

from Miss Harriet N. Lowell of a sum of money the interest of which was to be applied each year to dental research. During the first four years of the receipt of this income, the money was used by a committee called the Research Committee, appointed from the teaching staff of the School. It was finally decided, however, that in order to replenish and increase the number of workers, undergraduates should be attracted to the work if possible, and in order to accomplish this object, this society was formed to include students. One of the articles of the Constitution reads that, "Active members shall, if possible, work on some problem in dentistry during their school career, and shall present in writing to the chairman of the Advisory Committee before May 1st of the Senior year, results of his work. These essays shall be read by judges, and the member showing the most resourcefulness and original work shall be awarded on Alumni Day the annual prize for distinction in research work."

It is proposed to encourage the establishment of similar societies in the several dental schools holding membership in the Dental Faculties Association of American Universities, and to compare the results of the work of the members of these societies. By thus giving an impetus to research work some contribution along the lines of preventive dentistry may sometime be offered to the public.

Perhaps the meeting which included the largest area of interest was that of the Dental Faculties Association of American Universities, of which the Dean of the Harvard Dental School is president. This Association includes the dental departments of California, Minnesota, Iowa, Michigan, Pennsylvania, and Harvard. The deans of all of the schools were present, with the exception

of California, which was represented by one of its professors. The object of the Association is the advancement of dental education. The special topic of discussion at the meeting was upon the preliminary education required of applicants for admittance to the Dental School. Only *bona-fide* dental departments of universities are eligible to this association.

FORESTRY.

In the descriptive pamphlet for 1913-14 which has just been issued, the School of Forestry announces two important changes in organization. The first is the transfer of its winter quarters from Cambridge to the Bussey Institution in Jamaica Plain, where the equipment for scientific work allied to forestry and the close proximity of the Arnold Arboretum make the facilities for instruction extraordinarily strong. The second is the establishment of opportunity for advanced specialization during the last year of the professional course.

The School will offer general training, as heretofore, followed by special training in one of the several branches of the profession, but a general training alone will no longer be sufficient to secure the degree of Master in Forestry.

This is a radical change in the nature and arrangement of professional instruction in forestry. The necessity for this change is indicated emphatically by the developments in the field for employment. Up to recently the United States Forest Service and the States have been the largest employers of foresters. But it is no longer possible for more than a small proportion of those equipped only with a general training either to find employment with these organizations or to make the most of other opportunities in forest work. The growth of forestry from now on will be primarily in connec-

tion with the conservative management of private timber lands and with the vast amount of scientific forest investigation which remains to be conducted in this country. For both these fields of work, each exceedingly broad, special training is indispensable.

Forestry as an American profession is passing from the period when propaganda, legislation, and government organization were its chief and necessary activities, and it is entering a period in which it will be tested primarily through its success in applying practicable economies to the use of forest lands and forest products not directly supervised by the Government or the States. The methods of operating the privately owned timber lands of the country (comprising four-fifths of the total timber area) are certainly destined to change very considerably in the near future. These changes must be in the direction of better protection, more conservative treatment of the forests, and closer utilization of wood material. Foresters who are to have a hand in guiding these changes — thereby working into responsible positions — will best do so by having prepared themselves both by a general course in forestry and by special training in some field of immediate usefulness. It is plain, for example, that a man who contemplates working into the service of a large lumber company or making himself a consulting expert must do it through improved grasp of the problems confronting that particular company or special wood user. His best chance in such an opening will come through special training in forest surveying, timber estimating, construction engineering, logging and milling methods and machinery, and a thorough study of existing conditions and methods and possible improvements in a particular forest region, or in such expert knowledge of

wood technology as will enable him to work out improvements and economies in utilization. In the development of the forests of the southern hemisphere, special knowledge of tropical dendrology, including the structure and identification of the woods, will be required. Another line of work now developing is that of the city or park foresters. Similarly, for the purely investigative work, such as Government, States, and institutions will conduct, specialists in forest entomology, dendrology, or silviculture will be in demand. For such training in these fields the equipment at the Arnold Arboretum and the Bussey Institution is exceptionally strong.

The Harvard curriculum will hereafter divide the two years' program between a first year devoted to the study of the subjects necessary for a broad grasp of technical forestry, and a second year of special training or research in one of the following fields: (1) the Operation of Forests; (2) Wood Technology; (3) Forest Entomology; (4) Dendrology. The first year's work will extend from the first week in July to the middle of the following June. Except for the four winter months, this time will be spent on the Harvard Forest at Petersham. From Dec. 1 to April 1, the headquarters of the School will be the Bussey building in Jamaica Plain, adjacent to the Arnold Arboretum. The work of the second year will be located wherever the specialty chosen by the student requires, either wholly or in part on the Harvard Forest, or at Jamaica Plain, or in part in some lumber region where a particular investigation is to be carried on. This distribution of work in the first year secures the advantages of field experience on the Harvard Forest, with its practical operations and demonstrations, for those courses in which field experience is essential, and of the unequalled facilities

of the Arnold Arboretum and the Bussey Institution for courses requiring laboratory work or extensive reading. In the second year, these advantages are available, together with ready access to regions of widely varying forest conditions and lumbering methods, for the specialties in which work in different regions is desirable.

The work of the first year begins July 7 in Petersham. From then to Dec. 1, plane and topographic surveying, dendrology, forest measurements, silviculture, and management, each with field demonstrations as well as lectures and reading, comprise the subjects taken up. During the winter term of four months at Jamaica Plain the courses pursued are forest management, silviculture, dendrology, general lumbering considered by regions, technology, and forest policy and protection. From April 8 to June 20 the work of the first year is again located at Petersham, where the instruction includes portable sawmill work, planting and nursery work, and forest entomology. In the second year, which is coincident with the academic year, the work and its location varies with the special field of study chosen by the individual.

For example, the study of the Operation of Forests can be conducted to best advantage in the woods. The year of specialized work in this field is intended to apply to that class of forest lands occurring chiefly in the East and Northeast upon which some degree of forestry is already practicable. The training is intended to combine both extensive study and experience in the logging operation on the one hand, and advanced work in silviculture and forest management on the other, — the object being to fit students to combine such beneficial treatment of the forests as conditions will permit with the handling of the business of harvesting the timber. The present

and past operations on the Harvard Forest are made the basis of the introduction to the work. The months of October and November are spent at Petersham. While there the student pursues two related lines of work. In one of these lines the basis of instruction is the portable mill with the business and woods methods dependent upon it. The students, in conferences and daily field-work with the instructors, take part in the laying out and execution of the fall and winter logging. The cut to be made according to the working plan is located on the ground, the trees are marked, and the logging and hauling are planned. The men then work with the foreman and woods crew so as to become familiar with felling, sawing, yarding, etc., and to learn the effect of varying forest and labor conditions upon output and cost. The commercial and mechanical aspects of the work, in addition to the silvicultural and technical, are brought out in frequent conference and discussion. Comparison is made between the costs and methods of the work, those of previous years, and of other operations in the region. In the progress of the course, each student prepares a plan for operating a specified local tract, containing usually a million or more feet of lumber. This plan includes a rough map, graded estimate of timber, road and mill locations, organization of the job, sales, costs, and returns. Each student will submit reports covering the plans for the operation and on various features of the work as it progresses.

For the other and closely related line of work the student is expected to make a thorough study on the ground of the silvicultural results of past cuttings and experimental work on the Harvard Forest. Besides making himself familiar with this material — both the written records and the effects as seen upon the

ground — he is expected to investigate under direction some topic of silvics or management, the knowledge of which would bear directly upon the handling of forests. For purposes of such studies as these, the Harvard Forest already offers valuable and varied material, the greater part of which cannot be utilized in elementary courses. Besides the logging operations which have been carried on in stands of various types and ages and by various silvicultural methods, and the history of which, both financial and silvical, is all recorded, there are available on the Forest and adjacent lands over 50 acres of commercial plantations, representing widely varying conditions of soil, ground cover, etc., and various kinds of planting stock. Improvement cuttings and weedings carried out under a variety of conditions, age, and composition of the Forest are also available. The large number of forest types, both permanent and temporary, make possible the study of the general silvical conditions of the region. All this field material is not only highly useful in showing actual results of various kinds of silvicultural method, but also in furnishing a wide field for further investigation.

After the autumn work on the Harvard Forest, which is calculated to give the student a good grasp of the small operation and of the intensive methods of management to which it is adapted, the student is assigned for the winter months to a lumber region of larger and more remote tracts where silviculture and management must necessarily be more primitive. Here, under direction, he makes a thorough study of the working and business aspects of the operation and, in connection therewith, the effects of logging upon the forest under varied conditions of stand, and also in comparison, if possible, with the effects of other logging methods on tracts of similar sil-

vical condition. The exact emphasis of his study, whether silvicultural or commercial, will be settled in conference beforehand with the Instructors. In any case the important feature of the training will be the preparation and workmanlike presentation of a thesis or report covering the facts and conclusions of the study. A period of such field study is of the highest usefulness to the professional student, especially when based upon familiarity with a smaller operation such as that of the portable mill. It gives the student a realization of the fundamental dependence of the conservative treatment of forests upon the varying relations of three factors: the silvical habits of the tree species, the conditions of the ownership, and the method and efficiency of the logging.

During two months in the spring the students in this course are given a final problem involving principles of all the work which has been done before. On some extensive timber tract covering at least several thousand acres, and under instruction, they are taken through a problem comprising the following operations: the construction of a topographic map, with the necessary lines and controls upon which it is based; the estimate and valuation of the timber; the planning of the logging operation, including the location of the necessary roads, landings, camp sites, and other incidental construction; the estimate of the cost of logging; considerations of what, within the limits of cost and policy of ownership, can be done toward leaving the forest in condition for future production; and a suitable plan for fire protection. In the course of this problem the student will get experience in the efficiency of various methods of field work and in office computations. The final result will be a report such as would be submitted to a forest owner, in which

the most practicable management of the land will form the main conclusion.

The changes above described place the instruction in forestry squarely and effectively on the basis of the true post-graduate work, which is the ideal of the Graduate Schools of Applied Science.

R. T. Fisher, '98.

THE MEDICAL SCHOOL.

After a series of meetings and discussions the Faculty of Medicine have decided to do away with special students. Hereafter admission to the first class will be for holders of a recognized academic degree or for men who have had two years of college work including a year of the premedical sciences. Only those men who rank in the first third of the college class will be admitted under this latter requirement. For men coming to the School who have obtained their academic degree by a combined academic and medical course it is possible to take our first general examination which comes at the end of the second year of work. If they pass this examination they may enter the third year. It seems as though now the Faculty had at last satisfactorily solved the problem of admission to our School so that we shall articulate well with the numerous premedical courses throughout the country.

The Faculty at the present time has under consideration the question what college degrees will be satisfactory for admission to the Medical School.

Recently the Faculty voted to combine the libraries of the School and the libraries in the group of hospitals surrounding the School. This seems a great step towards the creation of a strong medical library. It is hoped that some way may be found to make it possible for the Boston Medical Library to move out to this centre. The advantages of

such a general library on the site of so much medical practice and research are very numerous and it is hoped that the scheme can be perfected.

Drs. Strong and Tyzzer have gone on an expedition to South America in order to obtain material for study on certain protozoan diseases peculiar to that part of the world.

On April 9 the Overseers invited the Faculty of Medicine to lunch at the Medical School. After the luncheon the Overseers paid a visit to the different laboratories and to the new hospitals surrounding the School. On the same day the Academy of Science visited the different laboratories of the School. In the different departments demonstrations were given of the experimental work that is going on at the present time. In the evening, Dr. Strong talked on his work with pneumonic plague in Manchuria and Dr. Mallory on his work with whooping-cough.

On April 1 one of the medical wards of the Peter Bent Brigham Hospital was opened for patients. Although some of the more complicated apparatus for clinical research is not as yet installed, the usual routine work of the hospital is running smoothly, and in a few months more the plant should be complete.

The success of the Graduate School of Medicine, which now includes the Summer School, seems to be assured. Dr. Arnold has found it necessary to increase the executive force of the School in order to handle the increasing work. The School is starting a bulletin which it will distribute every 4 months to the members of the Medical Alumni Association and at other times to the medical profession of America. In this bulletin will be an announcement of graduate courses and other items of interest to the profession.

The Appointments Office, under Dr.