

THE TECHNOLOGY REVIEW

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OF TECHNOLOGY



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THE MASSACHUSETTS INSTITUTE OF TECHNOLOGY

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THE MASSACHUSETTS INSTITUTE OF TECHNOLOGY aims to give thorough instruction in *Civil, Mechanical, Chemical, Mining, Electrical and Sanitary Engineering; in Chemistry, Electrochemistry, Architecture, Physics, Biology and Public Health, Geology, and Naval Architecture.*

To be admitted to the Institute, the applicant must have attained the age of seventeen years and must pass examinations in algebra, plane and solid geometry, physics, history of the United States (or ancient history), English, French and German. Preparation in some one of a series of elective subjects is also required. A division of these examinations between different examination periods is allowed. In general, a faithful student who has passed creditably through a good high school, having two years' study of French and German, should be able to pass the Institute examinations.

Graduates of colleges, and in general all applicants presenting certificates representing work done at other colleges, are excused from the usual entrance examinations and from any subjects already satisfactorily completed. Records of the College Entrance Examination Board, which holds examinations at many points throughout the country and in Europe, are also accepted for admission to the Institute.

Instruction is given by means of lectures and recitations, in connection with appropriate work in the laboratory, drawing-room or field. To this end extensive laboratories of chemistry, physics, biology, mining, mechanical engineering, applied mechanics, and the mechanic arts, have been thoroughly equipped, and unusual opportunities for field-work and for the examination of existing structures and industries have been secured. So far as is practicable, instruction is given personally to small sections rather than by lectures to large bodies of students.

The regular courses are of four years' duration, and lead to the degree of Bachelor of Science. In most courses the work may also be distributed over five years by students who prefer to do so. Special students are admitted to work for which they are qualified; and the degrees of Master of Science, Doctor of Philosophy, and Doctor of Engineering are given for resident study subsequent to graduation. Opportunity for research is offered in all the departmental laboratories, in the three recently established Research Laboratories of Applied Chemistry and Physical Chemistry, and in the Sanitary Research Laboratory and Sewage Experiment Station.

The tuition fee, not including breakage in the laboratories, is \$250 a year. In addition, \$30 to \$35 per year is required for books and drawing materials.

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WALKER MEMORIAL BEGUN

Description of the student social center on the new site erected by the alumni as a memorial to General Francis A. Walker

The corner stone of the Walker Memorial will be laid on Monday, June 12, at 2. p. m. in the presence of some thousands of alumni from all parts of the country in the fulfilment of a plan which has been next the hearts of the alumni for a number of years.

The building is to occupy the middle of the Charles River basin front of the easterly half of the Technology holdings along the Esplanade, a half that, from the beginning, has been set aside for student activities. Here there is already established the athletic field with a track that is said to be the best in the country and here already constructions are in progress to be ready in the fall for housing a good many of the students in dormitories which have all the natural advantages of the situation and are in proximity to the class rooms and matters in which the students will be interested in their spare hours. Of the latter the Walker Memorial will be the centre, geographically as well as socially.

The Walker Memorial, a beautiful building which is in harmony with the educational group and carries out the same ideas and the same classic style and in the same warm-tinted limestone, will be restful to the eye and at the same time will be convenient for the social uses which the club of all-Technology requires. There will be a great dining-hall, the

largest in greater Boston, which will readily seat eight or nine hundred, smaller refectories scattered about in other parts of the building, a vast gymnasium in which the cadet corps could perform its evolution if necessary, and a grand foyer for mass meetings, so arranged as to afford a great series of living-rooms for the students, who, under the new conditions, will have supplied to them the one feature that Technology life has lacked to a considerable extent, the opportunity for the students to get together under favorable conditions for personal intercourse.

The Walker Memorial will have rooms galore for the accommodations of the student activities of which there are more than thirty, a library, some space reserved for the instructing staff, rooms and courts for indoor sports, and will be in fact the great meeting ground for the twenty-five hundred individuals who will form the Technology family when it gets moved to its new home.

The beginnings of the construction have of necessity been delayed till now, and it will obviously be impossible to have the Memorial complete by the time of the dedication exercises on June 12, 13 and 14 next, but the essential portions of the structure will be ready for the students when they assemble in the fall, and these will include the dining-hall

and gymnasium. Two or three months later the whole building will be at the service of the students.

The Walker Memorial was suggested shortly after the death of President Walker, and a fund was subscribed which touched about \$100,000. It was to be a memorial that was peculiarly appropriate since in his life and while he was President he realized the fundamental need of the Institute for what may be termed a social side. Without dormitories, with the students scattered through homes and lodging houses in every part of greater Boston, there could be no student life distinctive of the college. It was an idea of his to correct the need, but at the time it was the existence of Technology that was General Walker's chief care, so that the luxury of student accommodations could not come during his day.

There were associated with the original idea some plans with reference to gymnasium, student restaurant and the like. This was in the days of a Technology of much smaller proportions than now. Presently there was developed a plan for providing meals. This has become a permanent feature of Institute administration, and, contrary to the experience of some other colleges, has proved a financial success, and moreover has furnished a number of students with the wherewithal to get through the school. In providing a building for the restaurant it was easy to make a great living-room, and here the students have fared fairly well in expectation of greater things.

Meanwhile there came the unrest due to the fact that the Institute, on account of its rapid growth, must presently seek another home for itself. Thus it is that although plans were once actually drawn for a memorial building to be located on Trinity Place it was deemed best to defer the construction of the memorial till the future home of Technology should be decided.

This has been done and the educational structures are complete in outward form so that the Walker Memorial is next in order, and the plans of the proposed building have been approved informally

by the authorities. It is the presentation of the Walker Memorial according to the original idea of a students' club house.

The Memorial is to be a noble building of three stories, the cost of which will be above half a million dollars. A portion of the fund is in hand and the alumni will be asked to see that the construction does not lag, and from their past records it is evident from the beginning that their subscriptions will be all sufficient for the purpose.

The Esplanade front of the memorial will be simple and in keeping with the educational buildings in architecture, with a great engaged portico of half a dozen massive columns. Entering, the visitor will find himself in a spacious tri-partite lobby, with a great lounge on one side and the equally large library and reading room on the other. Straight ahead will be the dining-hall with its 9,000 square feet of floor room, back of which are the kitchen and service rooms. The building is H-shape in form, the dining-room being in the bridge. Engineers will describe it as an I-beam in section with an exaggerated web.

The dining-hall goes up through two stories, the second forming a balcony, useful in general as affording consultation niches and on social occasions—for the great hall will be used for mass meetings, dances and other great student functions—will afford a splendid vantage ground from which to see what is going on.

Overhead there will be the gymnasium and dozens of little rooms for societies or special purposes. There will be a basement with alleys, rifle range, big kitchen and bakery, storage rooms and the check rooms, utility offices, administration, etc.

With the athletic field so close at hand there will be later constructions to care for the grand stand, lockers and showers and a field house, so that the big gymnasium in Walker Memorial will presently be relieved of its outdoor athletic company which it will care for awhile, and can then be put to its designated use, the physical culture that Tech requires from all first-year students.

BEAUTIFUL SOUVENIRS

Reunion Committee has prepared a full line of handsome books, pictures and medals

Great preparations are being made to have on hand at the time of the Reunion a complete line of souvenirs that will be fully in keeping with the dignity of the occasion. As the program is very full and those in attendance will be on the go practically all the time, there will not be a suitable opportunity of properly distributing these souvenirs, but they can be ordered of the Alumni Association, where there will be an abundant supply on hand after the Reunion.

SOUVENIR BOOK OF SKETCHES.—A handsome book of sketches, showing various features of the Institute as they will appear when the foliage is grown, is being prepared by the Committee on Publicity, Souvenirs, etc., and because of its character and beauty it will attract much attention. The artist engaged on the work is Mr. Birch Burdette Long of New York City. The drawings are in pencil, and the process of reproduction is such that the sketches themselves will look like the original pencil drawings. Aside from the artistic merit of this book interest largely centers in it because the original drawings are to be very handsomely bound, suitably inscribed by Dr. Maclaurin and presented to our unknown benefactor, Mr. Smith, on the occasion of the banquet June 14.

Those who have seen the proofs consider the book one of the handsomest efforts of the kind ever produced. It is bound in gray with a cardinal panel on which is inscribed the words, "The Massachusetts Institute of Technology." These books will sell for \$1.50.

SOUVENIR PROGRAM.—The souvenir program, besides giving information in regard to the various events on the three days, will give a synopsis of the pageant and interesting pictures relating to the new buildings. It is printed in five colors and contains a picture of President

Rogers, of Rogers Building, President Maclaurin, a bird's-eye-view of the new educational group, a historical sketch of the Institute with small portraits of the past presidents, beautifully colored panels reproducing the drawings made by Mr. C. Howard Walker for the costumes to be used in the pageant, an elevation of the new Institute, picture of Mr. Charles A. Stone, '88, president of the Alumni Association, pictures of the Walker Memorial and the first dormitory unit, reproductions of features of the new buildings, portrait of Frederic Field Bullard, '87, and a reproduction of the original manuscript of the "Stein Song," and a page devoted to "Chapel." The program also contains a list of the members of the various committees connected with the Reunion.

This program will sell for 50 cents at the time of the Reunion, and afterwards for 25 cents each. The cost of making it was about 25 cents a copy. Postage.

PHOTOGRAVURE OF NEW BUILDINGS.—Mr. Birch Burdette Long, the artist who made the drawings for the souvenir book, has also done a bird's-eye-view of the new buildings in panorama as they will appear when complete. This includes all extensions of the future—Walker Memorial, dormitories, President's house, etc. The drawing has been reproduced in photogravure by John Andrew Son Limited, and it is most impressive. The picture itself is 10 x 22, and the amount is 21 x 32. These photogravures should be in the home of every Tech man and in every University Club in the country. They will be for sale by the Alumni Association. Price, \$1.50 each.

SOUVENIR MEDAL.—This medal, which is being struck off by the Reunion Committee in honor of the dedication of the new buildings, shows a picture of Alma

Mater standing before the Library Building of the new Technology, with the words, The Massachusetts Institute of Technology, MCMXVI. On the reverse is a relief of the Rogers Building and the following inscription: "In memory of its founder, William Barton Rogers, an alumni tribute at the dedication of the new buildings." It is bronze $2\frac{3}{4}$ inches in diameter, and is very handsome. It is being done by Keck of New York. The price of these medals will be \$1.50 each.

BADGES.—The badges to be given out at the Reunion will be particularly handsome. Each alumnus will be given a badge without charge. Those who desire extra badges after the Reunion may get as many as they like at 50 cents each. The badge consists of a bar containing a card for the name, a short piece of cardinal and gray ribbon, and a medallion of the head of William Barton Rogers in low relief on a disk $1\frac{1}{2}$ inches in diameter. The head of Rogers was taken from the bronze panel presented to the Institute by the classes of '81, '82, '83, '84 and '85, which is one of the features of Rogers corridor. It was done by the sculptor Paramino.

PLAQUE OF ROGERS.—The original of the head of President Rogers, made by Mr. Paramino for the Reunion badge, has been reproduced in plaster and will be for sale at the Reunion. A picture of this plaque is shown on another page. It is ten inches in diameter and can be finished in either green or bronze. The price is \$3.00.

SEAL OF THE M. I. T.—A firm in Boston making a specialty of such work has prepared an Institute seal ten inches in diameter in such a close imitation of wood that one cannot tell the difference. These handsome seals will be on sale at the Alumni Office after the Reunion at \$3.00 each.

PHOTOGRAPHS.—Photographs are to be taken of all the different events, particularly including the class stunts. The price of unmounted photographs 4 x 5, 25 cents; 4 x 7, 35 cents; 6 x 8, 50 cents; 8 x 10, 75 cents; 16 x 20, \$2.00. Large panoramic photographs, \$2.50.

More Class Publications

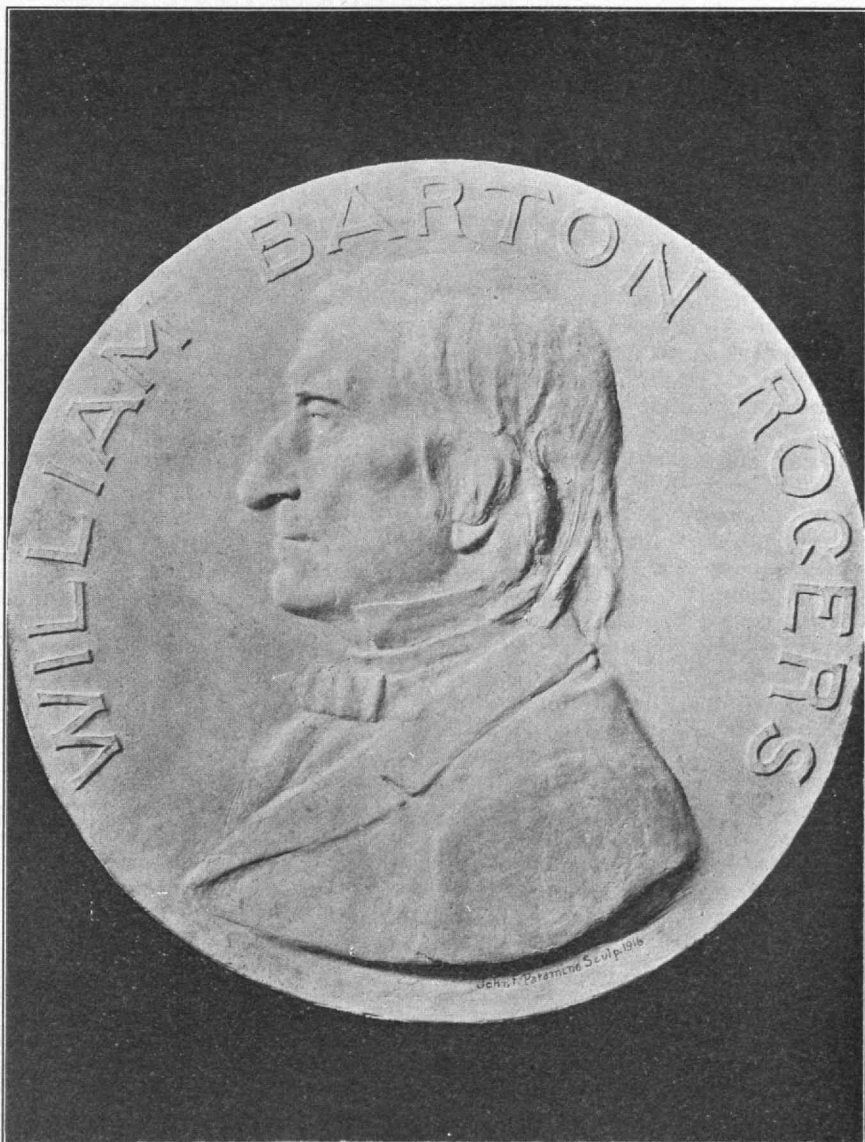
Since the last number of the REVIEW was published we are in receipt of issue No. 5 of the *Ninety Tea Kettle*. It is a Reunion boom number, and after reading it we predict that every one of the members of the class will be present at the Reunion—or at least wish they could go. The *Tea Kettle* has had a large place in building up interest in the class of 1890.

The second copy of the *Mitten* has also been received. This publication is plumb full of interesting material, clever verses, special departments and fake advertisements relating to the class and reunion matters.

Number 4 of *The Tech Quad*, the issue for which the class of '84 is responsible, has also appeared. This publication has been issued jointly by the classes of '81, '82, '83 and '84. The first number was published by '81, and successive numbers by the other classes. The third issue, which was edited by the class of '83, appeared under the name of the *Handorgan*, with some startling illustrations which made the editor and his literary offspring fair game for '84's "idiotorial" board. The way this board "went to it" was a delight forever and those who haven't read *Tech Quad* No. 4 have missed a rare treat.

Tech and Preparedness

A large number of Tech men all over the United States are actively interested in military and industrial preparation. The Massachusetts Institute of Technology Enrollment Committee, consisting of about twenty graduates of the Institute, are conducting a campaign through the mails for the purpose of interesting Tech men to attend some of the training camps that are to be open this summer. In Detroit a series of military engineering lectures have been given by a committee of three of which O. W. Albee, '93, and F. C. Sutter, '93, are members. The course is similar to the one recently given in New York and could profitably be extended to other parts of the country.



PLACQUE—HEAD OF WILLIAM BARTON ROGERS, FROM WHICH THE
MEDALLION AND THE BADGE WAS MADE

HOW STUDENTS ARE ADVISED

Co-operative work of the Seniors is organized by the Technology Christian Association—The “Rochester Experiment”

The President's *Report* for 1916 contains an interesting report from Dean Burton, which will be read with much satisfaction by those who are following the social development of the undergraduates. It is in part as follows:

“The adviser problem has always been an important one at the Institute. In 1894 the Faculty instituted a system by which each new student on coming to the Institute was assigned an official adviser. The student received a note from the office of the Secretary informing him that a member of the Faculty, or staff of instruction, had been asked to act as his adviser. Over one hundred members of the Faculty and some of the instructing staff thus became the official advisers for all new men, the number assigned to each instructor being about four or five. This method of assigning advisers continued until 1902, and it was not found to give very satisfactory results. In 1902 the dean, who had just been appointed, was asked to act as the chairman of a Committee of Advisers, and it was suggested that he appoint for these advisers the younger professors and members of the instructing staff. He did so, and this Committee of Advisers met the new students in the General Library during the two days immediately preceding the opening of the term. This arrangement was somewhat of an improvement on the former plan, as at the beginning of the term the older professors were too much occupied with their regular work to have time to act as advisers. In 1912 an arrangement was made with the Technology Christian Association to have students help new men in registration, and give advice as to rooms and the general regulations of the school. It was found, as a rule, that the student advisers were more helpful in these matters than the instructors, and in 1914 over one

hundred men were selected by the Christian Association to act as student advisers to the freshmen. These names were sent to the dean for approval, and as soon as the registrar could furnish a list of the new men, the student advisers wrote and made appointments to meet them on their arrival in Boston at the opening of the school year. The student advisers have proved to be very efficient in helping in registration and in most matters connected with the first exercises. The Faculty Committee continues, however, to meet the new men in the General Library at the beginning of the term, and Faculty advisers are assigned to students whenever requested.

“In connection with the matter of giving advice to students it is important to mention this year a plan that had its origin with the Alumni Association in Rochester, New York. The Technology Club of Rochester raised the sum of \$150 for the payment of instructors who should act as special advisers to new students. The secretary of the Technology Club of Rochester entered into correspondence with the dean in December, 1914, and an arrangement was made for conducting a series of informal conferences each day in the week, except Saturday, at the noon hour. The dean was asked to select five instructors who would be specially qualified to act as advisers to first-year men. The men selected were, Professor Moore of the mathematical department, Professor Williams of the chemical department, Professor Howard of the civil engineering department, Mr. Rogers of the English department, and Mr. Kennedy of the drawing department. A room near the Technology Union was used for the consultations, and one of the advisers was there every day, except Saturday, between one and two o'clock. The attention of students was called to

this Rochester experiment by articles in *The Tech* and by speaking to first-year men whenever there were general gatherings at the social room in the Union. Probably about one hundred men availed themselves of this opportunity of consulting with instructors informally in regard to their work or in regard to general questions of Institute life. If this experiment had been tried during the first term, instead of during the second, I am sure that a much larger number of men would have availed themselves of the privilege. The reports from the different instructors at the end of the term were generally favorable to the experiment, and were forwarded to the Technology Club of Rochester. Up to the time of writing this report we have not heard whether or not the Rochester Club intends to continue this experiment, but if they do not wish to do so it might be a good thing to bring the matter to the attention of other alumni organizations. After the beginning of the term the dean is the only official adviser whom students feel free to consult in regard to general matters connected with their life at the Institute, and one man is really not sufficient to answer all the questions which are likely to arise. The Rochester experiment provided each day a Faculty adviser who could be consulted by students without their feeling that they were intruding on his regular work.

"The student control of undergraduate activities continues to be satisfactory, and the thoroughly democratic principle governing the election and appointment of students is more pronounced each year. The present democratic element in student life at the Institute has been brought about principally by the use of the Technology Union, its dining-hall, and its general social rooms. It is certainly to be hoped that when the instruction is carried on in the buildings across the Charles River there will be at once some provision made to take the place of the Technology Union. If the Walker Memorial cannot be finished in time I think certain rooms in the main building should be given over to the needs of the social life of the students. Such a sud-

den change as the loss of any common meeting place would be most unfortunate."

New York Club News

The Entertainment Committee of the Technology Club of New York has been very active this spring. Among the events, which were particularly enjoyed, was the "Personal Preparedness Smoker" under the supervision of a special committee consisting of Raymond B. Price, '98, Schuyler Schieffelin, '90, and Lester D. Gardner, '98. The speakers were William Menkell of the *Review of Reviews*, subject: "What We Did at Plattsburg"; Commander Charles L. Poor, subject: "The Navy's Platform of 1916"; Edward W. Huxley, '95, subject: "My Experiences on the *Sussex*"; Alexander McKim, '85, subject: "The Engineers Reserve Corps of the State of New York."

The club, through its committee, sent out to each member a copy of Richard Stockton, Jr.'s "Peace Insurance," an unusual enterprise, which was fully appreciated by the members.

The first floor of the club has recently been redecorated, and its attractiveness has been greatly increased. The walls of the front lounge are now dark green, and the dining-room has been done over in gold and brown. Attractive individual table lamps with red shades have been placed on the tables in the dining-room giving an air of coziness and warmth to this room. The appearance of the entrance hall has been very much improved by placing a dark red rug over the tile mosaic floor, and a large table lamp has been placed on the cigar counter.

Photographs Wanted

This paragraph is to request our friends who attend the Reunion to send to the REVIEW, proofs of any particularly interesting photographs that they may take. Most of the events will be properly taken care of by photographers that we have engaged to portray the Reunion, but a number of opportunities will escape them, and it is these that we would like to get pictures of.

LONGEVITY OF TECH GRADUATES

Some enlightening figures collected by students in statistics bearing on the mortality of Institute men

Does the practice of a scientific profession conduce to longer life, is the question that has recently been considered by two Technology juniors, Endicott Low and Neuman M. Marsilius, the discussion being an exercise in statistics coming in the regular work of the students. The alumni of the Institute, concerning whom records have been kept by what is almost certainly the best organized alumni office in the world, furnish a body of men skilled in applied science. It is true that the group is not large enough for the determination of final results that are to be fundamental, but at the same time it does present certain characteristics that the larger investigation could refine.

The Institute students, and in consequence the graduates, represent wide diffusion geographically, although the great masses are of the eastern United States. They further represent wide diffusion, for the alumni go to the ends of the earth, but at the same time the major portion will be found east of the meridian of Chicago. There are men in comparatively dangerous professions, like mining or some of the powder industries, and men whose work may be much in the open, like builders and civil engineers. The great group of six to seven thousand alumni, concerning whom precise figures have been obtainable without difficulty, represent in a general way the mixture of the community, the ordinary population, and their health would be modified by the comparative youth, for the very oldest Tech graduate should not have much surpassed the Biblical measure of man's years, while the great increase in numbers has been from graduates of the later years. The comparisons of these students are interesting since they show in a rough way that the graduate from the Institute has a somewhat better chance

of longer life, comparisons with different experience tables supporting this suggestion.

Volumes could be written on the absurdities of popular beliefs, and one of the first items that is discredited by the investigation of Messrs. Low and Marsilius is that one which fastens on technical students a high rate of mortality. On the contrary the study of the alumni of the Institute gives evidence that this rate is exceedingly low. Comparison of the mortality rates of the alumni and those of the American experience curve shows that the former are only 38.2 per cent of the latter. It should not be forgotten that the experience curve is the business formula of the insurance company and gives to the latter a proper margin of safety. Thus it is that the experience curve of New England companies is lower by about one fifth than the American curve, but even with these, the comparative advantage of Tech alumni is very evident.

Colleges as a rule have not concerned themselves very much with the vital statistics of their graduates, but there is one great exception, Yale. Here alumni data have been kept with such fidelity that they are of value for comparison in professional ways. The antiquity of the university makes the data doubly valuable for they run back almost to the foundation of this republic. It is interesting to note, therefore, that compared with this standard of an institution so largely academical, the Technology mortality figures show a death rate of 67.3 per cent of that of Yale.

There comes in here a curious "infant mortality" of Tech graduates, for the death rate increases for about six years faster than the rate of Yale graduates or of the general public as shown in the experience tables. At about twenty-