON MCNAIR, A.B., *Director of the Gymnasium.*
A.B., Antioch College, 1886; studied under Dr. Sargent, 1889-91.

MARY ELIZABETH BATES, *Assistant in the Gymnasium.*
Graduate of Boston Normal School of Gymnastics, 1893.

IDA RICHARDSON, M.D., *Physician of the College.*

FLORENCE E. PEIRCE, *Librarian.*

HENRIETTA R. PALMER, A.B., *Assistant Librarian.*

ELIZABETH BAKER, B.S., *Second Assistant Librarian.*
B.S., Purdue University, Lafayette, Indiana, 1886; studied in the New York City Library School, 1891-92.

JULIA COPE, A.B., *Secretary.*

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BRYN MAWR COLLEGE.

REPORT OF THE PRESIDENT FOR THE YEAR 1892-93.

To the Trustees:

THE subjoined report is for the fiscal year ending Eighth month 31st, 1893, and includes the eighth academic year of the College.

The past year has been a very important one in the history and growth of the College. It has been marked by the building and occupation of a much needed scientific building; by the acquisition of additional land, which secures to the College the power of further expansion in the future; by the decision to erect a new double hall of residence, with accommodations for 130 students, and the partial completion of the same; and by the foundation, in part by the Trustees themselves, and in part by outside donations, of numerous new fellowships and graduate and undergraduate scholarships.

For the first time since the year of the opening of the College, in 1885, the scientific departments have had adequate room in which to do their work. When Taylor Hall was erected, the founder of the College intended to build a special hall for laboratories, but before the College opened it was deemed best to appropriate the space included in six classrooms in Taylor Hall, not then needed for other uses, to the laboratories for biology and chemistry. In 1886 the desire of some students to study Physics induced the Trustees to erect a one-story frame building to serve as a temporary physical laboratory. These temporary laboratories not only proved insufficient to meet the needs of the increasing number of students wishing to study science, but the other departments

became much crowded in Taylor Hall. No lecture room in this building was large enough to contain the class in English, so that it was found necessary during the first three months of the present academic year to furnish the Assembly Room with tables and chairs.

Dalton Hall, which was described in my last report, was ready for use after the winter vacation, and was occupied during the second semester. The formal opening took place Third month 3d. Professor C. O. Whitman, of the University of Chicago, one of the leading morphologists of the United States, delivered the opening address. As was fitting at the dedication of a scientific building, he spoke of the great progress made in biological science during the past two or three decades, with especial reference to the advance made in the alleviation of human suffering. Professor Keiser, the senior member of the scientific faculty, spoke on behalf of the scientific departments of the College. The new lecture rooms and laboratories were then thrown open to the public. The professors of the scientific faculty and the students belonging to the scientific departments acted as a reception committee, and explained the appliances and apparatus to visitors.

As stated in my last report, many friends of the College, *alumnæ*, and former and present students generously came forward to supply this pressing need and contributed a large part of the sum spent in building Dalton Hall. This first large addition to the resources of the College by the friends it has won during its eight years of existence, has been commemorated by order of the Trustees by a brass tablet built into Dalton Hall with the following inscription: "To the donors of the greater part of the sum expended in the erection of Dalton Hall:—George W. Childs, John H. Converse, William P. Henszey, Walter Wood, Richard S. Mason, Phebe Anna Thorne, Henry H. Houston, Wayne MacVeagh, Margaret Cameron MacVeagh, Justus C. Strawbridge, Sarah W. Taylor, Maria Willets, Marian A. Wright, Thomas Mott, Elizabeth P. Smith, Emeline Gowen, Francis T. King, Anne

Taylor Simpson, Anna V. Swift, Martha G. Thomas, Richard Wood, Alice A. Anthony, Margaret Thomas Carey, Mabel P. Clark, Abby Kirk, Emily Anthony Robbins, the Trustees of Bryn Mawr College, in token of gratitude, have inscribed this tablet: Anno Domini, MDCCCXCIII."

As soon as the laboratories were removed from Taylor Hall, changes were made which greatly increased its usefulness. A large lecture room was thrown into the library, thus enabling it to occupy the whole north wing of Taylor Hall; two of the old biological laboratories were thrown into one, and a large English lecture room was formed seating one hundred and thirty students; the third story, occupied formerly by the chemical laboratories, was subdivided into a number of smaller rooms, thus providing special reading rooms and seminary rooms, which had been greatly needed for graduate students. There are now on the third floor a reading room for advanced students of modern languages, containing sets of journals, special grammars and dictionaries needed in advanced work in Anglo-Saxon and the other Teutonic languages, and in old French, Italian, and Spanish; a classical reading room, containing sets of classical periodicals and Greek and Latin books; a mathematical reading room; three seminary rooms, where professors can meet graduate students; two professors' rooms, and a private reading room for the faculty. These changes have much increased our facilities for advanced work.

The former physical laboratory has been converted into a cottage hospital, for the use of students, containing a kitchen, two sick rooms, and a nurses' room. It is isolated from the other buildings, and supplies a need long felt by the College.

The question of land for future extension has become of late years a serious one, owing to the great rise in value

of property in Bryn Mawr, and has often been carefully considered by the Trustees, and there seemed to be great danger that all the vacant land in our immediate vicinity would be sold and occupied by private residences. One triangular piece of land in especial, comprising about $9\frac{1}{2}$ acres, lying to the southwest of the College grounds proper, between them and a seven-acre lot across the road occupied at present by the cottages of members of the Faculty, and necessary from its position to complete our property, had often attracted the attention of the Trustees and others interested in the welfare of the College.

Just before the closing of the present academic year, it was understood that this property was about to be sold, for the purpose of dividing it into lots, and erecting upon them a number of small dwelling-houses. The very great undesirability, from both hygienic and social considerations, of such a settlement at the very gate of the College was obvious. At present we are surrounded on all sides by large houses and spacious grounds, making the neighborhood safe and pleasant in every respect for the students.

In this urgent need two friends of the college, George W. Childs, of Philadelphia, and Mary E. Garrett, of Baltimore, came forward and offered to pay the yearly interest on the purchase money, amounting to \$38,000, assumed by the Trustees until such time as the financial conditions of the business of the country should make it possible to raise the sum necessary. This very generous offer, here most gratefully acknowledged, enabled us to secure the land without reducing the yearly income so necessary to the support of the various scholastic departments of the College; and the purchase of the land was accordingly voted by the Trustees. Toward this purchase \$500 was contributed by R. D. Barclay, whose kindness is gratefully acknowledged.

This additional land will provide ample space for the further expansion of the College. If the Trustees continue the present plan of erecting buildings around the outside of our boundaries, leaving open the attractive view toward the western hills and the sunset, and the inside quadrangles and lawns free for golf, tennis, walks, and other amusements of the students, we shall have adequate space for any future academic buildings and halls of residence we may wish to erect without materially contracting the grounds now reserved for exercise and amusement. Desirable as the acquisition of more land might become in the future for the purposes of the health and enjoyment of the students, it will never again, as far as we can now foresee, be a necessity of our existence and growth. The attention of all friends of the College is earnestly called to the necessity we are under of raising, at the earliest possible date, the \$38,000 pledged by the Trustees in this emergency.

Next to the purchase of land, the most important action taken by the Trustees during the past year has been their decision to provide more accommodation for the students desiring to enter Bryn Mawr, and to build Pembroke Hall, a fourth hall of residence. During the past year the plans for this new hall have been carefully thought over and prepared, and the hall was voted by the Trustees at their last meeting for the academic year 1892-93, and will be ready for occupation during the current academic year. This hall will be an important architectural feature of the College, as it is built directly across the entrance toward Lombaert avenue, and will form an imposing approach. The building is to be in the Jacobean style ; it is to be 439 feet long and 84 feet wide, and is built in the form of two wings extending west and east, with a central tower, which is built over a broad, vaulted driveway, and contains on the second story a large dining-hall, and on the third floor, a kitchen, pantries, and servants' quarters. Each wing will hold sixty-five students.

The rooms are divided as usual, about one-third being single rooms, used as both study and bed room; one-third suites, occupied by two students; and one-third more expensive suites, and studies and bed rooms for a single student. In accordance with the custom adopted by the Trustees of naming the halls of residence after different Welsh counties, this has been given the name of Pembroke.

Another professor's cottage has been erected, the fourth placed upon the lot lying west of Yarrow Street and south of Roberts Road. This cottage will be somewhat larger than the others, and provides ample room and many conveniences for its expected inmates. The entire cost has been \$7,206.

The Trustees have taken an important step tending toward bringing the College into relation with the public school system of Philadelphia. They have founded four scholarships, giving free tuition only, to be awarded to graduates of the new Girls' High School in Philadelphia. These scholarships were presented through Dr. Brooks, the Superintendent of Public Instruction, on the following conditions :

1. The candidate shall have complied with the requirements for admission to Bryn Mawr College, and have received all her preparation for the entrance examination of Bryn Mawr College in the Girls' High School of Philadelphia.

2. She shall have been recommended by the Board of Education of Philadelphia, and their recommendation shall have been approved by the Trustees of Bryn Mawr College.

3. The scholarship shall be renewed annually by the Trustees, until the holder has completed her fourth year at college, providing her conduct and proficiency have been satisfactory to the authorities of the College.

Although the Board of Trustees has no intention or expectation of at any time discontinuing the bestowal of these scholarships, it reserves to itself the right to discontinue them as may hereafter seem expedient.

The public exercises for the conferring of degrees took place on the third of Sixth month, when the degree of A. B. was conferred upon twenty-nine candidates. The degree of Master of Arts was given to one candidate who had been engaged in graduate study in English, and the degree of Doctor of Philosophy was bestowed upon a candidate who for three years had pursued studies in Greek, Latin, and Sanskrit.

Merrill E. Gates, LL.D., President of Amherst College, gave an address to the graduating class and to the assembled friends of the College, in which he described the growth of the influence of the life and works of the American poet, Sidney Lanier.

The occasion was one of interest in the history of the development of the College on account of the announcement of a European Fellowship, and six graduate scholarships, donated for the year 1893-4, by a friend of the college, Mary E. Garrett, of Baltimore. The names of the successful candidates for three new fellowships created by the Trustees in German and Teutonic Languages, Romance Languages, and Chemistry, were also announced for the first time.

There are now nine fellowships in special departments. It is much to be desired that this number should be made complete by the addition of a fellowship in Biblical Study and Semitic Languages, in Philosophy, and in Physics. Every department in the College would then have in its gift a fellowship, and our past experience has shown that such a fellowship is a great incentive to undergraduate students to do scholarly work in the departments in which the fellowship is offered. The fellowships in History and Biology were won this year by members of the graduating class.

The creation of these fellowships is of benefit not only to Bryn Mawr itself but to the cause of education throughout the United States. Out of thirty-seven women who have held fellowships, seventeen, or nearly one-half, are now teaching in colleges and universities.

There have been no changes made in the Faculty, all the present staff having been reappointed, except that the one year's lectureship in Philosophy, which was successfully filled during the year 1892-3, by Sidney E. Mezes, Ph.D., has been made an Associateship according to the intention of the Trustees, and the Instructorships in Physics and Chemistry have been raised to Associateships.

The promotions in the faculty and the appointments made in the corps of instructors and officers have been as follows :

James Harkness, A.M., Associate in Mathematics, has been promoted to be Associate Professor of Mathematics.

Mary M. Gwinn, Ph.D., Associate in English, has been promoted to be Associate Professor of English.

Elmer P. Kohler, Ph.D., Instructor in Chemistry, has been promoted to be Associate in Chemistry.

Edgar Buckingham, Ph.D., of the University of Leipsic, has been appointed Associate in Physics.

Dickinson Sargent Miller, Ph.D., of the University of Halle, who was sent abroad by the Trustees to study philosophy in the universities of Freiburg and Halle, has been appointed to the chair of Philosophy.

Harriet Randolph, Ph.D., has been re-appointed Demonstrator in Biology and has been appointed Lecturer in Botany for the year 1893-94.

Florence V. Keys, A.B., of the University of Toronto, and Fellow in English during the past academic year, has been appointed Reader in English.

The Readership in Botany, held by Dr. Ida A. Keller, and the Readership in the History of Art, held by Dr. Agnes Mathilde Wergeland, have been discontinued for the year 1893-94. It is hoped that these departments can be reopened in the following year.

The increase in the number of students in the Physical and Chemical Laboratories has made necessary the appointment of a Student Assistant in each Laboratory. Fanny Lowater, of Nottingham, England, a student of University College,

Nottingham, and of Newnham College, Cambridge, England, who will take the degree of Bachelor of Science at London University before coming to Bryn Mawr, has been appointed Student Assistant in Physics, and Amy Cordova Rock, B. A., of Bryn Mawr College, 1892, has been appointed Student Assistant in Chemistry.

The Library has become so much larger during the past few years that it has become a necessity to increase the staff of librarians. Moreover, in order to make it of the greatest possible use to the students the cataloguing must be kept up to date and for this another librarian thoroughly trained in the Dewey system of cataloguing is required. The Library has been re-organized as follows: Florence E. Peirce has been re-appointed Librarian; and Henrietta R. Palmer, A.B., Bryn Mawr College, a graduate of the School of Library Economy of Columbia College, and Acting Librarian, Bryn Mawr College, 1890-91, has been appointed Assistant Librarian. Elizabeth Baker, B.A., Purdue University, student in the New York State Library School, at Albany, 1891-92; Assistant Cataloguer Model Library, World's Fair, 1892-93, has been appointed Second Assistant.

Ida Richardson, M.D., has been re-appointed Physician of the College.

Anna Donaldson McNair, A.B., Antioch College, 1886, who studied under Dr. Sargent during the years 1889-90, has been re-appointed Director of the Gymnasium. In view of the increasing importance of the Swedish System of gymnastic training, it has seemed wise to appoint as her assistant, Elizabeth Bates, a graduate of the Boston Normal School of Gymnastics, who has been thoroughly trained in the Swedish System.

The four halls of residence are organized as follows:

Susan S. Chase, Agnes M. Derkheim-Irwin, and Sophia Kirk, have been re-appointed to the charge of Radnor Hall, Denbigh Hall, and Merion Hall, respectively.

Alice Rawle Newbold, of Philadelphia, who served successfully as housekeeper in Merion Hall during several months of the past year and in this position won the confidence and liking of all the students under her charge, has been appointed to the charge of the West Wing of Pembroke Hall, to be opened in the autumn of 1893.

The executive force of the President's and Dean's Offices has been organized for the year 1893-94 as follows:

Julia Cope, B.A., Bryn Mawr College, has been re-appointed Secretary;

Fredericka M. Kerr, who served most efficiently as Secretary and Book-keeper from 1885-88, and as Book-keeper during 1891-93, giving only half time to the college work, has been appointed Bursar. The department of clerical and secretary's work and the department of accounts are thus divided, and placed in charge of the Secretary and Bursar respectively.

Susan Grimes Walker, A.B., Bryn Mawr College, 1893, and Madeline Vaughan Abbott, A.B., Bryn Mawr College, 1893, have been appointed first and second secretaries to the Dean.

The following gifts have been received during the past year in addition to the gifts of special books to the Library, which are enumerated and acknowledged in the paragraph relating to the Library.

Our sincere gratitude is due to the liberal donors who have so greatly increased our facilities for usefulness,—to Justus C. Strawbridge, of Philadelphia, for gift of \$500 to be expended chiefly for scientific books and apparatus for Dalton Hall, and also for a lecture on Ruskin, delivered before the College by Hudson Shaw, of Oxford; to Lilian V. Sampson, of Philadelphia, Bryn Mawr European Fellow for 1891-92, for a gift of \$250, to be expended on books for the biological library; to Mrs. John W. Townsend, of Bryn Mawr, for a large collection of stuffed birds placed in the new museum of Dalton Hall, and named by the Trustees after the

donor; to Florence E. Peirce, Librarian, for a large cast of the Winged Victory of Samothrace, to be placed in the Library; to Marian A. Wright, President of the Alumnae Association of Bryn Mawr College, for more than one-half the cost of a much-needed shed for the protection of carriages and horses of visitors to the College; to Mary E. Garrett, of Baltimore, for the foundation for the year 1893-94, of a graduate European Fellowship, of the value of \$500, open for competition to all students who have pursued graduate studies at Bryn Mawr for a period of two years, named by the Trustees after the donor the Garrett European Fellowship, and six graduate scholarships of the value of \$200, all of which have been filled for the year 1893-94; to George W. Childs, of Philadelphia, and Mary E. Garrett, of Baltimore, for their generous offer to pay the yearly interest on the purchase money of the newly-acquired Kennedy lot; to R. D. Barclay, of Bryn Mawr, for the contribution of \$500 toward the same purchase; to Mary Morris, of Overbrook, for the gift of an antique Japanese temple bell, bronze.

The entire number of students during the year was 202, an increase of 33 as compared with the enrollment for the preceding year. There were 34 graduate students, including the holders of six fellowships, and the holder of the European fellowship, who returned to Bryn Mawr for a year of further study before going abroad on her fellowship. The number of graduates was one-sixth of the whole number of students. Of the undergraduates 165 were candidates for the B.A. degree, 2 were "hearers," and 1 was a special student. There were 180 of the students resident in the college halls, and 22 non-resident.

Early in the summer of 1892 all the rooms in our three halls of residence were taken, and students intending to enter College had to be informed that they must live outside of halls of residence. As a consequence our growth, though large, was not so large as it would otherwise have been. The

opening of Pembroke Hall, designed to hold 130 students, now in process of erection by the Trustees, will, however, obviate such difficulties in the immediate future.

Some statistics of the steady growth of the College during the past eight years were prepared for the College Exhibit in Chicago, which I subjoin as possessing permanent interest.

INCREASE OF STUDENTS.

| | Fellows and Graduate Students. | Under- graduates. | Total. |
|----------------------|-----------------------------------|----------------------|--------|
| First year, 1885-86, | 8 | 36 | 44 |
| Second " 1886-87, | 10 | 54 | 64 |
| Third " 1887-88, | 8 | 70 | 78 |
| Fourth " 1888-89, | 16 | 100 | 116 |
| Fifth " 1889-90, | 22 | 100 | 122 |
| Sixth " 1890-91, | 12 | 120 | 132 |
| Seventh " 1891-92, | 27 | 142 | 169 |
| Eighth " 1892-93, | 34 | 168 | 202 |

The two hundred and two students in residence during the past year can be classified according to nationalities and countries as follows :

Maine, 2; New Hampshire, 1; Massachusetts, 8; Rhode Island, 2; Connecticut, 8; New York, 31; New Jersey, 13; Delaware, 5; Pennsylvania, 65; Maryland, 8; Ohio, 3; Indiana, 12; Illinois, 7; Iowa, 4; Michigan, 3; Wisconsin, 1; Minnesota, 2; Utah, 1; California, 1; Kentucky, 8; Virginia, 2; North Carolina, 2; Georgia, 3; Florida, 1; Canada, 1; District of Columbia, 3; England, 4; Japan, 1.

The distribution of the students among the several departments was as follows :

Sanskrit and Comparative Philology, 4; Greek, 38; Latin, 45; English, 135; German, 60; French, 30; Spanish, 4; Italian, 8; History, 57; Political Science, 54; Philosophy, 28; Biblical Study, 29; History of Art, 19; Mathematics, 27; Physics, 27; Chemistry, 45; Biology, 42.

The examinations for matriculation were held in the spring of 1893 at Bryn Mawr College and in Baltimore; Boston; Cincinnati; Germantown, Philadelphia; Chicago; Indianapolis; San Francisco; Wilmington, Delaware. These examinations were taken by 136 candidates. The examinations held at the opening of the academic year 1892-93 were attended by 49 candidates. The candidates taking these examinations are better prepared each year, as the preparatory schools are coming to recognize that the standard required for passing successfully is an unvarying one, and that no exceptions are made. So many enquiries for examination papers have been received from teachers throughout the United States, that, during the past year, it has been found necessary to publish a pamphlet for distribution containing a complete set of the papers given in one of the examinations for matriculation.

The Association of the Students of Bryn Mawr College for Self-government, founded by the students with the concurrence of the Trustees in the academic year 1891-92, has co-operated with the authorities of the College, and has successfully controlled almost all matters relating to the conduct and life of the students.

The readiness with which the students have united to fulfil the objects of the Association, as well as the fidelity and discretion shown by its officers, merit warm commendation.

The religious welfare of the students has received constant thought, and the usual means for promoting it have been sustained. The attendance at the morning household worship has varied much. Under extraordinary circumstances it has been as low as fifty, but often one hundred and thirty or more, out of one hundred and seventy on the college premises, have been present. The meetings on the evenings of the fourth day of the week have had an increased attendance, and the presence and services of Dr. George A. Barton on these occasions have been very helpful. The meetings on the

evenings of First-days, conducted by the students themselves, have been attended by almost all the students remaining at the College, and have been specially beneficial.

The Missionary Society had the rare privilege an of address by Dr. John G. Paton, the veteran missionary to the New Hebrides Islands.

The Reform Association was addressed by Jane Addams, of Hull House, Chicago; by Wm. Howe Tolman, on "The Tenement House Problem," and by George H. Putnam, on "The Beginnings of Literary Property."

The following public lectures were given during the year at the college: three by Dr. George A. Barton, on "Who the Semitic Peoples Were," "Palestine Before the Days of Moses," "The Private Life of the Babylonians and Assyrians"; by Professor W. C. Lawton, on "Woman in the Iliad"; by Hudson Shaw, on "Ruskin."

The students listened with pleasure to addresses by E. L. Godkin, the editor of *The Nation*, on "The Right Use of English in Speech and Writing"; by Miss McLean, on "College Settlements"; by Dr. Edmund J. James, on "The Issues of the Presidential Campaign"; by Prof. F. H. Giddings, on "The Issues of the Presidential Campaign."

Although the resources of the College have been severely taxed by the erection of Dalton Hall, the increase of salaries paid to the teaching staff, the changes made in Taylor Hall, and by the exhibit at the Columbian Exposition, the financial results of the year, a statement of which is herewith submitted, have been more satisfactory than was anticipated.

The prospects of the College for the coming year are hopeful, so that with gratitude for the past and a desire that the Divine purposes may be fulfilled through the Institution we enter cheerfully upon the future.

From reports furnished by the instructors in the several departments, of the work done in them, the following statements have been compiled :

Sanskrit and Comparative Philology.—The teaching in Sanskrit and Comparative Philology has been conducted by Dr. Edward W. Hopkins.

The graduate work in the department has consisted of two one-hour courses—one in Sanskrit and the other in Comparative Philology. The class in Sanskrit read selections from the Rig Veda. The lectures on Philology treated, first, the forms of the Indo-European languages (chiefly Sanskrit and the classic languages), and, second, the syntax, with a short preliminary view of phonetic conditions.

Greek.—The instruction in Greek has been given by Dr. Edward W. Hopkins, Dr. Herbert Weir Smyth, and William Cranston Lawton, M.A.

The work done by the minor class in Greek differed from that in former years in that the attention of the class was concentrated on Homer during the first semester and on Greek prose during the second semester.

This class read, with Professor Lawton, four times a week during the first semester, from the *Odyssey*, and completed Books v–x, besides the introductory passage of Book 1, and selections from Book xi. The rapid improvement in ease and accuracy was very marked, even in those students who were most imperfectly prepared; and the policy of concentrating the work upon a single author was fully justified.

The same class spent one hour weekly in prose composition, under the direction of Dr. E. W. Hopkins, during the first semester, and read with him for five hours weekly, during the second semester. One hour was devoted to prose, the other four to translation. In prose composition the usual yearly course was accomplished with weekly written exercises and one hour's comment (or lecture) thereon. In the second semester the translation was from the *Apology* and *Crito* of Plato, with occasional quarter-hours devoted to sight reading. This was

carried out in the last half of the second semester to a still greater extent, and after having completed the *Apology* and *Crito* the class read at sight extracts from the *Memorabilia* of Xenophon, and became sufficiently proficient in this exercise to warrant a further extension of the principle in the work of subsequent classes. There were thirteen in the class.

The major, or second year's class, consisting of seven or eight members, read with Dr. Hopkins three hours weekly, during the first semester Sophocles' *Antigone*, and after having finished this, read portions of Sophocles' other plays at sight. In the second semester the same class read selections from Thucydides, chiefly from the first book. In reading at sight in both these classes the preceding day's sight reading is regarded as prepared advance work for the next day, so that the usual preparation is required.

The major class also attended Prof. Lawton's lectures on the history of literature throughout the year, twice weekly. The outline of Jebb's primer was oftenest followed as a clue. As far as possible some characteristic passage of any author (not already known to the students) was read, in class or privately. For the biography of authors, attention was called especially to the ancient sources of our knowledge, rather than to modern manuals. Most of the masterpieces of the drama were read in English poetical versions, and a detailed knowledge of their plots was required. The course covered Greek poetry to the decay of the Attic drama, and Greek prose through the time of the ten orators. The chief later writers, important for the information they contain rather than for artistic form, *e. g.*, Pausanias, Strabo, Plutarch, etc., were discussed more cursorily. The subject is, of course, too large for adequate treatment in less than sixty hours.

The post-major, or advanced Greek, classes were as follows: Dr. Hopkins conducted two one-hour post-major classes in the first semester, one in *Æschines*, the other in *Theocritus*. Two students attended the former, and five the latter. The class in *Æschines* read nearly all the oration against *Ktesiphon*. The

class in Theocritus read Theocritus for about two-thirds of the semester, and continued with the Lyric poets, reading extracts from about twelve of the early Lyric writers (including the Elegiac poets). These two classes were merged in the second semester, as Dr. Hopkins could give but one hour, and nine students read extracts from Pindar during the semester. About ten odes were read, partly Pythian but chiefly Olympian.

Dr. H. W. Smyth read with the post-major students Æschylus' *Agamemnon* and *Choephoræ* one hour weekly throughout the year.

Prof. Lawton conducted two one-hour post-major courses, a rapid reading course, continued throughout the year, in which the *Prometheus*, *Persians*, *Hippolytos* and *Frogs* were read, and another one-hour course for one semester only, in which Plato's *Protagoras* and part of the *Ion* were read. Though the work of these students was satisfactory, the instructor is convinced that at least *two* conferences weekly, upon any subject attempted, are requisite to a proper continuity of interest.

Graduate Courses.—The graduate work in Greek was conducted by Dr. H. W. Smyth. The graduate work has now been so organized that students may pursue a course of four hours a week throughout the year devoted to the study of a single subject. This year the tragedies of Æschylus served as the basis of a study of the Greek Drama. All of the plays of Æschylus were commented on by the instructor, and one interpreted in the seminary (one hour weekly). Lectures were given on the syntax of the poet, and on other matters connected with the understanding of his art. His metres were made the subject of special study, and papers on various topics were presented by members of the class. Among these may be mentioned: *The Battle of Salamis in Æschylus and Herodotus*; *A Comparison of Æschylus and Euripides from the point of view of their use of compound adjectives*. A doctor's thesis on *Epic Reminiscences in Æschylus*, embodying the results of the work of one student,

will shortly appear in print. In conjunction with the study of Æschylus, and serving as an introduction thereto, the *Poetics* of Aristotle were translated and illustrated by lectures. The Fellow in Greek prepared a paper on the *Relations of Plato's Theory of Art to his Philosophy*.

The class in *Elementary Greek* spent five hours throughout the year in preparation for the examination for matriculation in Greek. The class is open to students who possess a reading knowledge of French on entering college and elect Greek as a fourth language.

Parts of the *Anabasis* and *Iliad* were read; the class had also constant practice in composition.

Latin.—The instruction in Latin has been conducted by Dr. Gonzalez Lodge and W. C. Lawton, M.A., and has comprised minor, major, post-major courses, and graduate courses.

By a new arrangement, Dr. Lodge took full charge of the minor Latin during the first semester, while Prof. Lawton read with the class four hours weekly during the second semester.

The minor class read with Dr. Lodge the second Philippic Oration of Cicero, and the first book of Livy.

Dr. Lodge also conducted exercises in Latin Prose Composition once weekly throughout the year, with the minor class, the work being directed, during the first semester, to the review of the Grammar, and during the second, to connected exercises, based largely upon Livy.

During the second semester Prof. Lawton read *Horace* with the minor class, four hours a week. A few passages from the Satires and Epistles, of an autobiographical nature, were read, and the best of the Epodes were studied entire; but the course was chiefly devoted to the Odes. Little direct attention was given to grammatical details, except as involved in accurate understanding of the Latin. As much time as possible was given to reading aloud rhythmically. The connection of the parts in each ode was emphasized, and such an understanding of mythological, historical, and other allusions

was required as the poet expected of his original hearers, at least so far as this is now attainable. A firm grasp of general outlines in ancient history and geography should, in the opinion of the instructor, be made pre-requisite for all Latin reading courses.

With the major class Dr. Lodge read three hours weekly throughout the year. During the first semester Tacitus was read, as in previous years, and especial attention was given to the life of the Emperor Tiberius as detailed by Tacitus. During the second semester the class read the life of Augustus, by Suetonius, and also selections from Tibullus and Propertius.

The major class also met Prof. Lawton twice weekly during the year. The students read a large portion of Juvenal's Satires, Catullus' poems, and Horace's Satires and Epistles. The selections were all intended to appeal rather to the human than to the antiquarian interest, and the sentiments of the poets were illustrated especially by modern echoes and parallel passages. The usual amount of private reading was done by both minor and major classes, viz.: by the minor, Virgil, *Æneid*, VII., VIII., for the first semester; IX., X. for the second; by the major, selected letters of Pliny and selected letters of Cicero.

The post-major class read with Dr. Lodge twice weekly throughout the year. In the first semester four plays of Terence, in the second, three plays of Plautus were completed. Dr. Lodge conducted also weekly exercises in advanced Latin Composition with the post-major class.

A post-major class read with Prof. Lawton twice weekly throughout the year. In the first semester large portions of Lucretius were read, especially Books I., III. and V. After a proper understanding of his general philosophic system was acquired, the episodic passages were read on which Lucretius' fame as a poet chiefly rests.

In the second semester a small section read with Prof. Lawton three times weekly those letters of Cicero (in Watson's

selection) which throw most light on the writer's political action in the chief crises of his life. The preparation of a thesis upon Cicero's political character gave a unity to this course. Prof. Lawton wishes to express his appreciation of the delightful earnestness and full consciousness of common interests which characterized the whole body of Latin students in the classroom.

Graduate Courses.—The graduate work was not as fully organized as it will be in the academic year 1893-94. Dr. Lodge lectured one hour weekly throughout the year on the History of Roman Satire, while the class met as a Seminary once weekly to interpret selected satires of Horace and Juvenal. In the second semester Dr. Lodge lectured once weekly on Latin Syntax, paying attention especially to the cases.

In connection with their work as members of the class, the graduate students prepared and read before the Seminary, papers on "The Blandinian Manuscripts of Horace," "The Critical Attitude of Horace towards early Latin Poets," "The Obligations of Horace to Menippus," "The Views of Rebbeck on the Genuine and Spurious Juvenal," "Juvenal's Use of Temporal Clauses," and "Juvenal's Use of Conditional Sentences." The last two papers were the result of the individual investigations of the students.

Next year the graduate work will cover four hours weekly, and will thus be thoroughly organized. In order to gain time for this it has been necessary for Dr. Lodge to relinquish some of his work with the under-graduates. Dr. Lodge, as director of the graduate Latin work, urgently desires a larger appropriation for books, especially for series of periodicals. During the past year the class has been hampered by lack of these books for reference; and the same will be true in even a greater degree with the work of the coming year, when a large amount of the literature of the course will be contained in journals which we do not have. The purchase this summer of a complete set of the *Philologus*

out of the \$1,000 fund presented to the Library for periodicals has relieved one of the most pressing needs of the department, but in addition, we wish to use every day back volumes of the *Neue Jahrbücher*; of *Hermes*; of *Revue de Philologie*; the *Berliner* and *Wiener Studien*, and many others. With the appropriations at our disposal we can barely hold our own with the new works constantly appearing, and supply the necessary editions for the students, and consequently we can make no provision for the purchase of the complete sets of periodicals which we need so urgently.

English.—The instruction in English has been given by Dr. M. Carey Thomas, Dr. Mary M. Gwinn, James D. Bruce, A.M., Mabel P. Clark, A.M., and Abby Kirk, A.B., and has comprised undergraduate and graduate courses in literature, essay-work, Anglo-Saxon, and Middle English. Eight graduate and eighty-two undergraduate students have worked in the English department during the year.

One hundred and eight students met Dr. Thomas three times weekly throughout the year in English literature. The instruction consisted of lectures, on which full notes were taken by the students, and a weekly recitation, or quiz, on the subject matter of the lectures and on the private reading. The lectures covered the period from the time of Spenser to the beginning of the Victorian Era, and included a short account of Italian literature and an excursus on French literature. The private reading done by all the students taking the course included, besides other English authors, the greater part of the poetry of Spenser, Milton, most of Shakespeare's plays, and the chief poems of Scott, Burns, Wordsworth, Coleridge, Shelley, Keats, and other modern poets. The weekly review affords the students an opportunity to ask questions, and to learn to criticise what is read. The lectures have differed from those given in former years in that much more time has been given to the discussion in class of works read by the students as private reading. An attempt has been made to aid the members of the class to think over and ar-

range independently the materials presented by the lectures and reading. Mere memorizing has been discouraged, both in the examinations and quizzes. Considerable attention has been given to the study of metre, and to the structural form of the sonnet, each member of the class handing one in as an exercise.

A class of sixteen undergraduates, who had elected English as one of the major subjects of their group, met Dr. Thomas two hours weekly throughout the year. Three graduate students in English and three post-major students worked with the class throughout the year. The subject of the year's work was the Development of Modern Poetry, and the work included a study of the lives and works of Shelley, Byron, Keats, Wordsworth, Coleridge, and Browning. The great mass of their poetry was read, together with all the more important critical essays in English, French, and German; and papers and reports were prepared by the members of the class. Browning's earlier poems, such as "Pauline," "Paracelsus" and "Sordello," and the more difficult of his shorter poems, were read and carefully commented on in class.

Sixty-six undergraduate students pursued a course of two hours weekly in essay-work, thus completing the five hours of the first year of the required course in English; each member of the class wrote analyses of two treatises on composition and of selected essays, and two critical essays on subjects belonging to English literature, the subjects being chosen by the students themselves, and submitted for approval to their instructors. Seventy-four undergraduate students pursued a course of two hours weekly in essay-work, thus completing the five hours of the second year of the required course in English; each member of the class wrote four critical essays on subjects connected with English literature, the subjects being in like manner chosen by the students and submitted for approval to their instructors. These courses were conducted by Dr. Mary M. Gwinn, with the assistance of Abby Kirk, B.A., Reader in English, and Mabel Parker Clark, M.A., Reader in Eng-

lish. Both Dr. Gwinn and Abby Kirk were at home three hours of each week throughout the year to students in their classes desiring to consult them in regard to the reading for their essays, and to talk over corrections. Abby Kirk met the first year's class from time to time to direct and criticise their work in rhetoric.

A class of nine students, most of whom had elected English as one of the major subjects of their group, pursued a course of three hours weekly in English Critics of the Nineteenth Century under the direction of Dr. Gwinn. The members of this class wrote monthly papers. A number of graduate and post-major students attended the course as hearers.

An undergraduate class in Anglo-Saxon and Early English met J. D. Bruce, M.A., Associate in Anglo-Saxon, five hours weekly throughout the year for the first year of the major course in English, as laid down in the Program. Sievers' *Anglo-Saxon Grammar*, selections from Bright's *Reader*, about two-thirds of *Beowulf*, and the minor poems in *Grein-Wülcker's Bibliothek der Angelsächsischen Poesie*, together with the history of Early English Literature, were studied during the first semester and a portion of the second. The concluding four weeks of the session were devoted to the study of Chaucer's life and writings, the text-books being the *Chaucer Primer*, by A. W. Pollard, and Henry Sweet's *Second Middle English Primer*.

J. D. Bruce, M.A., conducted two graduate classes in Anglo-Saxon reading, each one hour weekly throughout the year; one in Old English Phonology, meeting twice weekly; one in *Andreas*; and one in the *Phoenix*, meeting each once weekly. The instruction in Old English Phonology was given by lectures in the form of a commentary on the first division of Sievers' work. The principles laid down were applied to the explanation of forms of Old English words, and compared with those of the cognate Teutonic dialects. The translation of *Andreas* was combined with a critical study of the principles of Old English Phonology as applied

to the forms of the text. The *Phœnix* was read with the object of gaining facility and accuracy in the translation of Anglo-Saxon texts. Lectures on the theories concerning the structure of the Old English Alliterative verse accompanied both of the last-named courses.

A seminary of five students met, under the direction of Dr. Thomas and Mr. Bruce, once in every alternate week throughout the year, each meeting being of two hours' duration. Chaucer was the subject of study for the year. The *Knight's Tale*, and subsequent treatments of the same theme in English Literature, were first studied comparatively, and the problems concerning the relation of this work to the older *Palamon and Arcite* were thoroughly discussed. The tales of the *Second Nun*, *The Clerk*, *Man of Law* and *Squire*, were taken up in a similar manner; also, *The House of Fame*, *The Legend of Good Women*, and the *Romaunt of the Rose*. The work of the seminary consisted of reports by individual students, the literature of each subject being assigned at the close of the preceding meeting by the professor presiding. The attempt was made to secure an exhaustive examination of the literature of each successive subject, whether existing in English or in foreign books, articles, or dissertations. After the reading of reports, the members of the seminary took part in a free and full oral discussion of the matter presented.

In view of the success which has attended the work of the English seminary during the first year of its establishment, the instructors in charge feel justified in expecting from its influence in the future a marked advance in the interest of the graduate work of the department.

German.—The classes in German have been conducted, as in former years, by Dr. Hermann Collitz and Miss Rose Chamberlin.

In the elementary, minor, and major courses, no important changes have been made since last year.

In the minor or first year's course lectures were delivered (in German) by Dr. Collitz twice weekly on the history of German literature from Klopstock until Goethe's death. With Rose Chamberlin for two hours weekly the class read critically Schiller's *Wallenstein* and the first part of Goethe's *Faust*. One more hour was given to German prose composition and to practice in German conversation under the direction of Rose Chamberlin.

For private reading the following works were assigned in the first semester: Lessing's *Emilia Galotti*, Goethe's *Iphigenie*, and selections from Schiller's *Thirty Years War*; and in the second semester, Schiller's *Don Carlos* and *Braut von Messina*, and selections from various *Volksbücher*. Examinations on the private reading were held during the term, so arranged that on each work a separate examination was given.

In the major, or second year's course, two lectures weekly were given (in German) by Dr. Collitz on the history of German literature from the earliest times to the middle of the eighteenth century. In connection with these lectures, selections from the first part of Max Müller's *German Classics* were read and explained for one hour weekly. With Miss Chamberlin the class read once weekly selections from the second part of Goethe's *Faust*, and once weekly the same class met Miss Chamberlin for prose composition. For one hour weekly the major class was combined with the minor class in a German conversation class conducted by Miss Chamberlin.

The private reading, on which examinations were held during the term, was, in the first semester, Schiller's *Jungfrau von Orleans*, Lessing's *Nathan*, and selections from Lessing's *Laokoön*; and in the second semester, Goethe's *Tasso*, Scheffel's *Ekkehard*, and Heine's *Harzreise*.

A post-major course of four hours was given for two undergraduates who had completed the minor and the major course. With Dr. Collitz the class studied for two hours weekly the most recent German literature, from the beginning of this century to the present time, and later in the course the elements

of Middle High German were studied, Wright's *Middle High German Primer* being used as a text-book. With Miss Chamberlin the class read critically (twice weekly) selections from Goethe's Early Lyrics.

The private reading in this course was selected from Goethe's and Schiller's works and from German authors of the present time. Some easy specimens of Middle High German were also assigned for private reading.

Our experience proves that post-major students in German have no difficulty in acquiring within one semester the elements of Middle High German, so as to read and to enjoy in the original Middle High German such authors as Hartman von Auë or Walther von der Vogelweide.

Graduate Courses.—Advanced courses were given to graduates by Dr. Collitz in Gothic, Old High German and Old Norse, one, and occasionally two hours weekly being devoted to each of these languages throughout the year. The work was that of first-year students in Teutonic, although the members of the class were well advanced in Anglo-Saxon, and accordingly chiefly consisted of courses in several of the earlier Teutonic languages, the comparative study of Teutonic grammar being reserved for a later year. The courses were however arranged with reference to future comparative work, and the course in Gothic included some lectures on comparative Aryan grammar.

A graduate course was given by Miss Chamberlin once weekly throughout the year. A critical study was made of Lessing's *Laokoön* and *Hamburgische Dramaturgie*, together with essays on these works.

An informal *Conversation class* met once weekly throughout the year with an average attendance of from ten to fourteen.

A class in *Elementary German* met Miss Chamberlin five hours weekly throughout the year with an average attendance of fifteen.

The ground covered was as follows: Accidence of German grammar; Buchheim's *German Reader*; Goethe, *Hermann und Dorothea*, *Iphigenie auf Tauris*; Schiller, *Wilhelm Tell*; Heine, *Die Harzreise*; Freytag, *Soll und Haben* (abridged), numerous extracts from Max Müller's *German Classics*, both poetry and prose; and for sight reading, Hauff, *Das Wirtshaus am Spessart*.

Romance Languages.—This department has been under the charge of Dr. Joseph A. Fontaine and Frederic M. Page.

French.—During the first semester students of the minor class heard lectures, two hours weekly, by Dr. Fontaine on Eighteenth Century literature, special attention being paid to Lesage, Montesquieu, Voltaire, Rousseau, and Diderot. In connection with these lectures the students read selections from *Gil Blas*, *le Diable Boiteux* and a comedy of Lesage, about two hundred pages of the prose works of Voltaire and Montesquieu, Voltaire's *Zaïre* and *l'Ecossoise*, Diderot's *le Père de famille*, with about two-thirds of *le Neveu de Rameau*. During the second semester two hours a week were devoted to the Nineteenth Century literature, special attention being paid to the development of lyric poetry in Lamartine, Victor Hugo, Alfred de Musset, Alfred de Vigny and Théophile Gautier. The parallel reading was so apportioned as to give the students a fair idea of the development of the literary career of these authors. For instance, in the case of de Vigny the following poems were read: *Moïse*, *la Maison du Berger*, *le Déluge*, *le Mont des Oliviers*, *la Mort du Loup*, *Eloa*, *la Bouteille à la Mer*. Nineteenth Century prose was studied in the works of Chateaubriand, George Sand, Michelet, Mérimée and Balzac. *Atala*, selections from *le Génie du Christianisme*, six chapters from *les Martyrs*, *la petite Fadette*, *Colomba*, and half of *Eugénie Grandet* were assigned for private reading.

An evening hour was selected by Dr. Fontaine for the study of French sounds and practice in conversation. Any student that desired to enter was admitted to the class.

The minor class also met F. M. Page three hours weekly. The work of the year comprised : a study of grammatical forms, including irregular and defective verbs ; dictations and reading of extracts in class to accustom the ear to the sounds of French ; prose composition, to illustrate the laws of syntax and to serve as samples of style, each exercise being carefully corrected with a view to pointing out the mistakes in grammar and style, and to discussing the exact meaning of words ; critical readings, with practice in pronunciation and translation ; and etymology, with some reference to the origin of the French language and growth of its vocabulary. Works read in class and in private were as follows : Voltaire, *Siècle de Louis XIV.*, *Société française au XVII. Siècle* ; About, *Le Buste*, *Le Romantisme français* ; Gautier, *Voyages* ; Pailleron, *Le monde où l'on s'ennuie* ; Beaumarchais, *Le Barbier de Séville* ; Polyucte ; *Le Misanthrope* ; Loti, *Le Pêcheur d'Islande*.

The major, or second year's class, met Dr. Fontaine five hours weekly. They heard lectures two hours weekly, during the first semester, on Sixteenth Century French literature. The poetry of the Renaissance was studied in the best works of Marot, Ronsard, du Bellay, Belleau, Baïf, and d'Aubigné. Prose was represented by the *Essais* of Montaigne, and selections from the works of Rabelais, containing the best specimens of French satire in the sixteenth century. A fair understanding of the French drama at that time was gained by reading the works of Jodelle, Grévin, Garnier, Montchrestien and Larivey. During the second semester lectures were given on the literature of the Seventeenth Century, with special reference to the development of both tragedy and comedy, as found in the works of du Ryer, Tristan l'Hermite, Mairet, Rotrou, Corneille, Racine, and Molière. A few lectures were devoted to the influence of the Italian drama, and especially the *Commedia del' Arte* on Molière's comedy. French com-

position, critical reading, and conversation occupied each one hour a week during the first semester ; during the second semester it was thought desirable to replace the critical reading by the more difficult subject of French composition and idioms.

Graduate Courses.—The graduate work in French is under the direction of Dr. Fontaine. The work done during the three hours of the graduate French course was both literary and philological. A comprehensive study was made of the French drama of the nineteenth century. The romantic school was represented by *les Barricades, les Etats de Blois, la Mort de Henri III.* of Ludovic Vitet; *Cromwell, Marion Delorme, Hernani, le Roi s'amuse, Lucrèce Borgia, Marie Tudor, Angelo, Ruy Blas, les Burgraves,* of Victor Hugo; *Henri III. et sa cour, Christine de Suède, Antony, Charles VII. chez ses Grands Vassaux, la Tour de Nesle,* of Dumas; *la Maréchale d'Ancre, Chatterton,* of de Vigny; *Lucrèce, Charlotte Corday,* of Ponsard, were likewise read. Modern French comedy was studied in *Mademoiselle de Belle-Isle, les Demoiselles de St. Cyr,* of Dumas; *le Lion amoureux, l'Honneur et l'argent,* of Ponsard; *Bertrand et Raton, Un verre d'eau, Adrienne Lecourreur, Bataille de Dames,* of Scribe. Five comedies of Dumas *fils* and ten of Emile Augier concluded the course. All the dramatic works of Musset were likewise read and discussed.

Old French.—In old French the course consisted of the reading of some of the earliest documents, to which were added *la Chanson de Roland, le Chevalier au lion, Cligès,* and part of the *Roman de Rou.* The critical reading was accompanied with lectures on French phonetics, morphology, and syntax.

Elementary French.—A class in preparatory French met F. M. Page five hours weekly. Thorough drill in pronunciation and in the value of accentuation was given. The grammatical forms and irregular verb system were studied. The exercises and dictations illustrated the ordinary laws of French syn-

tax. Whitney's *Elementary and Larger Grammar*, and Chardenal's *Second Year's Course* for the study of Idioms were used. The readings in prose and poetry included Whitney's *Reader*, *Madame Thérèse* (Ereckmann-Chatrion), *La Chute* and *Hernani* (Victor Hugo), *Le Cid* (Corneille), *Mlle. de la Seiglière*, and extracts from the poetry of Victor Hugo, Lamartine, and Alfred de Musset.

Italian.—A class in Italian met Mr. Page three hours weekly throughout the year. In addition to the study of the grammar and writing of exercises, the reading included *Alberto*, De Amicis; *Una notte bizzarra*, Baiuli; *Francisca da Rimini*, Silvio Pellico; five chapters *Promessi Sposi*, Manzoni; three cantos *Gerusalemme liberata*, Tasso; De Amicis' *L'ordinanza*, *L'ufficiale di picchetto sui ordinanza originale*, *A Vent Anni*, *Carmela*, *Una medaglia*; eleven cantos of Dante's *Inferno*, twelve cantos of Dante's *Purgatorio*, besides fifteen cantos read by the instructor in class. The Dantesque poem was moreover discussed as a whole and in detail as much as time would permit.

Spanish.—A class in Spanish met Mr. Page twice weekly. Knapp's *Grammar* was thoroughly studied as to forms and the syntax applied in exercises. The reading included extracts from writings of Selgas, Castelar, Ferman Caballero, Valera's *Pepita Jimenez*, Valera's *La verdad Sorpechosa*, Alarcon's and Valera's *Critical Studies*.

Biblical Literature and Semitic Languages.—The instruction in this department was conducted by Dr. George A. Barton. Four courses were given during the year as follows:

1. The required course in the *Origin and Contents of the Biblical Books* was given this year for two hours weekly in the second semester instead of one hour weekly throughout the year; and was attended by twenty-three students. As

in former years the books used for collateral reading were Driver's *Introduction to the Literature of the Old Testament*, and Sanday's *Oracles of God*. The ground covered by the course was substantially the same as last year, the only important difference being that the Pentateuchal question received a fuller treatment. The more important topics were, as far as time allowed, treated in lectures, with references to the inherent spiritual authority of the Scripture records. On the Old Testament the readings assigned covered ground which for lack of time could not be taken up in the lectures. In the place of collateral reading on the New Testament each student investigated some special topic, on which she wrote an essay. Most of these essays treated of subjects connected with the Gospels, the chief topics being: "The Contents and Date of the Common Tradition of the Synoptic Gospels," "The Authorship and Date of the Fourth Gospel," and "The Newly-recovered Gospel according to Peter and Its Bearing on the Canonical Gospels."

2. The course in *The History of Israel, Political and Social*, was elected by two graduate students and one post-major student during the first semester, and by two graduates during the second semester, and was given two hours weekly throughout the year. It began with a sketch of the Semitic peoples and the separation of the Hebrews from them, and consisted of a study of Israel's history during all the varying vicissitudes of the national life down to the destruction of Jerusalem, concluding with a brief study of the life of Christ and the life of Paul. Wherever the existence of Biblical matter made it possible, the lectures consisted of a study of the Biblical historical material. This was done in the first instance by the students, who made a critical examination of the material in advance, and endeavored to ascertain the exact historical facts. Their results were compared in the class-room, and the whole thoroughly discussed by the instructor. All possible light was gathered from Assyrian and Moabitic inscriptions, from Josephus and other writings. Collateral reading was

assigned from time to time in the *Bible for Learners*, Renan's *History of the People of Israel*, Cheyne's *Aids to the Devout Study of Criticism*, Driver's *Isaiah, His Life and Times*, Cheyne's *Jeremiah, His Life and Times*, Beecher's *Post-Exilic History of Israel* (in the *Old Testament Student*), and Schürer's *History of the Jewish People in the Time of Jesus Christ*.

3. The course in *History of Religious Ideas in Israel* consisted of a study of the unfolding of religious ideas in the Bible during the period covered by the Old and New Testament, and included readings from text-books by the students, lectures by the instructor, and the investigation of special topics by the students. The readings embraced Smith's *Religion of the Semites*, which gives the fundamental religious ideas possessed by the Semitic people in general, and Bruce's *Apologetics*, Books II. and III., which teaches how Christianity may, in the light of critical theories of the Bible, best be defended. During the first semester the lectures were devoted to the unfolding of the idea of God and the supernatural. The topics treated were monotheism, its inception and development; the unfolding of the conception of God from the tribal to the absolute and universal Deity; hypostases of the divine nature, including the New Testament teaching as to the divinity of Christ and as to the Holy Spirit; also as to its teaching respecting subordinate supernatural beings, including angels and Satan. During the second semester the lectures were devoted to man and his relations to God. The chief topics treated were the Biblical conception of the constitution of man, sin, righteousness, atonement of sin, the punishment of sin, the Messianic hope, the kingdom of God, and the parousia. Essays were written by the students on topics investigated by them. The course was given two hours weekly throughout the year, and was attended by one graduate and one post-major student.

4. A course in the *History of Assyria and Babylonia* as revealed in the cuneiform inscriptions, including a comparison of the cuneiform inscriptions and the Old Testament. This course was given for one hour weekly throughout the year. The history was reconstructed in the lectures; the art, literature, religion, and private life of the people were studied; and the many points of contact between the cuneiform inscriptions and Genesis, the Old Testament historical books, the prophets, and the Psalms were discussed. As collateral reading translations of the most important inscriptions were read, also portions of Tiele's *Babylonisch-Assyrische Geschichte*, and Part II. of Maspero's *Egypt and Assyria*. The course was attended by one post-major student, who investigated and wrote essays on topics connected with the course.

History.—The instruction in History was given by Dr. Charles M. Andrews. The undergraduate work has consisted of major and post-major courses, which have formed one unbroken outline of universal history. In Ancient History Dr. Andrews lectured to a class of fourteen for five hours weekly during the first semester, and to a class of fifteen during the second semester. Stress was laid on special problems in connection with the archaeology of the east, the early history of Greece, and certain technical subjects in connection with Roman law and administration.

In Modern History Dr. Andrews lectured to a class of nineteen during the first semester for five hours a week, and to a class of twenty-eight during the second semester. Reports lasting from five to forty minutes were given by each member of the class, and essays were written as usual. Instead of frequent oral quizzing, written examinations of an hour's length were given, which had the effect of making the work of the student more regular and uniform.

The post-major course in the history of the Nineteenth Century was conducted upon a somewhat similar plan. No lectures were given, but a certain amount of reading was assigned in all authorities accessible to the class. The matter of the reading was freely discussed at the next meeting, topics were assigned and reported on, and systematic use was made as far as possible of the texts of laws, treaties, and other political documents. The course was taken by eleven students in the first semester, and by seven in the second semester. It covered the history of Europe from 1789 to the present time.

Graduate Courses.—Dr. Andrews lectured to graduate students one hour a week on the history of the Roman Law. The course was taken by two students during the first semester and by three during the second semester.

In addition the department has directed the work of the Fellow in History, who has continued her researches in the commercial development of the middle colonies; and of one other graduate student.

Political Science.—The teaching in Political Science was given by Franklin H. Giddings, A.M. No important change was made in the arrangement of courses in Political Science.

The minor course was taken by thirty-four students. As in previous years, the first semester was devoted to economic topics, the second to political and legal. Methods of instruction were developed to some extent, in consequence of increased library facilities, which made possible a more careful and systematic preparation of written summaries and reviews in connection with the lectures. The combination of drill in theoretical principles with attention to historical and descriptive detail, which has proved so satisfactory in former years, was maintained. There is little to be gained by a study of abstract principles unless the student is familiar with the concrete facts of industrial life, which theory is supposed to interpret. In the second semester the historical study of

political evolution was somewhat shortened to allow more time for the examination of American government and law. The time and attention given in this course to elementary principles of common law have been so amply repaid that it is proposed in the future to lay more stress on this feature. The last three weeks were devoted to selected cases illustrating supreme court interpretations of American constitutional law.

The major course was taken by ten students. The history of tariff legislation and the history of money and banking in the United States were the subjects of lectures and special work during the first semester. Each student was required to make herself familiar with important speeches in Congress on these controverted questions from 1789 until 1892, and with the statistical reports of the Treasury Department. The department has a valuable collection of state papers and statistical materials, the cataloguing and rearranging of which during the present summer will greatly facilitate the prosecution of thorough individual work. In the second semester international law was studied, with constant reference to the leading text writers, to the treaties and conventions of the United States, and to the miscellaneous records of the Department of State. The progress of peace sentiment and of efforts to extend international arbitration are made an important feature of this course.

Graduate Courses.—Eight graduate students and two specially prepared undergraduates attended the graduate lectures on sociology. The department also directed the more special studies of two graduate students.

Philosophy.—Instruction in Mental Philosophy was in charge of Sidney E. Mezes, Ph.D. The prescribed course, three hours a week, consisted of elementary instruction in Logic, Psychology and history of Modern Philosophy. Text books were used in all these subjects, viz.: Fowler's *Logic*, James' *Psychology*, and Waser's *Selections from Berkeley*, fol-

lowed by Royce's *Spirit of Modern Philosophy*. The text books were supplemented by frequent specific references to standard authorities on the subjects considered, and students were held responsible for knowledge of the references given out. In order to familiarize the class with modern psychological investigation and its methods, each student was required to write a critical essay on one of Prof. Ribot's well-known studies: *Diseases of the Memory*, *Diseases of the Will*, *Diseases of Personality* and *Psychology of Attention*.

A graduate course was also given, Kant's theoretical philosophy being the subject taken up. The object of this course was to enable students to acquire a critical knowledge of the Kantian system at first hand. Adike's edition of the "*Kritik der reinen Vernunft*" was used by the class. Kant's pro-critical and post-critical writings were considered in Hartenstein's edition. The views of Kant's more recent expositors, commentators and critics were brought to the attention of the class; among them, Cohen, Mahaffy, Vaihinger, Paulsen, B. Erdmann, Caird, Watson and Starling.

President Rhoads gave a course of lectures one hour weekly throughout the year on ethics. The foundation of ethics upon facts universally observed among men and familiar to all self-reflective persons was stated, and the likeness and unlikeness of ethics to the natural sciences was shown. The psychological elements of our moral nature were examined, and the grounds of certainty in knowledge, the nature of obligation, and the sources of moral law were considered. Many classes of duties were discussed in the light of natural and Christian ethical principles; and also the moral aspects of social problems, such as the right of property, the nature and authority of the State, the restriction of the use of alcoholic drinks, the relations of employer and employed, and the treatment of the dependent and criminal classes. Porter's *Elements of Moral Science* was used as a text-book, but readings were assigned in Martineau, Calderwood, Spencer, Maurice, Robinson, Dymond, Dörner, Sidgwick, and other writers on ethics.

History of Art.—The lectures on the history of Art were given by Dr. Agnes M. Wergeland. The object of the instruction in this department was to give the students information and æsthetic training that could coöperate successfully with their study of literature and of history, and arouse an interest in artistic production. During the first semester the courses offered were in Greek sculpture till the time of Praxiteles, one hour a week; and in history of Greek and Roman architecture, two hours a week. In history of sculpture the works of Murray and Mitchell were used as text-books; while in both courses a good collection of photographs and illustrations, extensive reading, and choice of topics for special consideration, were used as aids to the text-books.

In second semester the lectures were a continuation of the courses offered in the first. Thus, Greek sculpture from the time of Praxiteles to the Roman period was treated. In conclusion, and as an introduction to later study, five lectures were offered on the influence of ancient sculpture upon the art of succeeding ages, giving a review of the development of sculpture during the middle ages, the Renaissance, and modern times till Thorvaldsen. In history of architecture, the periods of Old Christian, Romanesque, and Gothic art were treated with especial attention to points of construction. Loans of illustrated works of great value added much to the usefulness of the course.

Mathematics.—The courses in mathematics have been given by Dr. Charlotte Angas Scott and James Harkness, A.M. In the mathematical department the work in the minor and major courses has been carried on in accordance with the Program.

A minor class of ten students took the first semester's work, five hours weekly, in analytical geometry, with Dr. Scott. This was an exceptionally good class, and the work was extremely satisfactory.

A class of eight read five hours weekly with Mr. Harkness during the first half of the second semester, algebra, advanced trigonometry, and theory of equations, and during the second half of the semester, elementary differential and integral calculus.

A major class of three undergraduates with one graduate attended, five hours weekly during the first semester, Mr. Harkness's lectures on differential and integral calculus, and differential equations. In the second semester the three undergraduates attended the usual lectures on analytical geometry of two and of three dimensions, and on the history of mathematics, given by Dr. Scott.

Two students attended Dr. Scott's post-major lectures, three hours weekly in the first semester and two hours weekly in the second semester, in modern analytical geometry. The remainder of the post-major work was taken by Mr. Harkness, who delivered a course of lectures on Elliptic Functions (Weierstrass's Theory) two hours weekly.

Graduate Courses.—Dr. Scott gave a course of lectures on Higher Plane Curves two hours weekly throughout the year, and conducted a Seminary two hours weekly throughout the year.

Mr. Harkness gave a course of graduate lectures on Multiple Theta Functions and Abelian Functions two hours weekly throughout the year, and also conducted a Seminary.

During the Academic Year 1892-93 there have been in residence, for the whole year, three graduate students in mathematics, for half the year, two; five in all. The Fellow deferred residence till February by special permission. Since then she has been exclusively engaged in an investigation on Quartic Curves, with a view to preparing a thesis on this subject for presentation next year, when she expects to be a candidate for the Ph.D. degree.

Two other graduate students came to Bryn Mawr from Cambridge, England, and were, therefore, exceptionally well

qualified for advanced work. One of these students has spent most of her time on Theory of Functions, and in addition has been engaged in translating a pamphlet by Professor Klein, a work for which she has received his permission, cordially expressed; the other student has paid special attention to Seminary work with Dr. Scott, in which she read papers by Professors Sylvester and Cayley on Modern Algebra; during the last third of the year she has been pursuing an investigation relating to Singular Solutions of Differential Equations. The two remaining graduate students were engaged in more elementary graduate work.

Elementary Mathematics.—In elementary mathematics courses in Trigonometry and Solid Geometry were given by Mr. Harkness and Dr. Scott during the second semester, the course in Trigonometry being given in the first semester also.

Physics.—The instruction in physics was given by Arthur Stanley Mackenzie, M.A., and Dr. Horace C. Richards.

In the minor course, three lectures a week were given by Mr. Mackenzie. On the other two days Dr. Richards gave a review of the ground covered in the lectures, went more fully into details, and introduced new matter. In this course the phenomena of the subjects considered are presented, the accepted theories are introduced, and the facts interpreted and connected according to these conceptions. The work of this minor year forms the basis of the more theoretical discussions in the major course, and gives the physical ideas and facts necessary to those pursuing courses in the other scientific departments.

Of the five subdivisions of the work of the minor year, Mechanics, Electricity, Heat, Light, and Sound, the first two were treated this session at relatively greater length than the others. The number of students taking this course in-

creased greatly over that of past years, the enrollment being twenty-three. The capabilities of the laboratory equipment were severely taxed, but after entering the new scientific building the strain on the department was greatly lightened. During the present summer many pieces of apparatus in the minor laboratory have been duplicated. Under the new conditions the preparation and presentation of lecture experiments is facilitated, and opportunity not possessed before is given for additional experiments. The occupation of better accommodations in the new Hall, and of rooms adapted to special kinds of work, is very much appreciated.

To the major class Mr. Mackenzie gave four hours, and Dr. Richards one hour a week throughout the year. The work followed closely the plan laid down in the Program. This year more time relatively was given to the theory of Heat. Next year it is intended to give especial attention to Physical Optics, thus bringing the students into closer relations with the work of original investigators in at least one subject, and enabling them to pursue the subject further alone. Satisfactory progress was made by the class in the making of exact measurements in the laboratory.

A course of lectures on Lord Rayleigh's "Theory of Sound" was delivered by Mr. Mackenzie, once weekly throughout the year, to two graduate students. During the second semester one graduate student pursued a course of private reading and advanced laboratory work in the subject of electricity.

Chemistry.—The courses in chemistry were given by Dr. Edward H. Keiser and Dr. Elmer P. Kohler, and comprised minor, major and post-major and graduate courses. The total number of students in the department was forty-five. The removal of this department during the year into the new laboratory and lecture rooms in Dalton Hall enabled both students and instructors to work to much better advantage than in previous years.

In the minor course three lectures weekly upon general inorganic chemistry were given throughout the year by Dr. Keiser. The lectures began with a general introduction, in which subjects of primary importance, such as the characteristics of chemical phenomena, the differences between chemical and physical changes, the idea of element and compound, etc., were considered. The non-metallic elements, beginning with oxygen, were then taken up, and a thorough study made of their properties and transformations. From time to time, as the students' knowledge of this subject increased, it was shown how, from the phenomena under consideration, general laws and principles were deduced. During the second semester the metallic elements were considered. As far as possible throughout the course the classification of the elements according to the natural system was employed, and the dependence of their properties upon the magnitude of the atomic weight was emphasized. As in last year's course each member of the minor class was given a topic upon which to prepare a lecture, and these lectures were afterwards given before the class. Dr. Kohler met the minor class two hours weekly; one hour was devoted to reviews and examinations, and the other to supplementary lectures in inorganic chemistry. In these lectures especial attention was given to the physical side of chemical phenomena. In the laboratory work of the minor class a number of new experiments have been devised, and the whole course has been rearranged and systematized. Owing to the number of students in the course it was found advisable to have the directions for laboratory work printed. A great saving of time and labor for both students and instructors was thus effected.

In the major course the lecture and laboratory work as outlined in the Program was carried out with a few minor changes. In the second semester one hour weekly of Dr. Kohler's course was devoted to crystallography, and in the lectures on analytical chemistry class-room exercises upon some of the more important volumetric and gasometric

methods were introduced. This proved to be an interesting and valuable feature of the course.

Graduate Courses.—The graduate course consisted of laboratory work, private reading upon assigned topics, seminary work, and reports upon journals. Two of the members of the class were engaged upon researches.

The seminary met once weekly, and was attended by four students throughout the year. The work consisted in the reading and discussion of Mendeluff's Principles of Chemistry. During the second semester a journal meeting was organized and meetings held once a week. All the members of the graduate class took part in the reports and discussions upon recent articles in chemical journals. Researches upon the explosive metallic derivatives of acetylene, upon the atomic weight of palladium, and upon the halogen substitution products of the hydrocarbons, have been carried on. The results of some of these researches are in press. Miss Breed's article upon "Phenolphthaleine and Methyl-orange as Indicators in Alkalimetry" also deserves mention.

Biology.—The instruction in biology was conducted by Dr. Thomas H. Morgan, Dr. Joseph W. Warren, Dr. Harriet Randolph, Dr. Ida A. Keller, and Leah Goff, A.B.

In all forty-two students registered for courses in the biological department. Of these thirty were in the minor, or first year's course, five were in the major course, three in the post-major, and four were graduate students.

The work of the minor course was divided among the instructors, as follows: In the first semester the lectures in general biology were given by Dr. T. H. Morgan, and consisted of two parallel courses, designated A and B.—Course A embraced lectures on general biology proper, while course B was made supplementary to course A, and included lectures and demonstrations, and practical work in the class-room on a single group of animals.

The laboratory work corresponded to lectures in course A, and was carried on by Dr. Morgan, Dr. Randolph, and Miss Goff.

In the second semester, Dr. Warren lectured five times a week to the minor students in general biology, covering the vertebrate portion of the work. He was succeeded in April and May by Dr. Morgan, who gave the part of the course on the development of the chick. Dr. Morgan was succeeded by Dr. Keller, who finished the course with lectures and laboratory work in systematic botany. The laboratory work of the second semester was carried on by Dr. Warren, Dr. Harriet Randolph, Dr. Keller, and Miss Goff.

The department is hampered by the lack of sufficient apparatus for lecture demonstrations and for class work. A few pieces of simple apparatus have been constructed in the laboratory, among others one for demonstrating the mechanics of respiration. During the past few weeks plaster models have been prepared to illustrate the form of the lens of the human eye and its changes during accommodation. A series of casts of the cerebral lobes of the human brain and some light models have also been prepared which it is hoped will prove useful in studying the convolutions and in fixing the details of the knowledge of the physiology of that organ.

A number of brains of cats and dogs have also been prepared for the demonstration of essential points of cerebral anatomy and physiology.

The major or second year class followed, during the first semester, a course of lectures five hours weekly given by Dr. Warren in physiology and histology. The usual six hours laboratory work accompanied the lectures. This was directed by Dr. Warren, with the assistance of Dr. Randolph.

In the second semester of the major year, a course of lectures on general zoölogy was given by Dr. Morgan. Three lectures a week in general zoölogy alternated with lectures twice a week in the comparative anatomy of vertebrates by Dr. Warren.

After Easter the lectures in general zoölogy were devoted to more theoretical questions, and were given under the title of advanced biology. This course was given by Dr. Morgan.

Post-major courses were conducted by Dr. Morgan and Dr. Warren, but the work was individual, and varied with the needs of the separate students.

Post-major laboratory work in physiology has been done under the direction of Dr. Warren throughout the year by two students. One of these students examined the remarkable results of Fränkel (*Pflüges Archiv*, 52: 125) concerning the glycogen of the liver and its relations to the proteid bodies of that organ. While this work, in accordance with the principle followed by the instructor with reference to post-major work, was undertaken to familiarize the student with methods rather than to attain new results, the outcome promises to be of some real value, and suggests a new investigation.

The other student examined experimentally the researches of Kruger and Grunert (of Dorpat) concerning the ferments of the pancreas and their extraction by means of chloroform water, but did not find time to bring her work to a satisfactory conclusion.

Graduate Courses.—Lectures were given to the graduate students as follows:

A course of lectures, fortnightly, throughout the year, on vertebrate embryology, was given by Dr. Morgan.

A course of lectures, fortnightly, throughout the first semester, and weekly in the second semester, on special problems in physiology, was given by Dr. Warren.

The lectures on Physiology were of a specialised character on some of the fundamental problems of respiration in animals, and were attended by three graduate and three post-major students. This course was given in alternate weeks during the first semester, but weekly during the second. Both graduate and post-major students were admitted to this series of lectures, a practice which will not, as a rule, be encouraged in the future.

A Journal Club met once fortnightly for reports and discussion of recent literature in morphology and physiology.

Alternating with the Journal Club the Reading Club met for an hour's reading and discussion. Theories of heredity were the topic for the year.

Advanced work in the laboratory was in all cases carried on by graduate students, the number of hours varying with the opportunities of the students. Laboratory work, in connection with private reading under direction of the instructors, is by far the most important feature of the advanced work.

In the morphological laboratory, the Fellow in Biology, in addition to attending the graduate lectures and other exercises, worked on the development of *Aurelia* (from Jamaica). Her work on the early stages is now nearly ready for publication, and during the coming summer she will complete the investigation. She has been awarded the European Graduate Fellowship, founded by the Association of Collegiate Alumnae, and will pursue her studies next winter in the University of Strassburg. Another graduate student brought to completion her work on the Origin of the Sex Cells in *Podocoryne* and the development of *Hydractinia*. Her results will be published in the *Journal of Morphology*. A third graduate student worked in the laboratory on certain problems in Cytology.

In the physiological laboratory one graduate student, during the first semester, repeated the work of Chittenden on digestive ferments in the juice of the pineapple, and examined a large number of the more accessible fruits and vegetables in the hope of finding similar ferments, but the results were negative. She has also repeated an examination of the applicability of methylenblue to bold staining, which was recommended by Tóth. During the second semester she made a study of the behavior of extracts of various digestive glands prepared by the chloroform-water method of Salkowski. The stomach of numerous animals (cat, dog, opossum, rat, turtle, mouse), and also the salivary glands and pancreas whenever accessible, have been examined, and already

interesting results concerning the presence of zymogans and their extraction have been obtained. Some of these results appear to be altogether new, and promise to be a real addition to knowledge.

The Fellow in Biology undertook a study of the relations of the azygos vein, from a physiological point of view, in kittens.

The examination of the hæmogoblin of the blood as shown by Fleisch's hæmometer, made by another graduate student in 1891-92, and noted in the Report last year, has been published in the *New York Medical Journal*.

The graduate work of the Botanical department was conducted by Dr. Keller. It was confined to Plant Physiology, and consisted of lectures and experimental work in the laboratory. The problems to which particular attention was given were :

1. The nutritive substances of plants. Culture solutions were made, in which Indian corn, wheat, oats, etc., were grown.
2. A study of the assimilating organs.
3. The process of assimilation, and the effect of outer agencies on this process.
4. The products of assimilation.
5. Experiments on *Saccharomyces cerevisæ*.
6. The influence of different degrees of temperature on plants.
7. Destruction of molecular structure through mechanical disturbances.
8. Influence of poison on plants.
9. Turgr and Plasmolysis.

The gift of the European Fellow for 1891-92 to the Biological library, has been a great boon, and has, in connection with the college grant for graduate books, strengthened our library very much.

Mrs. John Townsend's gift of birds to the museum is an addition to our working collection.

The zoological and botanical cases furnished by the college have been most satisfactory.

During the summer of 1892 the Bryn Mawr table at Wood's Holl was occupied by Miss Ida Hyde. She completed a piece of research under Dr. Loeb's instruction, and the results will shortly appear in a German journal. Four other Bryn Mawr students studied at Wood's Holl during last summer.

The Wood's Holl laboratory gives our biological students an opportunity to carry on their work during the summer under very exceptional conditions, and the biological department hopes that the college will come into still closer connection with the Marine Station.

The U. S. Fish Commissioner, Hon. Marshall MacDonald, has generously given to our Fellow for 1892-93, Miss Ida Hyde, an opportunity to study during the coming summer of 1893 at the U. S. Fish Commission Laboratory at Wood's Holl.

The Library.—The accessions to the library during the past year have been one thousand three hundred and forty-five bound volumes and about two hundred pamphlets. The library now contains eleven thousand seven hundred and forty-five volumes, chosen with reference to the immediate needs of the several departments of instruction. The following gifts have been received during the year, and are gratefully acknowledged :

Lillian V. Sampson, \$250 to biological department of the library ; "Die Physiologie d. facettirten Augen von Krebsen und Insecten."

Caspar W. Haines, *Scientific American*, Vol. LIX. ; *Mexican Financier*, Vol. XIV., Nos. 11, 12, 14 to 26 ; *Mexican Financier*, Vol. XV. (1889-90), complete ; *Nation*, 1885, Vol. L. ; "Sur les Conjectives gothiques," by A. Z. Collin.

S. Burns Weston, "*International Journal of Ethics*, Vol. I., bound.

Charles Hartshorne, "History of Philadelphia," 3 vols., by Scharf and Westcott; "Illustrated History of Rome," 6 vols.

Dr. C. M. Andrews, "Old English Manor."

Dr. M. Carey Thomas, "Art of Poetry," by Cook; "Five Short Courses of Reading in English Literature," by Winchester; "English Versification," by Parsons.

Dr. C. A. Scott, Jellett's "Theory of Function;" "Kinetic Theory of Gases," by Watson; Greenhill, "Applications of Elliptic Functions."

Dr. T. H. Morgan, "Spiral Modification of Metamerism," pamphlet by Dr. Morgan.

Dr. Williston Walker, "Why Did Not Massachusetts Have a Saybrook Platform?" given by author, pamphlet.

Prof. George M. Harper, "Legend of the Holy Grail," pamphlet given by author.

Prof. E. S. Sheldon, "Origin of the English Names of the Letters of the Alphabet," pamphlet by author.

Miss E. S. Coles, "Life of Abraham Coles."

Augustus Jones, "Moses Brown, a Sketch," given by author.

"Book of Common Prayer According to the Use of the Protestant Episcopal Church in the U. S. of America," Standard, 1892, given by Joint Committee of Publication.

Miss E. O. Gibbs, "The Dotted Words in the Hebrew Bible," 9 copies, given by author.

Prof. T. G. MacGregor, "Fundamental Hypotheses of Abstract Dynamics."

Miss Florence V. Keys, "Report of Prison System of Ontario," 1890 and 1891, 3 vols.

M. Lauder, "The Tobacco Problem."

Mrs. Fanny P. Palmer, "Rhode Island Literary Women."

Miss Ida Wood, "References, Etc., in the Poem of *Widsith*," given by the author.

Miss Wergeland, Collignon's "Manual of Greek Archæology."

Miss M. M. Gwinn, Arnold's "Essays in Criticism," 1st series, 10 copies.

Henry Hartshorne, LL.D., "Bertram the Prince," given by the author.

J. H. Comstock, "Introduction to Etymology."

Prof. Wm. O. Krohn, "Laboratory of the Psychological Institute at the University of Göttingen;" "Experimental Study of Simultaneous Stimulations of the Sense of Touch."

Catalogue of Salem Public Library, given by Library.

Catalogue of Jersey City Free Library, given by Library.

Howard Association Reports and Papers.

"University Extension World."

"School and College," Vol. I.

"History of Harvard College," given by Alumni of College.

Anonymous, "Gleanings: A Gift to Women."

Also a large number of government publications.

From the fund of \$500 presented by Miss Helen Erben, forty volumes have been added to the English department.

It is estimated that four thousand books have been drawn from the library during the year. This but inadequately represents the use of the books, as the library is always occupied by many readers, who consult the shelves, which are open to all students. One hundred and fifty periodicals are taken by the library. The library is open from 8 A.M. to 10 P.M.

The Gymnasium.—The equipment of the gymnasium was enlarged last year by the addition of some Swedish apparatus. This year an assistant trained in the Swedish system, a graduate of the Boston Normal School of Gymnastics has been appointed to aid the Director in the work of the gymnasium.

The next need of the gymnasium is a swimming pool. For this we have an abundant water supply and adequate means of heating the water in the present boiler house without addi-

tional expense. Architect's plans have been prepared for a pool of tiled brick 60 feet long by 22 feet wide, ending in a glass bay-window. These plans have been estimated on, and the pool will cost the sum of \$3000. Such a swimming pool would add much to the health and pleasure of the students, and I desire to bring the matter before the friends of the college.

The tables of statistics on the last pages of this report have been prepared for the college exhibit at the World's Fair from records kept in the gymnasium during the past four years, and are presented as giving a better idea of the thoroughness and efficiency of our gymnastic department than can be otherwise obtained.

Publications.—The following papers or works have been published by the members of the Faculty during the year:

Dr. George A. Barton,

1. "A Peculiar Use of *Ilani-pl* in the Tablets from El Amarna," in the *Proceedings of the American Oriental Society*.

2. "On an Ethiopic MS. in the Library of Haverford College," published in the same journal.

3. "On the Reading $\tau\delta\ \pi\alpha\sigma\zeta\alpha$ in John VI., 4," in the *Haverford College Studies*.

Dr. Mary M. Gwinn,

"English Composition," printed for private use in the classroom.

Dr. E. W. Hopkins.

1. The article on "Caste," in *Johnson's Encyclopedia*.

2. A review of Holtzmann's "Mahabhārata," in *American Journal of Philology*, Vol. XIII.

3. An article on "Vedic Reduplication," *Ibid*, Vol. XIV.

Dr. Ida A. Keller,

1. "The Phenomenon of Fertilization in the Flowers of *Monarda fistulosa*," *Proceedings of the Academy of Natural Sciences*, Philadelphia, December 27th, 1892.

2. "On the Glandular Hairs of *Brasenia peltata*, Pursh." *Proceedings of the Academy of Natural Sciences*, April, 1893.

Dr. Edward H. Keiser,

1. "The Explosive Copper and Silver Compounds of Acetylene," *American Chemical Journal*, Vol. XIV., No. 4.

2. "The Atomic Weight of Palladium," *American Chemical Journal*, Vol. XV., No. 7.

3. "The Metallic Derivations of Acetylene," *American Chemical Journal*, Vol. XV., No. 8.

Professor William C. Lawton,

"Looking Toward Salamis," *Atlantic Monthly*, July, 1892, pp. 70-84.

"The Persians of Æschylus," *Atlantic Monthly*, August, 1892, pp. 228-248.

"Hexametrical Horace," *Atlantic Monthly*, March, 1893, pp. 426-428.

"Womanhood in the Iliad," *Atlantic Monthly*, June, 1893, pp. 784-801.

A Review of H. M. Tyler's "A Greek Play," *School and College*, December, 1892.

A Review of W. H. Appleton's "Greek Poets in English Verse," *Cambridge Tribune*, 1893.

Dr. H. W. Smyth,

1. "On Digamma in Post-Homeric Ionic," *American Journal of Philology*, Vol. XII., pp. 211-220.

2. Review of Ahren's "Kleine Schriften," *American Journal of Philology*, Vol. XIII., pp. 235-239.

3. Weber's "Heilige Literatur der Jania." The translation is now complete, and has appeared in separate form. Bombay, 1893, 4to, pp. 143.

Dr. Charlotte A. Scott,

1. The Nature and Effect of Singularities of Plane Algebraic Curves. *American Journal of Mathematics*, Vol. XV.

James Harkness, M.A.,

1. "A Treatise on the Theory of Functions." By James Harkness, M.A., and Frank Morley, M.A., Professor of Pure Mathematics in Haverford College.

2. A Review of the new German Translation of Ulysses

Dini's work on Functions of a Real Variable. *Bulletin of New York Mathematical Society*.

3. A Review of Greenhill's Elliptic Functions. *Bulletin of New York Mathematical Society*.

Dr. Thomas H. Morgan,

1. "Experimental Studies of the Frog's Egg." *Quarterly Journal of Microscopic Science*, 1893.

2. "Experimental Studies on Teleost Eggs." *Anatomischer Anzeiger*, 1893.

"Balanglossus and Tornaria of New England." *Zoologischen Anzeiger*, No. 407, 1892.

Dr. Harriet Randolph,

1. "Ein Beitrag zur Kenntniss des Tubificiden." *Naturforschenden Gesellschaft in Zurich; Jah. XXVII., Heft. 2.*

2. "Beitrag zur Kenntniss der Tubificiden." *Jenaischen Zeitschrift für Naturwissenschaft*, XXVII. Bd., h. F. XX.

Dr. Charles M. Andrews,

"Some Recent Aspects of Institutional Study." *Yale Review*, February, 1893, pp. 381-410.

"Biographical Bypath through Early New England History." (The Life of Richard Gildersleeve.) *New England Magazine*, February, 1893, pp. 702-709.

"The Value of History for Moral Culture." Read before the Department of Superintendence N. E. A. *Proceedings of Association for 1893*.

"Die Stadt in Neu-England." Ihr Ursprung und ihrer agrarische Grundlage. Parts I. and II. In *Zeitschrift für social und wirthschaft geschichte*. Band II., Heft. 1, pp. 103-131.

Review of Brentano: "Die Volkswirtschaftslehre" in *Annals of the American Academy*, May, 1893.

Respectfully submitted to the Trustees at their meeting held Tenth month 20th, 1893.

JAMES E. RHOADS.

COMPARATIVE AVERAGES OF SIZE AND STRENGTH OF THE STUDENTS ADMITTED TO COLLEGE
IN OCTOBER, 1889.

CLASSIFIED ACCORDING TO AGE AT ENTRANCE.
THE STUDENTS BELONGING TO THIS CLASS RECEIVED THE DEGREE OF B. A. IN JUNE, 1893.

| | 16 years. | 17 years. | 18 years. | 19 years. | 20 years. |
|---|-------------------------|-------------------------|-------------------------|-------------------------|-------------------------|
| Age at entrance | | | | | |
| Average height at entrance | 159.5 cm. 5 ft. 2.8 in. | 161.6 cm. 5 ft. 3.6 in. | 163.6 cm. 5 ft. 4.4 in. | 160.4 cm. 5 ft. 3.2 in. | 163.7 cm. 5 ft. 4.4 in. |
| Average weight, 1st year | 53.6 kilos. | 117.9 lbs. 51.7 kilos. | 113.5 lbs. 50.5 kilos. | 111.3 lbs. 50.7 kilos. | 111.2 lbs. 52.5 kilos. |
| Average weight, 2d year | 65.8 kilos. | 144.7 lbs. 52.9 kilos. | 116.4 lbs. 53.2 kilos. | 117.0 lbs. 54.3 kilos. | 119.4 lbs. 53.4 kilos. |
| Average weight, 3d year | 61.1 kilos. | 134.5 lbs. 52.7 kilos. | 115.9 lbs. 52.5 kilos. | 115.7 lbs. 52.6 kilos. | 115.8 lbs. 51.9 kilos. |
| Average weight, 4th year | 55.7 kilos. | 122.8 lbs. 50.9 kilos. | 112.0 lbs. 53.7 kilos. | 118.3 lbs. 53.2 kilos. | 117.0 lbs. 52.9 kilos. |
| Average girth of chest, 1st year | 78.5 cm. | 30.9 in. 80.0 cm. | 31.5 in. 79.1 cm. | 31.1 in. 79.5 cm. | 31.35 in. 80.0 cm. |
| Average girth of chest, 2d year | 87.0 cm. | 34.3 in. 82.0 cm. | 32.3 in. 81.0 cm. | 31.9 in. 81.7 cm. | 32.1 in. 81.0 cm. |
| Average girth of chest, 3d year | 84.0 cm. | 33.1 in. 77.7 cm. | 30.5 in. 78.5 cm. | 30.9 in. 79.7 cm. | 31.38 in. 78.0 cm. |
| Average girth of chest, 4th year | 77.7 cm. | 30.5 in. 75.0 cm. | 29.5 in. 75.1 cm. | 29.5 in. 75.5 cm. | 30.9 in. 75.0 cm. |
| Average girth of chest, inflated, 1st year | 82.5 cm. | 32.55 in. 84.5 cm. | 33.3 in. 82.3 cm. | 32.4 in. 83.7 cm. | 32.98 in. 83.0 cm. |
| Average girth of chest, inflated, 2d year | 91.0 cm. | 35.8 in. 85.5 cm. | 33.7 in. 84.1 cm. | 33.1 in. 85.1 cm. | 33.5 in. 85.5 cm. |
| Average girth of chest, inflated, 3d year | 89.5 cm. | 35.2 in. 83.5 cm. | 32.9 in. 83.8 cm. | 34.9 in. 85.1 cm. | 33.5 in. 84.5 cm. |
| Average girth of chest, inflated, 4th year | 82.7 cm. | 32.56 in. 81.5 cm. | 32.1 in. 80.3 cm. | 31.6 in. 84.2 cm. | 33.19 in. 84.2 cm. |
| Average girth of upper-arm, right, 1st year | 25.0 cm. | 9.8 in. 25.2 cm. | 9.89 in. 24.6 cm. | 9.6 in. 24.7 cm. | 9.68 in. 24.0 cm. |
| Average girth of upper-arm, right, 2d year | 30.0 cm. | 11.8 in. 26.2 cm. | 10.29 in. 25.6 cm. | 10.08 in. 25.0 cm. | 10.2 in. 24.0 cm. |
| Average girth of upper-arm, right, 3d year | 30.0 cm. | 11.8 in. 26.0 cm. | 10.2 in. 25.9 cm. | 10.08 in. 25.1 cm. | 9.8 in. 24.5 cm. |
| Average girth of upper-arm, right, 4th year | 25.4 cm. | 9.9 in. 24.3 cm. | 9.5 in. 24.2 cm. | 9.49 in. 24.5 cm. | 9.6 in. 23.3 cm. |
| Average girth of upper-arm, left, 1st year | 24.5 cm. | 9.6 in. 25.0 cm. | 9.8 in. 24.5 cm. | 9.6 in. 24.2 cm. | 9.49 in. 24.0 cm. |
| Average girth of upper-arm, left, 2d year | 30.0 cm. | 11.8 in. 26.2 cm. | 10.29 in. 25.1 cm. | 9.8 in. 25.8 cm. | 10.09 in. 24.0 cm. |

| | | | | | | | | | | |
|--|-------------|--------------|--------------|--------------|-------------|--------------|--------------|--------------|-------------|--------------|
| Average girth of upper-arm, left, 3d year | 29.5 cm. | 11.6 in. | 25.7 cm. | 10.09 in. | 25.5 cm. | 10.0 in. | 24.7 cm. | 9.68 in. | 24.0 cm. | 9.4 in. |
| Average girth of upper-arm, left, 4th year | 24.9 cm. | 9.7 in. | 24.0 cm. | 9.4 in. | 23.6 cm. | 9.3 in. | 24.0 cm. | 9.4 in. | 23.0 cm. | 9.1 in. |
| Average lung capacity, 1st year | 1.92 liters | 117.5ccu.in. | 2.17 liters | 132.5ccu.in. | 2.32 liters | 141.6ccu.in. | 2.48 liters | 151.7ccu.in. | 2.78 liters | 170.0ccu.in. |
| Average lung capacity, 2d year | 2.78 liters | 170.0ccu.in. | 2.42 liters | 148.0ccu.in. | 2.26 liters | 138.3ccu.in. | 2.65 liters | 162.1ccu.in. | 3.04 liters | 185.0ccu.in. |
| Average lung capacity, 3d year | 3.04 liters | 185.0ccu.in. | 2.41 liters | 147.5ccu.in. | 2.37 liters | 145.0ccu.in. | 2.67 liters | 165.7ccu.in. | 3.19 liters | 195.0ccu.in. |
| Average lung capacity, 4th year | 2.41 liters | 147.5ccu.in. | 2.41 liters | 147.5ccu.in. | 2.38 liters | 145.6ccu.in. | 2.75 liters | 168.4ccu.in. | 3.26 liters | 199.0ccu.in. |
| Average strength of back, 1st year | 57.5 kilos. | 126.8 lbs. | 70.0 kilos. | 154.3 lbs. | 55.0 kilos. | 121.3 lbs. | 57.8 kilos. | 127.1 lbs. | 70.0 kilos. | 154.3 lbs. |
| Average strength of back, 2d year | 90.0 kilos. | 198.4 lbs. | 90.0 kilos. | 198.4 lbs. | 60.0 kilos. | 132.3 lbs. | 85.0 kilos. | 187.4 lbs. | 90.0 kilos. | 198.4 lbs. |
| Average strength of back, 3d year | 90.0 kilos. | 198.4 lbs. | 95.0 kilos. | 209.4 lbs. | 63.3 kilos. | 139.2 lbs. | 70.7 kilos. | 155.5 lbs. | 85.0 kilos. | 187.4 lbs. |
| Average strength of back, 4th year | 74.0 kilos. | 163.1 lbs. | 80.0 kilos. | 176.4 lbs. | 64.3 kilos. | 141.4 lbs. | 87.1 kilos. | 191.8 lbs. | 90.0 kilos. | 198.4 lbs. |
| Average strength of legs, 1st year | 62.5 kilos. | 137.8 lbs. | 85.0 kilos. | 187.4 lbs. | 68.3 kilos. | 150.2 lbs. | 84.2 kilos. | 185.25 lbs. | 80.0 kilos. | 176.4 lbs. |
| Average strength of legs, 2d year | 110. kilos. | 242.5 lbs. | 125. kilos. | 275.6 lbs. | 86.6 kilos. | 190.7 lbs. | 106.4 kilos. | 234.00 lbs. | 100. kilos. | 220.5 lbs. |
| Average strength of legs, 3d year | 120. kilos. | 264.6 lbs. | 157.5 kilos. | 347.2 lbs. | 73.3 kilos. | 161.6 lbs. | 106.4 kilos. | 234.00 lbs. | 90.0 kilos. | 198.4 lbs. |
| Average strength of legs, 4th year | 91.5 kilos. | 201.7 lbs. | 122.5 kilos. | 270.1 lbs. | 89.3 kilos. | 196.5 lbs. | 116.1 kilos. | 255.07 lbs. | 120. kilos. | 264.6 lbs. |
| Average strength of chest, 1st year | 24.5 kilos. | 54.0 lbs. | 26.5 kilos. | 58.4 lbs. | 26.3 kilos. | 44.6 lbs. | 24.2 kilos. | 53.0 lbs. | 39.0 kilos. | 86.0 lbs. |
| Average strength of chest, 2d year | 38.0 kilos. | 83.8 lbs. | 33.0 kilos. | 72.8 lbs. | 23.0 kilos. | 50.7 lbs. | 28.0 kilos. | 61.7 lbs. | 36.0 kilos. | 79.4 lbs. |
| Average strength of chest, 3d year | 38.0 kilos. | 83.8 lbs. | 32.0 kilos. | 70.5 lbs. | 45.0 kilos. | 99.2 lbs. | 27.0 kilos. | 59.5 lbs. | 34.0 kilos. | 75.0 lbs. |
| Average strength of chest, 4th year | 27.0 kilos. | 59.5 lbs. | 33.7 kilos. | 74.1 lbs. | 23.6 kilos. | 51.9 lbs. | 27.6 kilos. | 60.6 lbs. | 36.0 kilos. | 79.4 lbs. |
| Average strength of forearm, right, 1st year | 22.0 kilos. | 48.5 lbs. | 24.5 kilos. | 54.0 lbs. | 19.0 kilos. | 41.9 lbs. | 25.1 kilos. | 55.1 lbs. | 20.0 kilos. | 44.1 lbs. |
| Average strength of forearm, right, 2d year | 29.0 kilos. | 63.9 lbs. | 27.5 kilos. | 60.6 lbs. | 21.0 kilos. | 46.3 lbs. | 25.1 kilos. | 55.1 lbs. | 25.0 kilos. | 55.1 lbs. |
| Average strength of forearm, right, 3d year | 30.0 kilos. | 66.1 lbs. | 28.5 kilos. | 62.9 lbs. | 22.3 kilos. | 48.5 lbs. | 27.4 kilos. | 60.2 lbs. | 21.0 kilos. | 46.3 lbs. |
| Average strength of forearm, right, 4th year | 22.0 kilos. | 48.5 lbs. | 24.5 kilos. | 54.0 lbs. | 21.0 kilos. | 46.3 lbs. | 28.8 kilos. | 63.3 lbs. | 18.0 kilos. | 39.7 lbs. |
| Average strength of forearm, left, 1st year | 20.0 kilos. | 44.1 lbs. | 24.5 kilos. | 54.0 lbs. | 17.0 kilos. | 37.5 lbs. | 21.0 kilos. | 46.3 lbs. | 23.0 kilos. | 50.7 lbs. |
| Average strength of forearm, left, 2d year | 29.0 kilos. | 63.9 lbs. | 27.5 kilos. | 59.5 lbs. | 18.6 kilos. | 39.7 lbs. | 22.8 kilos. | 50.1 lbs. | 28.0 kilos. | 61.7 lbs. |
| Average strength of forearm, left, 3d year | 32.0 kilos. | 70.5 lbs. | 23.0 kilos. | 50.7 lbs. | 20.0 kilos. | 44.1 lbs. | 23.4 kilos. | 51.8 lbs. | 19.0 kilos. | 41.9 lbs. |
| Average strength of forearm, left, 4th year | 22.5 kilos. | 49.6 lbs. | 23.0 kilos. | 50.7 lbs. | 17.3 kilos. | 38.0 lbs. | 21.2 kilos. | 46.6 lbs. | 18.0 kilos. | 39.7 lbs. |

VARIATION IN AVERAGES IN SIZE AND STRENGTH OF STUDENTS WHILE NOT EXERCISING IN THE GYMNASIUM, FROM SPRING, 1892, TO FALL, 1892.

| Weight. | Chest girth. | | Girth chest, full. | | Girth of upper-arm. | | Strength of back. | | Strength of legs. | | Strength of chest. | | Strength of forearm. | | Lung capacity. | | | | | | | | |
|--------------------------|--------------|---------|--------------------|---------|---------------------|---------|-------------------|-------------|-------------------|-------------|--------------------|-------|----------------------|-------|----------------|------|------|------|------|------|------|-------|--|
| | lbs. cm. | in. cm. | in. cm. | in. cm. | in. cm. | in. cm. | lbs. kilos. | lbs. kilos. | lbs. kilos. | lbs. kilos. | Right. | Left. | Right. | Left. | | | | | | | | | |
| April, 1892 | 35.1 | 121.5 | 78.6 | 30.9 | 83.8 | 33.0 | 25.7 | 10.0 | 25.3 | 9.9 | 74.0 | 163.1 | 101.5 | 223.8 | 26.3 | 57.9 | 24.2 | 53.3 | 21.5 | 47.4 | 2.59 | 158.1 | |
| October, 1892 | 54.4 | 119.8 | 72.2 | 28.3 | 82.8 | 32.6 | 24.4 | 9.5 | 24.1 | 9.4 | 73.2 | 161.3 | 97.1 | 214.0 | 24.8 | 54.5 | 25.0 | 55.1 | 20.4 | 44.9 | 2.54 | 155.4 | |
| Amount of loss | 00.7 | 001.7 | 6.4 | 2.6 | 1. | 00.4 | 1.3 | 00.5 | 1.2 | 00.5 | 00.8 | 1.8 | 4.4 | 9.8 | 1.5 | 3.4 | | | 1.1 | 2.5 | 0.05 | 2.7 | |
| Amount of gain | | | | | | | | | | | | | | | | | | | | | | | |

Amount of gain 00.8 1.8

VARIATION IN AVERAGES OF SAME STUDENTS WHILE EXERCISING IN GYMNASIUM, FROM FALL, 1892, TO SPRING, 1893.

| Weight. | Chest girth. | | Girth chest, full. | | Girth of upper-arm. | | Strength of back. | | Strength of legs. | | Strength of chest. | | Strength of forearm. | | Lung capacity. | | | | | | | |
|--------------------------|--------------|---------|--------------------|---------|---------------------|---------|-------------------|-------------|-------------------|-------------|--------------------|-------|----------------------|-------|----------------|------|------|------|------|------|-------|-------|
| | lbs. cm. | in. cm. | in. cm. | in. cm. | in. cm. | in. cm. | lbs. kilos. | lbs. kilos. | lbs. kilos. | lbs. kilos. | Right. | Left. | Right. | Left. | | | | | | | | |
| October, 1893 | 54.4 | 119.8 | 72.2 | 28.3 | 82.8 | 32.6 | 24.4 | 9.5 | 24.1 | 9.4 | 73.2 | 161.3 | 97.1 | 214.0 | 24.8 | 54.5 | 25.0 | 55.1 | 20.4 | 44.9 | 2.54 | 155.4 |
| April, 1893 | 55.1 | 121.5 | 79.0 | 31.1 | 84.1 | 33.1 | 25.2 | 9.8 | 24.9 | 9.8 | 77.5 | 176.9 | 106.9 | 235.6 | 26.8 | 59.0 | 25.7 | 56.6 | 22.0 | 48.5 | 2.598 | 158.6 |
| Amount of gain | 00.7 | 1.7 | 6.8 | 2.8 | 1.3 | 00.5 | 00.8 | 00.3 | 00.8 | .4 | 4.3 | 9.6 | 9.8 | 21.6 | 2.0 | 4.5 | 00.7 | 1.5 | 1.6 | 3.6 | 0.058 | 3.2 |

STATISTICS OF THE GRADUATE STUDENTS WHO HAVE EXERCISED REGULARLY IN THE
GYMNASIUM FROM OCTOBER, 1892, TO APRIL, 1893.

NUMBER MEASURED, 7.

| | No. who have gained. | Average Gain. | Greatest Individ. Gain. | Least Individual Gain. |
|--------------------------------------|----------------------|------------------------|-------------------------|------------------------|
| Girth of Chest, | 6 | 3.41 cm. | 4.5 cm. | .5 cm. |
| Girth of Chest inflated, | 7 | 2.98 cm. | 6.3 cm. | .5 cm. |
| Girth of 9th Rib, | 6 | 3.41 cm. | 6.5 cm. | .2 in. |
| Girth of 9th Rib inflated, | 6 | 2.3 cm. | 5.8 cm. | .8 in. |
| Girth of Upper Arm, Right, | 6 | 1.83 cm. | 3.0 cm. | .2 in. |
| Girth of Upper Arm, Left, | 6 | 2.25 cm. | 3.0 cm. | .4 in. |
| Depth of Chest, | 4 | .4 cm. | .5 cm. | .1 cm. |
| Lung Capacity, | 5 | .14 liters, 8.6 cu.in. | .24 litres, 15. cu.in. | .04 in. |
| Weight, | 5 | 3.58 kilos, 7.8 lbs. | 7.8 kilos, 17.1 lbs. | .08 litres, 5 cu.in. |
| Strength of Chest, | 7 | 3.07 kilos, 6.7 lbs. | 6.0 kilos, 13.2 lbs. | .3 kilos, .66 lbs. |
| Strength of Back, | 6 | 21.16 kilos, 46.5 in. | 40.0 kilos, 88.2 lbs. | .5 kilos, 1.1 lbs. |
| Strength of Legs, | 7 | 38.57 kilos, 84.8 in. | 70.0 kilos, 154.5 lbs. | 10. kilos, 22. lbs. |
| Strength of Forearms, | 5 | 6.5 kilos, 14.3 in. | 8.0 kilos, 17.6 lbs. | 20. kilos, 44.1 lbs. |
| | | | | 1. kilos, 2.2 lbs. |

AVERAGE AGE, WEIGHT, HEIGHT, AND CHEST GIRTH OF THE DIFFERENT CLASSES, AT
ENTRANCE TO BRYN MAWR COLLEGE.

| Year of Entrance. | Age. | Weight. | Height. | Chest Girth. |
|-------------------|---------------------|-------------|-----------|--------------|
| 1885, | 20 years 4 months. | 52.5 kilos. | 160.0 cm. | 77.8 cm. |
| 1886, | 18 years 10 months. | 52.2 kilos. | 160.2 cm. | 78.8 cm. |
| 1887, | 19 years 8 months. | 53.0 kilos. | 161.1 cm. | 78.8 cm. |
| 1888, | 19 years 10 months. | 54.9 kilos. | 161.5 cm. | 79.1 cm. |
| 1889, | 20 years 4 months. | 53.0 kilos. | 161.1 cm. | 79.1 cm. |
| 1890, | 19 years 1 month. | 53.1 kilos. | 161.0 cm. | 79.1 cm. |
| 1891, | 18 years 5 months. | 58.2 kilos. | 164.2 cm. | 77.0 cm. |
| 1892, | 19 years 11 months. | 52.0 kilos. | 155.5 cm. | 75.5 cm. |

NUMBER OF STUDENTS WHO HAVE GAINED IN THE SIX MONTHS FROM OCTOBER,
1892, TO APRIL, 1893.

| | 1st year students. | 2d year students. | 3d year students. | 4th year students. |
|--------------------------------------|--------------------|-------------------|-------------------|--------------------|
| Number measured, | 47 | 24, | 16 | 24 |
| Girth of Chest, | 44 | 20 | 12 | 19 |
| Girth of Chest inflated, | 43 | 19 | 8 | 18 |
| Girth of 9th Rib, | 44 | Not taken. | Not taken. | Not taken. |
| Girth of 9th Rib inflated, | 40 | Not taken. | Not taken. | Not taken. |
| Girth of Upper-Arm, Right, | 38 | 18 | 9 | 16 |
| Girth of Upper-Arm, Left, | 41 | 18 | 10 | 19 |
| Depth of Chest, | 30 | 11 | Not taken. | Not taken. |
| Lung Capacity, | 34 | 18 | 7 | 11 |
| Weight, | 42 | 16 | 11 | 15 |
| Strength of Chest, | 44 | 15 | 12 | 16 |
| Strength of Back, | 43 | 17 | 11 | 8 |
| Strength of Legs, | 43 | 20 | 11 | 13 |
| Strength of Forearm, | 40 | 21 | 10 | 13 |

| | | | | | | | | | |
|--------------------------------|--------------------|--------------|------------|-------------|------------|-------------|-----------|-------------|-----------|
| Weight | Greatest | 19.8 kilos. | 43.5 lbs. | 4.5 kilos. | 9.9 lbs. | 2.5 kilos. | 5.5 lbs. | 2.3 kilos. | 5.00 lbs. |
| | Least | .1 kilos. | .22 lbs. | .3 kilos. | .66 lbs. | .3 kilos. | 0.66 lbs. | .1 kilos. | .22 lbs. |
| | Average | 2.7 kilos. | 5.9 lbs. | 1.9 kilos. | 4.1 lbs. | 1.7 kilos. | 3.7 lbs. | 1.1 kilos. | 2.4 lbs. |
| Strength of Chest | Greatest | 15.00 kilos. | 33.1 lbs. | 6.0 kilos. | 13.2 lbs. | 9.0 kilos. | 19.8 lbs. | 5.5 kilos. | 12.1 lbs. |
| | Least | 1.00 kilos. | 2.2 lbs. | .5 kilos. | 1.1 lbs. | 1.0 kilos. | 2.2 lbs. | .5 kilos. | 1.1 lbs. |
| | Average | 8.5 kilos. | 18.7 lbs. | 3.0 kilos. | 6.6 lbs. | 3.3 kilos. | 7.2 lbs. | 3.0 kilos. | 6.6 lbs. |
| Strength of Back | Greatest | 75.00 kilos. | 165.3 lbs. | 32.0 kilos. | 70.5 lbs. | 35.0 kilos. | 77.2 lbs. | 20.0 kilos. | 44.1 lbs. |
| | Least | 5.00 kilos. | 11.00 lbs. | 2.0 kilos. | 4.4 lbs. | 5.0 kilos. | 11.0 lbs. | 3.0 kilos. | 6.6 lbs. |
| | Average | 25.00 kilos. | 55.1 lbs. | 10.5 kilos. | 23.1 lbs. | 12.9 kilos. | 28.3 lbs. | 14.8 kilos. | 32.5 lbs. |
| Strength of Legs | Greatest | 68.00 kilos. | 149.9 lbs. | 46.0 kilos. | 101.4 lbs. | 30.0 kilos. | 66.1 lbs. | 37.0 kilos. | 81.6 lbs. |
| | Least | 5.00 kilos. | 11.0 lbs. | 2.0 kilos. | 4.4 lbs. | 3.0 kilos. | 6.6 lbs. | 5.0 kilos. | 11.0 lbs. |
| | Average | 29.3 kilos. | 64.4 lbs. | 17.3 kilos. | 38.0 lbs. | 12.5 kilos. | 27.6 lbs. | 16.7 kilos. | 36.7 lbs. |
| Strength of Forearms | Greatest | 23.00 kilos. | 50.97 lbs. | 16.0 kilos. | 35.3 lbs. | 10.0 kilos. | 22.0 lbs. | 12.0 kilos. | 26.5 lbs. |
| | Least | 1.00 kilos. | 2.2 lbs. | 1.0 kilos. | 2.2 lbs. | 1.0 kilos. | 2.2 lbs. | 1.0 kilos. | 2.2 lbs. |
| | Average | 8.2 kilos. | 18. lbs. | 5.8 kilos. | 12.7 lbs. | 6.3 kilos. | 13.8 lbs. | 4.7 kilos. | 10.3 lbs. |

HIGHEST RECORDS MADE IN THE BRYN MAWR COLLEGE GYMNASIUM,

FROM ITS OPENING TO THE PRESENT TIME.

| | | | |
|--------------------|---|---|----------------------------------|
| Running High Jump, | - | - | 4 ft. 4 in. |
| Single Vault, | - | - | 4 ft. 9½ in. |
| Kicking, | - | - | { 7 ft. |
| | - | - | { Height of Student, 5 ft. 8 in. |
| Rope Climbing, | - | - | { Distance, 21 ft. |
| | - | - | { Time, 14 sec. |

TABLE OF SUBJECTS STUDIED AND TERMS OF STUDY.

| SUBJECT. | PARTICULAR SUBJECT. | INSTRUCTOR. | NO. IN CLASS. | HOURS WEEKLY | TERM OF STUDY. |
|--------------------|--|---------------|---------------|--------------|--------------------------------|
| GREEK | Elementary Greek, Grammar and Composition, Xenophon, | Dr. Smyth. | 6 | 5 | 10 mo. 4, '92, to 2 mo. 8, '93 |
| | Elementary Greek, Xenophon's Anabasis, Books I-II, | " | 6 | 5 | 2 mo. 8, '93, to 6 mo. 1, '93 |
| | Homer's Iliad, Books I-II, | Dr. Hopkins. | 13 | 1 | 10 mo. 4, '92, to 2 mo. 8, '93 |
| | Greek Prose Composition, minor, | " | 15 | 1 | 2 mo. 8, '93, to 6 mo. 1, '93 |
| | Greek Prose Composition, minor, | W. C. Lawton. | 14 | 4 | 10 mo. 4, '92, to 2 mo. 8, '93 |
| | Homer's Odyssey, minor, | Dr. Hopkins. | 14 | 4 | 2 mo. 8, '93, to 6 mo. 1, '93 |
| | Plato's Apology, minor, | " | 8 | 3 | 10 mo. 4, '92, to 2 mo. 8, '93 |
| | Sophocles, major, | " | 8 | 3 | 2 mo. 8, '93, to 6 mo. 1, '93 |
| | Thucydides, major, | " | 8 | 2 | 10 mo. 4, '92, to 2 mo. 8, '93 |
| | Lectures on the History of Greek Poetry, major, | W. C. Lawton. | 8 | 2 | 10 mo. 4, '92, to 2 mo. 8, '93 |
| | Lectures on the History of Greek Prose, major, | " | 7 | 2 | 2 mo. 8, '93, to 6 mo. 1, '93 |
| | Æschines, post-major, | Dr. Hopkins. | 2 | 1 | 10 mo. 4, '92, to 2 mo. 8, '93 |
| | Lyric Poets, post-major, | " | 3 | 1 | 10 mo. 4, '92, to 2 mo. 8, '93 |
| | Pindar, post-major, | " | 7 | 1 | 2 mo. 8, '93, to 6 mo. 1, '93 |
| | Theocritus, post-major, | " | 5 | 1 | 10 mo. 4, '92, to 2 mo. 8, '93 |
| | Æschylus, Agamemnon, Choëphoræ, post-major, | Dr. Smyth. | 6 | 1 | 10 mo. 4, '92, to 6 mo. 1, '93 |
| | Greek Dramatists, post-major, | W. C. Lawton. | 5 | 1 | 10 mo. 4, '92, to 2 mo. 8, '93 |
| | Euripides and Aristophanes, post-major, | " | 2 | 2 | 2 mo. 8, '93, to 6 mo. 1, '93 |
| | Plato, post-major, | " | 5 | 1 | 10 mo. 4, '92, to 2 mo. 8, '93 |
| | <i>Graduate Classes.</i> | | | | |
| | Æschylus, Aristotle, | Dr. Smyth. | 4 | 4 | 10 mo. 4, '92 to 6 mo. 1, '93 |
| SANSKRIT | Lectures on Comparative Philology, | Dr. Hopkins. | 2 | 1 | 10 mo. 4, '92, to 6 mo. 1, '93 |
| | <i>Graduate Classes.</i> | | | | |
| | Selections from Rig Veda, | " | 3 | 1 | 10 mo. 4, '92, to 6 mo. 1, '93 |

TABLE OF SUBJECTS STUDIED AND TERMS OF STUDY—[CONTINUED].

| SUBJECT. | PARTICULAR SUBJECT. | INSTRUCTOR. | No. IN CLASS. | HOURS WEEKLY | TERM OF STUDY. |
|--|---|--------------------------|---------------|--------------|--------------------------------|
| LATIN | Prose Composition, minor, | Dr. Lodge. | . 25 . | . 1 . | 10 mo. 4, '92, to 2 mo. 8, '93 |
| | Prose Composition, minor, | " | . 24 . | . 1 . | 2 mo. 8, '93, to 6 mo. 1, '93 |
| | Livy, Book I, minor, | " | . 23 . | . 4 . | 10 mo. 4, '92, to 2 mo. 8, '93 |
| | Horace, Selections, minor, | W. C. Lawton. | . 25 . | . 4 . | 2 mo. 8, '93, to 6 mo. 1, '93 |
| | Tacitus, Annals, major, | Dr. Lodge. | . 16 . | . 3 . | 10 mo. 4, '92, to 2 mo. 8, '93 |
| | Suetonius, major, | " | . 9 . | . 2 . | 2 mo. 8, '93, to 6 mo. 1, '93 |
| | Tibullus and Propertius, major, | " | . 10 . | . 1 . | 2 mo. 8, '93, to 6 mo. 1, '93 |
| | Juvenal, major, | W. C. Lawton. | . 10 . | . 2 . | 10 mo. 4, '92, to 2 mo. 8, '93 |
| | Horace and Vergil, major, | " | . 10 . | . 2 . | 2 mo. 8, '93, to 6 mo. 1, '93 |
| | Prose Composition, post-major, | Dr. Lodge. | . 5 . | . 1 . | 10 mo. 4, '92, to 2 mo. 8, '93 |
| | Lucretius, post-major, | W. C. Lawton. | . 4 . | . 2 . | 10 mo. 4, '92, to 2 mo. 8, '93 |
| | Cicero, post-major, | " | . 3 . | . 2 . | 2 mo. 8, '93, to 6 mo. 1, '93 |
| | Terence, post-major, | Dr. Lodge. | . 4 . | . 2 . | 10 mo. 4, '92, to 2 mo. 8, '93 |
| | Plautus, post-major, | " | . 5 . | . 2 . | 2 mo. 8, '93, to 6 mo. 1, '93 |
| | ENGLISH | <i>Graduate Classes.</i> | | | |
| Roman Satire, Seminary, | | " | . 3 . | . 2 . | 10 mo. 4, '92, to 2 mo. 8, '93 |
| Roman Satire, Seminary, | | " | . 3 . | . 4 . | 2 mo. 8, '93, to 6 mo. 1, '93 |
| Lectures on the History of English Literature from Spenser to the Restoration, | | Dr. Thomas. | . 108 . | . 3 . | 10 mo. 4, '92, to 2 mo. 8, '93 |
| Essay Work, minor, | | Dr. Gwinn & A. Kirk | . 76 . | . 2 . | 10 mo. 4, '92, to 6 mo. 1, '93 |
| Lectures on History of English Literature from the Restoration to the Victorian Era, | | Dr. Thomas. | . 104 . | . 3 . | 2 mo. 8, '93, to 6 mo. 1, '93 |
| Nineteenth Century Poetry, major and post-major, | | " | . 22 . | . 2 . | 10 mo. 4, '92, to 2 mo. 8, '93 |
| Nineteenth Century Poetry, major and post-major, | | " | . 13 . | . 2 . | 2 mo. 8, '93, to 6 mo. 1, '93 |
| English Criticism, XIXth Century, Essay Work, | | Dr. Gwinn. | . 10 . | . 2 . | 10 mo. 4, '92, to 6 mo. 1, '93 |
| Eighteenth Century, Essay Work, | | " | . 1 . | . 2 . | 10 mo. 4, '92, to 2 mo. 8, '93 |

TABLE OF SUBJECTS STUDIED AND TERMS OF STUDY—[CONTINUED].

| SUBJECT. | PARTICULAR SUBJECT. | INSTRUCTOR. | NO. IN CLASS. | HOURS WEEKLY | TERM OF STUDY. |
|---|---|----------------------------|---------------|--------------------------------|--------------------------------|
| ENGLISH | Anglo-Saxon, Siever's Grammar and Bright's Reader, minor, | J. D. Bruce | 1 | 5 | 10 mo. 4, '92, to 2 mo. 8, '93 |
| | Beowulf and Chaucer, minor, | " | 2 | 5 | 2 mo. 8, '93, to 6 mo. 1, '93 |
| | Anglo-Saxon Grammar, post-major, | " | 2 | 1 | 10 mo. 4, '92, to 2 mo. 8, '93 |
| | Anglo-Saxon, Bright's Reader, post-major, | " | 1 | 1 | 10 mo. 4, '92, to 2 mo. 8, '93 |
| | Anglo Saxon, Bright's Reader, post-major, | " | 2 | 1 | 2 mo. 8, '93, to 6 mo. 1, '93 |
| | <i>Graduate Classes.</i> | | | | |
| GERMAN | Chaucer, Seminary, | Dr. Thomas and J. D. Bruce | 4 | 1 | 10 mo. 4, '92, to 6 mo. 1, '93 |
| | Essay Work, | Dr. Gwinn. | 1 | 1 | 10 mo. 4, '92, to 6 mo. 1, '93 |
| | Anglo-Saxon, Phonology, | J. D. Bruce. | 2 | 3 | 10 mo. 4, '92, to 6 mo. 1, '93 |
| | Anglo-Saxon, Andreas, | " | 2 | 1 | 10 mo. 4, '92, to 6 mo. 1, '93 |
| | Elementary German, Grammar and Reading, | R. Chamberlin. | 15 | 5 | 10 mo. 4, '92, to 2 mo. 8, '93 |
| | German Conversation, | " | 12 | 5 | 2 mo. 8, '93, to 6 mo. 1, '93 |
| | German Conversation, | " | 12 | 1 | 10 mo. 4, '92, to 2 mo. 8, '93 |
| | German Conversation, | " | 14 | 1 | 2 mo. 8, '93, to 6 mo. 1, '93 |
| | German Composition, minor, | " | 8 | 1 | 10 mo. 4, '92, to 2 mo. 8, '93 |
| | German Composition, minor, | " | 10 | 1 | 2 mo. 8, '93, to 6 mo. 1, '93 |
| | German Literature, minor, | Dr. Collitz. | 9 | 2 | 10 mo. 4, '92, to 2 mo. 8, '93 |
| | German Literature, minor, | " | 11 | 2 | 2 mo. 8, '93, to 6 mo. 1, '93 |
| | Reading, Wallenstein, minor, | R. Chamberlin. | 20 | 2 | 10 mo. 4, '92, to 2 mo. 8, '93 |
| | Reading, Faust, Part I, minor, | " | 18 | 2 | 2 mo. 8, '93, to 6 mo. 1, '93 |
| | German Composition, major, | " | 3 | 1 | 10 mo. 4, '92, to 2 mo. 8, '93 |
| German Composition, major, | " | 2 | 1 | 2 mo. 8, '93, to 6 mo. 1, '93 | |
| German Literature and German Classics, major, | Dr. Collitz. | 4 | 3 | 10 mo. 4, '92, to 2 mo. 8, '93 | |
| German Literature and German Classics, major, | " | 3 | 3 | 2 mo. 8, '93, to 6 mo. 1, '93 | |

TABLE OF SUBJECTS STUDIED AND TERMS OF STUDY—[CONTINUED].

| SUBJECT. | PARTICULAR SUBJECT. | INSTRUCTOR. | NO. IN CLASS. | HOURS WEEKLY | TERM OF STUDY. |
|--|--|----------------|---------------|--------------------------------|--------------------------------|
| GERMAN | German Reading and Criticism, Faust, Part II., major, | R. Chamberlin. | 4 | 1 | 10 mo. 4, '92, to 2 mo. 8, '93 |
| | German Reading and Criticism, Faust, Part II., major, | " | 6 | 1 | 2 mo. 8, '93, to 6 mo. 1, '93 |
| | German Literature, post-major, | Dr. Collitz. | 2 | 2 | 10 mo. 4, '92, to 2 mo. 8, '93 |
| | Middle High German, post-major, | " | 2 | 2 | 2 mo. 8, '93, to 6 mo. 1, '93 |
| | Critical Study of Goethe's Lyrics, post-major, | R. Chamberlin. | 3 | 1 | 10 mo. 4, '92, to 6 mo. 1, '93 |
| | Essay Work, | " | 2 | 1 | 10 mo. 4, '92, to 6 mo. 1, '93 |
| | <i>Graduate Classes.</i> | | | | |
| | Teutonic Philology, | Dr. Collitz. | 2 | 1 | 10 mo. 4, '92, to 2 mo. 8, '93 |
| | Old Norse, | " | 2 | 1 | 2 mo. 8, '93, to 6 mo. 1, '93 |
| | Gothic, | " | 1 | 1 | 10 mo. 4, '92, to 6 mo. 1, '93 |
| FRENCH | Old High German, | " | 1 | 1 | 10 mo. 4, '92, to 6 mo. 1, '93 |
| | Lessing's "Laokoön" and Herder, | R. Chamberlin. | 1 | 1 | 10 mo. 4, '92, to 6 mo. 1, '93 |
| | Elementary French, Grammar and Reading, | F. M. Page. | 4 | 5 | 10 mo. 4, '92, to 6 mo. 1, '93 |
| | French Literature of the Eighteenth and Nineteenth Centuries, minor, | Dr. Fontaine. | 15 | 2 | 10 mo. 4, '92, to 2 mo. 8, '93 |
| | French Literature of the Eighteenth and Nineteenth Centuries, minor, | " | 17 | 2 | 2 mo. 8, '93, to 6 mo. 1, '93 |
| | French Conversation, minor, | " | 21 | 1 | 2 mo. 8, '93, to 6 mo. 1, '93 |
| | French Critical Reading and Grammar, minor, | F. M. Page. | 17 | 3 | 10 mo. 4, '92, to 2 mo. 8, '93 |
| | Cornelle, Molière, minor, | " | 15 | 2 | 2 mo. 8, '93, to 6 mo. 1, '93 |
| | French Composition and Conversation, major, | Dr. Fontaine. | 6 | 3 | 10 mo. 4, '92, to 2 mo. 8, '93 |
| | French Composition and Conversation, major, | " | 5 | 3 | 2 mo. 8, '93, to 6 mo. 1, '93 |
| French Literature of the Sixteenth and Seventeenth Centuries, major, | " | 5 | 2 | 10 mo. 4, '92, to 2 mo. 8, '93 | |
| French Literature of the Sixteenth and Seventeenth Centuries, major, | " | 4 | 2 | 2 mo. 8, '93, to 6 mo. 1, '93 | |

TABLE OF SUBJECTS STUDIED AND TERMS OF STUDY—[CONTINUED].

| SUBJECT. | PARTICULAR SUBJECT. | INSTRUCTOR. | NO. IN CLASS. | HOURS WEEKLY. | TERM OF STUDY. |
|--|--|---------------|---------------|--------------------|--------------------------------|
| FRENCH . . . | Old French, post-major, | Dr. Fontaine. | 1 | 3 | 10 mo. 4, '92, to 2 mo. 8, '93 |
| | Essays in French Style and Composition, post-major, <i>Graduate Classes.</i> | " | 2 | 1 | 2 mo. 8, '93, to 6 mo. 8, '93 |
| ITALIAN . . . | French Philology | " | 1 | 1 | 10 mo. 4, '92, to 2 mo. 8, '93 |
| | French Literature, | " | 2 | 1 | 10 mo. 4, '92, to 2 mo. 8, '93 |
| | French Literature, | " | 4 | 2 | 2 mo. 8, '93, to 6 mo. 1, '93 |
| SPANISH . . . | Grandgent's Grammar and Harper's Italian Principia, . . . | F. M. Page. | 8 | 3 | 10 mo. 4, '92, to 2 mo. 8, '93 |
| | Dante's Divina Commedia and Tasso, | " | 7 | 3 | 2 mo. 8, '93, to 6 mo. 1, '93 |
| SEMETIC LANGUAGES AND BIBLICAL LITERATURE | Knapp's Grammar and Reading, | " | 4 | 2 | 10 mo. 4, '92, to 2 mo. 8, '93 |
| | Alarcon, Valera, | " | 2 | 2 | 2 mo. 8, '93, to 6 mo. 1, '93 |
| | Biblical Literature, | " | 23 | 2 | 2 mo. 8, '93, to 6 mo. 1, '93 |
| | Biblical Literature, | Dr. Barton. | 31 | 1 | 2 mo. 8, '93, to 6 mo. 1, '93 |
| HISTORY . . . | Seminary in Biblical Literature, | " | 19 | 1 hour fraguely | 10 mo. 4, '92, to 2 mo. 8, '93 |
| | History of Progress of Religious Ideas in Israel, | " | 2 | 2 | 10 mo. 4, '92, to 6 mo. 1, '93 |
| | The Cuneiform Inscription and the Old Testament, | " | 1 | 1 | 2 mo. 8, '93, to 6 mo. 1, '93 |
| | History of Israel, | " | 3 | 2 | 10 mo. 4, '92, to 2 mo. 8, '93 |
| | History of Israel, | " | 2 | 2 | 2 mo. 8, '93, to 6 mo. 1, '93 |
| | History of Babylonia and Assyria, | " | 1 | 1 | 2 mo. 8, '93, to 6 mo. 1, '93 |
| | Ancient History, | Dr. Andrews. | 14 | 5 | 10 mo. 4, '92, to 2 mo. 8, '93 |
| | Modern History, | " | 15 | 5 | 2 mo. 8, '93, to 6 mo. 1, '93 |
| | Modern History, | " | 19 | 5 | 10 mo. 4, '92, to 2 mo. 8, '93 |
| | Modern History, | " | 28 | 5 | 2 mo. 8, '93, to 6 mo. 1, '93 |
| HISTORICAL DEFINITION, METHOD AND CRITICISM, | <i>Graduate Classes.</i> | " | 2 | 1 | 10 mo. 4, '92, to 2 mo. 8, '93 |
| | History of Roman Law, | " | 2 | 1 | 10 mo. 4, '92, to 2 mo. 8, '93 |

TABLE OF SUBJECTS STUDIED AND TERMS OF STUDY—[CONTINUED].

| SUBJECT. | PARTICULAR SUBJECT. | INSTRUCTOR. | NO. IN CLASS. | HOURS WEEKLY | TERM OF STUDY. |
|-------------------------|--|-----------------|---------------|--------------|--------------------------------|
| HISTORY . . . | History of Roman Law, | Dr. Andrews. | 4 . . . | 1 . . . | 2 mo. 8, '93, to 6 mo. 1, '93 |
| | Political History of the Nineteenth Century, | " | 11 . . . | 2 . . . | 10 mo. 4, '92, to 2 mo. 8, '93 |
| | Political History of the Nineteenth Century, | " | 8 . . . | 2 . . . | 2 mo. 8, '93, to 6 mo. 1, '93 |
| POLITICAL SCIENCE . . . | Political Economy, minor, | F. H. Giddings. | 31 . . . | 5 . . . | 10 mo. 4, '92, to 2 mo. 8, '93 |
| | Political Institutions, minor, | " | 33 . . . | 5 . . . | 2 mo. 8, '93, to 6 mo. 1, '93 |
| | Advanced Political Economy, major and post-major, | " | 12 . . . | 5 . . . | 10 mo. 4, '92, to 2 mo. 8, '93 |
| | International Law, major and post-major, | " | 10 . . . | 5 . . . | 2 mo. 8, '93, to 6 mo. 1, '93 |
| | <i>Graduate Classes.</i> | | | | |
| PHILOSOPHY . . . | Sociology, | " | 10 . . . | 1 . . . | 10 mo. 4, '92, to 6 mo. 1, '93 |
| | Logic and Psychology | S. E. Mezes. | 25 . . . | 3 . . . | 10 mo. 4, '92, to 2 mo. 8, '93 |
| | Psychology and History of Philosophy, | " | 28 . . . | 3 . . . | 2 mo. 8, '93, to 6 mo. 1, '93 |
| | Ethics, | Pres. Rhoads. | 17 . . . | 2 . . . | 10 mo. 4, '92, to 2 mo. 8, '93 |
| | <i>Graduate Classes</i> | | | | |
| ART. | Kant, Seminary, | S. E. Mezes. | 4 . . . | 2 . . . | 10 mo. 4, '92, to 2 mo. 8, '93 |
| | History of Ancient Architecture, | Dr. Wergeland. | 16 . . . | 2 . . . | 10 mo. 4, '92, to 2 mo. 8, '93 |
| | History of Mediaeval Architecture, | " | 8 . . . | 2 . . . | 2 mo. 8, '93, to 6 mo. 1, '93 |
| | History of Ancient Sculpture, | " | 9 . . . | 1 . . . | 10 mo. 4, '92, to 2 mo. 8, '93 |
| MATHEMATICS | History of Ancient Sculpture, | " | 14 . . . | 1 . . . | 2 mo. 8, '93, to 6 mo. 1, '93 |
| | Trigonometry, | J. Harkness. | 7 . . . | 3 . . . | 10 mo. 4, '92, to 2 mo. 8, '93 |
| | Trigonometry, Required, | " | 3 . . . | 3 . . . | 2 mo. 8, '93, to 6 mo. 1, '93 |
| | Solid Geometry, Required, | " | 7 . . . | 2 . . . | 2 mo. 8, '93, to 6 mo. 1, '93 |
| | Analytical Conics, minor, | Dr. Scott. | 10 . . . | 5 . . . | 10 mo. 4, '92, to 2 mo. 8, '93 |
| | Algebra, Advanced Trigonometry, and Theory of Equations, and Elementary Differential and Integral Calculus, minor, | J. Harkness. | 9 . . . | 5 . . . | 2 mo. 8, '93, to 6 mo. 1, '93 |

TABLE OF SUBJECTS STUDIED AND TERMS OF STUDY—[CONTINUED].

| SUBJECT. | PARTICULAR SUBJECT. | INSTRUCTOR. | NO. IN CLASS | HOURS WEEKLY | TERM OF STUDY. | |
|--|---|--|--------------|--------------|--------------------------------|-------------------------------|
| MATHEMATICS. | Differential and Integral Calculus, major, | J. Harkness. | 4 | 5 | 10 mo. 4, '92, to 2 mo. 8, '93 | |
| | History of Mathematics, major, | Dr. Scott. | 5 | 1 | 2 mo. 8, '93, to 6 mo. 1, '93 | |
| | Analytical Geometry of Two and Three Dimensions, major, | " | 4 | 4 | 2 mo. 8, '93, to 6 mo. 1, '93 | |
| | Modern Methods in Analytical Geometry, post-major, | " | 2 | 3 | 10 mo. 4, '92, to 2 mo. 8, '93 | |
| | Theory of Functions, post-major, | J. Harkness. | 6 | 2 | 10 mo. 4, '92, to 2 mo. 8, '93 | |
| | Elliptic Functions, post-major, | " | 5 | 2 | 2 mo. 8, '93, to 6 mo. 1, '93 | |
| | <i>Graduate Classes.</i> | | | | | |
| | Multiple Theta Functions and Arbelian Functions, | J. Harkness. | 2 | 2 | 10 mo. 4, '92, to 2 mo. 8, '93 | |
| | Arbelian Functions, Seminary, | " | 1 | 1 | 2 mo. 8, '93, to 6 mo. 1, '93 | |
| | Individual Seminary Work, | Dr. Scott. | 2 | 1 | 10 mo. 4, '92, to 2 mo. 8, '93 | |
| | Individual Seminary Work, | " | 3 | 3 | 2 mo. 8, '93, to 6 mo. 1, '93 | |
| | Higher Plane Curves, | " | 4 | 2 | 10 mo. 4, '92, to 2 mo. 8, '93 | |
| | Higher Plane Curves, | " | 3 | 2 | 2 mo. 8, '93, to 6 mo. 1, '93 | |
| | Mechanics and Electricity, minor, | A. S. Mackenzie. | 23 | 5 | 10 mo. 4, '92, to 2 mo. 8, '93 | |
| | Laboratory Work, minor, | " | 22 | 4 | 10 mo. 4, '92, to 2 mo. 8, '93 | |
| | PHYSICS | Sound, Heat, and Light, minor, | " | 20 | 5 | 2 mo. 8, '93, to 6 mo. 1, '93 |
| | | Laboratory Work, minor, | " | 20 | 4 | 2 mo. 8, '93, to 6 mo. 1, '93 |
| Theory of Errors, Mechanics and Electricity, major, | | A. S. Mackenzie. | 4 | 5 | 10 mo. 4, '92, to 6 mo. 1, '93 | |
| Laboratory Work, major, | | A. S. Mackenzie and Dr. Richards. | 4 | 5 | 10 mo. 4, '92, to 6 mo. 1, '93 | |
| Elementary Thermodynamics, Geometrical and Physical Optics, major, | | A. S. Mackenzie. | 4 | 5 | 2 mo. 8, '93, to 6 mo. 1, '93 | |
| <i>Graduate Classes.</i> | | | | | | |
| Theory of Sounds, Lord Rayleigh, | | " | 2 | 1 | 2 mo. 8, '93, to 6 mo. 1, '93 | |
| Graduate Physics Laboratory, | | " | 1 | 5 | 2 mo. 8, '93, to 6 mo. 1, '93 | |

TABLE OF SUBJECTS STUDIED AND TERMS OF STUDY—[CONTINUED].

| SUBJECT. | PARTICULAR SUBJECT. | INSTRUCTOR. | NO. IN CLASS. | HOURS WEEKLY. | TERM OF STUDY. |
|-----------------|---|-----------------------------------|---------------|---------------|--------------------------------|
| CHEMISTRY . . . | Lectures on General Inorganic Chemistry, minor, . . . | Drs. Keiser and Kohler. | 23 | 5 | 10 mo. 4, '92, to 2 mo. 8, '93 |
| | Laboratory Work, minor, | " | 22 | 5½ | 10 mo. 4, '92, to 2 mo. 8, '93 |
| | Lectures on General Inorganic Chemistry, minor, . . . | " | 26 | 3 | 2 mo. 8, '93, to 6 mo. 1, '93 |
| | Lectures and Review, minor, | " | 26 | 2 | 2 mo. 8, '93, to 6 mo. 1, '93 |
| | Laboratory Work, minor, | Dr. Kohler. | 26 | 5½ | 2 mo. 8, '93, to 6 mo. 1, '93 |
| | Organic Chemistry major, | Drs. Keiser and Kohler. | 11 | 5 | 10 mo. 4, '92, to 2 mo. 8, '93 |
| | Laboratory Work, major, | Drs. Keiser and Kohler. | 11 | 5½ | 10 mo. 4, '92, to 2 mo. 8, '93 |
| | Organic Chemistry, major, | Dr. Keiser. | 14 | 2 | 10 mo. 4, '92, to 2 mo. 8, '93 |
| | Lectures and Review, major, | Dr. Kohler. | 14 | 3 | 2 mo. 8, '93, to 6 mo. 1, '93 |
| | Laboratory Work, major, | Drs. Keiser and Kohler. | 14 | 6 | 2 mo. 8, '93, to 6 mo. 1, '93 |
| | Seminary Lectures, post-major, | Dr. Keiser. | 5 | 1 | 10 mo. 4, '92, to 2 mo. 8, '93 |
| | Laboratory Work, post-major, | " | 5 | 15 | 10 mo. 4, '92, to 6 mo. 1, '93 |
| | Seminary and Journal Club, post-major, | " | 5 | 2 | 2 mo. 8, '93, to 6 mo. 1, '93 |
| | Lectures on General Biology, minor, | Dr. Morgan. | 28 | 3 | 10 mo. 4, '92, to 2 mo. 8, '93 |
| BIOLOGY . . . | Laboratory Work, minor, | Drs. Morgan, Warren and Randolph. | 32 | 5½ | 10 mo. 4, '92, to 2 mo. 8, '93 |
| | Lectures on General Biology, minor, | Dr. Morgan. | 28 | 2 | 10 mo. 4, '92, to 2 mo. 8, '93 |
| | Advanced Physiology and Histology, major, | Dr. Warren. | 5 | 5 | 10 mo. 4, '92, to 2 mo. 8, '93 |
| | Laboratory Work, major, | " | 5 | 5½ | 10 mo. 4, '92, to 2 mo. 8, '93 |
| | Lectures on Physiology, minor, | " | 28 | 5 | 2 mo. 8, '93, to 3 mo. 25, '93 |
| | Laboratory Work, minor, | Drs. Warren and Randolph. | 26 | 5½ | 2 mo. 8, '93, to 3 mo. 25, '93 |
| | Embryology of the Chick, minor, | Dr. Morgan. | 25 | 5 | 3 mo. 25, '93, to 5 mo. 1, '93 |
| | Botany, minor, | Dr. Keller. | 28 | 5 | 5 mo. 1, '93, to 6 mo. 1, '93 |
| | Embryology, Laboratory Work, minor, | Drs. Morgan and Randolph. | 25 | 5½ | 3 mo. 25, '93, to 5 mo. 1, '93 |
| | Botany, Laboratory Work, minor, | Dr. Keller. | 28 | 5 | 5 mo. 1, '93, to 6 mo. 1, '93 |
| | Zoology, major, | Dr. Morgan. | 5 | 3 | 2 mo. 8, '93, to 4 mo. 5, '93 |
| | Theoretical Biology, | " | 6 | 2 | 2 mo. 8, '93, to 4 mo. 5, '93 |

TABLE OF SUBJECTS STUDIED AND TERMS OF STUDY—[CONTINUED].

| SUBJECT. | PARTICULAR SUBJECT. | INSTRUCTOR. | NO. IN CLASS. | HOURS WEEKLY. | TERM OF STUDY. |
|-------------------------|---|-----------------------------------|------------------|--------------------------------|--------------------------------|
| Biology . . . | Physiology, major, | Dr. Warren. | 5 | 4 | 4 mo. 5, '93, to 6 mo. 1, '93 |
| | Theoretical Biology, | Dr Morgan. | 6 | 1 | 4 mo 5, '93, to 6 mo. 1, '93 |
| | Laboratory Work, major, | Drs. Morgan, Warren and Raudolph. | 5 | 6 | 2 mo. 8, '93, to 6 mo. 1, '93 |
| | Biology, post-major, | Dr. Morgan. | 3 | 1 | 10 mo. 4, '92, to 2 mo. 8, '93 |
| | Biology, Laboratory Work, post-major, | " | 3 | 2 | 10 mo. 4, '92, to 2 mo. 8, '93 |
| | Biology, post-major, | " | 2 | 2 | 2 mo. 8, '93, to 6 mo. 1, '93 |
| | Biology, Laboratory Work, post-major, | " | 2 | 2 | 2 mo. 8, '93, to 6 mo. 1, '93 |
| | <i>Graduate Classes.</i> | | | | |
| | Physiological Botany, | Dr. Keller. | 1 | 8 | 10 mo. 4, '92, to 2 mo. 8, '93 |
| | Laboratory Work, | " | 1 | 1 | 10 mo. 4, '92, to 6 mo. 1, '93 |
| | Graduate Biology, | Dr. Morgan. | 3 | 1 | 10 mo. 4, '92, to 6 mo. 1, '93 |
| | Laboratory Work, | " | 4 | 1 | 10 mo. 4, '92, to 6 mo. 1, '93 |
| | Physiology, Respiration, | Dr. Warren. | 6 | 1 | 10 mo. 4, '92, to 6 mo. 1, '93 |
| | Laboratory Work, | " | 6 | 1 | 10 mo. 4, '92, to 6 mo. 1, '93 |
| | Laboratory Work, individual, | Drs. Morgan and Warren. | 5 | 1 hour | 10 mo. 4, '92, to 6 mo. 1, '93 |
| Journal Club, | Drs. Morgan, Warren and Raudolph. | 5 | 1 hour freightly | 10 mo. 4, '92, to 6 mo. 1, '93 | |
| Reading Club, | " | 5 | 1 | 10 mo. 4, '92, to 6 mo. 1, '93 | |

BRYN MAWR COLLEGE

THE

PRESIDENT'S REPORT

TO THE

BOARD OF TRUSTEES,

FOR THE YEAR 1893-94.

PHILADELPHIA :

ALFRED J. FERGIS, PRINTER, 29 NORTH SEVENTH STREET,

1894.

BOARD OF TRUSTEES.

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ACADEMIC APPOINTMENTS.

JAMES E. RHOADS, LL.D., *President of the College.*

M. CAREY THOMAS, PH.D.,* *Dean of the Faculty and Professor of English.*
A.B., Cornell University, 1877; studied at the Johns Hopkins University, 1877-78; University of Leipsic, 1879-82; Ph.D., University of Zürich, 1882; Sorbonne and the Collège de France, 1883.

CHARLOTTE ANGAS SCOTT, D.Sc., *Professor of Mathematics.*
Lincoln, England. Graduate in Honors, Girton College, University of Cambridge, England, 1880; B.Sc., University of London, 1882; Lecturer on Mathematics in Girton College, 1880-84; lectured in connection with Newnham College, University of Cambridge, England, 1880-83; D.Sc., University of London, 1885.

EDWARD WASHBURN HOPKINS, PH.D., *Professor of Greek, Sanskrit, and Comparative Philology.*

A.B., Columbia College, 1878; Fellow in Literature, Columbia College, 1878-81; University of Leipsic, 1878-81; University of Berlin, 1880; Ph.D., University of Leipsic, 1881; Sorbonne and the Collège de France, 1881; Assistant in Latin and Instructor in Zend, Columbia College, 1881-84.

EDWARD H. KEISER, PH.D., *Professor of Chemistry.*

S.B., Swarthmore College, 1880; Assistant in Chemistry, Swarthmore College, 1880-81; S.M., Swarthmore College, 1881; Fellow in Chemistry, Johns Hopkins University, 1882-84; Ph.D., Johns Hopkins University, 1884; Student at the Royal School of Mines, Freiberg, Saxony, 1884; Assistant in Chemistry, Johns Hopkins University, 1884-85.

HERMANN COLLITZ, PH.D., *Associate Professor of German, and Teutonic Philology.*

Blockede, Hanover, Germany. University of Göttingen, 1875-78; University of Berlin, 1878-81; Ph.D., University of Göttingen, 1878; Privatdozent in the University of Halle, 1885-86.

JAMES HARKNESS, A.M. (*Cambridge and London*), *Associate Professor of Mathematics.*

Derby, England. Major Scholar, Trinity College, Cambridge, 1882; Graduate in Honors (8th Wrangler) in the Cambridge Mathematical Tripos, 1885; Mathematical Exhibitioner, London University Intermediate Arts Examination, 1885; Mathematical Scholar, London University B.A. Examination, 1887.

HERBERT WEIR SMYTH, PH.D., *Professor of Greek.*

A.B., Swarthmore College, 1876, and Harvard University, 1878; University of Leipsic, 1879-81; University of Göttingen, 1881-83; Instructor in Classics and Sanskrit, Williams College, 1883-85; Ph.D., University of Göttingen, 1884; Fellow by Courtesy and Lecturer on Greek, Johns Hopkins University, 1885-87; Reader in Greek Literature, Johns Hopkins University, 1887-88.

MARY GWINN, PH.D., *Associate Professor of English.*

Studied at the University of Leipsic, 1879-82; University of Zürich, 1882; Sorbonne and the Collège de France, 1883; Fellow in English, Bryn Mawr College, 1885-87, and student 1887-88; Ph.D., Bryn Mawr College, 1888.

FRANKLIN H. GIDDINGS, A.M., *Professor of Political Science.*

A.B., Union College, 1877, and A.M., 1889.

CHARLES MCLEAN ANDREWS, PH.D., *Associate in History.*

A.B., Trinity College, 1881; Fellow in Johns Hopkins University, 1888-89; Ph.D., Johns Hopkins University, 1889.

* President (elect), Academic Year 1894-95.

GONZALEZ LODGE, PH.D., *Associate in Latin.*

A.B., Johns Hopkins University, 1883; Graduate Scholar and Fellow, Johns Hopkins University, 1883-86; Ph.D., Johns Hopkins University, 1886; Professor of Greek, Davidson College, 1886-88; American School of Classical Studies, Athens, 1888-89; University of Bonn, 1889.

GEORGE A. BARTON, PH.D., *Associate in Biblical Literature and Semitic Languages.*

A.B., Haverford College, 1882, and A.M., 1885; A.M., Harvard University, 1890; Ph.D., Harvard University, 1891.

JOSEPH AUGUSTE FONTAINE, PH.D., *Associate Professor of Romance Languages.*

College of Sion, Nancy, France, 1879; Paris, 1880-81; Johns Hopkins University, 1882-86; Ph.D., Johns Hopkins University, 1886; Collège de France, Sorbonne, Ecole des Hautes Etudes, Ecole des Chartes, University of Bonn, 1886-87; Instructor, University of Nebraska, 1887-89; Professor of Modern Languages in the University of Mississippi, 1889-91.

ARTHUR STANLEY MACKENZIE, A.B., *Associate in Physics.*

A.B., Dalhousie University, 1885; Tutor in Mathematics, Dalhousie University, 1887-89; Fellow, Johns Hopkins University, 1890-91.

JAMES DOUGLAS BRUCE, PH.D., *Associate in Anglo-Saxon.*

A.M., University of Virginia, 1883; University of Berlin, 1886-88; University of Strasburg, 1888; Johns Hopkins University, 1889-90; Professor of Modern Languages, Centre College, 1890-91; Ph.D., Johns Hopkins University, 1894.

THOMAS HUNT MORGAN, PH.D., *Associate Professor of Biology.*

B.S., State College, Kentucky, 1886, and M.S., 1888; Graduate Scholar, Johns Hopkins University, 1888-90; Fellow in Biology, Johns Hopkins University, 1889-90; Ph.D., Johns Hopkins University, 1890; Adam T. Bruce Fellow, Johns Hopkins University, 1890-91.

JOSEPH W. WARREN, M.D., *Associate Professor of Physiology.*

A.B., Harvard College, 1871; University of Berlin, 1871-72; University of Leipsic, 1872-73; University of Bonn, 1873-79; M.D., Bonn, 1880; Assistant and Instructor in Physiology Harvard Medical School, 1881-91; Lecturer in Medical Department of the University of the City of New York, 1885-86; Lecturer on Physiology, University of Michigan, 1889.

WILLIAM CRANSTON LAWTON, A.B., *Professor of Greek and Latin Literature.*

A.B., Harvard University, 1873; studied, University of Göttingen, 1876-77; Graduate Student, Harvard University, 1879-80; Member of Archaeological Expedition to Assos, 1881; studied, University of Berlin, 1882-83; Acting Professor of Greek, Boston University, 1890-91; Winkley Professor of Latin, Bowdoin College, 1891-92.

DICKINSON SERGEANT MILLER, PH.D., *Associate in Philosophy.*

University of Pennsylvania, 1885-88; Fellow in Philosophy, Clark University, 1889-90; Morgan Fellow, Harvard University, 1890-91; Walker Fellow, Harvard University, 1891-92; A.B. and A.M., Harvard University, 1892; University of Berlin, 1892-93; Ph.D., University of Halle, 1893.

ELMER P. KOHLER, PH.D., *Associate in Chemistry.*

A.B., Muhlenberg College, 1886; A.M., Muhlenberg College, 1889; Johns Hopkins University, 1889-92; Fellow in Chemistry, Johns Hopkins University, 1891-92; Ph.D., Johns Hopkins University, 1892.

EDGAR BUCKINGHAM, PH.D., *Associate in Physics.*

A.B., Harvard University, 1887; Assistant in Physics, Harvard University, 1888-89; Assistant in Physics, University of Strasburg, 1889-90; University of Leipsic, 1890-91; Assistant in Physics, Harvard University, 1891-92; Tyndall Scholar of Harvard University, University of Leipsic, 1892-1893; Ph.D., University of Leipsic, 1893.

ROSE CHAMBERLIN, *Reader in German.*

Great Yarmouth, England. Graduate in Honors, Newnham College, University of Cambridge, England, 1886 (Mediæval and Modern Languages Tripos, First Class).

FREDERIC M. PAGE, *Reader in Romance Languages.*

Collège Chaptal, Paris; attended Studi Superiori, Florence; Instructor in Languages, University of Virginia, 1880-82; Acting Professor of Modern Languages and Literature, University of the South, 1882-83; Professor of Modern Languages and Literature, University of the South, 1883-91.

ABBY KIRK, A.B., *Reader in English.*

A.B., Bryn Mawr College, 1892.

HARRIET RANDOLPH, Ph.D., *Demonstrator in Biology and Reader in Botany.*

A.B., Bryn Mawr College, 1889; Fellow in Biology, Bryn Mawr College, 1889-90; University of Zürich, 1890-92; Ph.D., University of Zürich, 1892.

FLORENCE V. KEYS, A.B., *Reader in English.*

A.B., University of Toronto, 1891; Fellow in Greek, Bryn Mawr College, 1891-92; Fellow in English, Bryn Mawr College, 1892-93.

ANNA DONALDSON MCNAIR, A.B., *Director of the Gymnasium.*

A.B., Antioch College, 1886; studied under Dr. Sargent, 1889-91.

MARY ELIZABETH BATES, *Assistant in the Gymnasium.*

Graduate of Boston Normal School of Gymnastics, 1893.

IDA RICHARDSON, M.D., *Physician of the College.*

FLORENCE E. PEIRCE, *Librarian.*

HENRIETTA R. PALMER, A.B., *Associate Librarian.*

School of Library Economy, Columbia College, 1887-89; Acting Librarian, Bryn Mawr College, 1890-91; A.B., Bryn Mawr College, 1893.

BESSIE BAKER, B.S., *Assistant Librarian.*

B.S., Purdue University, 1886; studied in the New York State Library School, 1891-92.

JULIA COPE, A.B., *Secretary.*

FREDERICKA M. KERR, *Bursar.*

SUSAN GRIMES WALKER, A.B., and MADELINE VAUGHAN ABBOTT, A.B.,
Secretaries to the Dean.

BRYN MAWR COLLEGE.

REPORT OF THE PRESIDENT FOR THE YEAR 1893-94.

To the Trustees:

THE subjoined report is for the fiscal year ending Eighth month 31st, 1894, and includes the ninth academic year of the College.

This year began with the announcement of an important change in the future administration of the College. During the year 1892-93 my health compelled me to look forward to the resignation of the Presidency of the College, and I consented to serve for the following year only in response to the earnest request of the Trustees. My illness in the spring of 1893 convinced both the Trustees and me that my resignation must be final, and at a meeting of the Board held Eleventh month 17th, 1893, my resignation was accepted, and M. Carey Thomas, Ph.D., who had acted as Dean of the Faculty since the opening of the College nine years ago, was elected President by the Trustees, the election to take effect on Eighth month 31st, 1894. This action of the Trustees has received the cordial endorsement of the Faculty and students of the College, and of the community at large. Thus a change in the Presidency of the College has taken place, and by a gracious Providence so happily had the way for it been prepared that with only a ripple of new vigor the current of the College life has flowed on. At the same meeting the Trustees appointed me Professor of Christian Ethics, the appointment to begin in the year 1894-95.

It is gratifying to be able to state that in spite of the wide-spreading financial depression our halls have been crowded with students. Two hundred and eleven students have been in residence during the past year, many more than we could accommodate until the second half of the year, when one wing of our new hall of residence was completed and opened to students. One hundred and thirty-three candidates were examined for admission to the College in Bryn Mawr, Philadelphia, Germantown, Boston, Baltimore, New York, Pittsburgh, Cincinnati, Indianapolis, Chicago, and San Francisco.

Our body of resident graduate students has been larger than ever before, forming one-sixth of our whole number of students. During the past year a Graduate Club has been organized consisting of all graduate students that are pursuing work in the College. The Club is founded for the purpose of advancing the work and the social and intellectual interests of the graduate students, and has been assigned permanent rooms on the first floor of Denbigh Hall. Various addresses were given to the Club during the year by well-known speakers.

The graduate department has received much assistance from the new fellowships and scholarships. We have had in our gift this year three new fellowships, of the value of \$525, making nine fellowships in all, founded by the wise liberality of the Trustees, and five graduate scholarships of the value of \$200, given by Mary E. Garrett, of Baltimore. We have also conferred for the first time a new European fellowship of \$500 established by the same donor.

The efficiency of both the graduate and undergraduate departments has been much increased by the important acquisitions to the library made during the past year. From the first we have devoted especial attention to making collections

of sets of the learned philological and scientific journals published by European scholars, and this year we have received and spent a gift of \$1,000 for the purchase of such periodicals.

Of much more importance to our library than even this gift has been the acquisition of the famous collection of the late Professor Hermann Sauppe. During the sixty years from 1833 to 1893 in which Professor Sauppe was Professor of Classical Philology at Zürich, Weimar, and Göttingen successively, he brought together with great care and perseverance a library of 9000 bound volumes and more than 7000 unbound Doctors' Dissertations, Programmes, and Monographs, from which scarcely any important edition of any Greek or Latin author is missing. It is especially rich in inscriptions, in works on Plato, the Greek orators, Plautus, Terence, Horace and Tacitus. Among the editions of Plautus is to be found one of the four copies known to be in existence of the so-called edition of Hermolaus, referred to by Ritschl, *Parerga*, p. 403, n., *Opuscula II.*, p. 47, which is supposed to have appeared between 1493 and 1499. Among the journals are complete sets of the publications of the Academies of Berlin, Leipsic, Munich, Vienna, and Göttingen, *Hermes*, *Philologus*, *Rheinisches Museum*, *Muemosyne*, *Bezzenberger's Beiträge*, *Zeitschrift für Alterthumswissenschaft*, *Ephemeris Epigraphica Latina*, *Zeitschrift f. Numismatik*, *Mittheilungen der Arch. Inst. zu Athen*, and *zu Rom*, *Ἐφημερίς ἀρχαιολογική*. The library contains also an excellent collection of "Scripta Philologorum." Many of the volumes are enriched with autograph notes by Professor Sauppe. By the purchase of this collection, which was rendered possible by the generosity of Mary E. Garrett, the College became possessed of one of the largest and best selected classical libraries in America.

Fire-proof iron shelving has been erected to receive the Sauppe library, and two cataloguers have been engaged to catalogue it.

Our most pressing need is now a fire-proof building in which to place both these and our other books, which are yearly growing more numerous and valuable. Such a building suited for our present needs, and so planned that it could be enlarged indefinitely, would cost from \$15,000 to \$20,000. I hope that we may be able to announce next year that this has been presented by some friend of the College.

Since the subscription for the erection of Dalton Hall, of which mention was made in my report of last year, nothing has so united the Alumnæ and the students of the College as the efforts made by them to raise the \$3,400 necessary to construct, under the gymnasium, a large swimming-tank seventy-five feet long by twenty wide and from four to eight and one-half feet in depth. I am pleased to be able to state that this amount has been contributed during the year, and that the tank is now completed and ready for use.

In my report last year I mentioned that at the close of the year 1892-93 the Trustees had voted to begin a fourth hall of residence, designed to be the largest and most stately of all. As the hall was to be a double hall it was decided to complete during the coming year the west wing only with accommodations for sixty-five students, together with the central tower containing the dining-hall, kitchens and servants' quarters. Ground was broken for this building in Fifth month, 1893, but the building was not ready for occupancy until the second week in Second month, 1894. It was immediately occupied by students, and the demand for rooms for the coming year was so great that the Trustees voted to proceed at once with the east wing. Various modifications were made in the original plans, the most important being the addition of a large room for non-resident students to use as a sitting-room and luncheon-room, and of seven rooms on the

eastern front of the building opening on a separate hall and staircase. At the present time this wing is completed, furnished, and occupied by forty students. The twin halls of Pembroke East and Pembroke West and their central tower are a most important addition to the beauty of the College grounds. The drawing-rooms, students' sitting-rooms and other entertaining rooms of both wings, with the two square halls and staircases ascending from either side to the common dining-hall, supply the need, sorely felt by the College since its opening, of adequate rooms in which to entertain the friends of the College. Our sincere thanks are due the architects, Cope and Stewardson, for the pains they have taken, and for their great success in planning this hall. The stone and wood carvings, the staircases, the gas fixtures, the mantel-pieces, the ceiling, and the tables and chairs of the great dining-hall have all been carefully designed by them to suit the general Jacobean features of the building.

In any account of the College and of the development made possible to it by the liberality of its founder and the generosity of its friends, it is impossible not to remember that during the past year we have lost one of the most generous of our friends, who was always the first to come forward in every hour of need. To George W. Childs of Philadelphia we are indebted for many benefits. From the opening of the College he has presented caps and gowns to students unable to buy caps and gowns for themselves. We had only to ask, and the sum of \$100 or \$200, or as much as was needed, was given. He opened the Wootton grounds and the Wootton green-houses to the students each year. He led the subscription for the building of Dalton Hall with a contribution of \$5000, which he later largely increased. When a year ago the College was menaced by a settlement of small houses at its gate, George W. Childs was one of two to come forward and undertake to pay each year the interest on the purchase money, \$38,000,

until the stress of hard times should be over, and the amount could be raised among the friends of the College. For three years a prize of a gold watch was given by him to the best essayist of the Senior Class. This prize will be continued by his widow in memory of Mr. Childs, and was awarded at the last Conferring of Degrees. I have spoken only of the material benefits conferred on the College, but we, like so many others, have lost much in losing the frequent presence and the sympathy of so true a friend.

The public exercises for the conferring of degrees took place on the seventh of Sixth month, when the degree of A.B. was conferred upon twenty-two candidates. The degree of Master of Arts was conferred upon eight candidates who had been engaged in graduate study for a year or more, and the degree of Doctor of Philosophy was conferred upon a candidate who for four years had pursued studies in Mathematics and Physics.

Franklin H. Giddings, M.A., Professor of Political Science in Bryn Mawr College, spoke to the graduating class and to the assembled friends of the College on the Relation of Social Democracy to the Higher Education. This address contained a much needed warning in regard to the dangers of social democracy, and an exhortation to college-trained women to maintain higher standards of thought and purpose in the face of these dangers.

Fellowships and scholarships were conferred by the Trustees on the following candidates :

MARY BIDWELL BREED, *Bryn Mawr European Fellow.*
Pittsburg, Pa. A.B., Bryn Mawr College, 1894.

ADA ISABEL MADDISON, *Mary E. Garrett European Fellow.*
Reading, England. University of South Wales and Monmouthshire, 1885-89; Girton College, University of Cambridge, England, 1889-92; Mathematical Tripos, 1892; Oxford Greats, 1892; Graduate Student in Mathematics, Bryn Mawr College, 1892-93; B.Sc., University of London, Mathematical Honors, 1893; Fellow in Mathematics, Bryn Mawr College, 1893-94.

ANNA GOODE PASCHALL, *Fellow in Greek.*
Atlanta, Ga. A.B., Vanderbilt University, 1894.

EDITH HAMILTON, *Fellow in Latin.*
Fort Wayne, Ind. A.B. and A.M., Bryn Mawr College, 1894.

Laura Lucinda Jones, *Fellow in English.*
Strathroy, Ont. A.B., University of Toronto, 1891.

MINNA STEELE SMITH, *Fellow in Teutonic Philology.*
Edinburgh, Scotland. Newnham College, University of Cambridge, England, 1890-94;
Mediæval and Modern Languages Tripos, First Class, 1893.

ESTHER TONTANT DE BEAUREGARD, . *Fellow in Romance Languages.*
New Orleans, La. A.B., University of Toronto, 1894.

NELLIE NEILSON, *Fellow in History.*
Philadelphia, Pa. A.B., Bryn Mawr College, 1893. Graduate Student in English
and History, Bryn Mawr College, 1893-94; A.M., Bryn Mawr College, 1894.

FRANCES HARDCASTLE, *Fellow in Mathematics.*
London, England. Girton College, University of Cambridge, England, 1888-92;
Mathematical Tripos, 1891; Part II., 1892; Graduate Student in Mathematics, Bryn
Mawr College, 1892-93; Honorary Fellow in Mathematics, University of Chicago,
1893-94.

AMY CORDOVA ROCK, *Fellow in Chemistry.*
Washington, D. C. A.B., Bryn Mawr College, 1893. Graduate Student in Chemis-
try, Bryn Mawr College, 1893-94.

ESTHER F. BYRNES, *Fellow in Biology.*
Philadelphia, Pa. A.B., Bryn Mawr College, 1891. Demonstrator in the Biological
Laboratory, Vassar College, 1891-93; Mary E. Garrett Scholar in Biology, Bryn
Mawr College, 1893-94.

There have been but few changes in the Faculty, all of the present staff having been re-appointed, with the following exceptions: Professor William Cranston Lawton has resigned the chair of Greek and Latin Literature, and will be succeeded in the year 1894-95 by Robert G. Bury, M.A., Trinity College, Cambridge; Professor Franklin H. Giddings, who has been so closely identified with the interests and progress of Bryn Mawr during the past five years, and who has won a great reputation as a writer and teacher during his residence at Bryn Mawr, has accepted a professorship of Sociology in the University of Columbia. In the important post to which he is called, as the head of what will undoubtedly become the most important department of Sociology in the United States, he will be followed by the most sincere regret and the most cordial interest and sympathy of his colleagues and students. The Trustees

have appointed to the chair of Political Science Dr. Lindley Miller Keasbey, who has resigned the post of professor at the University of Colorado to come to Bryn Mawr. Dr. Keasbey, who has studied at Harvard and Columbia and in Germany, is one of the most noted of our younger political economists.

Other appointments made in the staff of instructors and officers, and promotions in the Faculty, are as follows :

Gonzalez Lodge, Ph.D., has been promoted from Associate to Associate Professor of Latin.

Joseph Auguste Fontaine, Ph.D., has been promoted from Associate Professor to Professor of Romance Languages.

Ross Granville Harrison, Ph.D., has been appointed Lecturer in Morphology for the year 1894-95, to fill the place of Dr. Thomas Hunt Morgan, Associate Professor of Morphology, during the year of absence in Europe granted Dr. Morgan by the Trustees.

Thérèse F. Colin, A.M., Leland Stanford, Jr., University, and Fellow in Romance Languages during the past academic year, has been appointed Reader in Romance Languages.

Phœbe Sheavyn, A.B. and A.M. of London University, has been appointed Reader in English.

Frances Lowater, of Newnham College, Cambridge, England, has been re-appointed Student-Assistant in the Physical Laboratory ; Mary Bidwell Breed, A.B., Bryn Mawr College, and Marie L. Minor, A.B., Bryn Mawr College, have been appointed Student-Assistants in the Chemical and Biological Laboratories.

Dr. Ida Richardson, to whom our sincere thanks are due for her skillful and faithful service to the College, has found herself unable to give the time made necessary by the increased number of students, and has resigned the post of College Physician. In her stead Dr. Mary Sherwood, A.B., Vassar College, M.D., University of Zürich, and Lecturer on Pathology in the Woman's Medical College of Pennsylvania, has been appointed Physician to the College and Lecturer on Hygiene.

Alice Mary Foster, A.B., Vassar College, and M.D., University of Buffalo, a graduate of Dr. Sargent's School of Gymnastics, has been appointed Director of the Gymnasium, in the place of Anna Donaldson McNair, whose resignation was accepted with much regret. Elizabeth Bates, a graduate of the Boston Normal School of Gymnastics, has been re-appointed Assistant.

The gift of the Sauppe Classical Library has made it necessary to increase for the time being our staff of librarians in order that the sixteen thousand books of this library may be made available to the Faculty and students. Willis P. Sewall, A.B., sometime Instructor in French and English in Tufts College, and a graduate of the School of Library Economy at Albany, has been appointed Cataloguer-in-Chief. During the summer months he had two assistants. The work will probably occupy at least a year.

Florence E. Peirce has been re-appointed Librarian ; and Henrietta R. Palmer, A.B., Bryn Mawr College, a graduate of the School of Library Economy of Columbia College, and Acting Librarian, Bryn Mawr College, 1890-91, has been re-appointed Associate Librarian. Elizabeth Baker, B.A., Purdue University, student in the New York State Library School, at Albany, 1891-92, and Assistant Cataloguer Model Library, World's Fair, 1892-93, has been re-appointed Assistant.

The five halls of residence are organized as follows:

Susan S. Chase, Agnes M. Derkheim-Irwin, Sophia Kirk, and Alice Rawle Newbold, have been reappointed to the charge of Radnor Hall, Denbigh Hall, Merion Hall and Pembroke West, respectively. Ida Garber has been appointed to the charge of the newly-opened East Wing of Pembroke Hall.

The office of Dean was abolished by vote of the Trustees, such vote to take effect on Eighth month 31, 1894, and the executive department of the President's office has been organized for the year 1894-95 as follows: Susan Grimes Walker, A.B., Bryn Mawr College, Secretary to the Presi-

dent; Madeline Vaughan Abbott, A.B., Bryn Mawr College, Secretary of the College; Fredericka M. Kerr, Bursar. No new appointments have been made in this department. At the close of the first half of the year, 1893-94, Julia Cope, A.B. of Bryn Mawr College, who had served the College most efficiently since her graduation in 1889, resigned the post of Secretary, to the profound regret of all who had been associated with her. Madeline Vaughan Abbott, who was acting as second secretary to the Dean, was appointed in her stead Secretary to the College.

Notwithstanding the rapid increase in the number of students the success of the Self-Government Association has been unabated. To its former officers it has added an Advisory Board of eight members which assists the officers in reaching important decisions, and shares with them the responsibility of acting upon such decisions.

The growing conviction among the students that the Association affords a wise method of uniting liberty with self-restraint and of utilizing the power of tradition which springs up so quickly in a College, has made conformity to the few regulations of the Association easy. The result has been a high order of college discipline attained with the least friction practicable because the students have cordially supported their own form of government.

The Faculty of the College are grateful to the officers of the Association for the self-sacrificing and judicious manner in which they have fulfilled their delicate duties, and also to the students as a body for their ready co-operation with the Association.

The entire number of students during the year was 243, an increase of 41 as compared with the enrollment for the preceding year. There were 43 graduate students, including the holders of nine fellowships, and the holders of two fellowships by courtesy. The number of graduates was one-sixth of the whole number of students. Of the undergraduates 198 were candidates for the B.A. degree and 2 were "hearers." There were 211 of the students resident in the college halls, and 32 non-resident.

The two hundred and forty-three students in residence during the past year can be classified according to nationalities and countries as follows :

Maine, 1 ; New Hampshire, 2 ; Massachusetts, 16 ; Rhode Island, 3 ; Connecticut, 4 ; New York, 42 ; New Jersey, 12 ; Delaware, 4 ; Pennsylvania, 82 ; Maryland 9 ; Ohio, 5 ; Indiana, 15 ; Illinois, 11 ; Iowa, 4 ; Michigan, 1 ; Wisconsin, 2 ; Minnesota, 2 ; California, 1 ; Kentucky, 10 ; Virginia, 1 ; North Carolina, 2 ; Georgia, 1 ; District of Columbia, 4 ; Missouri, 1 ; Kansas, 1 ; Nebraska, 1 ; Canada, 2 ; England, 2 ; France, 1 ; Japan, 1.

The distribution of the students among the several departments was as follows:

Sanskrit and Comparative Philology, 4 ; Greek, 44 ; Latin, 80 ; English, 156 ; Anglo-Saxon, 15 ; German, 71 ; Gothic and Teutonic Philology, 3 ; French, 50 ; Old French, 1 ; Spanish, 5 ; Italian, 10 ; History, 53 ; Political Science, 70 ; Philosophy, 52 ; Biblical Study, 40 ; Mathematics, 32 ; Physics, 20 ; Chemistry, 45 ; Biology, 47.

The daily morning worship and the meetings held upon Fourth-day evenings have been well attended, especially the former. These occasions have been marked by a reverent spirit, and have been helpful to the spiritual life of the College. The students have continued their meetings on First-day evenings with zeal and united interest. These

meetings have been attended by almost all the students who have remained at the College over First-day, and have tended to stimulate them in the exercise of religious faith. Beside these meetings others designed for prayer and fellowship have been held on the mornings of First-days, and attended by a smaller number of the students. During a part of the year a Bible-class was maintained among the students with an attendance varying from 25 to 70.

The Missionary Society has held repeated meetings, at which the progress of missions in India and kindred subjects were presented. Two of the meetings were held in the interest of the McAll Mission in France, and the latter of these was addressed by the present superintendent of the mission, Charles E. Grieg. The Society sent two delegates to the Convention of Student Volunteers held at Detroit, and continues partially to support a former student of the college as a missionary teacher in a school for girls in India.

The students have also formed a Chapter in the College Settlement Association and continue to give financial aid to that Association.

The Temperance Association of the students was addressed by Mary H. Hunt, and keeps alive an interest in the great moral issue it represents.

The De Rebus Club, an organization designed to keep the students awake to current movements in the outside world, has listened to lectures upon the following subjects: William Dudley Foulke on "Proportional Representation;" Frederick Howard Wines on "Social Evils;" Percival Chubb on "Robert Louis Stevenson and the Romantic Revival in England;" Dr. John Graham Brooks on "Certain Observations on Socialism;" and by Dr. Dickinson Sergeant Miller on "Hypnotism."

Lectures were given before the college by Emilie Conybeare, of England, on "Women in English Politics;" and by Professor William Cranston Lawton on "Catullus, a Roman Ne'er-Do-Weel."

The Graduate Club at its first meeting had the pleasure of hearing Dr. Horace Howard Furness, the eminent Shakesperian scholar, read, with comments, "King Henry the Fifth." Upon two other social occasions to which the Faculty were invited, the Club was addressed by Dr. Edmund B. Wilson, of Columbia University, on "The Physical Basis of Life in some of its Present Aspects"; and by Professor Franklin H. Giddings upon "The Study of Sociology." The College is much indebted to all those who have thus contributed to the instruction and enjoyment of the students.

The following gifts have been received during the past year, in addition to the larger donations mentioned in the earlier part of my report. Gifts of special books to the Library are enumerated and acknowledged in the paragraph relating to the Library.

Our sincere gratitude is due to Francis R. Cope, of Philadelphia, for the gift of \$500 to be expended partly for books relating to the history of the Society of Friends; to Emma Bouvier Childs, for continuance of the George W. Childs Essay Prize; to the Alumnae, students, and friends of the College, for their generous contributions amounting to \$3,425, which have enabled the Trustees to complete the swimming pool during the summer; to Robert Pearsall Smith, for an etching from a picture in his possession representing the treaty of William Penn with the Indians; to Horace Howard Furness, for reading Henry V. before the Graduate Club; to Mary Morris and Elizabeth H. Farnum, of Philadelphia, for a contribution of \$100 each for the foundation of a graduate scholarship of \$200 in Biblical Literature for the year 1894-95; to Francis White, Justus C. Strawbridge, Francis R. Cope and Mary H. Coates, for contributions to the amount of \$100 for the foundation of a graduate scholarship in Biblical Literature for the year 1894-95; to the Mary

E. Garrett Graduate Scholar in Semitic Languages, for \$100 for the purchase of books in her department ; and to the anonymous donor of three fine engravings of Gladstone, Bright, and Cobden, which were framed and hung in the Historical Seminary Room.

In view of the great depression of values and uncertainty in investments, the business interests of the College have caused much solicitude, but the year has ended more favorably than was expected, with a balance in favor of the Trustees, as will appear from the financial statement herewith submitted. This fact, with the increased number of students entered for the coming year, the completion of the building operations during the vacation, and the prosperity that is permitted to attend the College are reasons for profound gratitude. They awaken also the desire that the College may continue so to fulfil the Divine purposes that it may enjoy a constant benediction.

From reports furnished by the instructors in the several departments of the work done in them, the following statements have been compiled :

Sanskrit and Comparative Philology.—The instruction in Sanskrit and comparative philology has been conducted by Dr. Edward Washburn Hopkins.

The graduate work in the department has consisted of a one-hour course on the forms of Indo-European languages, which forms the fifth hour of the graduate course in Greek and in Latin. The point of view was in the main that of the classical languages, with copious illustrations from Sanskrit and Zend. During the second semester syntax was substituted for forms, and there was a close comparison of the theory of moods and cases as applied to the oldest Greek and Sanskrit usage.

Greek.—The instruction in Greek has been conducted by Dr. Edward Washburn Hopkins, Dr. Herbert Weir Smyth, and William Cranston Lawton, M.A.

The class in *elementary Greek* spent five hours throughout the year in preparation for the examination for matriculation in Greek. This class is open to students that possess a reading knowledge of French and German on entering college and elect Greek as a fourth language. Two books of the *Anabasis* and nearly two books of the *Iliad* were read; the class had also constant practice in composition.

The work done by the *minor* class in Greek resembled that of the previous year. This class read, with W. C. Lawton, three times weekly during the first semester, from the *Odyssey*, and completed Books v.–vii., and Books ix.–x.

The same class spent one hour weekly in prose composition, and one hour in reading orations of Lysias with Dr. Hopkins, during the first semester, and read with him for five hours weekly during the second semester. One hour was devoted to prose composition, the other four to translation. In prose composition the usual yearly course was accomplished with weekly written exercises and one hour's comment (or lecture) thereon. In the second semester the translation was from the *Apology* and *Crito* of Plato, and Xenophon's *Memorabilia*, with occasional half-hours devoted to sight reading. This was more successful than with any previous minor class. All of the Plato indicated was read and more than two-thirds of the *Memorabilia*.

The *major*, or second year's class, read with Dr. Hopkins three hours weekly, during the first semester *Æschylus' Persae* together with portions of *Æschylus'* other plays at sight, and listened to lectures on the drama and on the poets. In the second semester the same class read the whole of the seventh book of Thucydides, and portions of the other books, with careful attention to the forms and style of

Thucydides. In both these classes the preceding day's sight reading is regarded as prepared advance work for the next day, so that the usual preparation is required.

The major class also attended W. C. Lawton's lectures on the history of literature throughout the year, twice weekly. The course covered Greek poetry to the decay of the Attic drama, and Greek prose through the time of the ten orators.

The *post-major*, or advanced Greek, classes were as follows : Dr. Hopkins conducted two post-major classes in the first semester, a two-hour course in Demosthenes and a one-hour course in Theocritus. Six students attended the former and seven the latter of these classes. The class in Demosthenes read the whole oration on the Crown, comparing it throughout with the corresponding oration of Æschines. The class in Theocritus read all the first fifteen idylls of Theocritus, and heard occasional lectures on the language and parallel literature of the period represented.

Dr. Smyth read with the post-major students Æschylus' *Agamemnon* two hours weekly during the second semester. Considerable attention was paid to the metres.

Graduate Courses.—The graduate work in Greek has been conducted by Dr. Smyth. The graduate work has now been so organized that students may pursue a course of four hours a week throughout the year devoted to the study of a single subject. This year the dramas of Æschylus and the *Poetics* of Aristotle served as the basis of study. Two plays of Æschylus, the *Suppliants* and the *Persians*, a portion of a third, the *Agamemnon*, and Aristotle's *Poetics*, were commented on by the instructor.

In the seminary (one hour weekly) about 125 verses of the *Persians* were critically interpreted by the members of the class. Lectures were given on the metres (once weekly during the first semester), syntax, style, dialect, scenic antiquities, etc., of Æschylus ; and in conjunction with the study of

the *Poetics* the questions of tragic guilt and expiation, free-will, and allied topics were briefly treated. The members of the class prepared papers on the following subjects, all of which dealt with the dramas of Æschylus: Development of Character-Drawing, Mythology, Political Allusions, Use of the Aorist Participle, Use of Aorist and Imperfect, Use of $\pi\rho\acute{\iota}\nu$.

Latin.—The instruction in Latin has been conducted by Dr. Gonzalez Lodge and William Cranston Lawton, M.A., and has comprised minor, major, post-major, and graduate courses.

In accordance with the scheme of the preceding year, Dr. Lodge took full charge of the minor Latin during the first semester, while W. C. Lawton read four hours weekly during the second semester.

The *minor* class read with Dr. Lodge parts of Sallust's *Catiline*, the twenty-first book of Livy and the *Pro Murena* of Cicero. In addition to the exercise in translation, especial attention was paid to the classical syntax.

The weekly exercise in prose composition throughout the year, was devoted to a review and further study of the important questions of syntax.

During the second semester W. C. Lawton read *Horace* with the minor class, four hours weekly.

With the *major* class Dr. Lodge read three hours weekly throughout the year. During the first semester the *Annals* of Tacitus were read, as in previous years, and especial attention was given to the life of the Emperor Tiberius as detailed by Tacitus. During the second semester the class read the *Satires* of Horace and selections from Juvenal, Tibullus and Propertius.

The *major* class also met W. C. Lawton twice weekly during the year for a course of lectures on Latin literature and the reading of the less familiar authors.

The usual amount of private reading was done by both minor and major classes, viz.: by the minor, Vergil, *Æneid*, VII., VIII., for the first semester; IX., X., for the second; by the major, selected letters of Pliny and selected letters of Cicero.

A *post-major* class read Plautus and Terence with Dr. Lodge twice weekly during the second semester. Dr. Lodge conducted also weekly exercises throughout the year in advanced Latin composition with this class.

A post-major class read with W. C. Lawton twice weekly throughout the first semester selections from Lucretius, especially from Books I., II., III., and V. W. C. Lawton also read Cicero, *De Oratore*, Bk. I., with a post-major class, twice weekly during the first semester.

In the second semester a class read Catullus with W. C. Lawton twice weekly.

Graduate Courses.—The graduate work was this year for the first time fully organized as a four-hour course under the direction of Dr. Lodge. Dr. Lodge lectured one hour weekly throughout the year on the history and development of the drama among the Romans from the earliest times until the death of Seneca. The class met as a seminary once weekly to interpret the *Miles Gloriosus* of Plautus. A third hour was devoted to lectures on matters connected with the main subject, to the analysis and criticism of some of the plays of Plautus, and to the rapid reading of the *Pseudolus*. In the fourth hour the class studied Allen's *Remnants of Early Latin* until Christmas, after which Dr. Lodge lectured on Latin syntax, treating the origin and growth of the various subordinate constructions.

In connection with their work as members of the class, the graduate students prepared and read before the seminary, papers on "The Use of the Infinitive and the Gerundive in the Early Latin Poets," "The Use of the Infinitive by

Terence," "The Iambic Law in Early Latin Versification," "The Use of the Tenses in Early Latin," "The Laws Regulating the Close of Verses in Early Latin," and "The Genitive Case in Seneca."

English.—The instruction in English has been conducted by Dr. M. Carey Thomas, Dr. Mary Gwinn, Dr. James Douglas Bruce, Florence V. Keys, A.B., and Abby Kirk, A.B., and has comprised undergraduate and graduate courses in literature, essay-work, Anglo-Saxon, and Middle English. Fifteen graduate and one hundred and fifty undergraduate students have worked in the English department during the year.

One hundred and fifty students met Dr. Thomas three times weekly in English literature. The instruction consisted of lectures, on which full notes were taken by the students, and a weekly recitation, or quiz, on the subject matter of the lectures and on the private reading. Until Christmas the lectures were on the English language, and from Christmas to the end of the first semester on the history of Anglo-Saxon literature, with an introduction into the study of early Teutonic literature and mythology. In the second semester the lectures treated of the history of English literature to the time of Spenser, inclusive, with an introduction into the study of French mediæval literature, and a short account of Italian literature. In the weekly review the students had an opportunity to ask questions and learn to criticise what was read, and to think over and arrange independently the materials presented by the lectures and reading.

Eighty-one undergraduate students pursued a course of two hours weekly in essay-work, thus completing the five hours of the first year of the required course in English ; each member of the class wrote analyses of two treatises on composition and of selected essays, and two critical essays on subjects belonging to English literature, the subjects being chosen by the stu-

dents themselves, and submitted for approval to their instructors. Twenty-nine undergraduate students pursued a course of two hours weekly in essay-work, thus completing the five hours of the second year of the required course in English; each member of the class wrote four critical essays on subjects connected with English literature, the subjects being in like manner chosen by the students and submitted for approval to their instructors. These courses were conducted by Dr. Mary Gwinn, with the assistance of Abby Kirk, A.B., Reader in English, and Florence V. Keys, A.B., Reader in English. Dr. Gwinn, F. V. Keys, and Abby Kirk were at home three hours of each week throughout the year to students in their classes desiring to consult them in regard to the reading for their essays, and to talk over corrections. Abby Kirk met the first year's class from time to time to direct and criticise their work in rhetoric.

A *minor* class in Anglo-Saxon and Early English met Dr. Bruce three hours weekly throughout the year for the first year of the major course in English, as laid down in the Program. Sievers' *Anglo-Saxon Grammar*, selections from Bright's *Reader*, including the whole of the *Phoenix*, and about one-third of *Beowulf*, were studied during the first semester and a portion of the second. During the same period Ten Brink's *History of Early English Literature* (first volume) was read as parallel reading, together with selections from the chief pieces of Early English Literature wherever modern English translations existed. The concluding seven weeks of the session were devoted to the study of Chaucer's life, language, and writings. Instruction was given by lectures and by practical exercises in matters relating to Chaucer's language and metrical usage, and by reports on questions of literary interest pertaining to his works. The *Knight's Tale* (Morris and Skeat's Edition) was used for class work, but the other principal poems were also read privately in connection with the instructor's lectures.

This same class pursued, under the direction of Dr. Gwinn, a course of two hours weekly in modern theories of style and English prose writers of the seventeenth century. In the first semester Herbert Spencer's *Philosophy of Style*, the main differences between the style of poetry and that of prose, and the main requisites of a prose style, as formulated by Coleridge, Matthew Arnold, Mr. Saintsbury, Pater, Professor Bain, Professor Minto, and other critics, and the outlines of the historical development of English prose, were discussed with the class. In the second semester parts of the works of Bacon, Hooker, Walton, Sir Thomas Browne, Milton, and Jeremy Taylor were read, and essays on these authors written by the members of the class.

A *post-major* class met Dr. Bruce three hours weekly for reading in Anglo-Saxon. The following texts were read entire with the class: *Elene*, *Andreas*, *Exodus*, *Daniel*, *Beowulf*. In the earlier portion of the semester the class was practised in Anglo-Saxon forms and in the scansion of the alliterative verse according to Sievers' system as expounded in lectures accompanying the reading. In the case of each of the above-mentioned poems, lectures were given on questions of sources, authorship, or peculiarities of composition, as the particular instance demanded. The lectures on *Beowulf* especially were intended to constitute a rather full commentary on the elements of myth, saga, and history contained in that poem, on the theories that have been proposed as to its composition, and on questions of Teutonic antiquities in general suggested by the text. The class worked through the portions of Ten Brink's and Müllenhoff's treatises which relate to the First Adventure, and also presented reports on other subjects assigned by the instructor.

Graduate Courses.—Dr. Gwinn conducted a graduate course, twice weekly throughout the year, on English Critics

of Life: Burke, Carlyle, and Ruskin, which was attended by seven graduate students.

Dr. Bruce conducted three graduate courses in Middle English Phonology, *Beowulf*, and Anglo-Saxon Literature, respectively.

The first of these courses was in continuation of the course on the phonology of Old English that was given the preceding year. The class met Dr. Bruce twice weekly, and instruction was given by lectures in the form of a commentary on Ten Brink's *Chaucer's Sprache und Verskunst*. Practical exercises in the application of the principles laid down in the lectures to the language of certain of Chaucer's minor poems were periodically required. As supplementary to the above work during the last seven weeks of the session the class read selections from the principal pre-Chaucerian pieces of middle English literature.

A graduate class in *Beowulf* met Dr. Bruce once weekly throughout the year. In addition to a critical reading of the text, lectures were given on the mythology and antiquities of the poem. The history of the construction of a portion of the text (Heyne's fifth edition) was also carefully studied.

The graduate seminary in the review of Anglo-Saxon literature also met under the direction of Dr. Bruce once weekly throughout the year. This course was conducted altogether on the seminary plan, and consisted of reports on the critical literature relating to the chief monuments of Anglo-Saxon poetry and prose, with especial emphasis on Anglo-Saxon poetry. The books, articles, or dissertations to be reported on were assigned by the instructor at the close of each meeting for the next meeting. The literature was taken up in the order followed by Wülcker in the third division of his *Grundriss*. The history of modern criticism of the Cædmonian and Cynewulfian poems was exhaustively studied in this way. The last four meetings were devoted to the translations which pass under the name of King Alfred.

German.—The instruction in German has been conducted, as in former years, by Dr. Hermann Collitz and Rose Chamberlin.

In the elementary, minor, and major courses, no important changes have been made since last year.

A class in *elementary German* met Rose Chamberlin five hours weekly throughout the year. The necessary elementary grammar was studied, and during the year the class prepared and read: Schiller, *Maria Stuart*; Goethe, *Hermann und Dorothea*; Freytag, *Soll und Haben* (selected portions); Lessing, *Nathan der Weise*, and several modern works. The class also read at sight numerous selections from prose works, and a considerable amount of poetry. The object of this course is to give to those students that on entering college possess a reading knowledge of French and have passed the matriculation examination in Greek a knowledge of German equal to that which is required in the examination for matriculation. The students' knowledge of German is tested at the end of the academic year, by the examination for matriculation.

In the *minor* or first year's course, lectures were delivered in German by Dr. Collitz twice weekly on the history of German literature from Klopstock until Goethe's death. With Rose Chamberlin for two hours weekly the class read critically Schiller's *Wallenstein* and the first part of Goethe's *Faust*. Two more hours were given to German prose composition and to practice in German conversation under the direction of Rose Chamberlin.

For private reading the following works were assigned in the first semester: Lessing's *Emilia Galotti*, Goethe's *Iphigenie*, and selections from Goethe's *Egmont*; and in the second semester, Schiller's *Don Carlos* and *Brant von Messina*, and selections from various *Volksbücher*. Examinations on the

private reading were held during the semester, so arranged that on each work a separate examination was given.

In the *major*, or second year's course, two lectures weekly were given in German by Dr. Collitz on the history of German literature from the earliest times to the middle of the eighteenth century. In connection with these lectures, selections from the first part of Max Müller's *German Classics* were read and explained for one hour weekly. With Rose Chamberlin the class read once weekly selections from the second part of Goethe's *Faust*, and twice weekly the same class met Rose Chamberlin for prose composition and German conversation.

The private reading on which examinations were held during the year, was, in the first semester, Schiller's *Jungfrau von Orleans*, Lessing's *Nathan der Weise* and *Minna von Barnhelm*, and selections from Lessing's *Laoköon*; and in the second semester, Goethe's *Tasso*, Scheffel's *Ekkehard*, and Keller's *Dietegen*.

An additional course was given by Rose Chamberlin in the first part of *Faust* for those that were not prepared to read the second part of *Faust*.

A *post-major* course of five hours was given for undergraduates who had completed the minor and the major course. For two hours weekly these students took part in the graduate course for beginners in Middle High German, given in the first semester by Dr. Collitz, and in the second semester by Dr. Collitz and Rose Chamberlin. The post-major course in Middle High German confirmed the experience, gained in former years, that undergraduate students who have successfully passed the minor and major courses in German are, as a rule, able not only to acquire the very beginnings of Middle High German, but also to translate and to appreciate several of the more important Middle High German works, such as

Hartman's *Armer Heinrich*, the *Nibelungenlied*, and Walther's lyrical songs. Once weekly the class studied critically with Rose Chamberlin Goethe's early lyrics, Lessing's *Laoköon*, and part of Herder's works. Two more hours with Rose Chamberlin were given to essay work in German, and to practice in German conversation. Most of the private reading done in this course consisted of selections from Middle High German texts.

An informal *Conversation class* met once weekly throughout the year with an average attendance of from ten to fourteen.

Graduate Courses.—Advanced courses were given in several of the earlier Teutonic languages and in comparative Teutonic philology.

A course in Middle High German was conducted by Dr. Collitz and Rose Chamberlin for two hours weekly during the academic year. In the first semester the class studied with Dr. Collitz the elements of Middle High German grammar, and read part of Hartman's *Armer Heinrich*. The instruction, as in former years, was arranged so that after the first two or three introductory lessons, the reading of Hartman was at once begun. In connection with the reading, the differences between Middle High German and modern German were pointed out, and also, apart from the reading, the elements of Middle High German grammar were studied systematically. In the second semester the instruction was divided, so that one hour was spent in reading with Dr. Collitz the best-known songs of Walther von der Vogelweide, while the second hour was spent in studying the *Nibelungenlied* with Rose Chamberlin; some time was also given to the study of the *Nibelungenfrage*.

Dr. Collitz conducted the following graduate courses :

A course in Gothic was given twice weekly in the first semester and once weekly in the second semester, Wright's *Gothic Primer* being used as a text-book. This course served

grammatical purposes exclusively, and was conducted on a plan, tested in our courses for many years, according to which the study of Gothic grammar is not confined merely to acquiring the facts of the Gothic language, but is combined with an account of some fundamental results of comparative Aryan and Teutonic grammar: the Gothic *Ablaut* is compared with the primitive Aryan vowel system; in connection with the Gothic consonants Grimm's law and Verner's law are commented upon; the differences between strong and weak inflection are explained as developed from differences existing in primitive Aryan, and Grimm's terminology is shown to be erroneous in that it establishes a parallel between "weak" declension and "weak" conjugation. This method serves the double purpose of showing that the position occupied by the Gothic language is that of a connecting link between the rest of the Teutonic and the cognate Aryan languages, and of conveying to the students some information on theories that every graduate student in Teutonic grammar should be familiar with.

Old Norse was studied once weekly throughout the year, in continuation of a course given in 1892-93. It seemed advisable to divide the time equally between grammar and literature. For the grammatical part Noreen's *Old Icelandic Grammar* served as a basis. Selections were made from the ample material furnished by Noreen for Old Icelandic phonetics and inflection, and the students' attention was called to the points where the author's theories are open to correction. The literary part of the course was chiefly concerned with the two *Eddas*, the first semester being given to the younger, and the second semester to the elder Edda. A thorough, critical study was made of the *Völuspá*, the most important poem in the elder Edda, due attention being paid to the tradition of the text, the structure of the Old Norse alliterative verse, and the authority of the poet's mythological system.

Students acquainted with Gothic and Middle High German received instruction in Old High German once a week in

the second semester. Braune's *Abriss der Althochdeutschen Grammatik* was studied, and the differences pointed out between Old High German and Gothic on the one hand, and between Old High German and Middle High German on the other hand. Selections from Braune's *Althochdeutsches Lesebuch* were read, arranged in such a manner as to proceed from easy to more difficult pieces, and also to cover the chief dialects in Old High German. This course is to be continued next year.

Dr. Collitz conducted once weekly throughout the year a seminary in Teutonic philology, which presupposed a knowledge on the part of the students of Greek and Latin, as well as of Gothic, Anglo-Saxon, Old Saxon, and Old, or at least Middle High German. Several of the fundamental topics in Teutonic phonetics and inflection were selected, such as *Ablaut* and *Umlaut*, Westphal's law, Grimm's and Verner's laws, the different classes of nouns and verbs in Teutonic, the inflection of nouns, etc., and in each case the development of the Teutonic sounds or forms was traced from primitive Aryan through primitive Teutonic into the single Teutonic languages. The course was conducted in such a way as to enable and to encourage the students to take an active part in the researches going on in the field of Teutonic philology. For this reason the literature on the single topics was given in full, and wherever in important questions the opinions of competent scholars differ, the reasons for the different theories and the degree of their probability were discussed. New theories were proposed in many cases, and the attention of the students was called to subjects which it would be desirable to investigate anew. This course too will be continued next year. A research begun by the Fellow in Teutonic Philology promises to add to our knowledge of the treatment in Westgermanic of the vowels in final syllables.

The department desires to acknowledge the advantages that it expects to derive from the acquisition during the last year of the Sauppe library. Several of the historical books and

journals (*e.g.*, the *Zeitschrift des Vereins von Altertumsfreunden im Rheinlande*, *Zeitschrift für Sächsisch-Thüringische Geschichte*, *Blätter des Hansischen Geschichtsvereins*) and of the general reference works and general periodicals (*e.g.*, the publications by the academies of Berlin, Göttingen, Leipsic, Munich, and Vienna) contain valuable materials and papers on German literature, language, and national life, while the rich collection of books and pamphlets on Greek, Latin, and comparative grammar is likely to be consulted not only by students of the ancient languages, but also by students of comparative Teutonic philology. The most important part of the Sauppe library for students in the German department is, however, the valuable Goethe-collection it contains. This collection, which consists of several hundred volumes, includes first or early editions of many of Goethe's works, most of the collections of Goethe's correspondence, books and pamphlets concerning Goethe's life and works (among them several private and rare works), and finally a considerable amount of literature by, and on, Goethe's contemporaries, more especially Herder and Schiller, in the eighteenth and the early nineteenth century. The main part of this collection was brought together during the time when Sauppe was director of the "Gymnasium" at Weimar, when he lived in personal intercourse with the family of the Duke of Weimar, with Goethe's grandsons, and with men like Köhler, Schöll, Liszt, Hirzel, and others, who cultivated the memory of the glorious days in which Weimar won the name of "Athens on the Ilm."

Romance Languages.—The instruction in Romance languages has been conducted by Dr. Joseph A. Fontaine, Frederic M. Page, and Thérèse F. Colin, Fellow in Romance languages.

The class in *elementary French* met F. M. Page five hours weekly. Drill in pronunciation and in the value of accent-

uation was given. The grammatical forms and irregular verb system were studied, and exercises and dictations illustrated the ordinary laws of French syntax. Whitney's *Elementary Grammar* was used as a text-book. The readings in prose and poetry included Whitney's *Reader*, of which parts, especially the poetry, were read twice; Victor Hugo, *La Chute* and *Hernani*; Gautier's *Voyage en Espagne*; a number of Daudet's *Contes*, and D. C. Heath's collection of French Lyrics. The work of the class was, on the whole, satisfactory. The object of this course is to give to those students that enter college with a reading knowledge of German, and have passed the matriculation examination in Greek, a knowledge of French equal to that which is required in the examination for matriculation.

The students of the *minor* class heard lectures, twice weekly, during the first semester, by Dr. Fontaine on eighteenth century literature. In reading the works of Lesage, Montesquieu, and other leading authors, due attention was paid to social, political, and religious transformations, and frequent comparisons with preceding or subsequent literary periods helped the students to acquire a clear comprehension of what constitutes the essential features of French thought in the Eighteenth Century. During the second semester two hours a week were devoted to the Nineteenth Century literature. The works of Madame de Staël and Chateaubriand were discussed at length, it being deemed important for the students to understand thoroughly the rôle played by these two authors towards the beginning of the Nineteenth Century, and to comprehend how under their combined efforts new elements of life were infused into French literature, and how the once narrow literary standard became broader and more sympathetic. Some ten or twelve of the most important poets and novelists were then studied, and a detailed analysis was made of their works.

An evening hour was selected by Dr. Fontaine for the

study of French sounds and practice in conversation. Any student that desired to enter was admitted to the class.

The minor class also met Madame Colin twice weekly. The work of the year comprised a study of grammatical forms, including irregular and defective verbs, followed by a survey of syntax with written exercises in prose composition and a comparative study of French and English idioms in connection with French texts; sight reading and translation; critical readings from contemporaneous authors for their individual styles and diversified vocabulary; and training of the student's ear to the rapid enunciation of the spoken tongue. In order to enable the student to understand spoken French it was found necessary to add systematic drill in French sounds, and in the division and linking of words. The works read in class and in private were: Balzac, *Le Curé de Tours*; Gautier, *Voyage en Espagne*; de Vigny, *Cinq-Mars*; George Sand, *La Mare au Diable*; Mérimée, *Colomba*; Halévy, *L'Abbé Constantin*; Daudet, *Contes Choisis*; Pailleron, *Le Monde où l'on s'ennuie*.

The *major*, or second year's class, met Dr. Fontaine five hours weekly. They heard lectures two hours weekly during the whole of the first semester, and a third of the second semester, on Seventeenth Century French literature. The authors then studied were La Rochefoucauld, Pascal, La Bruyère, Madame de Sévigné, Bossuet, Bourdaloue, Fénelon, and Massillon. It is gratifying to notice that by their interest in the works of these authors, the students gave evidence of seriousness of thought, maturity of mind and sound literary taste. It was also found advisable to acquaint the major students with the rich critical literature of France, and from time to time lectures on French criticism from Malherbe to Sainte-Beuve and Taine were delivered. The examination papers show that these lectures were of much benefit to the students. Finally, the course was concluded with thirteen lectures on the second period of Nineteenth

Century French literature, the leading Parnassians, Leconte de Lisle, Sully Prudhomme, and François Coppée being the object of a special study. French composition, critical reading, and conversation occupied each one hour a week.

Graduate Courses.—The graduate work in French is under the direction of Dr. Fontaine. The course in Old French Drama, once weekly throughout the year, included the reading and interpretation of the earliest dramatic productions, such as *Sponsus*, *Mystère d'Adam*, *Résurrection du Sauveur*, *le Jeu de Saint Nicholas*, *le Jeu de Robin et de Marion*, *le Miracle de Théophile*, and some twenty-two other miracle plays, eight moralités and sotties, twenty farces and one comedy, thus bringing the history of French drama down to the sixteenth century.

The works of Chrétien de Troyes, *Chevalier au Lyon*, *Cligès*, and part of *Erec et Enide*, were read once weekly throughout the year, and made the basis for a study of French comparative syntax, morphology, and derivation.

The study of French phonetics was based on Suchier's *Altfranzösische Grammatik (die betonten Vocale)*. This class met twice weekly throughout the year.

A seminary once weekly was allotted to discussion of pedagogical subjects and current French literature.

Italian.—The *minor* class in Italian met F. M. Page three hours weekly throughout the year. In addition to the study of the grammar and writing of exercises, the reading included De Amicis, *Camilla*; *A vent' anni*; *Un'ordinanza singolare*; *Una medaglia*; and a few extracts read in class; about fifty pages of Manzoni, *Promessi Sposi*; fourteen cantos of Dante, *Inferno*; seven cantos of Dante, *Purgatorio*.

The instructor feels that perhaps the work in this class would be more thorough if the Dante study were reserved for the second year course. The difficulties for beginners are such that much time is taken up both in private study and in class in attempting to overcome them.

The *major*, or second year's, class in Italian met F. M. Page four half-hours a week. The work consisted of lessons in syntax (Sauer's *Grammar*), including one exercise a week, and review of the forms and irregular verbs. The Dante study of the first year was continued in the first term, and included seven cantos of Dante, *Purgatorio*; ten cantos of Dante, *Paradiso*, of which five were private reading; Dante, *Vita Nuova*; Fraticelli, *Dissertazione* on the *Vita Nuova*; Ariosto, *Orlando Furioso*, about nine cantos. Readings from Symonds' *Italian Renaissance* were also assigned; Ruffini, *Dottor Antonio*; numerous poems, odes, sonnets, etc., from De Gubernatis, *Florilegio lirico*; Alfieri, *Saul*; Leopardi, *Canzoni* and *Odes*.

The private reading included a portion of the *Vita Nuova* and *Paradiso*, *Dottor Antonio*, and Ambrosoli, *Introduction to the History of the Italian Nineteenth Century Poets*; Howells, *Italian Poets*; and one or two extracts bearing upon the Italian literature of the first quarter of this century. The work done by this class was excellent, and represented more time than the prescribed two hours.

Spanish.—A *minor* class in Spanish met F. M. Page twice weekly. Knapp's *Grammar* was thoroughly studied as to forms and the syntax was applied in exercises, and as far as the limited time permitted, sight-reading was done in class.

The works read and prepared were: most of Knapp's *Reader*; *El Barómetro*; Valera, *Pepita Jimenez*, one volume; Trueba, volume XXXIII; *Naraciones populares*; Moratin, *El si de las Niñas*; and *Don Quixote*, about ten chapters. One member of the class did some outside reading in Spanish literature of the Sixteenth Century.

The *major* work in Spanish consisted of a one-hour course of reading which comprised several *Disertaciones literarios* by Valera; a number of chapters of *Don Quixote*; Alarcon, *Verdad Sorpechosa*; Calderon, *La Vida es Sueño*.

Biblical Literature and Semitic Languages.—The instruction in this department has been conducted by Dr. George A. Barton.

The class in the *general course* in the *Origin and Contents of the Biblical Books* met two hours weekly in the second semester. The general outline of the work of the course was the same as last year. The method of treating the New Testament books was, however, somewhat changed. The Epistles were first studied in chronological order, and an effort was made to trace the knowledge of the life of Christ they reveal, as well as the evidences contained in them of the existence, when they were composed, of a written Gospel. After this the Gospels were studied as fully as the time permitted. This method was found at once more scientific and more interesting. The essays written on New Testament subjects were more thoughtful than in former years, and gave more evidence of wider reading than those of any previous year.

As a part of a *major course* in Semitic languages, a course in Assyrian was offered once weekly throughout the year; it consisted in a study of the grammar of the language and its syllabary as presented in Lyon's *Assyrian Manual*, and in reading, first in transliteration and then in the cuneiform text, the Egyptian campaign of Assurbanipal. During the second semester, Delitzsch's *Assyrian Grammar* was studied, and the Taylor cylinder of Sennacherib and the Chaldean account of the deluge were read in the cuneiform text. The class was an earnest one, and gained a considerable degree of facility in reading the complex Assyrian characters.

A *post-major course* in the Cuneiform inscriptions and the Old Testament met once weekly throughout the year. The work of this class was in all respects similar to that of the class in this subject last year.

Graduate Courses.—Dr. Barton conducted a class in graduate Biblical literature twice weekly throughout the year. The critical questions of the authorship and dates of the Biblical books were studied as fully as the time would allow. The first semester was devoted to the Old Testament, and the second to the New. Different members of the class presented from time to time reports of the investigations and opinions of the leading scholars that have written on the topic discussed, and thus became familiar with the different opinions on the questions connected with the literature. The lectures were designed to place the facts before the students, and to help them to reach conclusions for themselves. During each semester a special topic was investigated by each student, and a paper written upon it.

A course in New Testament Greek and Textual Criticism was given twice weekly throughout the year. A study was made of the characteristics of the New Testament Greek, the materials extant for the emendation of the New Testament text, and the proper method of using them; about two-fifths of the Gospels were read in harmony with a view to gathering material for the solution of the synoptic problem; a considerable portion of the Acts of the Apostles was read, with special reference to the investigations of Ramsay and Smith; and seven of the Pauline Epistles were critically read and interpreted.

A class in Patristics met twice weekly throughout the year. One hour was devoted to readings from the Greek texts of sub-Apostolic literature, Barnabas, Clement of Rome, Polycarp, Ignatius, the Shepherd of Hermas, and the Epistle to Diognetus, and another hour was spent in a general survey of the patristic literature down to the time of Augustine, and the critical questions connected with it.

A seminary was conducted by Dr. Barton bi-weekly for the purpose of investigating the relationship of the parts of sub-Apostolic literature to each other, and to some of the New Testament canonical literature. The chief topics investigated

were the Relation of Barnabas and the *Διδαχὴ*, and the Authorship and Date of the Second Epistle of Peter. A large part of the time was spent on the *Διδαχὴ*, and a paper on it will soon be published by one of the graduate students.

The great need of the department at present is better library facilities. The money placed at the disposal of the department for the purchase of books from year to year is entirely inadequate for the purchase of the necessary books which are published yearly on the Old and New Testaments, while for outlying subjects, such as Assyriology and Patristics, subjects of vital importance to a thorough study of the Bible, the department has nothing to spend except what is taken from the sum for the purchase of much-needed books that bear on the Bible. An adequate sum of money for the purchase of books on all the aspects of Biblical and Semitic study covered by this department, is greatly needed.

History.—The instruction in history has been conducted by Dr. Charles M. Andrews. Certain changes, rendered necessary by the increase of students and the desire for additional graduate courses, have been made in the work of the department. The lectures on ancient history that were formerly given to the undergraduates have been discontinued. In their place lectures upon European history in the Eighteenth and Nineteenth Centuries, covering the same amount of time,—namely, five hours a week throughout the year,—have been substituted, and a system of alternating courses has been introduced. By this means the time given to the undergraduate lectures is five hours a week throughout the year, and although this in no way limits the range of the undergraduate work, it increases considerably the hours devoted to graduate work.

The *major* work for 1893-94 consisted of lectures upon the history of Europe from the fall of Rome to the treaty of Westphalia. During the first semester the class consisted of

thirty-five students, two of whom were hearers; during the second the number was increased to forty-two, four of whom were hearers. The system of essays, reports, and monthly examinations was continued, and a large proportion of the class translated and summarized the contents of selected articles from the *Revue historique*, *Deutsche Zeitschrift für Geschichtswissenschaft*, *Historische Zeitschrift*, *Revue des Deux Mondes*, *Bibliothèque de l'école des Chartes*. The object of such work was to bring the students into touch with many phases of historical research and criticism, as well as to give them practice in reading French and German. In many cases members of the class reported orally the results of their study. For private reading the class used the writings of Gibbon, Emerton, Church, Hodgkin, Kitchin, Fustel de Coulanges, Secretan, Guizot, Freeman, Henderson, Kington-Oliphant, Milman, Sedillot, Sybel, Michaud, Cox, Hallam, Sismondi, May, Woolsey, Schaff, Symonds, Burckhardt, Beard, Poole, Häusser, Fisher, Ranke, Ward, Motley, Creighton, Gindely, Gardiner, and other accessible works.

In the *post-major* course two lectures weekly throughout the year were given upon English and American constitutional history; in English history the lectures closed with the Commonwealth, in American history with the Constitution of 1789. Owing to the difficulty of completing so extensive a subject in what has proved to be an inadequate amount of time, it has been decided to divide the course, giving only the lectures in English constitutional history in 1894-95, and those on American constitutional history in 1895-96. During the past year the course was taken by four undergraduate students and one graduate. Use was made of such material as the college library affords, which, although excellent so far as it goes, is inadequate for thorough work. Until this department shall acquire a larger number of statutes, state papers, colonial records, and governmental documents than it now possesses, the class work must be in a measure un-

satisfactory. Stubbs, Bémont, Prothero and Gardiner fill the want for English history, but there is no satisfactory collection of the material necessary for the study of the constitutional history of America.

Graduate Courses.—Two graduate courses were given, each twice weekly throughout the year. The first course in Historical Definition, Method and Criticism, formerly occupying one hour a week throughout the year, was enlarged this year by lectures on the philosophy of history as shown in the writings of Vico, Bossuet, Bodin, Turgot, Voltaire, Condorcet, Herder, Schlegel, Hegel, de Maistre, Guizot, Cousin, Comte, Buckle, and others. The remainder of the lectures followed the outline in the Program of 1894. This course was taken by three graduate students, each of whom completed and presented a study in historical criticism.

The second graduate course in the Sources of English History was taken by two students, each of whom possessed the required knowledge of Latin and Anglo-Saxon. Portions of Nennius, *Historia Britonorum*; Gildas, *De Excidio Britannicæ*; Beda, *Historiæ Ecclesiasticæ*; the Anglo-Saxon chronicle, and the chronicles of Florence of Worcester and Simeon of Durham; Asser, *De Rebus Gestis Ælfredi*; extracts from the charters and laws, fac-similes of Edward the Confessor's Charter to Westminster, Domesday Book and Magna Carta were read, and discussed. This practical work was introduced by lectures upon the printed collections of material for English history.

Political Science.—The instruction in political science has been conducted by Franklin H. Giddings, A.M. No important change was made in the arrangement of courses in political science.

In the *minor* course the first two weeks of the first semester were devoted to elementary lectures on general sociology, in which the relations of various branches of economic, legal,

and political studies were pointed out. The student was thus enabled to get, at the beginning of her course, an idea of the general character of all the work of the department in both undergraduate and graduate courses.

The remainder of the semester was then given as in former years to the fundamental course in political economy. No change in methods was necessary, the combination of lecture, text, written exercise, and review of previous years, having been found to be here, as the best instructors have found it to be in other colleges, the only satisfactory plan for this grade of work. In the second semester the subjects were the origins and development of legal and political institutions. Much time was given to the history of the common law, and it was again found, as in the year preceding, that no part of the undergraduate work of this department was more interesting or valuable.

The first semester's work in the *major* course was a study of communism and socialism. Each student prepared papers on particular phases of these questions, making good use of the library facilities. The class entered very earnestly upon this study, and accomplished excellent work. The second semester was given in like manner to the course on the history of political theories.

Graduate Courses.—Two courses of graduate lectures were given; one in sociology, of one hour weekly throughout the year, was taken by six well-prepared students; the other, in advanced political economy, of one hour weekly, was taken by four students. No undergraduate was admitted to either of these courses. The class in sociology met monthly as a seminary, and read papers on the descriptive sociology of the State of Pennsylvania. Among the sub-divisions of the subject were: the increase and redistribution of population in the past ten years; the increase and redistribution of industries; crime, pauperism, and insanity; education. The papers

were statistical in substance and in form, and were accompanied by original maps.

The work accomplished during the year by the Fellow in Political Science, Jane L. Brownell, A.M., was of so unusual a character as to deserve particular mention. Besides the lecture courses and examinations in sociology and political economy technically necessary to obtain her Master's degree, Miss Brownell made an original investigation of the growth and limitations of population in the United States, on the basis of the tenth and eleventh Census returns. The results, embodied in a long paper on "The Significance of a Decreasing Birthrate," were published in the *Annals of the American Academy of Political and Social Science*, of July, 1894, and have been widely recognized in this country and in Europe as of great scientific value. Mr. Herbert Spencer has made this paper the subject of a new page added to the fifth edition of the "Principles of Biology," in which he claims that Miss Brownell's statistics have verified conclusions put forth by him many years ago in his discussion of the Laws of Multiplication.

Philosophy.—The instruction in philosophy has been conducted by Dr. Dickinson Sergeant Miller.

The *required course*, three hours weekly throughout the year, consisted of elementary instruction in logic, psychology, and history of modern philosophy, and was studied with the aid of Jevons' *Lessons in Logic*, James' *Psychology*, and Royce's *Spirit of Modern Philosophy*. The work of the class was excellent, no student failing in the mid-year examination, and but one out of a class of forty-four in the final examination. In that part of the course devoted to philosophy proper, Prof. Royce's work was studied outside the class-room, and the characteristic conceptions and problems of the subject were treated in class by the interrogative method and by discussion; this experiment met with encouraging success.

Two *post-major* courses were given; one on British Philosophy in the Seventeenth and Eighteenth Centuries, and another on Recent Philosophic Theories. In the historical course in British philosophy part of Hobbes' *Leviathan*, a considerable part of Locke's *Essay Concerning the Understanding*, the whole of Berkeley's *Dialogues between Hylas and Philonus* (with fragments of other works), and the whole of Hume's *Enquiry Concerning the Human Understanding* and *Enquiry Concerning the Principles of Morals* were studied. The interrogative as well as the expository method was used. The aim was one of sympathetic historical study as well as of analytic criticism.

The course in Recent Philosophic Theories treated of certain leading metaphysical problems, and of the chief recent attempts to solve them. No works were exhaustively read, but finding unity in the problems rather than in the authors, the course passed from book to book and from essay to essay, endeavoring to give an exact notion of the present position of controversy and the materials for forming definite judgment.

President Rhoads gave a course of lectures twice weekly during the first semester on Ethics. The foundation of ethics upon facts universally observed among men and familiar to all self-reflective persons was stated, and the likeness and unlikeness of ethics to the natural sciences was shown. The psychological elements of our moral nature were examined, and the grounds of certainty in knowledge, the nature of obligation, and the sources of moral law were considered. Many classes of duties were discussed in the light of natural and Christian ethical principles; and also the moral aspects of social problems, such as the right of property, the nature and authority of the State, the restriction of the use of alcoholic drinks, the relations of employer and employed, and the treatment of the dependent and criminal classes. Porter's *Elements of Moral Science* was used as a text-book, but readings were assigned in Martineau, Calderwood, Spencer, Maurice, Robinson, Dymond, Dorner, Sidgwick, and other writers on ethics.

Mathematics.—The instruction in mathematics has been conducted by Dr. Charlotte Angus Scott and James Harkness, A.M. In the mathematical department the work in the minor and major courses has been carried on in accordance with the Program.

In *elementary mathematics* courses in trigonometry, three hours weekly, and solid geometry, twice weekly, were given by J. Harkness and Dr. Scott during the second semester.

A *minor* class of six students took the first semester's work, five hours weekly, in analytical geometry, with Dr. Scott.

The same class read five hours weekly with J. Harkness during the first half of the second semester, algebra, advanced trigonometry, and theory of equations, and during the second half of the semester, elementary differential and integral calculus.

A *major* class of six students attended, five hours weekly during the first semester, J. Harkness's lectures on advanced differential and integral calculus and elementary differential equations. The class work and papers handed in at the mid-year examination were exceptionally good. In the second semester these students attended the usual lectures on analytical geometry of two and of three dimensions, and on the history of mathematics, given by Dr. Scott. This class was, without exception, the best major class Dr. Scott ever had. The work was uniformly good, and more than the usual amount was accomplished during the semester.

Five students attended Dr. Scott's *post-major* lectures in modern algebra two hours weekly throughout the year. The text-book was, as before, Salmon's *Higher Modern Algebra*, but through a great part of the semester lectures were delivered treating the subject of invariants and covariants from a rather different point of view. The work during the whole year was most satisfactory.

James Harkness conducted two post-major courses throughout the year. One of these was attended by five students in the first semester, and by seven in the second semester. The earlier lectures were on parts of the differential and integral calculus that were omitted in the major course; these were followed by a course on those parts of differential equations that are required in applied mathematics. Attention was paid to such subjects as Fourier's Series and Spherical Harmonics. All the members of the class did satisfactory work.

The other post-major course was much more advanced, and was attended by two students. The subject matter of this set of lectures was taken from recent developments in the theory of differential equations, and free use was constantly made of the processes of the theory of functions. The text-books were Forsyth's *Differential Equations*, Craig's *Differential Equations with Uniform Coefficients*, Forsyth's *Theory of Functions*, and Jordan's *Cours d'Analyse*, Vol. III.

Graduate Courses.—Dr. Scott conducted the work of the Fellow, who devoted her time to an investigation on the envelopes of families of curves in continuation of the work done in 1892–93. This will probably furnish the material for a thesis to be presented for the degree of Ph.D. in the course of a year or two. The work was most creditable in every way, and showed her to be an unusually strong student with a special faculty for research.

During the first semester James Harkness gave a special set of lectures on dynamics. These lectures were intended to serve as preparation for Dr. Mackenzie's course on wave motion. The text-books were Minchin's *Statics*, and Tait and Steele's *Dynamics*; special attention was paid to the theory of attractions and of the potential function.

Physics.—The instruction in physics has been conducted by Dr. Arthur Stanley Mackenzie and Dr. Edgar Buckingham.

The *minor* and *major* courses were carried on by Dr. Mackenzie and Dr. Buckingham after the plan laid down in the Program. Dr. Mackenzie lectured on the general properties of matter, mechanics, and electricity to the minor class, and on the theory of heat and the theory of light to the major class. Dr. Buckingham lectured on heat, light, and sound to the minor class, and on mechanics and the theory of electricity to the major class. The work done by both classes was extremely satisfactory. In the laboratory systematic work was done by the students throughout the year under the direction of the instructors, assisted by Frances Lowater.

A *post-major* course of lectures on physical chemistry was given twice weekly during the second semester by Dr. Buckingham. The course was introduced by a few lectures on thermodynamics, especially the Carnot-Clausius principle, to enable students to understand the work of Van t'Hoff in this field. The later lectures were devoted to the newer applications of physics to problems in chemistry; special attention was paid to the theory of solutions and allied subjects. No text-book was used, but frequent references were made to Ostwald's *Allgemeine Chemie*.

Graduate Courses.—Dr. Mackenzie conducted a course on Clerk Maxwell's *Theory of Electricity and Magnetism* during the second semester. As this course was followed by an advanced student, the plan of lectures offered in the Program was abandoned, and assigned portions of Maxwell were read carefully by the student, and weekly conferences were held by the instructor.

A course of lectures on the theory of wave motion was given by Dr. Mackenzie three times weekly during the second semester. As an introduction to this James Harkness had given a course on dynamics twice weekly during the first semester. After a careful study of simple harmonic motion

the lecturer went on to develop Fourier's theorem, and especially to study its physical aspect. The equations of heat conduction and of the passage of electricity down a cable were then formed, and various problems thereon solved by the aid of Fourier's theorem. The similarity of the equations in these two subjects was noted, and problems solved in one were translated into terms of the other. The reflection (including total reflection) and refraction of waves at a bounding surface of two media were then discussed, and applications made in the case of light and sound. Frequent references were given to Fourier's book on *The Analytical Theory of Heat*, to Byerly on *Fourier's Series and Spherical Harmonics*, and to Bassett on *Physical Optics*.

During the past year the physical library has been enriched by the addition of the complete series of the *Philosophical Magazine* and *B. A. Report*, but more money is urgently needed for journals for the use of advanced students. Similarly in the laboratory the equipment for undergraduate work is very satisfactory, but as the number of advanced students increases the apparatus for their work is entirely inadequate.

Chemistry.—The instruction in chemistry has been conducted by Dr. Edward H. Keiser and Dr. Elmer P. Kohler, and has comprised minor, major, post-major and graduate courses.

During the past year the equipment of the laboratory has been extended to some degree by means of the fund contributed by Justus C. Strawbridge, of Philadelphia. Theodore D. Rand, of Philadelphia, has kindly sent us a number of new mineral specimens to be added to the collection of rocks and minerals given to us in previous years. The greater part of the yearly appropriation was expended for the current wants of the laboratory.

The total number of students in the department has been forty-four, of whom thirty-three have pursued the minor course, four the major, and seven the post-major and graduate courses.

The *minor*, or first year's, course has conformed closely to the work outlined in the Program. In this course four lectures and one quiz weekly were given, and in addition the class worked five and one-half hours weekly in the laboratory. As in previous years each student in this class was required to prepare and deliver a lecture upon an assigned topic. In preparing these lectures the students were required as far as possible to obtain their information from original sources, and to treat the subject exhaustively.

In the *major* course two lectures weekly, upon organic chemistry, were given by Dr. Keiser, and two upon analytical and inorganic chemistry and one upon theoretical chemistry were given by Dr. Kohler. During the first semester the laboratory work consisted chiefly in exercises in the methods of chemical analysis, and in the second semester in the preparation and study of typical organic compounds.

Graduate Courses.—The principal feature of the year's work has been the character of the *post-major* and *graduate* courses. The work in these courses is so arranged that graduate students entering the college in any year can, for three years, take a continuous line of work leading to the doctor's degree.

During the past year a course of lectures upon organic chemistry was given once weekly throughout the year by Dr. Keiser, and during the second semester a course by Dr. Kohler upon physical chemistry was given once weekly.

One hour weekly was devoted to a journal meeting, which was attended by the post-major and graduate students and the instructors of the department. Articles appearing in the current chemical journals were systematically reported and discussed at these meetings. In addition to this a series of

lectures was given by the graduate and post-major students upon assigned topics in organic chemistry. The lectures were as follows: Acetylene and its Derivatives (two lectures); The Constitution of Benzene (two lectures); Recent Synthetical Experiments in the Sugar Series (two lectures); Stereochemistry (two lectures); Carbonic Acid Derivatives (one lecture); Cyanogen Compounds (one lecture); Origin of the Naturally-Occurring Hydrocarbons (one lecture). These lectures were highly successful, and no part of the work proved more interesting and stimulating. In the laboratory work, which constitutes the most important part of these advanced courses, a number of investigations have been carried on. Researches upon the following subjects have been undertaken: The Metallic Derivatives of Acetylene; Redetermination of the Atomic Weight of Palladium; The Complete Gravimetric Synthesis of Water and The Atomic Weight of Oxygen; Sulphoacetic Acid Chloride and its Derivatives.

Biology.—The instruction in biology has been conducted by Dr. Thomas H. Morgan, Dr. Joseph W. Warren, Dr. Harriet Randolph, and Leah Goff, A. B.

In all forty-six students registered for courses in the biological department. Of these thirty-one were in the minor, or first year's course, six were in the major course, three in the post-major, and six were graduate students.

The work of the *minor* course was divided among the instructors, as follows: in the first semester the lectures in general biology were given by Dr. Morgan, and consisted of two parallel courses, designated A and B.—Course A embraced lectures on general biology proper, while course B was made supplementary to course A, and included lectures and demonstrations, and practical work in the class-room on a single group of animals.

The laboratory work corresponded to the lectures in course A, and was carried on by Dr. Morgan, Dr. Randolph, and L. Goff.

In the second semester, Dr. Warren lectured five times weekly to the minor students in general biology, covering the vertebrate portion of the work. Both in careful attention to the lectures and in excellence of laboratory work this class was quite equal to its predecessor. In April and May Dr. Morgan gave the part of the course on the development of the chick. In January and February Dr. Randolph gave a course of sixteen lectures with laboratory work in systematic botany. Six of these were on typical forms of the higher cryptogams and flowering plants. The remaining lectures treated of the outlines of the physiology of plants. The laboratory work of the second semester was carried on by Dr. Warren, Dr. Randolph, and Leah Goff.

The *major*, or second-year, class followed, during the first semester, a course of lectures given five hours weekly by Dr. Warren in physiology and histology. The usual six hours laboratory work accompanied the lectures. This was directed by Dr. Warren, with the assistance of Dr. Randolph.

In the second semester of the major year, a course of lectures on general zoölogy was given by Dr. Morgan. Three lectures a week in general zoölogy alternated with lectures twice a week in the comparative anatomy of vertebrates by Dr. Warren.

After Easter the lectures in general zoölogy were devoted to more theoretical questions, and were given under the title of advanced biology. This course was given by Dr. Morgan.

Post-major courses were conducted by Dr. Morgan and Dr. Warren, but the work was largely individual, and varied according to the needs of the separate students.

Post-major laboratory work in physiology was done under the direction of Dr. Warren, who gave a course of lectures once weekly on the central nervous system. This course was taken by four students.

Graduate Courses.—Lectures were given to the graduate students as follows:

Dr. Morgan gave a course of lectures, fortnightly, throughout the year, on advanced biology.

Dr. Warren gave a course of lectures, weekly, throughout the year, on physiological optics. The class was attended by three students.

A journal club met once fortnightly for reports and discussion of recent literature in morphology and physiology.

Alternating with the journal club the seminary met for lectures on special subjects which were prepared and delivered by graduate students.

Laboratory work was carried on by one of the graduate students in continuation of her previous studies of the fore-runners (zymogens) of certain ferments of importance in the digestive processes of animals. The general results of this interesting research have been reported at meetings of the American Physiological Society. As the investigation is not yet complete a brief preliminary account of the work has been recently published (June 16th, 1894) in the *Centralblatt f. Physiologie*.

At the beginning of the first semester the Fellow in Biology undertook an important investigation of the question of the fatigue of the sensory nerves, but was unfortunately compelled to postpone it on account of her temporary absence from college.

Special research work in physiology was undertaken by one of the post-major students under Dr. Warren's direction. During the first semester she was instructed in some of the more special methods of research, and during the second semester she was engaged in original investigation with a view to determining the daily variation of the hæmoglobin as shown by the hæmometer of von Fleischl. The results were necessarily incomplete, but it is hoped that use will be made of the observations in connection with others already made by our students.

During the year the equipment of the physiological laboratory, for demonstration as well as research, has been materially increased. This has been rendered possible by gifts from Justus C. Strawbridge and another friend of the college, and by the expenditure of a small fund contributed to this end by one of the earlier classes in the department.

We now have the admirable set of wax models, made by Ziegler, to illustrate the chief types of vertebrate brains. Numerous new preparations of brains of sheep, cats, dogs, etc., have also been made in the laboratory. In this connection we have made extensive use of a new hardening material, formic aldehyde, (or "formalin"), which promises to be an important addition to our resources.

The new pieces of apparatus purchased for the laboratory include: two Marey's drums; sphygmograph of the Marey pattern, and also one according to Dudgeon; a delicate writing magnet, commonly called "the signal of Deprez;" an apparatus according to Thoma-Zeiss for counting blood corpuscles; a hæmometer of the von Fleischl pattern; two pairs of sheathed electrodes; one "du Bois-Reymond key." We have also bought a hemisected skull and a set of hand and foot bones mounted on catgut for more detailed study than is permitted by our skeleton. In the laboratory a working model has been constructed to demonstrate Englemann's theory of muscle contraction, and also a piece of apparatus for the study of the finger-jerk. A simple switch-board has been put in the physiological laboratory. From this wires run to various tables in the room as well as to the battery-chamber of the general laboratory, and to the table in the lecture-room. We shall shortly set up a permanent battery in the chamber built for this purpose, and thus shall be always ready for simple experiments or demonstrations requiring electricity.

Much more apparatus is urgently needed, and some of the most desirable pieces we hope to acquire during the coming year. A laboratory such as ours should spend little money

for showy and expensive machinery, which can be used only at long intervals and for very special purposes. It is far more instructive to use simple devices as far as practicable, and to train the students to work with such appliances and to make new combinations of them as the research or demonstration may require. To aid in this training we also need a fuller supply of tools and other workshop appliances than we now possess.

During the summer of 1893 the Bryn Mawr investigation room at Wood's Holl was occupied by Dr. Thomas H. Morgan and Dr. Harriet Randolph.

The Library.—The additions to the library during the year have been one thousand eight hundred and fifty-nine bound volumes, and between two and three hundred pamphlets. The total number of books in the library, exclusive of the Sauppe collection, is thirteen thousand five hundred and eighty-five. One hundred and sixty-four periodicals are taken by the library. Through the generous donation of Mary Elizabeth Garrett, of Baltimore, the library has received the complete collection of books of the late Professor Hermann Sauppe, professor of Classical Philology in Göttingen University. From the fund of one thousand dollars mentioned in an earlier part of this report, four hundred and seven volumes have been purchased. The earlier volumes of sets of periodicals have been obtained from this fund, and have already proved of very great value; from the fund have also been purchased many Spanish, Italian and Norse books. During the year one of the main rooms of the library has been shelved from floor to ceiling with the adjustable Stikeman shelving, a gallery giving access to the upper stacks. The space for shelving is rapidly becoming insufficient; already certain class-rooms have been utilized for the shelving of books, and must be closed to readers during the lecture hours. Moreover the reading-rooms are

now uncomfortably crowded. In another year the library will be unable to accommodate the numerous students that daily use it ; therefore an earnest plea for a separate library building is made. Unless the usefulness of the library is to be seriously curtailed, such a building should be erected at once.

The library is open from 8 A.M. to 10 P.M.

The following gifts have been received during the year and are gratefully acknowledged :

Mary E. Garrett: Sauppe Library, (8000 bound volumes, 7000 dissertations).

Mary E. Garrett: \$1,000 for purchase of periodicals, etc.

Elizabeth P. Smith: use of share in Philadelphia Library for three years.

Francis R. Cope: books relating to the Society of Friends.

Anonymous: \$5 for the purchase of biological books.

James Harkness: "Treatise on the Theory of Functions," by Professors Harkness and Morley.

Mrs. E. W. Blatchford: Hardy, "Life of Joseph Hardy Neesima."

William M. Thayer: "The True Woman," given by publishers.

W. G. Peckham: "New verses from the Harvard Advocate," 1876-86. Given by the author.

Ethics Class, 1894, Bryn Mawr College: Porter, "Moral Science," two copies.

Dr. Mary Gwinn: Scott and Denney, "Paragraph Writing."

Caspar E. Haines: "Revue des Deux Mondes," vol. 19.

Professor T. S. Morris: "Final Causes as a Principle of Cognition ;" "Theory of Unconscious Intelligence."

Dr. Hermann Collitz: Kurschuer, "Deutscher Litteratur Kalender, 1892;" "Taschenbuch," 1891 ; "Beygingsterka sagnorda, Islens-norka," No. 5.

Louis Bridel: "La femme et le droit;" "L'enseignement supérieure à Lausanne;" "Le droit des femmes et le mariage."

Mrs. T. Unwin Fisher: The Cobden Club Publications.

Dr. C. A. Scott: Klein, "Lectures on Mathematics."

Mary E. Garrett Graduate Scholar in Biblical Literature: \$100 for purchase of books in the department of biblical study.

Dr. James E. Rhoads: "Advocate of Peace," subscription, 1894.

Dr. Joseph W. Warren: Sprague, "Handbook of Volapük;" two pamphlets on Volapük.

Volta Bureau: "Education of Deaf Children," by J. E. Gordon.

David G. Alsop: McLaurin, "Fluxions," 2 volumes; Poisson, "Mécanique," 2 volumes; Simpson, "Calculus," "Conic Sections;" Lardner, "Calculus;" Nulty, "Geometry;" Emerson, "Fluxions;" Church, "Analytical Geometry;" Muller, "Physics and Meteorology;" Bland, "Philosophical Problems;" Lagrange, "Mecanique analytique;" La Place, "Exposition du système du monde;" Biot, "Traité d'astronomie physique;" Delambre, "Astronomie théoretique et pratique."

Samuel Beck: Havergal, "Kept for the Master's Sake."

Dr. J. D. Bruce: "Anglo-Saxon Version of Book of Psalms," given by the author; McLean, "Old and Middle-English Reader."

Frothingham: "Christian Philosophy," 2 vols., given by publishers.

F. D. Stone: "Pennsylvania Archives, 1777-1790," and index, 8 vols; "Colonial Records," vol. IV and vol. XIII.

Joshua L. Bailey: "Temperance in all Nations;" "Papers of World's Temperance Congress," 2 vols.

A. Isabel Maddison, "On certain Factors of the c and p Discriminants, their Relation to Fixed Points on the Family of Curves.

A large number of Government and State Publications.

Publications.—The following papers or works have been published by the members of the Faculty during the year:

Dr. Charles M. Andrews,

“Die Stadt in Neu-England, ihr Ursprung und ihre agrarische Grundlage.” *Zeitschrift für Social- und Wirthschaftsgeschichte*, Band II., Heft II.

Dr. George A. Barton,

1. “The Semitic Ishtar Cult,” Part I., *Hebraica*, Vol. IX.
2. “Native Israelitish Deities.” *The Oriental Studies of the Oriental Club of Philadelphia*.
3. “On the Sacrifices Kalil and Shelem-Kalil in the Marseilles Phœnician Inscription.” *Proceedings of the American Oriental Society*, 1894.
4. “The Gospel of Peter.” *The Friends’ Review*, September, 1893.
5. A series of articles entitled “Facts about the Bible.” *The Friends’ Review*, December, 1893, to June 1894.

Dr. James Douglas Bruce,

“The Anglo-Saxon Version of the Book of Psalms Commonly Known as the Paris Psalter.” *Publications of the Modern Language Association*, Vol. IX.

Dr. Edgar Buckingham,

“Ueber einige Fluoreszenzerscheinungen.” *Zeitschrift für Physikalische Chemie*, Band XIV., Heft I., May 1894.

Dr. Hermann Collitz,

1. A review of Paul’s “Grundriss der deutschen Philologie.” No. 1, *Modern Language Notes*, 1893.
2. Articles on “Dutch Language,” “Flemish Language,” and “Frisian Language and Literature.” *Johnson’s Cyclopaedia*.
3. “The Aryan Name of the Tongue.” *Oriental Studies*, Boston, 1894.

Franklin H. Giddings, A. M.,
 "The Theory of Sociology." *American Academy of Political and Social Science.*

Dr. Edward Washburn Hopkins,

1. "The Dog in the Rig-Veda." *American Journal of Philology*, Vol. XV.

2. "Henotheism in the Rig-Veda." *Drisler Memorial Volume.*

3. "Holy Numbers in the Rig-Veda." Read before the *Philadelphia Oriental Club.*

4. "Epic Calvinism." *Proceedings of the Oriental Society.*

5. Reviews: two of Holtzmann's *Mahā Chārata*; one of Schmidt's *Çrivara*; one of the *Çukasaptati*.

Dr. Edward H. Keiser,

"The Atomic Weight of Palladium." By Dr. Edward H. Keiser and Mary B. Breed, A.B. *American Chemical Journal*, Vol. XVI., page 20 (1894).

Dr. Gonzalez Lodge,

"Gildersleeve's Latin Grammar." Third edition, revised and enlarged by B. L. Gildersleeve and Gonzalez Lodge, 1894.

Dr. Arthur Stanley Mackenzie,

"On the Attractions of Crystalline and Isotropic Masses at Small Distances" (abstract). *Johns Hopkins University Circulars*, Vol. XIII., No. 112.

Dr. Dickinson Sergeant Miller,

"The Meaning of Truth and Error." *Philosophical Review*, July 1893.

"The Relation of 'Ought' and 'Is'." *International Journal of Ethics*. July 1894.

"The Confusion of Content and Function in the Analysis of Ideas." Read at a Meeting of The American Psychological Association, New York, December 1894.

Frederic M. Page,

“Fausto, a study of the South American Gaucho and his Language.” Read before the *Modern Language Association*. 1894.

Dr. Charlotte A. Scott,

“On Plane Cubics.” A paper read before the Royal Society, November 1893. *Philosophical Transactions of the Society*. 1894.

“An Introductory Account of Certain Modern Ideas and Methods in Plane Analytical Geometry.” Macmillan, London.

Dr. Joseph W. Warren,

“Zur Ptyalinogenfrage.” *Centralblatt für Physiologie*. June 16, 1894.

Respectfully submitted to the Trustees at their meeting held Tenth month 12th, 1894.

JAMES E. RHOADS.

TABLE OF SUBJECTS STUDIED AND TERMS OF STUDY

| SUBJECT | PARTICULAR SUBJECT | INSTRUCTOR | No. IN CLASS | HOURS WEEKLY | TERM OF STUDY | |
|--------------------------------|--|--------------|--------------|---------------------------------|---------------------------------|--|
| GREEK | Elementary Greek, Grammar and Composition, Xenophon | Dr. Smyth | 5 | 5 | 10 mo. 3, '93, to 1 mo. 22, '94 | |
| | Elementary Greek, Xenophon's Anabasis, Books I-II, Homer's Iliad, Books I-II | " | 7 | 5 | 2 mo. 2, '94, to 5 mo. 23, '94 | |
| | Homer's Odyssey, Books V-VII, IX-X, minor | W. C. Lawton | 15 | 3 | 10 mo. 3, '93, to 1 mo. 22, '94 | |
| | Plato, Audocides, minor | Dr. Hopkins | 14 | 4 | 2 mo. 2, '94, to 5 mo. 23, '94 | |
| | Greek Prose Composition, minor | " | 15 | 2 | 10 mo. 3, '93, to 1 mo. 22, '94 | |
| | Greek Prose Composition, minor | " | 13 | 1 | 2 mo. 2, '94, to 5 mo. 23, '94 | |
| | History of Greek Literature, Epic and Lyric, major | W. C. Lawton | 9 | 2 | 10 mo. 3, '93, to 1 mo. 22, '94 | |
| | Lectures on Greek Literature, Drama and Prose, major | " | 11 | 2 | 2 mo. 2, '94, to 5 mo. 23, '94 | |
| | Æschylus, major | Dr. Hopkins | 8 | 3 | 10 mo. 3, '93, to 1 mo. 22, '94 | |
| | Thucydides, major | " | 8 | 3 | 2 mo. 2, '94, to 5 mo. 23, '94 | |
| | Lyric Poets and Theocritus, post-major | " | 7 | 1 | 10 mo. 3, '93, to 1 mo. 22, '94 | |
| | Demosthenes, post-major | " | 6 | 2 | 10 mo. 3, '93, to 1 mo. 22, '94 | |
| | Æschylus, post-major | Dr. Smyth | 6 | 2 | 2 mo. 2, '94, to 5 mo. 23, '94 | |
| | New Testament Greek, post-major | Dr. Barton | 1 | 2 | 10 mo. 3, '93, to 1 mo. 22, '94 | |
| | New Testament Greek, post-major | " | 1 | 2 | 2 mo. 2, '94, to 5 mo. 23, '94 | |
| | <i>Graduate Classes</i> | | | | | |
| | Æschylus, Aristotle | Dr. Smyth | 4 | 4 | 10 mo. 3, '93, to 5 mo. 23, '94 | |
| | Lectures on Comparative Philology | Dr. Hopkins | 4 | 1 | 10 mo. 3, '93, to 1 mo. 22, '94 | |
| | Lectures on Comparative Philology | " | 3 | 1 | 2 mo. 2, '94, to 5 mo. 23, '94 | |
| | Sallust, Livy, Cicero, minor | Dr. Lodge | 51 | 4 | 10 mo. 3, '93 to 1 mo. 22, '94 | |
| Horace, minor | W. C. Lawton | 52 | 4 | 2 mo. 2, '94, to 5 mo. 23, '94 | | |
| Latin Prose Composition, minor | Dr. Lodge | 51 | 1 | 10 mo. 3, '93, to 1 mo. 22, '94 | | |
| Latin Prose Composition, minor | " | 47 | 1 | 2 mo. 2, '94, to 5 mo. 23, '94 | | |
| SANSKRIT | | | | | | |
| LATIN | | | | | | |

TABLE OF SUBJECTS STUDIED AND TERMS OF STUDY—[CONTINUED]

| SUBJECT | PARTICULAR SUBJECT | INSTRUCTOR | No. IN CLASS | HOURS WEEKLY | TERM OF STUDY |
|---|--|--------------|--------------|---------------------------------|---------------------------------|
| LATIN | Lectures on Latin Literature, major | W. C. Lawton | . 10 . | . 2 . | 10 mo. 3, '93, to 1 mo. 22, '94 |
| | Lectures on Latin Literature, major | " | . 9 . | . 2 . | 2 mo. 2, '94, to 5 mo. 23, '94 |
| | Tacitus, major | Dr. Lodge | . 10 . | . 3 . | 10 mo. 3, '93, to 1 mo. 22, '94 |
| | Juvenal, Tibullus, Propertius, major | " | . 11 . | . 1 . | 2 mo. 2, '94, to 5 mo. 23, '94 |
| | Laetorius, post-major | W. C. Lawton | . 5 . | . 2 . | 10 mo. 3, '93, to 1 mo. 22, '94 |
| | Catullus, post-major | " | . 5 . | . 2 . | 2 mo. 2, '94, to 5 mo. 23, '94 |
| | Cicero, post-major | " | . 5 . | . 2 . | 10 mo. 3, '93, to 1 mo. 22, '94 |
| | Plautus, post-major | Dr. Lodge | . 3 . | . 2 . | 2 mo. 2, '94, to 5 mo. 23, '94 |
| | Latin Prose Composition, post-major | " | . 3 . | . 1 . | 10 mo. 3, '93, to 1 mo. 22, '94 |
| | Latin Prose Composition, post-major | " | . 4 . | . 1 . | 2 mo. 2, '94, to 5 mo. 23, '94 |
| | <i>Graduate Classes</i> | | | | |
| | Roman Drama, Seminary | Dr. Lodge | . 5 . | . 3 . | 10 mo. 3, '93, to 5 mo. 23, '94 |
| | Early Latin | " | . 5 . | . 1 . | 10 mo. 3, '93, to 1 mo. 22, '94 |
| | Early Latin, Latin Syntax | " | . 6 . | . 1 . | 2 mo. 2, '94, to 5 mo. 23, '94 |
| | Lectures on the English Language and Lectures on the History of Anglo-Saxon Literature | Dr. Thomas | . 132 . | . 3 . | 10 mo. 3, '93, to 1 mo. 22, '94 |
| | Lectures on the History of English Literature to the time of Milton | " | . 146 . | . 3 . | 2 mo. 2, '94, to 5 mo. 23, '94 |
| Essay Work, Required, first year | Dr. Gwinn & A. Kirk | . 78 . | . 2 . | 10 mo. 3, '93, to 5 mo. 23, '94 | |
| Review of Rhetorics, minor | Dr. Gwinn | . 8 . | . 2 . | 10 mo. 3, '93, to 5 mo. 23, '94 | |
| Essay Work, Required, second year | Dr. Gwinn & F. Keys | . 29 . | . 2 . | 10 mo. 3, '93, to 5 mo. 23, '94 | |
| Anglo-Saxon, Bright's Reader, minor | Dr. Bruce | . 9 . | . 3 . | 10 mo. 3, '93, to 1 mo. 22, '94 | |
| Beowulf and Chaucer, minor | " | . 10 . | . 3 . | 2 mo. 2, '94, to 5 mo. 23, '94 | |
| Elene, post-major | " | . 3 . | . 3 . | 10 mo. 3, '93, to 1 mo. 22, '94 | |
| Elene and Andreas, post-major | " | . 3 . | . 3 . | 2 mo. 2, '94, to 5 mo. 23, '94 | |

TABLE OF SUBJECTS STUDIED AND TERMS OF STUDY—[CONTINUED]

| SUBJECT | PARTICULAR SUBJECT | INSTRUCTOR | NO. IN CLASS | HOURS WEEKLY | TERM OF STUDY |
|--|--|---------------|--------------|---------------------------------|---------------------------------|
| ENGLISH . . . | <i>Graduate Classes</i> | | | | |
| | Burke, Carlyle and Ruskin | Dr. Gwinn | 10 . . . | 3 . . . | 3, '93, to 5 mo. 23, '94 |
| | Review of Anglo-Saxon Literature | Dr. Bruce | 2 . . . | 1 . . . | 10 mo. 3, '93, to 5 mo. 23, '94 |
| GERMAN . . . | Beowulf | " | 2 . . . | 1 . . . | 10 mo. 3, '93, to 5 mo. 23, '94 |
| | Middle English Phonology | " | 2 . . . | 2 . . . | 2 mo. 2, '94, to 5 mo. 23, '94 |
| | Elementary German, Grammar and Reading | R. Chamberlin | 18 . . . | 5 . . . | 10 mo. 3, '93, to 1 mo. 22, '94 |
| | Elementary German, Grammar and Reading | " | 16 . . . | 5 . . . | 2 mo. 2, '94, to 5 mo. 23, '94 |
| | German Conversation | " | 22 . . . | 1 . . . | 10 mo. 3, '93, to 1 mo. 22, '94 |
| | German Conversation | " | 12 . . . | 1 . . . | 2 mo. 2, '94, to 5 mo. 23, '94 |
| | German Composition, minor | " | 16 . . . | 1 . . . | 10 mo. 3, '93, to 1 mo. 22, '94 |
| | German Composition, minor | " | 16 . . . | 1 . . . | 10 mo. 3, '93, to 1 mo. 22, '94 |
| | German Literature, minor | Dr. Collitz | 17 . . . | 2 . . . | 2 mo. 3, '93, to 1 mo. 22, '94 |
| | German Literature, minor | " | 16 . . . | 2 . . . | 2 mo. 2, '94, to 5 mo. 23, '94 |
| | Reading, Wallenstein, minor | " | 18 . . . | 2 . . . | 10 mo. 3, '93, to 1 mo. 22, '94 |
| | Reading, Faust, Part I., minor | R. Chamberlin | 21 . . . | 2 . . . | 2 mo. 2, '94, to 5 mo. 23, '94 |
| | German Composition, major | " | 6 . . . | 1 . . . | 10 mo. 3, '93, to 1 mo. 22, '94 |
| | German Composition, major | " | 6 . . . | 1 . . . | 2 mo. 2, '94, to 5 mo. 23, '94 |
| | German Literature and German Classics, major | Dr. Collitz | 8 . . . | 3 . . . | 10 mo. 3, '93, to 1 mo. 22, '94 |
| German Literature and German Classics, major | " | 7 . . . | 3 . . . | 2 mo. 2, '94, to 5 mo. 23, '94 | |
| German Reading and Criticism, Faust, Part I., major | R. Chamberlin | 9 . . . | 1 . . . | 10 mo. 3, '93, to 1 mo. 22, '94 | |
| German Reading and Criticism, Faust, Part I., major | " | 8 . . . | 1 . . . | 2 mo. 2, '94, to 5 mo. 23, '94 | |
| German Reading and Criticism, Faust, Part II., major | " | 4 . . . | 1 . . . | 10 mo. 3, '93, to 1 mo. 22, '94 | |
| German Reading and Criticism, Faust, Part II., major | " | 6 . . . | 1 . . . | 2 mo. 2, '94, to 5 mo. 23, '94 | |
| <i>Graduate Classes</i> | | | | | |
| Middle High German | | Dr. Collitz | 4 . . . | 2 . . . | 10 mo. 3, '93, to 1 mo. 22, '94 |

TABLE OF SUBJECTS STUDIED AND TERMS OF STUDY—[CONTINUED]

| SUBJECT | PARTICULAR SUBJECT | INSTRUCTOR | NO. IN CLASS | HOURS WEEKLY | TERM OF STUDY |
|---|---|---------------|--------------|---------------------------------|---------------------------------|
| GERMAN | Middle High German, Walther | Dr. Collitz | 3 | 1 | 2 mo. 2, '94, to 5 mo. 23, '94 |
| | Middle High German, Nibelungenlied | R. Chamberlin | 3 | 1 | 2 mo. 2, '94, to 5 mo. 23, '94 |
| | Teutonic Philology | Dr. Collitz | 3 | 1 | 10 mo. 3, '93, to 5 mo. 23, '94 |
| | Old Norse | " | 1 | 1 | 10 mo. 3, '93, to 5 mo. 23, '94 |
| | Gothic | " | 1 | 1 | 10 mo. 3, '93, to 5 mo. 23, '94 |
| | Old High German | " | 2 | 1 | 2 mo. 2, '94, to 5 mo. 23, '94 |
| | Elementary French, Grammar and Reading | F. M. Page | 4 | 5 | 10 mo. 3, '93, to 5 mo. 23, '94 |
| | French Literature of the Eighteenth and Nineteenth Centuries, minor | Dr. Fontaine | 10 | 2 | 10 mo. 3, '93, to 1 mo. 22, '94 |
| | French Literature of the Eighteenth and Nineteenth Centuries, minor | " | 14 | 2 | 2 mo. 2, '94, to 5 mo. 23, '94 |
| | French Critical Reading, minor | T. F. Collin | 7 | 1 | 10 mo. 3, '93, to 1 mo. 22, '94 |
| French Critical Reading, minor | " | 13 | 1 | 2 mo. 2, '94, to 5 mo. 23, '94 | |
| French Composition, minor | " | 8 | 1 | 10 mo. 3, '93, to 1 mo. 22, '94 | |
| French Composition, minor | " | 14 | 1 | 2 mo. 2, '94, to 5 mo. 23, '94 | |
| French Conversation, minor | Dr. Fontaine | 16 | 1 | 10 mo. 3, '93, to 1 mo. 22, '94 | |
| French Conversation, minor | " | 15 | 1 | 2 mo. 2, '94, to 5 mo. 23, '94 | |
| French Literature of the Seventeenth Century and second part of the Nineteenth Century, major | " | 13 | 2 | 10 mo. 3, '93, to 1 mo. 22, '94 | |
| French Literature of the Seventeenth Century and second part of the Nineteenth Century, major | " | 12 | 2 | 2 mo. 2, '94, to 5 mo. 23, '94 | |
| French Critical Reading, major | " | 14 | 1 | 10 mo. 3, '93, to 1 mo. 22, '94 | |
| French Critical Reading, major | " | 15 | 1 | 2 mo. 2, '94, to 5 mo. 23, '94 | |
| French Critical Reading, major | " | 11 | 1 | 10 mo. 3, '93, to 1 mo. 22, '94 | |
| French Composition, major | " | 8 | 1 | 2 mo. 2, '94, to 5 mo. 23, '94 | |

TABLE OF SUBJECTS STUDIED AND TERMS OF STUDY—[CONTINUED]

| SUBJECT | PARTICULAR SUBJECT | INSTRUCTOR | NO. IN CLASS | HOURS WEEKLY | TERM OF STUDY |
|---|--|--------------|--------------|---------------------------------|---------------------------------|
| FRENCH . . . | French Conversation, major | Dr. Fontaine | . 12 . | . 2 . | 10 mo. 3, '93, to 1 mo. 22, '94 |
| | French Conversation, major | " | . 14 . | . 1 . | 2 mo. 2, '94, to 5 mo. 23, '94 |
| ITALIAN . . . | <i>Graduate Classes</i> | | | | |
| | Old French Seminary and Literature | Dr. Fontaine | . 1 . | . 4 . | 10 mo. 3, '93, to 5 mo. 23, '94 |
| | Italian Composition and Reading, Dante and Modern Authors, minor | F. M. Page | . 8 . | . 3 . | 10 mo. 3, '93, to 1 mo. 22, '94 |
| | Italian Composition and Reading, Dante and Modern Authors, minor | " | . 6 . | . 3 . | 2 mo. 2, '94, to 5 mo. 23, '94 |
| | Italian Composition and Literature, Dante, Ariosto and Authors of beginning of 19th Century, major | " | . 2 . | . 2 . | 10 mo. 3, '93, to 5 mo. 23, '94 |
| | Spanish Composition and Reading, Cervantes and Modern Authors, minor | " | . 4 . | . 2 . | 10 mo. 3, '93, to 5 mo. 23, '94 |
| SEMITIC LANGUAGES AND BIBLICAL LITERATURE | <i>Graduate Classes</i> | | | | |
| | Course of Literature | " | . 1 . | . 1 . | 10 mo. 3, '93, to 5 mo. 23, '94 |
| | Assyrian | Dr. Barton | . 1 . | . 2 . | 10 mo. 3, '93, to 5 mo. 23, '94 |
| | Patriotic Greek | " | . 1 . | . 2 . | 10 mo. 3, '93, to 5 mo. 23, '94 |
| | Advanced Biblical Literature | " | . 5 . | . 2 . | 10 mo. 3, '93, to 1 mo. 22, '94 |
| | Advanced Biblical Literature | " | . 4 . | . 2 . | 2 mo. 2, '94, to 5 mo. 23, '94 |
| | The Cuneiform Inscriptions and the Old Testament | " | . 2 . | . 1 . | 10 mo. 3, '93, to 5 mo. 23, '94 |
| | Seminary in Biblical Literature | " | . 1 . | 1 hour frugally | 10 mo. 3, '93, to 5 mo. 23, '94 |
| | The History of Medieval Europe to the Period of the Renaissance | Dr. Andrews | . 36 . | . 5 . | 10 mo. 3, '93, to 1 mo. 22, '94 |
| | From the Period of the Renaissance to the close of the Religious Wars | " | . 42 . | . 5 . | 2 mo. 2, '94, to 5 mo. 23, '94 |
| English and American Constitutional History | " | . 5 . | . 2 . | 10 mo. 3, '93, to 5 mo. 23, '94 | |

TABLE OF SUBJECTS STUDIED AND TERMS OF STUDY—[CONTINUED]

| SUBJECT | PARTICULAR SUBJECT | INSTRUCTOR | No. IN CLASS | Hours WEEKLY | TERM OF STUDY |
|---|---|----------------|--------------|---------------------------------|---------------------------------|
| HISTORY | <i>Graduate Classes</i> | | | | |
| | Historical Definition, Method and Criticism | Dr. Andrews | 3 | 2 | 10 mo. 3, '93, to 5 mo. 23, '94 |
| | Sources of English History | " | 3 | 2 | 10 mo. 3, '93, to 1 mo. 22, '94 |
| | Sources of English History | " | 2 | 2 | 2 mo. 2, '94, to 5 mo. 23, '94 |
| | Political Economy, minor | F. H. Giddings | 44 | 5 | 10 mo. 3, '93, to 1 mo. 22, '94 |
| | Political and Legal Institutions, minor | " | 47 | 5 | 2 mo. 2, '94, to 5 mo. 23, '94 |
| | Advanced Political Economy, minor | " | 11 | 5 | 10 mo. 3, '93, to 1 mo. 22, '94 |
| | Political Theories, major | " | 15 | 5 | 2 mo. 2, '94, to 5 mo. 23, '94 |
| | <i>Graduate Classes</i> | | | | |
| | Political Economy | " | 3 | 1 | 10 mo. 3, '93, to 1 mo. 22, '94 |
| Political Economy | " | 4 | 1 | 2 mo. 2, '94, to 5 mo. 23, '94 | |
| Sociology | " | 7 | 1 | 10 mo. 3, '93, to 5 mo. 23, '93 | |
| Logic, Psychology and History of Philosophy | Dr. Miller | 42 | 3 | 10 mo. 3, '93, to 1 mo. 22, '94 | |
| Logic, Psychology and History of Philosophy | " | 44 | 3 | 2 mo. 2, '94, to 5 mo. 23, '94 | |
| Lectures on Christian Ethics | Pres. Rhoads | 38 | 2 | 10 mo. 3, '93, to 1 mo. 22, '94 | |
| Lectures on the Origin and Contents of the Books of the Bible | Dr. Barton | 36 | 2 | 2 mo. 2, '94, to 5 mo. 23, '94 | |
| British Philosophy of the 17th and 18th Centuries | Dr. Miller | 4 | 3 | 10 mo. 3, '93, to 1 mo. 22, '94 | |
| British Philosophy of the 17th and 18th Centuries | " | 3 | 3 | 2 mo. 2, '94, to 5 mo. 23, '94 | |
| MATHEMATICS | <i>Graduate Classes</i> | | | | |
| | Recent Philosophic Theories | " | 3 | 2 | 10 mo. 3, '93, to 1 mo. 22, '94 |
| | Recent Philosophic Theories | " | 4 | 2 | 2 mo. 2, '94, to 5 mo. 23, '94 |
| | Trigonometry, Required | J. Harkness | 9 | 3 | 2 mo. 2, '94, to 5 mo. 23, '94 |
| | Solid Geometry, Required | Dr. Scott | 4 | 2 | 2 mo. 2, '94, to 5 mo. 23, '94 |
| | Analytical Conics, minor | " | 6 | 5 | 10 mo. 3, '93, to 1 mo. 22, '94 |

TABLE OF SUBJECTS STUDIED AND TERMS OF STUDY—[CONTINUED]

| SUBJECT | PARTICULAR SUBJECT | INSTRUCTOR | No. IN CLASS | HOURS WEEKLY | TERM OF STUDY |
|---|---|-------------------------------|--------------|---------------------------------|---------------------------------|
| MATHEMATICS | Algebra, Advanced Trigonometry, and Theory of Equations, and Elementary Differential and Integral Calculus, minor | J. Harkness | 6 | 5 | 2 mo. 2, '94, to 5 mo. 23, '94 |
| | Differential and Integral Calculus, Differential Equations, major | " | 6 | 5 | 10 mo. 3, '93, to 1 mo. 22, '94 |
| | History of Mathematics, major | Dr. Scott | 5 | 1 | 2 mo. 2, '94, to 5 mo. 23, '94 |
| | Analytical Geometry of Two and Three Dimensions, major | " | 6 | 4 | 2 mo. 2, '94, to 5 mo. 23, '94 |
| | Modern Higher Algebra, post-major | " | 6 | 2 | 10 mo. 3, '93, to 5 mo. 23, '94 |
| | Advanced Differential and Integral Calculus, Differential Equations post-major, (elementary) | J. Harkness | 6 | 2 | 10 mo. 3, '93, to 1 mo. 23, '94 |
| | Differential Equations, post-major (elementary) | " | 7 | 2 | 2 mo. 2, '94, to 5 mo. 23, '94 |
| | Differential Equations, post-major (advanced) | " | 2 | 3 | 10 mo. 3, '93, to 1 mo. 22, '94 |
| | Differential Equations, post-major (advanced) | " | 2 | 2 | 2 mo. 2, '94, to 5 mo. 23, '94 |
| | <i>Graduate Classes</i> | | | | |
| | Seminary Work | Dr. Scott | 2 | 3 | 10 mo. 3, '93, to 1 mo. 22, '94 |
| | Seminary Work | " | 1 | 2 | 2 mo. 2, '94, to 5 mo. 23, '94 |
| | Dynamics | J. Harkness | 1 | 2 | 10 mo. 3, '93, to 1 mo. 22, '94 |
| | Laws and Properties of Matter, Heat, Mechanics, minor | Drs. Mackenzie and Buckingham | 11 | 5 | 10 mo. 3, '93, to 1 mo. 22, '94 |
| Laboratory Work, minor | " | 11 | 4 | 10 mo. 3, '93, to 1 mo. 22, '94 | |
| Electricity and Magnetism, Light and Sound, minor | " | 10 | 5 | 2 mo. 2, '94, to 5 mo. 23, '94 | |
| Laboratory Work, minor | " | 10 | 4 | 2 mo. 2, '94, to 5 mo. 23, '94 | |
| Theory of Heat and Problems in Mechanics, major | " | 5 | 5 | 10 mo. 3, '93, to 1 mo. 22, '94 | |
| Laboratory Work, major | " | 5 | 5 | 10 mo. 3, '93, to 1 mo. 22, '94 | |

TABLE OF SUBJECTS STUDIED AND TERMS OF STUDY—[CONTINUED]

| SUBJECT | PARTICULAR SUBJECT | INSTRUCTOR | NO. IN CLASS | HOURS WEEKLY | TERM OF STUDY |
|---------------|--|-------------------------------|--------------|--------------|---------------------------------|
| PHYSICS . . . | Theory of Electricity and Theory of Light, major . . . | Drs. Mackenzie and Buckingham | 5 . . . | 5 . . . | 2 mo. 2, '94, to 5 mo. 23, '94 |
| | Laboratory Work, major | | 5 . . . | 5 . . . | 2 mo. 2, '94, to 5 mo. 23, '94 |
| | Theory of Solutions, post-major <i>Graduate Classes</i> | | 3 . . . | 2 . . . | 2 mo. 2, '94, to 5 mo. 23, '94 |
| CHEMISTRY . . | Theory of Electricity | Dr. Mackenzie | 1 . . . | 1 . . . | 2 mo. 2, '94, to 5 mo. 23, '94 |
| | Theory of Wave Motion | " | 1 . . . | 3 . . . | 2 mo. 2, '94, to 5 mo. 23, '94 |
| | Introduction to General Chemistry, minor | Dr. Keiser | 33 . . . | 3 . . . | 10 mo. 3, '93, to 1 mo. 22, '94 |
| | Reviews, minor | Dr. Kohler | 31 . . . | 2 . . . | 10 mo. 3, '93, to 1 mo. 22, '94 |
| | Laboratory Work, minor | Drs. Keiser and Kohler | 33 . . . | 5½ . . . | 10 mo. 3, '93, to 1 mo. 22, '94 |
| | General Chemistry, minor | Dr. Keiser | 32 . . . | 3 . . . | 2 mo. 2, '94, to 5 mo. 23, '94 |
| | Reviews, minor | Dr. Kohler | 30 . . . | 2 . . . | 2 mo. 2, '94, to 5 mo. 23, '94 |
| | Laboratory Work, minor | Drs. Keiser and Kohler | 30 . . . | 5½ . . . | 2 mo. 2, '94, to 5 mo. 23, '94 |
| | Organic Chemistry, major | Dr. Keiser | 4 . . . | 2 . . . | 10 mo. 3, '93, to 5 mo. 23, '94 |
| | Theoretical Chemistry, major | Dr. Kohler | 4 . . . | 3 . . . | 10 mo. 3, '93, to 1 mo. 22, '94 |
| | Laboratory Work, major | Drs. Keiser and Kohler | 4 . . . | 5½ . . . | 10 mo. 3, '93, to 1 mo. 22, '94 |
| | Inorganic Chemistry and Qualitative and Quantitative Analysis, major | Dr. Kohler | 4 . . . | 3 . . . | 2 mo. 2, '94, to 5 mo. 23, '94 |
| | Laboratory Work, major | Drs. Keiser and Kohler | 4 . . . | 5½ . . . | 2 mo. 2, '94, to 5 mo. 23, '94 |
| | Advanced Organic Chemistry, post-major and graduate | Dr. Keiser | 7 . . . | 1 . . . | 10 mo. 3, '93, to 5 mo. 23, '94 |
| | Physical Chemistry, post-major and graduate | Dr. Kohler | 7 . . . | 1 . . . | 2 mo. 2, '94, to 5 mo. 23, '94 |
| | Laboratory Work, post-major and graduate | Drs. Keiser and Kohler | 7 . . . | 6 . . . | 10 mo. 3, '93, to 5 mo. 23, '94 |
| | Seminary Work | Dr. Keiser | 7 . . . | 1 . . . | 10 mo. 3, '93, to 5 mo. 23, '94 |
| | Journal Club | " | 7 . . . | 1 . . . | 10 mo. 3, '93, to 5 mo. 23, '94 |
| | Lectures on General Biology, minor | Dr. Morgan | 33 . . . | 5 . . . | 10 mo. 3, '93, to 1 mo. 22, '94 |
| | Laboratory Work, minor | " | 33 . . . | 5½ . . . | 10 mo. 3, '93, to 1 mo. 22, '94 |

TABLE OF SUBJECTS STUDIED AND TERMS OF STUDY—[CONTINUED]

| SUBJECT | PARTICULAR SUBJECT | INSTRUCTOR | No. IN CLASS | HOURS WEEKLY | TERM OF STUDY |
|---------------|---|----------------------------------|--------------|--------------|---------------------------------|
| BIOLOGY . . . | Botany, Vertebrates and Embryology, minor | Drs. Morgan, Warren and Randolph | 29 . . . | 5 . . . | 2 mo. 2, '94, to 5 mo. 23, '94 |
| | Laboratory Work, minor | " | 29 . . . | 5½ . . . | 2 mo. 2, '94, to 5 mo. 23, '94 |
| | Animal Physiology and Histology, major | Dr. Warren | 4 . . . | 5 . . . | 10 mo. 3, '93, to 1 mo. 22, '94 |
| | Laboratory Work, major | " | 4 . . . | 5½ . . . | 10 mo. 3, '93, to 1 mo. 22, '94 |
| | General Zoölogy, major | Drs. Morgan and Warren | 5 . . . | 4 . . . | 2 mo. 2, '94, to 5 mo. 23, '94 |
| | Laboratory Work, major | " | 5 . . . | 5½ . . . | 2 mo. 2, '94, to 5 mo. 23, '94 |
| | Theoretical Biology, major | Dr. Morgan | 6 . . . | 1 . . . | 2 mo. 2, '94, to 5 mo. 23, '94 |
| | Embryology, post-major | " | 5 . . . | 1 . . . | 10 mo. 3, '93, to 1 mo. 22, '94 |
| | Embryology, post-major | " | 3 . . . | 1 . . . | 2 mo. 2, '94, to 5 mo. 23, '94 |
| | Zoölogy, post-major | " | 3 . . . | 1 . . . | 10 mo. 3, '93, to 5 mo. 23, '94 |
| | Central Nervous System, post-major | Dr. Warren | 5 . . . | 1 . . . | 10 mo. 3, '93, to 1 mo. 22, '94 |
| | Laboratory Work, post-major | " | 1 . . . | | 10 mo. 3, '93, to 1 mo. 22, '94 |
| | Central Nervous System, post-major | " | 4 . . . | 1 . . . | 2 mo. 2, '94, to 5 mo. 23, '94 |
| | Laboratory Work, post-major | " | 1 . . . | | 2 mo. 2, '94, to 5 mo. 23, '94 |
| | <i>Graduate Classes</i> | | | | |
| | Advanced Biology | Dr. Morgan | 5 . . . | 1 hour | 10 mo. 3, '93, to 5 mo. 23, '94 |
| | Physiological Optics | Dr. Warren | 5 . . . | 1 . . . | 10 mo. 3, '93, to 1 mo. 22, '94 |
| | Laboratory Work | " | 2 . . . | | 10 mo. 3, '93, to 1 mo. 22, '94 |
| | Physiological Optics | " | 3 . . . | 1 . . . | 2 mo. 2, '94, to 5 mo. 23, '94 |
| | Journal Club | Drs. Morgan, Warren and Randolph | 5 . . . | 1 hour | 10 mo. 3, '93, to 5 mo. 23, '94 |
| | Seminary Work | " | 5 . . . | " | 10 mo. 3, '93, to 5 mo. 23, '94 |

