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History of WPI

Zelotes Wood Coombs

Worcester Polytechnic Institute

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History of WPI

By

Zelotes Coombs

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HISTORY OF

WORCESTER POLYTECHNIC INSTITUTE
The first catalogue of the Institute, that of 1870-71, contains the following notice:

**Diplomas and Graduation**

In accordance with the authority given by the legislature, the Board of Trustees will confer degrees upon all the members of the Senior class, who complete the prescribed course of studies and pass satisfactorily the required examination. The diplomas given will designate the department of the Institute to which the graduate belonged, and indicate the proficiency attained. It is proposed to exhibit so much discrimination as to give an absolute value to the diploma as an index of character and ability.

In the catalogue of the following year, 1871-72, the word "degree" is changed to "diploma". In the catalogue of the next year, 1872-73, the following lines are added:

"Degrees will be conferred upon such graduates of the Institute as achieved professional success."

In the catalogue of 1875-76 the following notice appears:

**DIPLOMAS AND GRADUATION**

Under authority given by the Legislature, the Board of Trustees will confer Diplomas with the degree of Bachelor of Science at Commencement, upon all the members of the Senior class, who complete the prescribed course of studies, and pass satisfac-
tory the required examination. The diplomas
given will designate the department of the Insti-
tute to which the graduate belonged. It is proposed
to exercise so much discrimination as to give an ab-
solute value to the diploma as an index of character
and ability.

Honorary degrees will be conferred upon such
graduates of the Institute as achieve professional
success.

This statement was not changed until 1882, when the
opening sentence reads: "Under authority of the Legislature,
the Board of Trustees will confer Diplomas, with the degree
of Bachelor of Science, at Commencement, upon all the members
of the Senior class, who have completed the prescribed course
of study, passed satisfactorily the required examinations, and
are commended by the Faculty as deserving." The remainder of
the paragraph is practically unchanged.

This statement of the conditions under which the
diploma of the Institute was conferred, remained unchanged
until the catalogue of 1898. In the issue of that year the
statement with regard to honorary degrees was omitted and it
has never reappeared. As a matter of fact, no honorary degree
has ever been conferred by the Institute. As will be noted
later, rules for granting advanced degrees, both professional
and non-professional, were adopted in 1897 and published in the
catalogue of 1898, but these degrees were to be granted always
for work actually done and not as honorary degrees.
As may be noted from the previous pages, the first four classes to graduate from the Institute did not, at the time of their graduation, receive a degree. Instead they were granted a diploma, which read as follows:

WORCESTER COUNTY FREE INSTITUTE
OF INDUSTRIAL SCIENCE.

This diploma witnesseth that ..............

has faithfully completed the prescribed course of study in the Institute with special proficiency in the Department of ..............

In testimony of their satisfaction in his fitness to engage in practical service in the above specified branch, the President and Clerk of the Corporation and the Principal of the Institute hereunto affix their signatures.

Worcester, Mass......................187...

..........................President

..........................Clerk

..........................Principal

In 1875, in compliance with a petition from the Alumni Association, the Board of Trustees voted to confer upon graduates of the Institute the degree of Bachelor of Science in the department in which the graduate had done his work. The class of 1875 was the first to come under this new rule, but later the vote was made retroactive and the four earlier classes received the same degree of Bachelor of Science. This practice on the part of the Board of Trustees has been followed since 1875 to the present time with minor changes in the form of the diploma which will be noted here below.
The diploma given in 1875 and thereafter through 1887 read exactly like the diploma previously conferred, with the addition, after the name of the department in which the work had been done, of the words, "and has been admitted to the degree of Bachelor of Science". When the name of the Institute was changed by act of Legislature, in 1887, from the Worcester County Free Institute of Industrial Science to Worcester Polytechnic Institute, a new form of diploma was devised, and a new lithographic stone was prepared to print these new diplomas.

The new diploma read as follows:

Worcester Polytechnic Institute
by this diploma declares that

has completed the prescribed course of study in
the Department of ................................
and on the nomination of the Faculty has been
admitted to the degree of Bachelor of Science,
and is entitled to all the Rights and Privileges
to that degree pertaining.

Given at the City of Worcester in the
State of Massachusetts this ...... day of ......
in the year of Our Lord Eight/Hundred and ......
in Testimony whereof the Seal of the Corporation
and the Signature of the President thereof are
hereunto affixed.

..........................Secretary (seal) ..............President
It will be noted that in the form above the President of the Institute, as he was called after 1889, did not sign the diploma. The signatures of the President and Secretary of the Corporation, with the seal of the Institute, seem to have been considered sufficient. The seal had not been used on the earlier form of diploma.

A further modification of the diploma was made in 1902. In this latest form, the President of the Institute affixes his signature, as well as the President and Secretary of the Corporation. The only changes in the body of the diploma were in the addition of the word "honors" after "rights" and before "privileges", in the use of the word "appertaining" in the place of "pertaining"; also the word "recommendation" takes the place of "nomination". This form of diploma is still in use for the Bachelor of Science degree.

Mention is made elsewhere of the progress in formulating graduate courses, from the first graduate course, in Electrical Engineering, to the present elaborate courses in the four degree giving departments. The Faculty of the Institute voted, in December, 1897, to grant advanced degrees, and this action of the Faculty was ratified soon after by the Trustees. The first announcement of the radical departure was in the catalogue of 1898. It read as follows:

**ADVANCED AND PROFESSIONAL DEGREES.**

Graduates of the Worcester Polytechnic Institute, or others of equivalent training and attainments, may, upon vote of the Faculty, become candidates for the degrees of Mechanical Engineer, Civil Engineer, Electrical Engineer, Doctor of Science or Master of Science. In order to be recommended for the degree of Master of Science the candidate must pursue and complete to the satisfaction of the Faculty a full year of resident graduate
work, as presented in the course of study of the department from which the degree is sought. He must also present to the Faculty two bound copies of an approved thesis.

To be eligible to the degree of Mechanical Engineer, Civil Engineer, Electrical Engineer or Doctor of Science, he must satisfy the requirements for the degree of Master of Science, and, in addition, must have had three years of successful practice of his profession, of which satisfactory evidence shall be furnished.

Graduates of the Worcester Polytechnic Institute who have had seven years' professional experience of an acceptable character in the particular line of professional work for which one of the above degrees is given, may be recommended for such a degree upon presenting to the Faculty of the Institute, not later than April 1st, in the year in which the degree is to be taken, two bound copies of a satisfactory thesis, a complete report of professional experience and achievements, and, before Commencement week, such other information as to their qualifications for the degree, by examination or otherwise, as may be found desirable.

Those desiring to become candidates for advanced or professional degrees under conditions given above, are requested to correspond with the President of the Institute, notifying him of their intention at the earliest practicable moment.

The following year the same announcement was made, but the qualifications necessary for the Doctor of Science degree were specified, in this paragraph which followed the second paragraph above:

To be eligible to the degree of Doctor of Science, the candidate must satisfy the requirements for the Master's degree, and, in addition, he must offer two years of graduate study, together with a thesis embodying the results of an original research, all with the advice and approval and under the direction of the head of the department in which the degree is sought.

In the catalogue of 1901-2 a modification of the requirements for the professional degrees was advertised, the notice reading as follows:
The professional degrees of Mechanical Engineer, Civil Engineer, or Electrical Engineer, may be obtained in one of two ways:

(a.) The candidate must satisfy the requirements for the degree of Master of Science, and, in addition, must have three years of successful practice of his profession, of which satisfactory evidence shall be furnished, and he must submit to the Faculty two bound copies of an approved thesis.

(b.) Graduates of the Worcester Polytechnic Institute who have had seven years' professional experience of an acceptable character in the particular line of work for which one of the above professional degrees is given, may be recommended for such a degree upon presenting to the Faculty of the Institute two bound copies of a satisfactory thesis, a complete report of professional experience and achievements, and, before Commencement week, such other information as to their qualifications for the degree, by examination or otherwise, as may be found desirable.

All these submitted with a view to obtaining the above advanced and professional degrees must be filed at the Office of the Institute not later than April 1st.

The catalogue of 1904-5 contained a revision of the former requirements, in some respects radical. It is as follows:

ADVANCED AND PROFESSIONAL DEGREES.

The degree of Master of Science and the professional degrees of Mechanical Engineer, Electrical Engineer, Civil Engineer and Chemical Engineer, may be granted to graduates of this institution or of others of equal standing for one year of resident graduate work, upon their submitting to the Faculty two copies of an acceptable thesis.

Graduates of the Worcester Polytechnic Institute who have had three years' professional experience of an acceptable character, including responsible charge of work in the particular line for which one of the above professional degrees is given, may be recommended for such a degree upon sustaining an oral examination before a committee of the Faculty and upon presenting to the Faculty of the Institute two copies of a satisfactory thesis, a complete report of professional experience and achievements, and before Commencement week, such other information as to their qualifications for the degree as may be found desirable.

The requirement of an oral examination before a committee of the Faculty to be sustained by non-resident candidates for the professional degrees, extends also to candidates for the degree of Doctor of Science. All theses presented for advanced degrees must comply with the conditions imposed upon those presented for
the Bachelor of Science degree as stated above. In the case of resident graduate students who are candidates for advanced degrees, these conditions are identical with those presented for the Bachelor of Science degree in every detail. But non-resident students who are candidates for advanced degrees while complying with the thesis requirements for the Bachelor of Science degree in other respects, must present their theses before April 1 of the year in which the degree is sought.

In the following year, 1905-6, the rules governing the granting of advanced degrees were again changed in minor details, and were formulated in the shape in which they stand at the present time. They are as follows:

NON-PROFESSIONAL DEGREES.

Master of Science.

The Degree of Master of Science will be granted to graduates of this institution or other institutions of equal rank on the following conditions:

(a) A full year of resident graduate work under the direction of the head of the department in which the degree is sought.

(b) The presentation of two copies of an acceptable thesis involving original research, these copies to conform in every detail to the regulations prescribed below under Form of Theses, and to be presented before twelve o'clock, noon, of the Thursday preceding Commencement Day.

(c) The payment of a diploma fee of $10.00.

Doctor of Science.

The Degree of Doctor of Science will be granted to graduates of this institution or other institutions of equal rank, on the following conditions:

(a) Three full years of resident graduate work under the direction of the head of the department in which the degree is sought.

(b) The presentation of two copies of an acceptable thesis involving original research, these copies to conform in every detail to the regulations prescribed under Form of Theses and to be presented before twelve o'clock noon, of the Thursday preceding Commencement Day.

(c) The sustaining of an oral examination before a committee of the Faculty.

(d) The payment of a diploma fee of $20.00.
PROFESSIONAL DEGREES.

The professional degrees conferred by the Institute may be obtained by candidates in one of two ways, viz:

I. The professional degrees of Mechanical Engineer, Electrical Engineer, Civil Engineer, and Chemical Engineer may be granted to graduates of this institution or of others of equal rank on the following conditions:

(a) One full year of resident graduate work spent in pursuing one of the graduate courses outlined on pages 94-96 of this catalogue, a minimum of forty-five hours being required in each course.

(b) The presentation of two copies of an acceptable thesis involving original research, these copies to conform in every detail to the regulations prescribed below under Form of Theses and to be presented before twelve o'clock, noon, of the Thursday preceding Commencement Day.

(c) The payment of a diploma fee of $10.00.

II. The professional degrees of Mechanical Engineer, Electrical Engineer, Civil Engineer, and Chemical Engineer, may be granted to graduates of the Worcester Polytechnic Institute on the following conditions:

(a) The candidate must have had three years' professional experience of an acceptable character, including responsible charge of work in the particular line for which one of the above professional degrees is given.

(b) He must present to the Faculty a full report of professional experience and achievements and, before Commencement week, such other information as to his qualifications for the degree as may be found desirable.

(c) He must present to the Faculty two copies of a satisfactory thesis, these copies to conform in every detail to the regulations prescribed below under Form of Theses but to be presented before April 1 of the year in which the degree is sought.

(d) He must sustain an oral examination before a committee of the Faculty.

(e) He must pay a diploma fee of $50.00, one-half when he is accepted by the Faculty as a candidate, the balance before the Commencement Day on which the degree is to be conferred.

Mention is made above of fees charged for diplomas both to under-graduates and graduates. During some twenty years of Institute life, no diploma fees of any kind were charged. At the meeting of the Board of Trustees held Jan. 20, 1900, the following regulation was adopted:

A diploma fee of $5 shall be charged for the degree of Bachelor of Science, $10 for the degree of Master of Science, and $20 for the professional degrees, it being understood that the fee for the bachelor's degree shall be charged first for those graduating in 1904, the fees for the Master's and professional degrees to be charged first in 1901.
These fees varied in amount from time to time, the final requirement being specified above.

The first advanced degrees were conferred at Commencement in 1898. At this time the degree of Master of Science was conferred on four graduates of the Institute, and the degree of Mechanical Engineer was conferred upon one. The degree of Civil Engineer was first conferred in 1899, upon one candidate. The degree of Electrical Engineer was first conferred in 1903. The degree of Doctor of Science has been conferred but one by the Institute, that being in 1904, upon one candidate.
SCHOLARSHIPS

Worcester County Scholarships

As has been noted in this volume, tuition in the Institute was free to residents of Worcester County from the opening of the Institute for many years. This was in accordance with the John Boynton gift, and during the earlier years of the Institute the income from the John Boynton endowment was sufficient to care for all applicants from the County. From time to time question arose as to who should be considered a resident of Worcester County, and the Board of Trustees gave a full interpretation of this matter as noted on page

The catalogue announcement of free tuition to Worcester County residents for years took the form of a bare statement which read: "There is no charge for tuition to residents of Worcester County". This meant, of course, that free scholarships equivalent to the amount of tuition were granted all residents of Worcester County.

The catalogue of 1881 qualifies the above bare statement as follows: "Free tuition will hereafter be granted only to such students as are residents of Worcester County at the time of admission". This makes no real change in the previous statement, but defines somewhat more sharply those qualified to receive tuition free. In the catalogue for 1883 the statement reads: "Tuition is free to students who at the time of admission to the Institute are residents of Worcester County".

The number of students applying for admission from Worcester County had already become far too large for the income from the John Boynton endowment. But one alternative remained to the Trustees, and this was chosen by them. In the catalogue for 1889 the following announcement appears:

-1-
Tuition will continue to be free to a limited number of students who at the time of admission to the Institute are residents of Worcester County, and who are not over twenty-one years of age, so far as the income of the funds given to the Institute for the purpose of free tuition will allow.

This meant that the income of the John Boynton fund was to be awarded in scholarships to a selected number of students, and such has been the practice of the Trustees since 1889. The last class to receive free tuition under the old dispensation was the class of 1892. It will be noted, took that an age limit is fixed for recipients of Worcester County Scholarships. The catalogue of 1892 made the statement of these Worcester County scholarships more specific. It says:

Scholarships of the value of $150.00 per year each are given to a limited number of students who at the time of admission to the Institute are residents of Worcester County, and who are not over twenty-one years of age, so far as the income of the funds given to the Institute for the purpose of free tuition will allow.

The number of Worcester County scholarships available has varied from about thirty-five, which was the maximum for the first few years, to about thirty, which has been the maximum during recent years, when the interest return on the investment has been less. Beginning with the Institute year, 1896-7, the Worcester County Scholarships have, generally, not been awarded until the beginning of the second half-year; when once awarded, however, they have been held by the student during the entire course unless taken away for sufficient reason. With applicants in the entering class, the award at the middle of the year has been almost invariably the rule since the date given above.

The regulations governing the award of Worcester County Scholarships at the present time are as follows:
Worcester County Scholarships.

Scholarships of the value of $150.00 per year each are given to a limited number of students, who, at the time of admission to the Institute, are residents of Worcester County, and who are not over twenty-one years of age, so far as the income of the funds given to the Institute for the purpose of free tuition will allow. At present this income allows about thirty scholarships to be awarded each year, making the average to each class about seven. These scholarships do not cover the tuition fee for the first half of the Freshman year. They are awarded annually shortly after the beginning of the second term, and must be applied for annually before the beginning of the second term. As a general rule no applicant who has a condition shall receive or retain a County Scholarship. Other things being equal, preference will be given in the award of these scholarships to those applicants who do not hold other scholarships.

Application blanks may be obtained at the Office upon request.

The award of the Worcester County Scholarships is made by the Board of Trustees, but a committee of the Faculty pass upon the application of each candidate and recommend to the Board. For a number of years these scholarships have been divided, one-half being awarded to an applicant, thus enlarging the scope of the aid given.

State Scholarships

The first State Scholarships were granted in consequence of the action of the Legislature in giving to the Institute the sum of $50,000. This action of the Legislature was in form of the following Resolve, approved May 10, 1869:

Resolved, That there be allowed and paid out of the treasury of the Commonwealth, the sum of fifty thousand dollars, to the Worcester County Free Institute of Industrial Science. And in consideration of this grant, said Institute shall annually receive twenty pupils, and instruct them during the entire course free of tuition; such pupils to be selected by the Board of Education from the different counties in this Commonwealth, except that none shall be taken from Worcester County.

The first announcement of these State Scholarships was made in the catalogue of 1870-71, which stated: "Twenty students, residents of the state, but not of the county, can receive aid,
to the amount of their tuition, from the Commonwealth, by applying to the Principal, in accordance with Chapter 57, Acts and Resolves for 1869. In the catalogue for 1874-75, it is stated that application may be made either to the Secretary of the Board of Education, or to the Principal. In the catalogue of the following year, it is stated that "applications for State Scholarships are filled at the Institute as soon as received, and that after the entrance examination successful candidates receive the scholarships in the order of application." The latter part of this notice does not appear after 1882. In 1883 the notice reads that the recipients of State Scholarships will be "selected by the State Board of Education", and this statement stood until 1896. In this year the Legislature granted to the Institute the sum of $3,000. annually, to be paid in accordance with conditions established in Chapter 407, Acts of 1896. The following quotation from the act will explain these conditions:

"Section 2 * * * * * the Worcester Polytechnic Institute shall maintain forty free scholarships, of which each senatorial district in the Commonwealth shall be entitled to one, if a candidate is presented who is otherwise unable to bear the expense of tuition. In case no such candidate appears from a senatorial district, then a candidate may be selected from the state at large to fill such a vacancy, who may continue to hold the scholarship annually until a candidate is presented from the senatorial district unrepresented.

"Section 3. The scholarships shall be awarded to such pupils of the public schools of Massachusetts as shall be found upon examination to possess the qualifications fixed for the admission of students to said Institute, and who shall be selected by the Board of Education; preference in the award being given only to qualified candidates otherwise unable to bear the expense of tuition."

This new act of the Legislature doubled the number of scholarships awarded, and made at least five of them available for Worcester County, five being the number of senatorial districts in the county. The award of the State Scholarships was still in
the hands of the State Board of Education, and in 1900 this Board promulgated the following regulations governing the award:

1. All applications for State Scholarships must be made upon blanks furnished by the Board and must be filed with the Secretary of the State Board of Education on or before July 15 of each year, except that candidates for scholarships for the year 1901, who do not complete their examinations until September, may file their applications not later than October 15.

2. In case of a vacancy occurring in the scholarship assigned to any senatorial district, without any properly qualified applicant appearing from that district, the vacancy shall be filled from the list of applicants registered in the office of the Secretary of the Board of Education, and it shall be the duty of the aforesaid institution to notify in writing the Secretary of the Board when any resignation occurs in a State Scholarship during the year, in order that the Board may fill any vacancy by another appointment.

3. No assignment of a State Scholarship to any individual student shall hold for more than one year, without his reappointment. A preference, other things being equal, will be given the student who has previously held the appointment; but this preference will not be sufficient to secure the reappointment of any student who has not maintained a thoroughly respectable standing in his studies, and whose character and deportment are not, in all respects, unexceptionable.

4. Applicants for original appointment to State Scholarships must enclose in their applications a certificate of admission to the Institute free from conditions.

5. Persons desiring information concerning the courses of study, times of examination, and requirements of admission, should address the Registrar of the Worcester Polytechnic Institute, Worcester.

6. Persons desiring information regarding the State Scholarships established under these regulations, and regarding the terms and conditions upon which they are to be filled, should address the State Board of Education, Boston.

These regulations were in force until 1912, when they were republished, somewhat modified, in the following form:

1. Applications for State Scholarships in the Worcester Polytechnic Institute must be made on blanks supplied by the Board of Education, and filed with said Board, Room 500, Ford Building, Boston, Mass., not later than July 1.
2. A scholarship is granted for only one year. A student who has maintained a good record in the Institute will be favorably considered for a renewal of the scholarship.

3. Before an application can be considered by the Board, the applicant must have passed his entrance examinations to the Worcester Polytechnic Institute. The Board will obtain the record of these examinations from the Institute.

4. In case fewer than two properly qualified applicants present themselves from any senatorial district, vacant scholarships may be assigned to properly qualified applicants from other senatorial districts.

5. The Board of Education will award the scholarships in August. Each applicant should leave with the Board a self-addressed envelope for notification of awards.

6. Persons desiring information concerning the course of study, date of examination, requirements of admission, should address the Registrar of the Worcester Polytechnic Institute, Worcester, Mass.

7. Persons desiring further information regarding the State Scholarship established under these regulations, and regarding the terms and conditions upon which they are to be filled, should address the State Board of Education, Ford Building, Boston, Mass.

These regulations are still in force, governing the award of State Scholarships. The Board of Education each year asks the advice of the Institute authorities as to the merits of the various applicants, but the award is made by the Board. For a number of years the State Scholarships, like the Worcester County, have been divided, only one half being awarded to each applicant.
THE HOAR SCHOLARSHIP

This was named in honor of Hon. George F. Hoar, and was also often referred to as the District Scholarship. Its origin is most interesting. Mr. Hoar had been a member of the House of Representatives in the 42nd Congress. For his services as Congressman he had never received the full amount due. The arrears of salary had ultimately been paid, and Mr. Hoar had turned over the full amount, $4,650, to be invested, the income alone to be used, in supplying as many scholarships as possible for young men who should come from those towns in Norfolk County which had formerly constituted a part of the Ninth Congressional District. This district Mr. Hoar had represented in Congress. The gift was accepted by the Board of Trustees, at a meeting held Mar. 13, 1873.

The first mention of the Hoar Scholarship in any catalogue is in the issue of 1873-74. It follows:

Three students from that portion of Norfolk County which formerly made part of the Ninth Congressional District, may receive free tuition in accordance with the terms of the gift of Hon. George F. Hoar.

In the catalogue of 1878-9, this portion of Norfolk County is further specified by the enumeration of the towns composing it, namely, Bellingham, Foxboro, Franklin, Medway, Walpole and Wrentham. In the catalogue of 1887 the number of possible recipients of scholarship aid from the fund is no longer specified, the statement being a general one, and reading: "Free tuition is also provided, to the extent of the income derived from the gift of Hon. George F. Hoar, for students from that part of Norfolk County", etc. The income had so diminished that three scholarships could no longer be awarded. The state-
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ment today of the Hoar Scholarship is as follows:

THE HOAR SCHOLARSHIP.

Free tuition is provided to the extent of the income derived from the gift of the late Hon. George F. Hoar, for many years a trustee of the Institute. This income is available for students who are unable to pay tuition from that part of Norfolk County, viz: the towns of Foxboro, Bellingham, Franklin, Medway, Walpole, and Wrentham, which formerly made part of the Ninth Congressional District.

Application for the Hoar Scholarship should be made to the President of the Institute on a blank which he will furnish.
THE HENRY W. MILLER SCHOLARSHIP

This scholarship was given by Mrs. Alice Moen Rice, widow of Hon. W. W. Rice, and Mrs. Ruth A. Hoar, wife of Hon. George F. Hoar, in memory of their father, Mr. Henry W. Miller for many years a leading hardware merchant of Worcester. Mrs. Rice died in April, 1900, and left to the Institute the sum of $5000. in trust, the net annual income to be paid to her sister, Mrs. Hoar, during her life, and at her death to be added to the same sum to be given by Mrs. Hoar to establish the Miller scholarship. The scholarship became available during the year 1905-6. The conditions of its award are that the beneficiary shall be a young man preferably of Worcester, who needs financial assistance and who is prepared to enter the Institute.

Although the Miller Scholarship has generally been held by a Worcester student, it has occasionally been awarded to an applicant from outside the State, and this has been a distinct advantage since, prior to the Alzirus Brown bequest, there was no scholarship available for any student who did not reside in the State.
THE ALZIRUS BROWN SCHOLARSHIPS

These were established in 1913, with funds bequeathed to the Institute by Mrs. Harriet D. Brown of Worcester, who died Nov. 23, 1912. Mrs. Brown's husband, Mr. Alzirus Brown, who had amassed a fortune in the trucking business, had died on Sept. 1, 1898. The scholarships were named after Mr. Brown.

Mrs. Brown bequeathed the sum of $12,000 to the Institute, to found three scholarships, for worthy and needy young men. The Institute was made residuary legatee, and the amount of the residuary estate was about $65,000. This made the total amount of the Alzirus Brown Memorial Fund $62,000, making possible some eighteen scholarships. This bequest was especially timely for the Institute since it afforded scholarships for applicants from outside the state. The Worcester County, the State, and the Hoar Scholarships were limited to residents of State and County; the Henry W. Millar Scholarship above could previously be granted to a non-resident.
The Class of 1911 as its graduation gift to the Institute at Commencement, 1911, founded a scholarship, the conditions of which were as follows:

1. The scholarship is to extend over the four years course of one student.
2. The candidate must be a resident of the State of Illinois.
3. The candidate is selected with a view to all-round merit, in the following manner:
   The State Superintendent gives notice for nomination from the heads of the schools throughout the State, and to these nominees copies of the Institute entrance examinations are forwarded, the passing of which is requisite. From the successful candidates, as judged by the Entrance Committee of the Institute, the State Superintendent selects the man who in his opinion carries the best general qualifications.
4. The scholarship is to become operative in September, 1912.

This scholarship, in accordance with the above conditions was brought to the attention of the Superintendent of Instruction of the State of Illinois, but no candidate from that state presented himself as an applicant. The following year, the class of 1911 altered the above conditions to make the scholarship available to a resident of Ohio. In September, 1913, a properly prepared candidate presented himself as recipient of this scholarship and was accepted. This was Fred B. Carlisle, of Hillsboro, O., the first to hold the Class of 1911 Scholarship.
THE LEONARD P. KINNICUTT STUDENT LOAN FUND.

Dr. Kinnicutt, during his term of service at the Institute, was always interested in securing financial aid for worthy students. Many graduates of the Institute owe to him their Institute course and later success. He had, by his own efforts, collected a sum of a few hundred dollars which was lent to deserving students in small amounts. When Newton Hall, the Institute dormitory on State St., was given up in 1909, the beds and bedding were turned over to the Worcester District Nursing Society. Most of the remaining furniture, dishes, etc., were sold, and the proceeds, amounting to rather more than $100, were added to the Loan Fund, this seeming a natural use to make of the money since Dr. Kinnicutt had been the chief mover in the Newton Hall plan. The Fund today amounts to $3,702.92.
This organization at the Institute has the honor of being the oldest of any. It had its origin doubtless in the student prayer meetings held almost contemporaneously with the entrance of the first class in November, 1868. From the first, it enjoyed the strong support and sympathy of the Faculty.

For many years the activities of the members were confined to a weekly meeting, under the direction of some student, some Faculty member, or some leader from outside. Early it became affiliated with the State organization and sent delegates to State conventions. In 1891 it became a member of the national association of college Christian associations, and regularly sent delegates to the conventions of this association. The early meetings of the Institute branch were held in the office of the Institute. Later they were held in Room 3, Boynton Hall, though for larger meetings the chapel was frequently employed. A small organ, long used in the chapel, was given to the Y.M.C.A. when a larger organ was donated for chapel purposes, and in Room 3 guided the singing for many years.

A great step in advance in Y.M.C.A. work at the Institute was taken in the summer of 1901, when new and permanent quarters were fitted up in the Engineering Building. Here a large room was equipped with games, movable seats, tables, etc., and this room soon became a center of student activity, students gathering here for discussions, for a quiet game of checkers, or for study, while the regular weekly meetings of the Association were always held here unless the popularity of the speaker or the importance of the subject made necessary an adjournment to larger quarters. The greatest advance in Y.M.C.A. work at the Institute came in
1911. An advisory committee of Alumni, Faculty members and students had canvassed the situation thoroughly, and come to the conclusion that a regular, engaged and supported secretary was necessary to carry on the work as it should be carried on. Money was pledged for the support of such an executive, and on the evening of May 1, 1911, the first incumbent of the office of general secretary was formally installed. The man chosen was Mr. Clarence F. Shedd, a graduate of Clark College, in the class of 1910, who had been engaged in association work in New Bedford. At the installation, addresses were made by President Washburn, of the Board of Trustees, President Engler of the Institute and others. The exercises were held in the lecture room of the Electrical Engineering Building, which was crowded to the doors.

The coming of a regularly paid executive placed the work of the association on a new basis. Activity was begun along many lines. Regular meetings of the student body were arranged for; student groups for systematic Bible study were organized; a course of entertainments was provided; and the office of the General Secretary in the Engineering Building became a center of activity hitherto unknown in Institute life. Perhaps in no way was this work more effective than in the help allowed entering students in securing good boarding places, a list of which the General Secretary prepared; in finding their way about the Institute and about the city, and in securing for students desiring such, opportunities of employment during spare hours. The organization thus became, with the coming of the General Secretary, a great and valuable factor in the life of the
Institute, far in advance of what it had been in earlier days, important though the work then done may have been.

Mr. Shedd resigned his office in the spring of 1914, to take up a broader field of association work covering this state and Rhode Island. His successor was Mr. Gren O. Fierrel, a graduate of Peru College, Iowa, who had been engaged in Association work at Iowa University. The great advance in Y. M. C. A. activity at the Institute, brought about by the introduction of a General Secretary, was due to the untiring efforts of two men, who directed the movement and found the way to secure the financial support. They were Messrs. E. F. Miner, '37, Chairman of the Advisory Board, and W. C. Hall, '02, Secretary-Treasurer of the same.

For many years the Young Men's Christian Association at the Institute has welcomed the entering Freshmen at a reception held the first Saturday evening after the opening of the fall term. This has been held of late years in the Electrical Engineering Building, and has offered opportunity for the Freshmen to meet members of the Faculty, upper classmen and Alumni interested in Association work.
Musical Organizations

Some form of musical organization has existed at the Institute since the earliest times. The Technical Glee Club, we are told, furnished music at the banquet of the Alumni at Commencement, July 30, 1874. There was a famous quartette composed of members of the classes of 1876 and 1877, and other quartettes and small choruses seem to have been organized from time to time for special occasions. In the spring of 1894 a regular Glee Club was organized and gave a number of concerts in Worcester and neighboring towns. With it appeared a banjo club. The organization of this glee club was allowed to lapse in 1895, but in March, 1896, a new organization of all the musical interests in the Institute was effected and the future seemed bright. Indeed the glee club had come to life during the political campaign of 1896, and was heard several times at political rallies. The new combination of the musical interests was called the Worcester Polytechnic Institute Musical Association. It included the Glee Club and the Banjo Club. Officers were elected, a faculty adviser chosen, and a constitution adopted. During the winter of 1896–7 several concerts were given successfully. In December, 1898, the Glee Club was reorganized, and its leaders decided to give concerts alone, having no connection with the instrumental club. A concert was given in March, 1899, in Association Hall, and late in the same month, and in the early part of April, a regular tour was undertaken, concerts being given in Fitchburg, Leominster, Gardner, West Boylston and Grafton. Undoubtedly this trip was a success artistically, but financially it did not turn out well.
At frequent intervals thereafter, glee clubs were organized and existed for a longer or shorter period. In 1900 a concert was given in the chapel, Boynton Hall, at Commencement, by the Glee Club then existing.

Renewed efforts were made during the year 1911-12 to organize a glee club and with fair success. A leader was engaged and several concerts were given. In 1912-13 a similar course was pursued, and in the spring of 1914 and also of 1915, a joint concert was given by the Institute and Clark College Glee Clubs, with the Tech Orchestra and the Clark Mandolin Club, in Mechanics Hall. These concerts were entirely successful. An orchestra existed at the Institute during the year 1885-86, and participated in a concert that year in Reform Club Hall. Frequently thereafter enough players were assembled to form an orchestra and take part in concerts, such being the case in the spring of 1888, of 1889, and occasionally after that. During the year 1908-9, the presence in the Institute of a number of excellent performers on orchestral instruments resulted in the organization of an orchestra, and this organization has been kept up since that time. The orchestra furnished music at the Tech shows in 1911, 1912, 1913, 1914 and 1915, and has played frequently at the Y.M.C.A. receptions, at mass-meetings, and for Tech dances. The orchestra of 1913-1914 was, perhaps, the best that had ever represented the Institute.

There was a banjo club at the Institute in the fall of 1889, which enjoyed high repute. Its organization was kept up in subsequent years, and its members frequently lent their assistance at church and other entertainments in Worcester and adjoining towns. From time to time guitars were added, also mandolins,
and at the performance of Shylock, Jr., in April, 1895, the banjo and guitar club formed a strong attraction. When the W. P. I. Musical Association was organized in the spring of 1896, the Banjo & Guitar Club was included with the Glee Club. We find mention of a banjo or guitar club again from time to time, but such a club has never in recent years attained the prominence or gained the reputation of the other musical organizations at the Institute, notably the glee club and orchestra.

No record of musical organizations at the Institute would be complete without some reference to the band which, organized usually but a short time before the annual Tech-Holy Cross football game, has for many years led the Tech student body to Fitton Field to watch the contest. Musically the execution of the hand may have left much to be desired, but it certainly gave rhythm to the marching and proved an additional manifestation of Tech students' loyalty to athletics.
BOYNTON HALL

In his letter of gift Mr. Boynton had prescribed that the "institute shall be located in the city of Worcester, provided the citizens of Worcester furnish the funds necessary to purchase a lot and erect a suitable building or buildings for its accommodation, so that the same shall be ready for use on or before the first day of May, in the year, 1867." This time limit was afterward extended by Mr. Boynton.

A lot of land for the new institution had been given by Mr. Salisbury, the value of this lot being conservatively estimated at $10,000. The area of this lot was approximately five acres, 2280 feet. It was heavily timbered with a growth of pine trees, and the donor of the lot included in his gift this timber which was cut off, and sold, the proceeds being applied to the expenses of construction. The contour of the land given necessitated considerable grading, in the course of which some 15,000 cubic yards of earth were excavated, at an expense, including excavation of cellar, of $8,000. The grounds surrounding the new buildings were laid out in accordance with plans submitted by Calvert Vaux, the well known landscape gardener and architect of New York.

A committee of the Board of Trustees had been appointed Sept. 19, 1865, to undertake the construction of the building of the new institution. This committee consisted of Messrs. Phinehas Ball, Ichabod Washburn, George F. Hoar, and Rev. H. K. Pervear. Nov. 2, 1866, a new building committee was appointed consisting of Hon. D. Waldo Lincoln, chairman, and Messrs. David Whitcomb, George F. Hoar and Charles H. Morgan. This committee
advertised for proposals of plans, made the selection of the plan finally adopted, made the necessary contracts, and saw the construction work to the conclusion.

Plans were presented by six architects or firms of architects. In accordance with instructions each competitor submitted his plans anonymously, but on each set of plans was placed a motto. The successful plans were submitted by Messrs. Earle and Fuller of Worcester, the motto being "Prove all things, hold fast that which is good." For their services in drawing the plans and supervising the construction of the building, Messrs. Earle and Fuller received $1600.

The plans called for a structure 146 feet 6 inches long, 55 feet average width, of three stories, with a tower 86 feet high. The building constructed was approximately of these dimensions, attaining a width of 62 feet in its widest part, the main structure being 50 feet in height, the gable at the western end rising to 62 feet. The name, Boynton Hall, so eminently appropriate, was applied to this first building of the new institution by the Trustees, at their meeting of June 5, 1867. The concluding paragraph of the memorial notice of John Boynton, Esq., adopted at that time took the form of the following resolution:

RESOLVED: That the principal building for instruction of the Worcester County Free Institute of Industrial Science shall be designated and called Boynton Hall, to perpetuate the honored name of the founder of the institute, and to enlarge the good influences of his wise and liberal benefaction.

The contract for the building was awarded to Messrs. Horatio N. Tower and Tilley Raymond of Worcester, for the sum of $55,500. The contract for the masonry work on the building was sub-let to
Lilley of Providence, R. I. The original plans had called for uncourse rubble masonry in the walls; this was changed in the plans adopted to course rubble, at an additional cost of $2,000. The material of the external walls was Millstone Hill granite, quarried in Worcester. The trimmings and steps were of Uxbridge granite, contrasting pleasantly with the darker shades of the Millstone Hill material. The roofs were slated, the tower having in addition a graceful railing of wrought iron.

Besides the extra expense involved in changing the form of masonry in the walls, noted above, minor changes involved additional expense of some $600. The total cost of constructing the building was, therefore, $56,100, exclusive of the $2,000 mentioned above. Gas pipes were installed by Messrs. Colvin & Starkey of Boston, at a cost of $317.22; the plumbing was done by N. G. Tucker of Worcester, for $178.15; N. Walworth of Boston furnished and set the steam pipes for $1,800, and Messrs. Stewart & Dillon of Boston supplied the boiler for $840. Mr. James White of Worcester, an agent for the Board of Trustees, assumed practically the entire oversight and responsibility for the work, and discharged his duty with skill and fidelity.

The total cost of the building, grading of the grounds, equipment and furniture, as delivered at the dedication of the building, Nov. 11, 1868, was $75,343.68.

A contemporary account of the interior arrangement of Boynton Hall, may not be without interest. It is taken from the Evening Gazette of Nov. 11, 1868.
"Entrance is given through two doors in the south side of the building. The tower entrance is designed more especially for teachers and visitors, while the second doorway, at the west end, is for the students. On the first floor we find a pleasant, cozy room for the President, the dimensions of which are 15 x 30 feet; the library, 19 by 34; reading room, 18 by 19; instrument room, 19 by 26; coat room, 12 by 19; balance room, 16 by 21; reagent room, 16 by 18; janitor's room, 14 by 23; laboratory, 40 feet square, and a lecture room, 23 by 26. On the second floor, Prof. Gladwin's room for drawing, 23 by 33; and a model room adjoining, 10 by 23; professor's private study, 16 by 19; two large lecture rooms, each 22 by 31; chemical lecture room 40 feet square; Prof. Thompson's private laboratory, 16 by 21, reagent and sample room, 16 by 18; and a private reception room 16 by 22. Third floor:—Lecture room, 22 by 26; and a model room adjoining, 10 by 26; natural history cabinet, 42 by 50; philosophical apparatus room, 20 by 22; and the spacious chapel, 40 by 57 feet, capable of seating over 400 persons. The first and second stories are each 14 feet high, and the third is 12 feet high, except the chapel which is 20 feet high. The building is 146 feet and six inches long, and has an average depth of 55 feet. The tower is 20 feet square and has a height of 86 feet. The building is furnished in chestnut throughout, giving the interior a plain yet substantial appearance. Gas and steam-heating apparatus are on each floor. The stairways are spacious and well constructed. The building is thoroughly "honest in every respect."

In April, 1870, the memorial tablet was placed in the south side of Boynton Hall, in a niche reserved at the time of its construction. The tablet is in the form of a gothic arch, divided horizontally into two parts. The upper half bears the words, "Boynton Hall, erected by citizens of Worcester", in polished letters, in relief, on a hammered ground; the lower half has "Worcester County Free Institute of Industrial Science, founded by John Boynton, 1865", in sunken letters on a polished ground. The lower half is raised two inches above the upper. The tablet is of Fitzwilliam granite and was prepared by Messrs. D. Woodward & Co. of Worcester. It was given by Mr. James White, of Worcester, whose careful oversight had done so much in the construction of the buildings.
The attendance at the Institute grew so rapidly that, in 1883, increased facilities became imperative. Pressure had long been felt, but in May, 1883, an appeal was made throughout Worcester County for funds to permit of this enlargement of accommodations. The plan suggested involved the extension of Boynton Hall at the western end, to a distance of 45 feet, this extension to be three stories in height, nearly doubling the capacity of the chapel and supplying much more space for the department of Physics, for additional classrooms, library, drawing rooms, etc. It was planned also to build a new laboratory for the department of Chemistry to the north of Boynton Hall. Plans for this addition were prepared by Mr. Stephen C. Earle, of Worcester, the architect of the original building.

Response to this appeal for funds was not sufficient to justify the Board of Trustees in carrying out their plans, hence the Institute had to continue its work as best it could until the generosity of Mr. Stephen Salisbury, in 1887, made possible the construction of Salisbury Laboratories, which relieved the pressure on Boynton Hall.

Minor repairs were made at frequent intervals in Boynton Hall. During the summer of 1885 the interior was renovated, the chestnut finish of the corridors being covered with a coating of light paint. During the summer of 1887 extensive changes were made. The completion of the new Salisbury Laboratories in that year made possible a readjustment of the rooms available in Boynton Hall. The changes made involved the remodeling of the basement of the western end of the
building, and the installation in it of lockers and lavatories for the students. The old chemical laboratory at the western end of the building was made over into a civil engineering room, the smaller laboratories and offices being given up to the department of Civil Engineering. The laboratory of the Department of Physics was taken for library purposes, two adjoining rooms being thrown into one. On the second floor ample quarters for work in mineralogy and geology were provided, the chemistry lecture room being used for lectures in these subjects, the smaller laboratories adjacent serving for mineralogical and geological work. On the third floor a large skylight was placed in the roof over the mechanical drawing room, and the roof itself was re-slated and repaired. Additional facilities were provided for ventilation and for the disposal of sewage, and the entire building was renovated.

The expenses of these repairs and alterations, which were considerable, were borne by two members of the Board of Trustees, Messrs. Stephen Salisbury and G. Henry Whitcomb. During the summer of 1895 hard wood floors were laid in many of the rooms, and the quarters of the civil engineering department were renovated and re-arranged.

Boynton Hall was again completely renovated in the summer of 1912. New lockers were installed, and the number was increased, from 250 to 500. The sanitary arrangements were brought up to date, and the building was renovated throughout.

For some years after the completion of the Mechanical Engineering Building, the large mechanical drawing room on the third floor of Boynton Hall was not used. Later, in 1904,
the room was partitioned, into two rooms, these rooms being used for language instruction. The library was extended in 1895, to include a third room on the first floor of Boynton Hall. In the spring of 1914, the Library was removed to the Chapel on the third floor, the former library quarters being given up to administration offices and a Faculty room. When all work in mineralogy and geology was transferred to the Salisbury Laboratories, in 1907, the rooms formerly devoted to that work were taken over by the Department of Civil Engineering. The old Free Hand Drawing room was given over to lecture work in Political Science and Economics in 1893, quarters for the work in Free Hand Drawing being provided first in the Mechanical Engineering Building.

The history of the clock on the tower of Boynton Hall is interesting. Money to purchase this clock was raised by the students of the Institute during the first year, that is, 1868-9. This money came from friends of the Institute, through personal solicitation. The cost of the clock was $500, and it was supplied by the well-known firm of E. Howard & Co., of Boston. It was exhibited in the window of a Main St. merchant for some days before it was put into place, in the tower, which was done on the 17th of May, 1869. The weights of the clock, which called for 1500 pounds of iron, were cast by the C. & J. A. Colvin Foundry Co. of Worcester, and presented to the Institute. For many years the hours were struck on a gong placed on the top of the tower, and the curious metallic clang of this gong was characteristic of the Institute. This gong was removed in 1890.

The tower clock was guaranteed to run with a variation of
not more than thirty seconds per week, and it has well sustained
its guarantee. With the tower clock, the Howard Company pre-
sented to the Washburn Shops an office clock valued at $25.00.

The handsome clock which stood for many years in the
President's office, in Boynton Hall, later in the Library, was
presented in the spring of 1890, by Mr. Clinton W. Dyer, a
wealthy resident of Worcester.
THE INSTITUTE COLORS

The Institute colors are, and have been for years, steel gray and crimson. Just when they were adopted is a matter of some doubt. The Worcester Daily Spy, in its issue of Jan. 9, 1869, informs us that the students in the Institute had adopted a uniform cap of dark blue, with badge on the front of an arm and hammer, worked in gilt. At the Commencement exercises of 1872, the members of the graduating class wore class colors of white, overlapped by a blue badge bearing the emblem of the arm and hammer.

Mr. John F. Keyes, '76, in a letter to the W. P. I., published in May, 1889, states that steel gray was adopted as a school color prior to 1873. At this time a committee report, which was accepted by the school, added crimson. Mr. Keyes himself served on this committee, and the suggestion that steel gray and crimson would make a good combination, came from him.

The selection of steel gray is said to have come as the result of a boat race held at Lake Quinsigamond in the fall of 1872, or the spring of 1873, between a pair of oarsmen from the Class of 1873 and a pair from 1874. The pair from the Class of 1874 won, and later, in a race with a pair from 1875, won again. Class colors had been selected by the competing classes, to be worn by their respective crews, and these class colors gave rise to the demand for a school color. Steel gray was proposed by the class of 1874 as this school color, and was adopted in a mass meeting of the students held some time early in 1873. It was sanctioned later by Principal Thompson and the Faculty. Then when the crimson was added, these two became the
Institute colors and have remained so ever since.

The classes for years kept up the custom of choosing class colors, but this custom was given up some dozen years ago. The chief value of the class colors was in determining the shade of ribbon to be used in tying the diplomas. For many years, however, the ribbons for the diplomas have been of the Institute colors, steel-gray and crimson.
This was given to the Institute by the younger Stephen Salisbury, the deed being recorded Aug. 1, 1894. It was by a quitclaim deed that the property was conveyed and the description was as follows:

"Three certain tracts or parcels of land, with all the privileges and appurtenances and easements of every kind, including rights of flowage, in any way belonging or appertaining thereto, all situated in the easterly part of the town of Holden, in the village of Chaffinsville in said County. The first tract situated on the westerly side of the County road leading to Princeton, bounded and described as follows to wit: Beginning at the westerly end of the dam at a fast rock with a hole drilled in it, thence, northerly ten (10) rods and six (6) links to a hole drilled into a rock; thence N. 22 3/4° E. by land now or formerly of Lucy C. Chaffin, twenty-three (23) rods to an elm tree; thence N. 56 1/4° E. by land now or formerly of said Lucy C. Chaffin to an ash tree on said Princeton Road; thence southerly by said Princeton Road by various courses to the bridge; thence westerly, northwesterly and northerly around the pond at high water mark to the place of beginning. The second tract with all the buildings thereto, with all the privileges, appurtenances and easements thereto belonging containing three acres more or less, situated on the easterly side of said Princeton Road, and opposite the tract above described, bounded and described as follows, to wit: Beginning at a point between two roads, about two (2) rods south of the grist-mill, as formerly located, thence southeasterly about two (2) rods over the town road to the south past in the raceway bridge; thence southeasterly by land now or formerly of S. Geff, and land now or formerly of R. H. Chaffin, thence north by land now or formerly of said Royal H. ---- to the north side of the mill pond; thence westerly by said pond to a stake and stone; thence N. 30 1/4° E. twenty-four (24) links to a stake and stone; thence N. 30 1/4° E. crossing the town road to land late of Jonas Chaffin, thence by said land formerly of Chaffins westerly to land now or formerly of R. H. Chaffin on the County Road; thence southerly by said county road about fourteen (14) rods to the place of beginning. The third tract consists of a small piece of land between the tract last above described and the old turnpike bounded by said old turnpike by the town road and the county road leading to Princeton; the two last described tracts being the same estate conveyed by Howard Holden to James Lee by deed dated the first day of May, one thousand eight hundred and forty-
seven (1847) and recorded in the Registry of Deeds aforesaid. Book 424, Page 122, and all conveyed to me by Marietta and John W. Shewbrook by their deed dated September 19, A.D. 1890, and recorded in the Worcester District Registry of Deeds for said County, Book 1340, Page 144, to which deed and the records thereof reference is hereby made for a more particular description of said granted premises. Meaning and intending and do hereby convey, sell, transfer and set our hands unto said grantee all my right, title claim and demand in and unto said estate hereby conveyed, together with all water privileges, reservoirs, water rights, rights of flowage, all buildings and improvements thereon, with all water wheels, machinery and fixtures of whatever name or nature in any manner connected with or belonging thereto owned by me.
THE BOYNTON STREET WALL

No account of the Institute would be complete without some notice of the handsome wall which marks the boundary of the Institute grounds on Boynton St. This wall, extending originally from the Joy Hill Road to the Hill estate on Boynton St., about 600 feet, was the gift, in 1871, of William Knowlton, Esq., of Upton, who had, in 1868, given $1,000 to the Library & Apparatus Fund.

The wall cost about $3,700, and was constructed of square rubble granite quarried on Millstone Hill, laid in cement, capped by Uxbridge granite coping stones, bevelled, and finished with gate posts and terminal posts of the same Uxbridge granite. The style and material of the wall conformed to that of Boynton Hall. On one of the gate posts at the southern end of the wall was the inscription, "This wall - the gift of William Knowlton, Esq. of Upton - 1871".

In 1906, by gift of six alumni, the Institute acquired the Mill estate at the corner of Boynton and Salisbury Sts. In 1912, three grandchildren of Mr. Knowlton, Messrs. George W. Knowlton, of Upton, Mass., Mr. Eben J. Knowlton, of Brooklyn, N. Y., and Mrs. Charlotte A. Batchelor, of Upton, Mass., gave sufficient money to extend the original wall along the line of Boynton, completing, so to speak, this boundary of Institute property. Bronze tablets set in the terminal parts at Institute Road and Salisbury Street testify to the liberality of the generous donors.
STUDENT TROUBLES

This heading is somewhat misleading, the purpose of this paragraph being to discuss those few instances in which the student body came into serious conflict with the Institute authorities. The first of these occurred in March, 1881. Certain students attending a concert in Horticultural Hall, given by the Amherst College Glee Club, making themselves conspicuous, if not obnoxious, by their dress and manner, were admonished by Prof. T. E. N. Eaton who was present. One student was ordered to withdraw by Professor Eaton, and, failing to comply at once, was suspended. Thereupon some eighty Institute students signed a paper, asserting their equal guilt with that of the young man punished, and urging a uniform penalty. All signers of this paper were suspended, but, after explanations, better counsel prevailed and all were welcomed back to their work.

A famous escapade involving the students of the Institute took place Oct. 22, 1884. That night the horse belonging to Superintendent Higgins was, in some way, carried into the Chapel, on the third floor of Boynton Hall. With much difficulty the animal was removed and an investigation started to ascertain the guilty parties. A compact entered into by the students sealed the lips of all, for a time. Ultimately, however, the guilt was fastened upon eleven students, members of various classes, through their own confession. As a result the ban of suspension was lifted from the others, who had declined to testify against their fellows, and the penalty was remitted for all concerned, this seeming the advisable method
to pursue.

In November, 1884, a number of Institute students went into the city, attired in tall hats and carrying canes. It was Election Night, and they became involved with a number of city youths in a miniature riot which was quieted by the police. No serious consequences resulted, but the affair called down a great deal of criticism upon the students, who seemed to have provoked an attack by their dress and manner.

In January, 1893, the class of 1894 became involved in a struggle with members of other classes, and with the janitor of Boynton Hall, in an effort to raise its class flag on Boynton Hall tower. As a result several members of '94 were suspended for the term of six months. There were other inter-class conflicts from time to time, but no serious outbreak occurred for some years. One form of inter-class rivalry was interference of one class with the efforts of the class next above or below, to hold its Half-Way Through banquet. This banquet, which has been a fixture for Institute classes since 1887, has been held both in Worcester and in surrounding towns. Several times the President or toastmaster of the banqueting class has been made captive and held prisoner until the banquet was over. More than once the banquet hall has been invaded, and, in the ensuing mêlée, much damage has been caused. This was especially true in Jeffersonville, in 1902, and at South Framingham, in 1903.

Political feeling ran high in 1896, throughout the country, and the students at the Institute shared the enthusiasm. Orders had been given by President Mendenhall that no bonfires should
be built at or near the Institute. The defeat of Bryan and Free Silver, however, was too strong an incentive to be resisted. A bonfire was built by students on Bliss Field, directly in opposition to the orders of the President. A rigid investigation followed; every student was questioned, and at last the guilty parties were found. They were suspended for six months, but during the course of the investigation all Institute exercises were given up, and every effort of the Institute authorities was directed to the detection of the guilty. This affair produced a most unpleasant effect upon the student body.

In recent years various forms of hazing have broken out between the two lower classes. Frequently this hazing was practised on small groups of Freshmen, or on individuals who were caught away from their classmates. On many occasions such hazing precipitated a rush between the two classes, these rushes taking place not only on Institute property but even in the city. A rush which took place on the evening of September 22, 1908, on the common, resulted in the death of Ernie Grau, of Wareham, a member of the class of 1911. Grau was caught under a struggling mass of students and suffered a fracture of the spine. He died Sunday, September 27th, and was buried in Wareham the following Wednesday, the entire class attending the funeral, together with representatives of the other classes and of the Faculty.

As a result of this sad accident class rushes were given up, and during the past years, the students by their own action, have abolished hazing.
ATHLETICS

The first beginnings of athletics at the Institute may be found in the class organizations mentioned early in its history. These, naturally, fostered baseball and football, though class boat races, of four-oared crews, occurred on Lake Quinsigamond in the early 70's. To the classes of '80 and '81 belongs the credit of organizing the first association for the promotion of track and field sports. Baseball was already flourishing at the Institute, and the teams put into the field in 1880 and 1881 had the reputation of being among the strongest in the country.

The first field day was held on the campus at the foot of Institute Hill, April 30, 1881. From that time with almost no break, field sports were held in spring and autumn, at first in the campus, then beginning with the fall of 1884, in Agricultural Park, until the middle '90s, when the fall meet was given up.

The earlier games were intended to promote merriment rather than athletic prowess as the list of events will show. In October, 1882, this included a potato race, an elephant race, a sack race, a three-legged race and a wheelbarrow race. Later the doughnut and obstacle race were added. The really athletic events consisted of a hundred yard dash, standing broad jump, running broad jump, half mile run, putting 20 pound shot, throwing baseball, and tug-of-war, without cleats. No admission was charged, and the winners were announced by a drummer, who received his information from the Field Marshal.

In the fall of 1884 the events were held at Agricultural
In the spring of 1885 a half-mile bicycle race was added, also the 220 yard dash, and the tug-of-war was pulled on cleats. A band was engaged to play during the games and the attendance numbered over 3000 on several occasions. Admission was first charged in September, 1886.

At the games in October, 1885, a professional timer was engaged for the first time; thenceforward more attention was paid to records made by contestants, and the quality of the performances began to improve steadily. In the spring of 1886 the 440 yard dash was added to the list of sports, a more pretentious form of program was prepared, and the students at the Institute seem to have waked up to the fact that they were more than mere high school boys. The old, fun-making contests were banished forever.

The pole vault had come in as a sport in 1883; the hammer throw was revived in 1887, the mile walk and two mile bicycle race were introduced in 1888.

The Athletic Association had done its work under the original constitution adopted in 1880, until the spring of 1886. In April of that year a new constitution was adopted which tended to bring the various lines of athletic interest under one central body. The directors of this new Athletic Association were to have power to choose a baseball team in the spring and a football team in the fall, each team to choose its own captain. All students at the Institute were eligible to membership on payment of a small fee.

This constitution soon fell into disuse, and was re-drafted in 1889, the new draft appearing in April of that year. By the
latter, football and baseball were still under the control of
the association, the manager of each being elected by the asso-
ciation members, at the spring and fall meetings respectively.
Semi-annual dues were fixed at $1.00. Three years later, in
March, 1892, still another constitution was adopted by the
students, all of whom now became members. The Athletic Asso-
ciation confined itself henceforth to fostering track athletics,
cross country runs, etc. The football enthusiasts had already,
in October, 1891, formed the Football Association, a branch of
the Athletic Association theoretically, but practically indepen-
dent, while in February, 1892, the adherents of baseball formed
the Baseball Association.

These three organizations existed side by side until
December, 1894. Interest in athletics at the Institute was
sadly divided by this triple line of endeavor; as a result,
on December 12, 1894, a new Athletic Association was formed at
the Institute, including all students and undertaking to oversee
the three major lines of sport. This organization, with constitu-
tion somewhat altered from time to time, still has general
supervision of athletics.

Baseball has been favored almost from the beginnings of
Institute life. In 1880 and 1881, as has been said, the team
had a high reputation. Other teams, too, in later years, have
excelled, notably in 1895, 1896 and 1907. The first football
team representing the Institute was put into the field in the
fall of 1884. In the fall of 1887 the interest of the student
body had grown, and the quality of the players had improved so
that the team played Harvard, and other representative colleges.
Perhaps the most memorable victory ever won by an Institute football team was that over Brown, November 12, 1892, by a score of 4 to 0. But in some seasons football and baseball were given up, owing to lack of interest among the students, or lack of financial support. In 1889 Faculty opposition seems to have put a damper on football, while in 1898 a disastrous season of the preceding year and lukewarm interest among the students resulted in no team. Practice in both these lines of sport was usually held on Dewey's or Bliss's Field, West Street, as it is usually called, the actual games being played at Agricultural Park, at the Oval, or, in later years, at Boulevard Park, Shrewsbury Street. Twice, at least, Worcester Academy kindly gave the use of its grounds for such games. On track sports the Institute has perhaps gained greater reputation than in any other line. The Athletes have been handicapped by a lack of training facilities as great as that in football and baseball, although the small straight-away track and oval at the foot of the hill on Boynton Street, constructed in the spring of 1900, did offer some improvement. Shower baths, too, installed a year or two later in the basement of Boynton Hall, made training for all lines of athletics easier.

The improvement in the quality of athletic accomplishment subsequent to 1885 encouraged the athletic leaders to join, in January, 1888, the recently formed New England Intercollegiate Athletic Association. The Institute Association was a member until April, 1902, and during this time was almost always worthily represented in track and field events. But its leaders
gained even greater fame than its athletes, in the college world, at least, because in 1888 they brought the annual games to Worcester where they were held in Agricultural Park before large crowds of interested spectators. Thus financial success was assured where but a short time before failure had threatened the new organization. It seemed advisable to resign from the New England Association in April, 1902, owing to lack of interest and of financial support among the students, also lack of material to cope with the athletes of the other colleges. Efforts were made at once to form a league of smaller colleges in and about New England. These efforts failed of success, but the Institute athletes were pitted against those of other colleges in dual and triangular meets and usually with excellent success. The other colleges participating in such events have been Tufts, Brown, Massachusetts Agricultural, Trinity, Rensselaer, Union, Holy Cross and Colgate.

On February 12, 1910, the Institute applied for reinstatement in the New England Intercollegiate Athletic Association, and was admitted without opposition.

It may seem invidious to mention one Tech athlete among so many excellent track and field performers; H. L. Dadmun, '91, however, was not only a remarkable athlete in contests involving the Institute, he was also National champion in the half mile, winning this signal honor at the annual games in Washington, D.C. in October, 1890.

The Athletic Association at the Institute has encouraged various forms of physical contest not included in the three
major lines mentioned. It fostered basketball for several seasons and the teams put into the field made a creditable showing, defeating such competitors as Massachusetts Institute, Tufts and Trinity. Practice for basketball took place for several years in the large room of the Engineering Building. Later it was held in some loft in the city or in the gymnasium of the Boys' Club, but the very handicap of lack of quarters was the chief reason for giving up the game.

Early in its history the Athletic Association took up cross country running, and from the spring of 1890 till the present time, one or more runs have been held. Originally they took place in the spring; beginning with 1892, they were held in the fall. On several occasions the Institute has been represented by a team in competition with other colleges, at Worcester or elsewhere.

Relay racing became popular about 1895, and several excellent relay teams have represented the Institute at indoor and outdoor athletic meets. In April, 1895, the Institute team was beaten at the University of Pennsylvania invitation meet by the team of the Massachusetts Institute of Technology, but on May 30, of the same year, it defeated this opponent. In 1914 the Institute relay team won its race at the Philadelphia meet against Washington and Jefferson, Rutgers and Dickinson Colleges, and in 1915 it was successful against the relay teams of New York University, Carnegie Institute of Technology and Haverford, Ohio, Wesleyan and Hamilton Colleges, and New York Law School.

Institute
Twice the Athletic Association conducted indoor meets,
at the old Skating Rink in Worcester, each time with great success financially and from an athletic point of view. The dates were Mar. 14, 1895, and Mar. 19, 1896.

Polo has been played by an Institute team on several occasions, first in January and February, 1894, when it defeated Brown and Holy Cross; again the following year, when it defeated Brown again, but succumbed to Harvard, 2 to 0, and again during the following winter. There have been revivals since, notably in 1910, when the material seemed specially promising, but lack of interest among players and students resulted in an early disbanding of the team.

The Worcester Technical Institute Bicycle Club was organized in October, 1885. Its twelve or more members, mounted on high wheels, planned to take club runs every Saturday afternoon, but the organization seems to have been short lived.

During the winter of 1889-1890, a Tech Skating Club had a brief existence, and in the late fall of 1886 the Tech Sportman's Club was organized but hardly survived its first months of existence.

The W. F. I. Harriers, unorganized, conducted a hare and hounds run in November, 1885, and planned to continue this interesting form of sport, but seem not to have attempted a second run. On several occasions a Fencing Club has existed at the Institute, notably during the winter of 1905-1906, when there were several excellent fencers among the students. Practice was generally held in the basement of Boynton Hall. Here, too, during one season the Tech Wrestling Club met and tried
hard to interest the students in the line of athletics.

Doubtless the most recent of the quasi-athletic organizations on the Hill is the Rifle Club. It was organized during the early winter of 1913-1914, and soon became affiliated with the National Rifle Association of America. Thus it took part during the winter in a number of intercollegiate shooting contests, conducted by telegraph with other colleges, at some distance, and made an excellent record. Its gallery is in the cellar of Boynton Hall, where a fifty-foot range has been laid out, and where the members of the club, who, during the year 1913-1914 numbered nearly 100, can practice undisturbed.

Lawn Tennis

This game was early popular at the Institute. A number of tennis clubs in the city familiarized in-coming students with the game and encouraged them to play it during their Institute course. Facilities were lacking, however, until the spring of 1892 when four excellent courts on Boynton Street were fitted up and opened. For a number of years these courts were kept in fine condition and were the scene of many spirited tournaments. Tennis affairs at the Institute were under the direction of the Worcester Polytechnic Institute Lawn Tennis Association, which had had an organization in the early eighties. After it disbanded as a formal organization the game of tennis was still encouraged and a tournament was held each year, the matches in recent years being played on one of the fraternity courts. The Landsing cup was given to the Lawn Tennis Association in the fall of 1885 by Jang Landsing, '87, to be competed for each year. Later the Athletic Association offered a silver
cup for annual competition and this cup still occupies a place in the Library of the Institute. The Athletic Association has never been able to lend much assistance to tennis, however, owing to the heavy drain on its resources by the major lines of sport. It is interesting to note in this connection that in the fall of 1890, H. M. Southgate, '92, the Institute champion, was also the champion of the city.

The Institute "W"

For many years students at the Institute wore the "W", or "WPI" indiscriminately, there being no rules to govern this practice. In the latter months of 1901, this matter was taken up by the Directors of the Athletic Association, and rules were formulated to govern this award. A special form of letter was adopted for baseball, football, track and basketball, and only students who met the required conditions of competing on the various teams were allowed to wear this insignia. With certain changes, the rules adopted at that time are still in force.

The Board Track

The need of some place for outdoor work by candidates for the relay team was responsible for the construction of the board track. It was built in December, 1910, by the students themselves. They had prepared the drawings; funds to purchase material had been secured through the efforts of the Manager of the Track Team that year, E. E. Hartwell. The subscribers to this fund were chiefly students and alumni with a few members of the Faculty. The work was done in the Washburn Shops and the track was first used about the middle of December, 1910.
Periodicals

The W T I and WP I

The first regular periodical issued at the Institute was the W T I, of which Vol. 1, No. 1, appeared in June, 1895. W T I, without periods, was, of course, an abbreviation of Worcester Technical Institute. When the name of the Institute was changed, in 1887, the periodical changed its title to WP I, still without periods.

The W T I had a full board of literary editors and a business manager, chosen from the student body. The Faculty were not represented in any way. The paper appeared monthly during the school year, and was representative of all student and Institute activities, while, at the same time, it contained many articles and notes of more general scientific and technical nature. The subscription price was $1.00 per year.

On the 22nd of February, 1887, the New England Intercollegiate Press Association was formed at Young's Hotel in Boston, and the W T I was a member of this organization as long as the paper was published.

In April, 1892, the WP I appeared as a bi-weekly, and it maintained this form until it ceased publication in June, 1896. At that time a considerable deficit had accumulated, and the support of the student body was not sufficient to warrant a continuation of the paper.

During its life the WP I was a bright, well-edited sheet, which enjoyed high repute in the city and among its exchanges. Many graduates of the Institute who afterwards attained success in journalism received their first training in the sanctum of the WP I.

The Journal of the Institute

The suspension of publication of the WP I in 1897 left the Institute without a periodical of any kind. This lack was felt so strongly that steps were taken in 1897 to provide for some sort of publication. To this end a committee was appointed by the Alumni Association at the annual meeting in June, 1897, to confer with a similar committee of the Faculty and to formulate some plan. Several meetings of these two committees were held and a
general plan was agreed upon. The name of Journal of the
Institute was chosen; it was decided that five issues per
year should be published, also that students should compose
the Editorial Board, and act as Business Managers, in connection
with an Advisory Board chosen from the Alumni, and with an Ad-
visory Committee of the Faculty. The general scope of the mag-
azine was to include articles of a technical or scientific nature,
so far as possible by graduates or members of the Faculty; general
Institute and Alumni notes, Book Reviews and similar material.
It was to be an exponent of all Institute activities, and this
it has been to a very large degree. In all the preliminary work
of organizing the new publication and starting it out on a firm
basis, Dr. Mendenhall was active. Indeed, to him more than to
any other person the credit of the new undertaking may be ascribed.
During the earlier years of its life, Professors Conant and Coombs
had general charge. Since 1907, however, Professor Haynes has
acted as Editor-in-chief.

The first number appeared in November, 1897, and without
interruption the volumes have followed, the eighteenth concluding
the school year, 1914-5.

The Tech News

This successor of the old W P I, a paper entirely in the
hands of the student body, appeared first September 15, 1909.
It a announcement stated that it would appear each Wednesday
during the school year. Single copies cost three cents, a year's
subscription being fifty cents to Tech students. The Tech News
was first published by several individual students who had no
form of organization. Later an organization under the name of
the Tech News Association was formed to take over the publication. The price of single copies was raised to seven cents, the annual subscription being $1.75. The day of issue was changed to Tuesday. The paper finished successfully the year 1915, and is appearing regularly at the present time.
NEWTON HALL

Newton Hall was the only dormitory and dining hall ever operated by the Institute. It was the family mansion of the Newton-Wetherell families, situated at the corner of State and Main Streets on Court Hill. At Mrs. Hester Newton Wetherell's death in 1899, the mansion came into the hands of the executors of the estate, Messrs. T. Hovey Gage and Lincoln N. Kinnicutt. Through the interest of Dr. Leonard F. Kinnicutt, of the Institute Faculty, the house was given to the Trustees of the Institute for a term of five years, to be used as a dormitory and dining hall. Money was appropriated by the Institute authorities for the thorough renovation of the property, the installation of a steam heating plant, and for improvements in plumbing and ventilating.

Liberal contributions were made by friends of the Institute for furnishing the students' rooms, among the contributors being Messrs. S. C. Heald, '72, M. J. Whittall, and Dr. G. D. Moore. For furnishing the library and parlor, Mrs. Henry Clarke and Mr. Alexander De Witt gave $270, while Hon. C. G. Washburn, together with the Alumni Associations of Boston, New York and Philadelphia, supplied $35 for the purchase of books and periodicals.

In granting the use of the building to the Institute authorities, the executors of the estate expressed the wish that it should be used as far as possible for the benefit of young men whose financial resources were limited and who were worthy of the assistance which the dormitory was intended to afford. About twenty-six students could be accommodated in the rooms, and there was, besides, an instructor who acted
as Proctor for the Hall. The Manager and his wife and
the servants were well furnished with quarters. In the
dining-room sixty-five students could easily be taken care
of. The price of rooms varied from $30 to $60 a year, per
student. Board cost $3.50 to $3.75 per week.

Newton Hall offered an attractive home to many of the
students and for the first few years was very popular, every
room being occupied. With its spacious parlors and library
and its entire freedom, it was a real centre of Institute
life. At the end of the five-year period, the prospect seemed
so bright that the Trustees of the Institute requested an ex-
tension of the period from the executors of the estate. This
was granted, and the Hall, that had first been occupied in
September, 1901, was continued as a dormitory and dining hall
until the end of the Institute year, June, 1909. During the
last year or two the rooms had become less popular and several
were not occupied, though the dining room continued to be well
patronized. But the income from every room was needed in order
to ensure financial success. Reluctantly, therefore, it was
decided to give up the Hall, in June, 1909, owing chiefly to
the expense of carrying it on. The plan suggested, of using
it as a sort of Tech Union, for the students of the Institute,
was also rejected, because of the expense entailed. The fur-
niture and movable equipment of the Hall was sold or given to
charitable uses, though the handsome oak library furniture
and the books in the library are still kept at Boynton Hall.
The building, after lying idle for a couple of years, was
leased by the City of Worcester as a Trade School for girls.
Probably the distance of the Hall from the Institute was a leading factor in its ultimate failure as a dormitory. Its success, and to a great degree it was successful, may be ascribed largely to the skill and care of the managers, Mr. and Mrs. H. H. Miles, of Boston and West Brookfield, who served during the entire eight years. For the Institute, the Hall was administered by a committee of the Faculty, consisting of President Engler and Professors Kinnicutt, Haynes and Coombs, with the Proctor, ex-officio. The Proctors were Messrs. Ewell, Bonnet and McConnell of the instructive force, serving successively.
STATE AID

On several occasions the Commonwealth of Massachusetts has aided the Institute and liberally.

The first appeal for state aid was made in February, 1869, the argument being delivered by Hon. George F. Hoar of the Board of Trustees. The appeal was successful, $50,000 being granted on condition that the Institute maintain twenty free scholarships. The money was expended on the plant.

A second appeal for assistance was made in March, 1886, the argument being given by Judge P. Emory Aldrich, President of the Board of Trustees. In response the State granted $50,000 without condition. This sum of money was made part of the endowment, and has been known as the "State Fund".

The third appeal was made in February, 1894, and Judge Aldrich again delivered the argument. The response was the award of $100,000, one-half paid in 1894, the other half in 1895. The entire sum was expended on buildings and equipment, paying for the erection of the Mechanical Engineering Building, the Power Laboratory, and the President's house.

In May, 1896, a petition to the Legislature from the Board of Trustees, presented by Hon. Stephen Salisbury, President, was granted. This petition requested that, beginning with Sept. 1, 1896, the State pay the Institute annually $3,000, conditioned on forty five scholarships, including those provided for in the appropriation of 1869.

In February, 1899, the Board of Trustees, through the President, Hon. Stephen Salisbury, again petitioned the Legislature, this time that the $3,000 granted in 1896 be increased to $6,000, to cover the forty five scholarships provided for in the Act of 1896. This petition was granted. In January, 1905, Mr. Salisbury, representing the Board of Trustees, again appeared before the Committee of the Legislature, to ask that this grant of $6,000 annually be increased to $10,000 annually. This petition was granted, to take effect Sept. 1, 1905, the number of scholarships remaining the same.

In January, 1910, Hon. Charles G. Washburn, President of the Board of Trustees, presented a petition to the Legislature, asking for an increase in the appropriation from $10,000 annually to $20,000. The Legislature, however, cut this amount down to
$15,000, which it voted to be paid annually from September 1, 1910, the number of scholarships remaining the same.

The last appeal to the state for aid was made in January, 1912. President Washburn of the Board of Trustees delivered the argument. The petition was for the annual payment of $50,000 for an indefinite term of years. This appeal was successful to the extent that the Legislature granted the sum of $50,000 annually for a term of five years, and for five years more conditioned upon the presentation of satisfactory evidence to the Governor and Council that the Institute has received by bequest or gift from other sources property amounting to $350,000 in addition to the property held by it on the day of the approval of this resolve.
This society was organized Mar. 15, 1892, at a meeting held in the Mechanical Model Room, Salisbury Laboratories. Professor George I. Alden had sent out invitations to this first meeting and stated the purpose of the intended organization. This purpose was to bring together Alumni and Undergraduates for the discussion of engineering problems; to enable the undergraduates, for whom the society was primarily formed, to learn by the experiences of the graduates and of others; to furnish an opportunity for the presentation of papers on engineering subjects, these papers later to be published or filed at the Institute where they would be easily accessible for reference. To a certain extent the society was to be modeled on the plan of the American Society of Mechanical Engineers.

At the meeting of Mar. 15, 1892, H. W. Wyman, '82, was elected Chairman, A. L. Rice, '91, Secretary, and a committee consisting of Professors Alden and Higgins, and Messrs. H. W. Wyman, '82, V. E. Edwards, '83, L. C. Smith, '92, and A. C. Higgins, '93, was appointed to draw up a constitution, prepare an outline of work and submit a list of officers. The first president of the society was E. H. Fish; '92, Professor M. F. Higgins was Treasurer, and Professor G. I. Alden, Secretary. There were also several Vice Presidents and Counsellors. A constitution was adopted.

The name first applied to the society was The Washburn Mechanical Engineering Society. By an amendment to the constitution adopted in October, 1894, the word "Mechanical" was dropped, and a broader membership was thus encouraged.
Meetings of the society were held once in two weeks during the school year, at the Institute. The annual meeting came on the second Monday in October. The most important meeting of the year was that held at commencement when an address was delivered by some engineer of note. The first address at this commencement meeting, June 23, 1892, was delivered by Professor Alden on "The Institute". These commencement meetings of the Washburn Engineering Society, with their addresses, became features at the commencement season each year, and called back to the Institute many Alumni, while they attracted marked attention among engineers.

The Washburn Engineering Society was given up in 1903, the last commencement meeting having been held June 9 of that year.

The Washburn Engineering Society had a remarkable record of usefulness to graduates and undergraduates and to the Institute as a whole. Its place was taken by the several societies organized and conducted by the departments of Mechanical, Civil and Electrical Engineering and Chemistry. The Mechanical Engineering Society was organized Nov. 6, 1903; the first proposition that a Civil Engineering Society be formed was made at a meeting of students of Civil Engineering Mar. 1, 1903. Meetings of students in this course had been held for some time previously, and a Civil Engineering Society to discuss problems under this general subject was a natural outcome. The organization of the society followed soon after the suggestion made at the meeting in March, 1903.
The Worcester Chemical Club was organized in the fall of 1904, chiefly by members of the Institute and Clark University Faculties, for the discussion of problems relating to Chemistry. It was reorganized in the fall of 1907. Any who are interested in chemistry are eligible to membership. The Worcester Polytechnic Institute Branch of the American Institute of Electrical Engineers was organized in October as the Electrical Engineering Society. It became affiliated with the national organization in November, 1903.

These societies hold their meetings monthly during the school year, and occasionally unite in a joint meeting. Papers are presented by Alumni, undergraduates, members of the Faculty, or by experts from outside.

The engineering societies now enjoying prosperity at the Institute, will remind older graduates of two similar organizations that flourished a score of years ago. The first of these was The Tech Elect, a sort of seminar, founded in the spring of 1890, to discuss and review electrical literature. Prof. A. S. Kimball, head of the Department of Physics, was interested in the society and did much to make it a success while it existed. Meetings were held once in two weeks. in the Salisbury Laboratories. The graduates of the Institute, who were taking graduate work in Electrical Engineering, were especially benefited by it. A reorganization was effected in October, 1891, but interest flagged and the Tech Elect did not survive the school year 1891-92.

The Salisbury Sanitary Engineering Club was founded in the spring of 1891. Students in the courses of Civil Engineer-
ing, Chemistry and History and Political Science were eligible as members, and it was under the especial care of Professors Kinnicutt and White of the departments of Chemistry and Civil Engineering respectively. Its meetings were held in the Salisbury Laboratories, and its members met, weekly, later every two weeks, to hear and discuss reports on Sanitary Engineering and related subjects, especially sewage and sewage disposal, to hear lectures and to make visits of inspection. Some excellent work was done in this club, but lack of interest caused its death in the spring of 1892.
Funds of the Institute

The various funds of the Institute, their donors, dates of gift, and conditions of use, are as follows:

FOR GENERAL PURPOSES

INSTRUCTION FUND..................................................$60,000.

1866 Gift of Stephen Salisbury, Sr............$10,000.
To be separately invested and the income to be used, 1 - for maintaining the fund at its full value, 2 - for paying the expenses of instruction which the Institute is established to provide.

1867 Gift of Stephen Salisbury, Sr............ 50,000.
A third condition in regard to the $10,000 gift permits the Corporation to use any surplus, after paying expenses of instruction, for books and apparatus.

GENERAL FUND....................................................112,700.

1870 Gift of Stephen Salisbury, Sr............50,000.
To be separately invested and the income to be used, 1 - for maintaining the fund at its full value, 2 - to increase the fund for the first three years, 3 - after October 1, 1873, for the general purposes of the Institute.

1873 Accumulation of Income..................... 10,000.
1880 Gift of Stephen Salisbury, Sr............ 2,000.
1905 " " Stephen Salisbury, Jr............100,000.
To strengthen the endowment, with no conditions, except that a portion of the sum may be used for repairs, alterations and improvements in the buildings and equipment. Of this sum, $57,800 was expended for buildings and equipment.

1867 Gift of H. B. Claflin............. 1,000.
1874 " " J. H. Walker............... 2,000.
1900 " " Elmer P. Howe........... 1,000.
1913 " " J. Russel Marble........ 1,000.
1913 Estate of Daniel Merriman......... 1,000.
1913 Gift of the American Steel & Wire Co... 2,500.

I. WASHBURN LEGACY...........................30,000.

1870 Legacy from the estate of Ichabod Washburn, the income to be used for general purposes.
D. WALDO LINCOLN FUND..........................$1,000.
1880 Gift of the heirs of D. Waldo Lincoln,
to be expended to the greatest advantage.

D. WHITCOMB FUND..............................20,000.
1881 Gift of David Whitcomb.

STATE FUND..........................50,000.
1886 Grant of the Commonwealth of Massachusetts,
the income only to be used for general
purposes.

THAYER FUND..............................5,000.
1889 Gift of Nathaniel Thayer.

MOEN FUND..........................25,000.
1886 Gift of Philip Moen.

HESTER N. WETHERELL FUND..........................11,300.
1900 Legacy from Hester N. Wetherell.

ALICE M. RICE FUND..........................5,000.
1902 Legacy from Alice M. Rice........$4,749.50
1917 Addition from Extra Dividend..............250.50

G. L. NEWTON FUND..........................5,000.
1911 Legacy from George L. Newton

ELLA MCCULLAGH BAKER FUND..........................5,000.
1912 Gift of Charles Baker
As a memorial to his wife, the income to be
used, 1 - for maintaining the fund at its
full value, 2 - for general purposes, with
a suggestion that so far as the Corporation
deems wise, it shall be used for the purchase
of books for the library.

CHARLES ALLEN FUND..............................167,449.
1913 Legacy from estate of Matharine Allen, in
memory of her father, Hon. Charles Allen,
late of Worcester. First payment in 1913.
Last payment in 1920.

CHARLES FRANCIS WASHBURN FUND..............................50,060.
1915 Gift from Charles C. Washburn, in memory of
his father, and of his son, who bore his
name. Income to be expanded, first to keep
principal intact, and any balance at the
discretion of the Board of Trustees. The
entire sum may be used by the Trustees to
erect a building, separate and distinct
from any other building.
THE '93 FUND .......................................................... $4,052.
1918 Gift from Class of 1893 ................................. $3,802.

Income to be used, first to keep the
principal at full face value; balance
to be used by Trustees as they deem
wise and proper.

1919 Additions ..................................................... 250.

KATHARINE C. HIGGINS FUND ........................................ 5,000.
1925 Legacy from the estate of Katherine C.
Higgins, for general purposes.

RICHARD BLACK SEWALL FUND ........................................ 30,000.
1919 Legacy from Richard Black Sewall.

NEW ENDOWMENT ..................................................... $1,257,914.10

Expenses collection 19,721.51
Total 1,238,192.59

1919-24 This endowment was begun Dec. 22, 1919
for the purpose of improving the salaries
of Professors, of enabling the Institute
to forego the State Grant of $50,000 per
year, and of meeting increased expense.
Income to be expended for general purposes
relating to instruction.

ALUMNI FUND ....................................................... 416,383.99

Total collected from former students $486,357.
By transfer to John E. Sinclair Fund 69,973.

From FRIENDS ....................................................... 69,835.00

W. E. Adamson ...................................... $1,000.
Aetna Mills ....................................... 1,000.
George I. Alden ...................................... 5,000.
Charles L. Allen ...................................... 5,000.
American Bosch Magneto Co ................................ 6,000.
Anonymous Gifts ...................................... 1,700.
Edward F. Atkins ..................................... 200.
Buffalo Forge Co ...................................... 1,000.
Thomas Crimmins .................................... 100.
Curtis & Marble Machine Co ......................... 2,400.
H. B. Day .......................................... 500.
Mrs. S. L. Daniels ...................................... 2,400.
George F. Fuller ...................................... 10,000.
Burton L. Gray ....................................... 80.
Mrs. K. C. Higgins ..................................... 10,000.
Albert H. Imman ..................................... 1,500.
Rev. Shepherd Knapp .................................... 50.
E. J. McCona ....................................... 50.
John Metcalf ........................................... 5.
Philip Pfaffman ..................................... 500.
Fred E. Pratt ......................................... 5,000.
Timothy Paige ....................................... 10,000.
Edgar Reed .......................................... 10,000.
F. E. Remick .......................................... 500.
Walter A. Sweet ..................................... 100.
Warp Compressing Machine Co ...................... 500.
F. C. Webster ......................................... 250.

-3-

74,835.
FOR SCHOLARSHIPS ........................................... $322,000.
These gifts from industries and others
were made part of the New Endowment with
the understanding that each $10,000 a
scholarship should be awarded to one
student recommended by the Industry,
covering the tuition, the laboratory,
and the gymnasium fees.

United Shoe Machinery Corp. .......... $ 2,000.
American Steel & Wire Co. ............... 35,000.
Crompton & Knowles Loom Works ..... 40,000.
Graton & Knight Mfg. Co. ............... 10,000.
Francis A. Harrington .................... 10,000.
Reed Machine Company .................. 15,000.
Leland Gifford Co. ....................... 10,000.
Mrs. Rebecca Morgan ................... 10,000.
Morgan Construction Co. ............... 40,000.
Norlo Company .......................... 60,000.
Reed & Prince Mfg. Co. ............... 40,000.
Sanford Riley Stoker Co. ............... 10,000.
Strathmore Paper Co. ................... 10,000.
Westinghouse Electric & Mfg. Co. ..... 10,000.
Wymers Gordon Company ................ 20,000.
322,000.

GENERAL EDUCATION BOARD ....................... $350,000.
This gift was made on condition that
the Institute raise $350,000 from other
sources. It was understood that the
gift was to assist the Institute to-
wars paying better salaries.

ELMER P. HOWE FUND ......................... 193,879.25
A bequest from Elmer P. Howe.

1926 ROCKWOOD SPRINKLER COMPANY .... 10,000.
Income for a sustaining scholarship.

1926 NEW ENGLAND POWER COMPANY .... 10,000.
Income for a sustaining scholarship.

TOTAL - GENERAL PURPOSES ...................... $1,963,659.25

FOR DESIGNATED PURPOSES

BOYNTON FUND ............................. 100,000.
1865 Gift of John Boynton.
To establish a Free Institute of Industrial
Science in Worcester County. The income to
provide free tuition for young men of Worcester
County. When the number of students grew so
large that the income would not provide for
their tuition, the Corporation, in April, 1889,
established 20 Worcester County Scholarships
for worthy students residing in the county.
WASHBURN SHOPS FUND..............................................$50,000.

1868 Gift of Ichabod Washburn.

The income to be used for the support of a machine shop in order that instruction to apprentices and students may be suitably provided under the commercial conditions of a shop doing business with the public, and in close union with a course of studies in Science and Language. In the beginning, the income on the investment was paid over to the Corporation, the whole sum being placed in their hands after Mr. Washburn's death in December, 1868. If, after using the income for all legitimate business of the shop, any surplus remains, it may be applied to the general purposes of the Institute. A further condition placed upon this fund is that if, after a fair and reasonable experiment has been made, the plans prove a failure, the entire fund, together with the property of the machine shop, shall be used by the Corporation for the promotion of the main design of the Institute, preferably Mechanical Engineering.

LIBRARY AND APPARATUS FUND.................................27,400.

1868 Gift of John Boynton..................$25,900.

This sum is the accumulated income on the original fund of $100,000 from May 1, 1865 to the opening of the Institute in November, 1868. By request of Mr. Boynton, the income is to provide for books and apparatus necessary in teaching, with the understanding that the Corporation may use the income for other purposes, in case an emergency shall arise.

1868 Gift of Ezra W. Fletcher..........500.

1868 Gift of William Knowlton........1,000.

These two gifts had no conditions but were added to the Library and Apparatus Fund by the Corporation.

GRADUATES' AID FUND..............................10,000.

1871 Gift of Stephen Salisbury, Sr.

For the benefit of students who graduate with high standing, the income to be used, 1 - for maintaining the fund at its full value, 2 - for distribution among those students who finish the prescribed course with greatest faithfulness and excellence. Under the rules of the Corporation, it now provided $75 apiece for 6 graduating students.
SALISBURY MODERN LANGUAGE FUND... $50,000.
1872 Gift of Stephen Salisbury, Sr. $40,000.
For the benefit of the Language Department. To be separately invested, and the income used, 1 - for maining the fund at its full value, 2 - for expenses of the Departments of English and Modern Languages, 3 - for appropriate objects of the Institute, if any balance remains after carrying out the first two requirements.

1885 Estate of Stephen Salisbury, Sr. 10,000.
Conditions as above.

DISTRICT FUND... 4,600.
1873 Gift of George P. Hoar
This sum constitutes the arrears of salary as a member of the 42nd Congress.
The income is to provide tuition for students from the towns of Bellingham, Foxboro, Franklin, Medway, Walpole, and Wrentham in Norfolk County. With it, the Corporation established the Hoar Scholarship.

THOMPSON MEMORIAL FUND... 4,000.
1894 Gift of the Alumni
As a memorial to Charles O. Thompson, first President of the Institute. The income to be used for the purchase of books for the library, each book to contain a suitable label indicating its purchase under this fund.

H. W. MILLER FUND... 5,000.
1902 Legacy from Alice M. Rice
The income to provide a scholarship for young men, preferably of Worcester, and the scholarship to be named in memory of her father, Henry W. Miller.

FRANCIS W. TREADWAY FUND (ALUMNI PRINCIPAL FUND)... 1,700.
1925 To be invested and accounted for, and disbursement of principal and interest to be made only on the order of, or by the Trustees of the Alumni Fund Board.

MILTON P. HIGGINS SHOP FUND... 25,000.
1913 Gift of the four children of the late Milton P. Higgins, (Aldus C. Higgins, John W. Higgins, Katherine C. Riley and Olive H. Frouty). To be separately invested and the income used to maintain, promote and develop the commercial production features of the Washburn Shops.
ALZIRUS BROWN FUND........................................... $72,412.06
1913 Legacy from the estate of Alzirus Brown; left to the Institute by his widow, Harriet D. Brown. The first $12,000 turned over to the Institute was to form a fund in memory of her husband, the late Alzirus Brown, and the income at the balance of the legacy is to be used for scholarships to worthy young men, who are students of the Institute. The income on the balance of the legacy is to be used for scholarships in a similar manner. First payment in 1913. Last payment in 1915.

JOHN W. SINCLAIR FUND....................................... 80,000.
1915 A gift by life insurance policies from Prof. John W. Sinclair and his children... $10,026.40
The fund to be increased and used toward the endowment of a professorship of Mathematics, the income to be expended for that purpose.
1917-21 Gifts from J. Edward Lynde........... 22,500.00
1918 Gift from Class of 1892...................... 750.00
1922 New Endowment.......................... 43,410.00
1922 Accumulated Income......................... 3,313.60

80,000.00

GEORGE H. GLADWIN FUND.............................. 1,087.71
1921 Gift from Charles G. Washburn and others, to establish the Gladwin Memorial Fund, the income to be used to advance the interest of the Department of Drawing.
1923 Additions........................................... 37.71

GEORGE W. RICE FUND...................................... 4,698.49
1919 Legacy from George W. Rice.............. 4,500.00
Income to be used for Scholarship Aid, given preferably to the sons of Masons. At least 10% of the net income shall annually be added to the principal sum, and become a part thereof:
1924-25 $173.49
1925-26 25.00 198.49

ARTHUR W. WOODS FUND................................... 5,000.00
1923 Legacy from Arthur W. Woods.
Income to be used to assist one worthy student to make satisfactory progress in his studies, preference given to a student from Boylston.
FRANCIS B. KNOWLES AND HESTER A. KNOWLES LOAN FUND... $39,722.34

1917 Gift from Mabel Knowles Gage, Frances Knowles Warren and Lucius James Knowles... $26,000.
To establish a fund known as the Francis Bangs Knowles and Hester Ann Knowles Fund, for assisting deserving students by loaning the income under rules approved by the President and Treasurer of the Institute.
1917-26 Additions by Income.......................... 14,722.34

FRANK FARNUM DRESSER FUND.......................... 1,500.
1923 Gift of Frank F. Dresser.......................... 400.
1925 Clifford S. Anderson and Assoc. Industries of Mass. Income to be used for library books for the Department of Economics.

L. P. KINNICUTT LOAN FUND............................ 3,689.37
1912-13 Newton Hall.......................... 304.45
1912 L. P. Kinnicutt.......................... 100.00
1912-15 Mrs. L. P. Kinnicutt............... 600.00
1913 Wetherell Estate.......................... 100.00
1914 W. E. Cooley.......................... 50.00
1915 L. N. Kinnicutt.......................... 120.00
1915-16 George I. Alden.................. 150.00
1915 C. L. Nichols.......................... 100.00
1916 R. S. Riley.......................... 100.00
1916 E. P. Bennett.......................... 100.00
1916 A. C. Higgins.................. 100.00
1916 Mrs. W. P. Higgins........ 200.00
1916 J. W. Higgins.................. 100.00
1924 Estate L. N. Kinnicutt............... 1,000.00
1913-26 Additions by Interest.... 564.92

This fund is in memory of Professor L. P. Kinnicutt, having been started by the sale of furniture in Newton Hall, and subsequently increased by gifts.

1923 GEORGE W. GILL SCHOLARSHIP FUND................. 12,173.33
Estate of Mary Gill Ropes, in memory of her father. The income to be used to assist poor and deserving students.

1924 THOMAS M. ROGERS SCHOLARSHIP FUND........... 10,000.
Estate of Ellen F. Kennedy, in memory of her father. The income to be used for the assistance of worthy and needy students.

1923 INSTITUTE LOAN FUND............................ 50.
1924 Mrs. M. P. Higgins gave to the Institute, note amounting to $461.86, on which $50 had been paid. If we collected the balance, it was to be the property of the Institute. To date we have collected $50.
TOTAL - DESIGNATED PURPOSES .................................. $508,033.30
July 1, 1926

TOTAL FUNDS FOR GENERAL PURPOSES......................... 1,963,659.24

TOTAL INCOME BEARING FUNDS DERIVED FROM
GIFTS AND REQUESTS........................................... $2,471,692.54
ARCHITECTURE.

A course in Architecture was announced in the earliest circular issued by the Institute, and this announcement was repeated in each annual catalogue until that of 1874-5. The statement of work required in Architecture, as printed in the catalogue of 1870-1, has been quoted elsewhere in this volume. It was amplified in the issue of the following year, reading as follows: "The offices of the leading architects of the city are open for practice to students in this department, and they spend their practice hours there. They also join the civil engineers in the study of stereotomy and of construction and materials. A course of lectures is given to the Middle and Senior Classes together, on the admirable plan devised by Prof. William R. Ware, of Boston, who gave the lectures during the past year."

No mention is made of the course in Architecture in the catalogue of 1874-5, and the course was not given as such after the graduation of the class of 1873. Lack of money to pay for an instructor in this department, and the feeling that the Massachusetts Institute of Technology in Boston was covering the ground adequately, influenced the Trustees to give up the course here.

The records show that two members of the class of 1871 graduated in Architecture, one in the class of 1872, and one in 1873. In recent catalogues the graduates in this course in 1872 and 1873 appear as having graduated in Design.

As may be inferred from the above, the work of the students in Architecture differed from that of the other students chiefly in the nature of the practice, which was carried on in the offices of local architects. The lectures on Architecture
also formed a feature but the greater part of the work in this course was taken in common with students in Civil Engineering. This was true especially of Stereotomy and Materials of Construction.
THE COURSE IN ECONOMICS, POLITICAL SCIENCE AND HISTORY.

The beginnings of this department may be found in the work in Civil Government which for many years was made a part of the English of Senior year. Professor E. P. Smith, head of the Department of Modern Language, was a keen student of political and economic questions and introduced the study of them into Senior English. The catalogue of 1884 makes a somewhat detailed announcement of the nature of this work in Civil Government, its purpose being "to familiarize the students with the fundamental principles of our government." Not until 1889, however, was Professor Smith's official title changed. In the catalogue of that year he appears as Professor of Modern Languages and Political Science; moreover the five hours of English in the second term of Senior year are changed to five hours of Political Science. A detailed statement of the work done in Political Science also appears in this catalogue of 1889.

The death of Dr. Smith in May, 1892, necessitated a change in the work which he had been conducting. With the opening of the school year 1892-3, the former Department of Modern Languages and Political Science was divided into two departments, that of Modern Languages and that of History and Political Science. The organization of the former department has been discussed elsewhere in this volume. To fill the latter chair, Professor William Macdonald, who had been engaged in advanced work at Harvard University, was called. The catalogue of 1893 gave a detailed statement of the requirements of the new course as planned by Professor Macdonald. A course of lectures on General History was given during the first term of Freshman year to students in the Civil Engineering, Chemistry and
General Scientific courses, while the instruction in Political Economy and Civil Government was given during Junior. This instruction was based on a textbook, supplemented by lectures, discussion, reading and reports.

Professor Macdonald retired at the close of the year, 1892-3, his successor being Prof. George H. Haynes, who, in 1893, completed a three year course of study at Johns Hopkins University, securing the degree of Doctor of Philosophy. He had previously, from 1887, when he graduated from Amherst College, until 1890, served the Institute as instructor in Modern Languages and Mathematics. The course was revised under Dr. Haynes, General History in Freshman year being replaced by Medieval and Modern. Various changes were also introduced in the work of Political Science and Economics, although the general plan remained the same. Lectures by legal specialists were also given in connection with the course, upon topics of business or legal interest.

The hours per week, which had been three for Political Economy and four for Civil Government, were made uniformly three per week beginning with the school year 1901-2. In 1903 History was given up entirely as an Institute study, remaining only as an entrance subject. Elective courses in History continued to be offered, however, to students in the course in General Science.

The work in Economics and Political Science is still allotted three hours per week in Junior year and is carried on under the direction of Professor Haynes. He occupies quarters in Boynton Hall. The nature of the work is set forth in the last published statement.
ECONOMICS

The study of Economics at the Institute is primarily descriptive rather than theoretical. An attempt is made to familiarize the student with the principles of economic science and with their application to present economic and social questions. As far as possible the student is trained in the use of public documents and in the study of the industrial problems of the present.

POLITICAL SCIENCE

The work in Political Science aims to secure a knowledge of the development and practical workings of the national, state, and local political institutions of the United States. Much attention is devoted to the preparation of reports and to the discussion of topics of present interest in connection with the details of government.
THE RIGHTS OF THE INSTITUTE IN INSTITUTE PARK.

Institute Park was given to the city of Worcester in June, 1887, by Mr. Stephen Salisbury. The tract included Salisbury Pond, and comprised in all about 18 acres. The gift was made subject to a grant to the Institute of certain rights, also to certain other conditions, all of which were accepted by the city. These provisions are as follows:

The conditions of this gift are that this area shall be called Institute Park in recognition of the usefulness of the Worcester Polytechnic Institute to the material interests of the city and county; that the Worcester Polytechnic Institute shall from and after twenty years from the date of this gift have the right to erect a building or buildings, of attractive exterior and to occupy the same for educational purposes upon a portion of said tract 200 feet by 150 feet, lying at least 60 feet from Salisbury Street upon the highest portion of the area now offered opposite land belonging to the Institute and extending east and west in its longest dimension.

The letter of gift then goes on to recite the exact boundaries of this tract of 30,000 feet, also to provide for right of access to the tract from Salisbury Street, any question to be adjusted by agreement between the Park Commissioners of the City of Worcester and the Trustees of the Institute. It was stipulated too, that this location might be changed for another within the park limits, by mutual agreement. All these privileges and rights were confirmed to the Institute by a deed executed by Mr. Salisbury and recorded Dec. 19, 1887.
THE MAGNETIC LABORATORY.

The purpose of this building was to afford facilities for conducting the most delicate electrical experiments. With this purpose in view, no iron was used in the construction of the Magnetic Laboratory, and a site was chosen that was as free as possible from all vibration. This site was near the entrance to the Institute grounds at the corner of Boynton Street and Institute Road. The plans for this building were drawn by Mr. Stephen C. Earle, of Worcester, and the contract was awarded to Darling Bros., of Rochdale, Mass. The axis of the main part of the building coincided with the magnetic meridian, and through opposite windows in the tower passed the north and south meridian. The plans called for one large room in the building, this room to be 15 by 20 feet. The material was Millstone Hill granite, with trimmings of Longmeadow sandstone. A graceful turret added beauty to the general lines of the structure.

The Magnetic Laboratory was completed and occupied soon after Nov. 1, 1887. It was connected by heavy wires with the Salisbury Laboratories and for some time served its purpose, that is, it contained standard measuring instruments for work in physics and electrical engineering. In 1888, however, a line of street railway was constructed through Boynton St., and the vibrations interfered materially with the delicate instruments. In 1891 the electric power was applied to this street railway line, and the disturbance was greatly increased, in fact, the building was made useless for its intended purpose. When Mr. Edwin Smith of the U. S. Coast and Geodetic Survey was making
his observations in connection with the establishment of a magnetic station at the Institute, he conducted a series of experiments to determine how serious the disturbances in the Magnetic Laboratory were. He found it difficult, if not impossible, to make an observation during the hours in which cars were running on any part of the local line. After midnight, however, when the line was no longer in use, very satisfactory work could be done. The mere presence of the track was found to cause no sensible disturbance.

For some years the Laboratory lay idle; was later employed by the Department of Electrical Engineering as container of the huge oil tank used for experiments in high potential work. On the completion of the new Electrical Engineering Building in 1907, this work was transferred there, and in 1911 the old Magnetic Laboratory was given over to the editors of the Tech News as an editorial office, and was later occupied as headquarters of The Skull, the honorary Senior society.
THE PICTURES.

The Institute possesses portraits of its founders, and of several of the early Trustees and members of its Faculty. The oil portraits hung originally in the chapel. When chapel exercises were given up, and the room was used but rarely for mass meetings or occasional lectures, these portraits were removed to the Library on the first floor of Boynton Hall. The removal of the Library to the Chapel, in April, 1914, saw the removal of the portraits also to their former places.

The first portraits to be presented were those of Hon. Stephen Salisbury and Rev. Seth Sweetser. These were the work of E. L. Custer, of Boston, and were presented by certain gentlemen interested in the school, probably members of the Corporation. The action of the Board in accepting them was on June 14, 1881. On the 10th of June, 1882, the Board accepted the portrait of Hon. Emory Washburn by Billings of Boston. At Commencement, June 26, 1884, the Alumni presented to the Institute the oil portrait of John Boynton. A portrait of Principal Thompson was presented at Commencement, June 26, 1885. It was the work of Parker of Boston. Hon. George F. Hoar made the speech of presentation, and the portrait was accepted by Prof. George I. Alden, on behalf of Trustees and Faculty.

At Commencement, June 28, 1888, Mr. G. Henry Whitcomb presented a portrait of his father, David Whitcomb, the first Treasurer of the Institute. It was the work of Billings of Boston. The presentation speech was delivered by Prof. E. P. Smith of the Faculty. During the summer of 1890 Mr. P. L. Moen, of the Board of Trustees, gave the portrait of Ichabod Washburn, also
by Billings. A portrait of Mr. Moen was presented in June, 1892, by Mrs. Moen and his three children, Sophie and Alice and Philip.

In June, 1895, the Trustees of the Institute gave the portrait of Judge P. E. Aldrich, by Frank W. Benson, of Boston, and in June, 1896, Mr. Stephen Salisbury presented the portrait of D. Waldo Lincoln.

The portrait of Prof. Rankine, now hanging in the lecture room of the Mechanical Engineering Building, was painted in 1900, by Prof. George E. Gladwin, and presented to the Institute by the Alumni Association. Prof. George I. Alden made the presentation speech.
EXAMINING COMMITTEES

Reference has been made under Commencements, to the Examining Committees, which from 1871, through 1893, formed an interesting feature of each commencement. In 1870, the year before the first class was graduated, a public oral examination was held on the last Friday of June, under the direction of an Examining Committee, but the special function of such a committee was to act at Commencement. These committees took their duties seriously; they received, after commencement was over, the theses, plans, diagrams, and all necessary data; these they carefully examined, and upon them they made a report, praising the good features, recommending measures whereby the weaker features might be improved, and this report was made to the Trustees, at some time during the following year. Generally the report was printed in the local papers, but always it was considered by the Trustees, and later by the Faculty.

In 1871 the committee was organized with reference to the four departments in which diplomas were conferred, Mechanical Engineering, Civil Engineering, Chemistry, and Architecture and Design. Later these divisions were not observed, the committee of five or six members being named to cover all subjects and acting together at the time of the examination and in their report.

The number of men constituting the committee varied from year to year. In 1871 it was ten; in 1872, six, in 1873, five; in 1876, three; thereafter from three to six. In 1886 the Board of Trustees invited the Alumni to nominate three graduates of the Institute to serve on the Examining Committee, and this invitation was accepted. At Commencement that year, three graduates thus
served, and thereafter each year until the custom of having this committee was given up. In 1887, by formal vote of the Trustees, the Examining Committee was excused from examining the theses of the graduating class. Thereafter the duties of the committee were confined to listening to the reading of the thesis abstracts, and to asking questions of the candidates for the degrees.

In 1893, the last year when the committee served, there were but three members, each of whom was an alumnus.

A complete list of these Examining Committees will be found in the Appendix of this volume.
EXAMINING COMMITTEES

The members of the Examining Committees, who officiated at the first formal oral examination, which was held July 1, and 1870, at the later oral examinations, which were held at Commencement until 1893, are as follows:

1870

Rev. Lewis Sabin, D.D., Templeton
Hon. P. Emory Aldrich, Worcester
Hon. L. W. Pond, Worcester
Rev. J. J. Power, Worcester
William Knowlton, Esq., Upton
George Jacques, Esq., Worcester
Rev. E. Cutler, D. D., Worcester

1871

Department of Mechanics

Charles H. Parker, Esq., Boston
Prof. John Trowbridge, Cambridge
George Crompton, Esq., Worcester

Department of Civil Engineering

George Raymond, Esq., Fitchburg
Hon. Phinehas Ball, Worcester

Department of Chemistry

President William S. Clark, Amherst
George F. Rockwood, Esq., Manchester, N. H.

Department of Architecture & Design

Hon. David H. Mason, Boston
Prof. William P. Trowbridge, New Haven
Prof. William R. Ware, Boston

1872

Prof. Joseph Lowring, Cambridge
A. M. Chapin, Esq., New York
John Haskins, Esq., Fitchburg
John G. Folsom, Esq., Winchendon
A. P. Marble, Esq., Worcester
1873
Charles H. Waters, Esq., Clinton
Hon. Emory Washburn, Cambridge
Josiah Lasell, Esq., Whitinsville
Hon. Phinehas Ball, Worcester
Gilbert E. Hood, Esq., Lawrence

1874
George Crompton, Esq., Worcester
Charles H. Waters, Esq., Clinton
Edward Sawyer, Esq., Boston
E. A. Hubbard, Esq., Fitchburg
Prof. Josiah F. Cook, Cambridge

1875
Prof. Charles A. Young, Hanover, N. H.
Hon. John D. Philbuck, Boston
Charles O. Chapin, Esq., Springfield
Edward Sawyer, Esq., Boston
Edwin T. Marble, Esq., Worcester

1876
J. C. Hoadley, Esq., Lawrence
S. C. Earle, Esq., Worcester
Charles H. Waters, Esq., Clinton

1877
George B. Emerson, L.L.D., Boston
Abram Firth, Esq., Boston
Prof. George J. Brash, New Haven
Levi Heywood, Esq., Gardner
Horace Wyman, Esq., Worcester

1878
Hon. John W. Dickinson, Boston
Hon. Amos J. Saunders, Pepperell
Rev. L. M. Sargent, Grafton
George W. Weeks, Esq., Clinton
G. Henry Whitcomb, Esq., Worcester

1879
Prof. Elihu Root, Amherst
Hon. Gideon Welles, Springfield
Charles H. Waters, Esq., Clinton
Theodore G. Bates, Esq., North Brookfield
Edward W. Vaill, Esq., Worcester
1880
Rev. Bradford Pierce, D. D., Boston
Ray Greene Huling, Esq., Fitchburg
Joseph H. Walker, Esq., Worcester

1881
Hon. Francis H. Demey, L.L.D., Worcester
Deland A. Goddard, Esq., Boston
J. M. Allen, Esq., Hartford, Conn.
Joseph W. Fairbanks, Ph.D., East Hampton
Henry N. Bigelow, Esq., Clinton

1882
Lieut. Charles C. Morrison, U.S.A., Springfield
David H. Andrews, Esq., Boston
James E. Vose, Esq., Ashburnham
Henry R. Green, Esq., Spencer
Thomas H. Dodge, Esq., Worcester
C. A. Denny, Esq., Leicester

1883
Loring Coes, Esq., Worcester
Solon P. Davis, Esq., Hartford, Conn.
Charles P. Deane, Esq., Holyoke
William B. Graves, M. A., Andover

1884
W. Everett Cutter, Esq., Worcester
George P. Ladd, Esq., Spencer
Charles H. Manning, U.S.N., Manchester, N.H.
Prof. Robert H. Richards, Boston
Joseph H. Sawyer, A.M., Easthampton

1885
Stephen W. Baldwin, Esq., New York, N.Y.
Rev. Edward H. Hall, Cambridge
S. C. Heald, B.S., Worcester
Henry D. Woods, C. E., Boston

1886
Walter U. Barnes, B.S., Littleton
Prof. A. S. Hardy, Ph.D., Hanover, N.H.
Prof. E. P. Harris, Ph.B., Amherst
Stephen Holman, Esq., Worcester
John F. Kyes, B.S., Worcester
Edward F. Tolman, B.S., Worcester
1887
Charles A. Allen, C. E., Worcester
Francis C. Blake, B.S., Mansfield Valley, Pa.
Prof. David Casas, Merida, Yucatan
Clarence A. Chandler, B.S., Boston
Professor Leverett Mears, Ph.D., Williamstown
Prof. R. H. Thurston, D.E., Ithaca, N.Y.
Charles G. Washburn, B.A., Worcester

1888
Everett J. Bardwell, B.S., Worcester
Victor E. Edwards, B.S., Boston
Willard F. Hatch, B.S., Providence, R. I.
Prof. Charles E. Munroe, Newport, R.I.
Prof. George L. Vose, Boston

1889
Prof. John H. Appleton, Providence, R. I.
Charles H. Davis, Esq., Worcester
Prof. William A. Rogers, Waterville, Me.
Emos H. Bigelow, M.D., Framingham
Thomas H. Clark, B.S., Middletown, Conn.
Edward K. Hill, B.S., Worcester

1890
Samuel M. Gray, C.E., Providence, R. I.
Thomas H. White, Esq., Cleveland, O.
Francis H. Williams, M.D., Boston
Fred H. Daniels, B.S., Worcester
William B. Medlicott, B.S., Springfield
Alpheus B. Slater, B.S., Providence, R. I.

1891
Prof. Winfield S. Chaplin, Cambridge
Prof. Thomas W. Drour, M.D., Boston
Orlando W. Norcross, Esq., Worcester
Herbert Nichols, Ph.D., Cambridge
John G. Woodbury, B.S., Worcester

1892
Prof. Thomas Gray, B.S., Terre Haute, Ind.
George F. Blake, Jr., Esq., Worcester
Charles E. Alger, B.S., Springfield
Prof. William L. Ames, Terre Haute, Inc.
Charles D. Parker, B.S., Worcester

1893
John M. Goodell, B.S., New York
Frank O. Whitney, B.S., Boston
H. Winfield Wyman, B.S., Worcester
THE FIFTIETH ANNIVERSARY CELEBRATION

The charter of the Institute was granted by the Massachu-
setts Legislature in May, 1865. Some commemoration of this
event seemed appropriate after the lapse of fifty years. With
this end in view, a committee of the Faculty of the Institute
was appointed in the spring of 1914 to consider the matter and
report. The report was presented in April, 1914, through Pro-
fessor Haynes, Chairman of the Committee, and favored holding
some form of celebration to mark this anniversary.

In the fall of 1914, the following committee were appoint-
ed to carry out the plans of the celebration: Of the Board of
Trustees, Messrs. Washburn, Baker, Gage, Logan, Kinnicutt and
Whitcomb; of the Faculty, Messrs. Haynes, Jennings, Gallup,
Knight, with Mr. St. John of the instructors; of the Alumni,
Messrs. C. A. Harrington, '95, G. W. Mackintire, ex-'75, G. I.
Rockwood, '88, R. S. Riley, '96, D. R. Collier, '90, and C. E.
Cleveland, '86. From this joint committee was chosen the follow-
ing Executive Committee, which was to carry out the plans in de-
tail; Mr. George I. Rockwood, '88, President of the Alumni Associa-
tion, Mr. Charles Baker, '93, Secretary of the Corporation, and
Prof. Z. W. Coombs, Secretary of the Faculty, who was added to
the Faculty Committee named above.

The full committee met at the Institute, Nov. 13, 1914,
and approved a tentative plan of celebration, which, with some
minor changes became the actual working plan of the Executive
Committee. What this plan involved will appear in the following
discussion of the events of the anniversary itself.

Although the charter bore date of May 6, 1865, it was deemed
advisable to make the celebration coincide with commencement, that
is, extend from June 6 to June 10. The events of Commencement, therefore, were strongly influenced by the spirit of the anniversary celebration. The first of these was the Baccalaureate Sermon, preached at 4 P.M., Sunday, June 6, in Central Church, by Rev. Edward Caldwell Moore, of the Andover Theological Seminary, Cambridge, Mass. It had been planned that Trustees, Faculty, instructors, and members of the graduating class should meet at the President's house and march to the church; a rainstorm, made this impracticable, and all met at the church. The members of the Faculty, the instructors and Seniors wore academic costume. Entrance to the church was in procession. President Washburn, of the Corporation, President Hollis, and Professor Bird, French, Jennings, Duff, and H. B. Smith, as heads of the degree-giving departments, with Professor Conant, as Senior Professor, occupied seats on the pulpit platform. Rev. Dr. Knapp and Rev. Mr. Foster, members of the Corporation, assisted in the service. The church was crowded.

The next exercise in connection with the celebration took place on Tuesday, June 8, at 2 o'clock. This was the dedication of the entrance gates of Alumni Field, at the intersection of Institute Road and Park Avenue, the unveiling of the tablets on these gates, and the formal turning over of Alumni Field to the Corporation by the Alumni Association. The imposing entrance, together with the gates, was the gift of the Class of 1887.

At 1:45 P.M. the procession formed in front of Boynton Hall. The morning had been rainy, but at this time the rain had ceased, although the sky was still overcast. In the procession were members of the Corporation, of the teaching force of the Institute, many of the delegates from other educational institutions who had already begun to arrive, Alumni and the entire body, the Seniors in cap and gown. Under the lead of Professor Z. W. Coombs, who was marshal of the day, and headed by the Salem Cadet Band, the procession moved across the old Bliss Field, past the new gymnasium under construction, to the gates at Park Avenue and Institute Road. Here a semi-circle was formed around a small platform, just outside the gates.

When the assemblage was arranged, it was called to order by Professor Coombs who introduced Mr. Edward F. Miner, President of the Class of 1887. Mr. Miner presented to President Washburn
of the Corporation, the entrance, together with the plot of ground on which the entrance stood. Ground, entrance and gates were the gift of the class of 1887. Mr. Washburn accepted the gift, in behalf of the Corporation. Mr. Harry Worcester Smith then formally presented the gates, and, at the same time, the flags covering the tablets were removed. President George I. Rockwood, of the Alumni Association, then presented to Mr. Washburn the keys of Alumni Field, formally putting into his hands the title to this gift of the Alumni. Mr. Washburn, on behalf of the Corporation, accepted this gift, paying warm tribute, as the previous speakers had done, to the work of Prof. A. D. Butterfield, Secretary of the Alumni Association, in securing from the Alumni contributions which had made this gift possible.

An unexpected incident of this event of the celebration was the presentation to Professor Coombs, of a bunch of fifty roses, by President Robert H. Russell, of the Senior Class, in honor of the former's fiftieth birthday which happened to be June eighth, and also the presentation, by Professor Conant, on behalf of the Faculty, of a gold watch. This latter presentation was in recognition of his work in preparation for the celebration. After these ceremonies the gates were unlocked and the procession entered, marching to the seats, to witness the Commencement ball game between the Institute team and that of the Massachusetts Agricultural College. The latter were victorious by a score of 8 to 1.

Tuesday evening, June 8th, came the reception at Hotel Bancroft. The hours were from 8 to 10. Music was furnished by
the orchestra of the Salem Cadet Band. The receiving line
was composed of President Charles G. Washburn and Mrs. Washburn,
President and Mrs. Hollis. Miss Hollis also received during part
of the time. The ushers were Prof. Z. W. Coombs, who was in
general charge, Professors Butterfield, Allen and Gallup, and
Messrs. F. C. Harrington, '98, R. A. Barnard, '97, H. S. Whitney,
'94, A. C. Comins, '93, W. G. Hall, '02, A. E. Warren, ex-'00,
C. A. Harrington, '95, R. C. Cleveland, ex-'93,
E. H. Reed, '02, A. W. Darling, '04, A. C. Higgins, '93, J. W. Higgins
'96, and F. S. Bowker, '01. Invitations to this reception had
been sent to representative citizens in Worcester and Worcester
County, also to members of the graduating class and their friends,
and to all friends and benefactors of the Institute. Some twelve
hundred people accepted this invitation, and were present at the
reception. The majority of delegates from colleges and engineering
societies had also arrived and were present.

The especial day of the celebration had been fixed as
Wednesday, June 9. To this day, with its various exercises,
invitations had been sent to all graduates of the Institute, to
all non-graduate members of the Alumni Association, to all colleges
and universities in this country and Canada, with the request that
they be represented by a delegate, and to the President and Secretary
of each of the leading engineering and scientific societies.
A large number of leading engineers and scientists also received
invitations, including representatives of the Army and Navy.
Special invitations were sent to members of the families of the
founders of the Institute, also to former professors, and to those
surviving members of the Committee on Collation at the opening of
Boynton Hall, Nov. 11, 1868, and surviving contributors to the
original Building Fund, in 1866. Of these two latter groups some forty were ascertained to be living, and of these forty several accepted the invitation and were present at some of the exercises.

Of the colleges and universities invited, nearly one hundred accepted the invitation and appointed delegates. Over eighty of these delegates were present at some of the exercises, the great majority participating in the academic procession. The order of this procession and the list of delegates both from educational institutions and from engineering and scientific societies follows:

Order of the Procession

The Board of Trustees

The Governor of the Commonwealth and the Speakers of the Day

Representatives in the National Congress

Delegates from Scientific and Engineering Societies

Delegates from Educational Institutions

The Faculty

The Instructors

Alumni

The Graduating Class

LIST OF THE DELEGATES

The Franklin Institute, Philadelphia, Secretary R. B. Owens.

The American Society of Mechanical Engineers, Secretary Calvin W. Rice.

The American Society for the Promotion of Engineering Education, Secretary Frederick L. Bishop.

The American Institute of Consulting Engineers, President E. L. Corbell
The American Institute of Chemical Engineers,
Secretary J. C. Olsen.

The American Society of Refrigerating Engineers,
Secretary W. H. Ross.

The American Society of Swedish Engineers,
Secretary Erik Oberg.

The Boston Scientific Society,
Secretary John Ritchie, Jr.

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Harvard University,
George C. Whipple, B.S., Professor of Sanitary Engineering.

St. John's College,
Thomas Fell, Ph.D., LL.D., D.C.L., President.

Yale University,
A. J. DuBois, C.E., Ph.D., Professor of Civil Engineering.

Columbia University,
Frederick A. Gootze, M.S., Dean of the Faculty of Applied Science.

Brown University,
W. H. Kenerson, A.M., C.E., Professor of Mechanical Engineering.

Dartmouth College,
Charles R. Lingley, M.A., Ph.D., Assistant Professor of History.

Hampden-Sidney College,
Hardy S. Cross, A.B., B.S., C.E.M., Professor of Civil Engineering in Brown University.

University of Pittsburgh,

University of Vermont,

Williams College,
Harry A. Garfield, Ll.D., President.

Bowdoin College,

Union College,
J.E.Ostrander, A.M., C.E., Professor of Mathematics and Civil Engineering in the Massachusetts Agricultural College.
University of Maryland,
Thomas Fell, Ph.D., Ll.D., D.C.L., Provost.

Allegheny College,
Guy E. Snavely, Ph.D., Professor of Romance Languages.

Auburn Theological Seminary,
Harlan Creelman, Ph.D., Professor of Hebrew Language and Literature.

University of Virginia,
H. Carrington Lancaster, M.A., Ph.D., Professor of Romance Languages in Amherst College.

Amherst College,
Clarence Willis Eastman, M.A., Ph.D., Professor of German Language and Literature.

McGill University,
Arthur E. Childs, M.S., Alumnus

Trinity College,
Henry A. Perkins, M.A., E.E., Professor of Physics.

Rensselaer Polytechnic Institute,
William F. Mason, C.E., M.D., Ll.D., Professor of Chemistry.

The Newton Theological Institution,
Rev. George E. Harr, D.D., President.

Western Reserve University,
Otto Manthey-Zorn, Ph.D., Professor of the German Language and Literature in Amherst College.

Dennison University,
Irving A. Field, Ph.D., Professor of Zoology in Clark College.

Wesleyan University,
Walter G. Cady, A.M., Ph.D., Professor of Physics.

Haverford College,
Willard E. Swift, A.B., Alumnus.

Oberlin College,
Mary Emily Sinclair, Ph.D., Associate Professor of Mathematics.

Hartford Theological Seminary,
Arthur L. Gillett, D.D., Professor of Apologetics.

Wheaton College,
Samuel Valentine Cole, A.M., D.D., Ll.D., President
Alfred University,
Charles F. Binns, M.S., Director of the New York State School of Clay Working and Ceramics.

Union Theological Seminary,
Francis Brown, D.D., LL.D., President.

University of Michigan,

Mount Holyoke College,
Anne Sewall Young, Ph.D., Professor of Astronomy.

University of Missouri,
Jay William Hudson, A.M., Ph.D., Professor of Philosophy.

Ohio Wesleyan University,

College of the Holy Cross,

Mount Union College,
J. W. Yost, A.M., Alumnus.

Grinnell College,

University of Rochester,
M. C. Ernsberger, M.E., Professor of Mechanical Engineering.

Northwestern University,
Carey E. Melville, A.B., Assistant Professor of Mathematics in Clark College.

Tufts College,
Hermon C. Bumpus, Ph.D., S.C., LL.D., President.

Brooklyn Polytechnic Institute,
J. Brace Chittenden, A.M., Ph.D., Professor of Mathematics.

Wilberforce University,
William S. Scarboro, M.A., LL.D., Ph.D., President.

Susquehanna University,
Charles F. Aikens, M.A., Ph.D., President.

Rake University,
Frank H. Hankins, Ph.D., Professor of Political and Social Science in Clark College.
Massachusetts Institute of Technology,

Bates College,
George C. Chase, A.M., D.D., LL.D., President

Kansas State Agricultural College,
Frank A. Waugh, B.S., M.S., Professor of Landscape
Gardening in the Massachusetts Agricultural College.

Fisk University,
F.A. McKenzie, Ph.D., President.

Massachusetts Agricultural College,
Fred W. Horne, M.S., Professor of Chemistry.

Cornell University,
Rolla C. Carpenter, M.S., M.W.E., LL.D., Professor
of Experimental Engineering.

University of Minnesota,
John E. Barr, M.S., M.M.E., Alumnus.

Atlanta University,
Edward T. Ware, B.A., President.

Boston University,
Lemuel Herbert Murlin, D.D., LL.D., President.

Purdue University,
Edward Mueller, A.M., Ph.D., Professor of Chemistry.

Swarthmore College,
Edwin A. Corthell, A.B., A.M., Professor of History
in Wellesley College.

Hunter College,
George Sanders Davis, LL.D., President.

Smith College,
William John Miller, Ph.D., Professor of Geology.

Lander College,
Adaline M. Tirrell, A.B., Professor of Modern Languages.

Rose Polytechnic Institute,
John B. Pedele, M.E., Professor of Machine Design.

Wellesley College,
Charlotte Fitch Roberts, Ph.D., Professor of Chemistry.

Johns Hopkins University,
Charles Joseph Tilden, S.B., Professor of Civil Engineering.

Radcliffe College,
Bridgewater College,

Bryn Mawr,
Roger F. Brouil, Ph.D., Professor of Chemistry.

Case School of Applied Science,
Charles S. Howe, Ph.D., D.Sc., L.L.D., President.

Tuskegee Normal and Industrial Institute,

South Dakota State College of Agriculture and Mechanic Arts,

University of Arizona,
Arthur W. Wilde, Ph.D., Ex-President, Professor in Boston University.

University of Wyoming,
Karl Steik, A.M., Professor of Chemistry.

Catholic University of America,

Clark University,
Granville Stanley Hall, Ph.D., L.L.D., President.

Leland Stanford University,
Stephen Ivan Miller, A.B., L.L.D., Assistant Professor of Economics.

University of Oklahoma,
Louis Alvin Turley, B.S., A.M., Professor of Pathology and Bacteriology.

Rhode Island State College,
Leonard Perley Dickinson, B.S., Professor of Physics.

Graceland College,
Frederick M. Smith, M.A., Alumnus.

Simmons College,
Henry Lefavour, Ph.D., L.L.D., President.

Carnegie Institute of Technology,

Clark College,
Edmund Clark Sanford, Ph.D., President.

College of Hawaii,
Frank T. Dillingham, B.S., Professor of Chemistry.

Rice Institute,
Edgar Odell Lovett, Ph.D., L.L.D., President.
The academic procession formed in Hotel Bancroft at 9:45 A.M., under the leadership of Professor Coombs, who was marshal of the day. It moved, to music by the Salem Cadet Band, across the common, through Front and Main Streets to Mechanics Hall. As it entered the Hall, it passed between lines of undergraudates, who had marched down from Boynton Hall. These undergraduates then fell in behind the academic procession and were escorted to seats in the north and south galleries. The academic procession made its way through the west ante room, up the centre aisle, to the platform, where seats had been provided for all. The band occupied seats in the west gallery, where it played once during the exercises. While the audience, which occupied every available seat in the hall was being seated, Mr. C. H. Grout, organist of Central Church, gave an organ recital.

President Woodrow Wilson, who had been commencement orator in June, 1890, had been invited to deliver the principal address at this anniversary celebration. Pressure of public business, especially in connection with the European war and affairs in Mexico, made his acceptance impossible. Major General George W. Goethals had accepted an invitation to be present and give an address. At the last minute, however, he was summoned to Indianapolis, to testify in a law suit, and he too could not be present.

The exercises in Mechanics Hall were opened by Rev. Dr. Shepherd Knapp, of the Board of Trustees, who delivered the invocation. President Rollins, the presiding officer of the day, gave a short address, having special reference to the anniversary that was being celebrated, and to the work that had been accom-
plished by the Institute since its foundation. He was followed by President A. Lawrence Lowell of Harvard University; by Hon. David I. Wallah, who brought the greetings of the Commonwealth, and by Dr. John A. Brashear, President of the American Society of Mechanical Engineers. A pleasing feature of the exercises was the presentation, at the conclusion of the regular addresses, of Principal Booker T. Washington, of Tuskegee Institute, who was present as a delegate from Tuskegee. Dr. Washington spoke feelingly of the work done for the education of the negro, and expressed his gratitude to the educators who had aided in working out this problem.

At the conclusion of the exercises in Mechanics Hall, after the benediction had been pronounced by Dr. Knapp, the distinguished guests and delegates were taken in automobiles back to the Bancroft Hotel, where they left their academic costumes, and then to the Institute. Here in Boynton Hall, a buffet lunch was served to guests, members of the Corporation, professors, instructors and alumni. Some four hundred were present; the lunch was served in the offices and Faculty room, these rooms being thrown into one. The crowd overflowed to the lawn, the perfect weather making this a most acceptable place especially for the alumni who here held impromptu class reunions. While this lunch was being served in Boynton Hall, Mrs. Hollis was entertaining at her home the delegates from women's colleges, the ladies of the Corporation and of the Faculty, and others.

Wednesday afternoon, at 2:30, a meeting was held in the lecture room of the Electrical Engineering Building, under the auspices of the Worcester Branch of the American Society of
Mechanical Engineers. The chief address was given by Mr. George I. Alden, of the Norton Company, a member of the Board of Trustees, for twenty-eight years a professor in the Department of Mechanical Engineering at the Institute, and head of that department from its organization. His subject was "The Ideals of the Washburn Shops".

Professor W. W. Bird, head of the Department of Mechanical Engineering, also gave a synopsis of a paper that he was to present at the Buffalo meeting of the American Society of Mechanical Engineers, on a form of belt testing apparatus, recently set up and perfected in the laboratory of the department. A model of this apparatus was displayed, to illustrate the paper.

The culmination of the celebration exercises came Wednesday evening, June 9, with the banquet at the Bancroft Hotel at 7 o'clock. This was attended by the specially invited guests, the delegates, members of the Corporation and of the Faculty, instructors, and nearly five hundred alumni and nongraduate members of the Alumni Association. The dinner was held in the great ballroom of the hotel, a few who came late being accommodated in the regular dining room, going into the larger room for the speaking. In all, 591 sat down to the dinner.

The diners were seated at small tables, accommodating each nine or twelve. At the head, or speakers', table, were President Fockwood of the Alumni Association, President John A. Brashear of the American Society of Mechanical Engineers, Capt. J. T. McElroy, of the United States Navy, Mr. Arthur D. Little, of Boston, head of the firm of Arthur D. Little, Inc., Chemical Engineers, Major General Leonard Wood, commanding the Department of the East, Hon. Charles G. Washburn, President of the Corporation, Hon. James Logan,
of the Corporation, Hon. Francis W. Treadway, '90, ex-Lieutenant Governor of Ohio, Senator John W. Weeks, Mayor George W. Wright, President Howard Elliott, of the New York, New Haven and Hartford R. R., Admiral E. T. Griffin, of the United States Navy, Congress-
man S. E. Winslow, Rev. Allyn F. Foster, of the Corporation, and
President Hollis. Hon. James Logan called the gathering to order,
and introduced Rev. Mr. Foster, who invoked the Divine blessing.
At the conclusion of the dinner Mr. Logan introduced Hon. Francis
W. Treadway, as the presiding officer of the remainder of the
evening. Mr. Treadway read a letter from President Wilson to
Mr. Washburn, and the health of the President of the United States
was drunk by all standing while the orchestra played the Star
Spangled Banner. Addresses were then given by Mayor Wright,
President Elliott, Mr. Little, Senator Weeks and General Wood.
Music was furnished by the orchestra of the Salem Cadet Band.
The galleries were opened to any interested and were filled with
an attentive audience. The banquet ended shortly before midnight.

On Thursday, June 10, which was Commencement Day, one exer-
cise took place which may be regarded as belonging, in part at
least, to the anniversary celebration. This was the laying of
the cornerstone of the new gymnasium. The procession formed in
front of Boynton Hall, made up of guests, delegates, Trustees,
professors and instructors and representatives of every class
graduated. Under the marshalship of Professor Coombs, and led
by the Worcester Brass Band, it marched to the gymnasium. Here
the great gathering was grouped about the platform. The invoca-
tion was by Rev. Allyn King Foster, of the Trustees, after which
President George I. Rockwood of the Alumni Association was intro-
duced by Professor Coombs, the marshal of the day. Mr. Rockwood
made a brief address in which he referred to the laying of the cornerstone of the Salisbury Laboratories, June 2, 1888. He then announced the articles deposited in the copper box placed in the cornerstone, after which the stone was duly laid. The great procession then took up its line of march to the Electrical Engineering Building, where nearly seven hundred guests and alumni enjoyed the annual dinner.

The articles placed in the cornerstone were the following: The Institute catalogue for 1914-5, the Journal of the Institute for January, 1915, containing the annual report of President Hollis, the Journal of the Institute for May, 1915, the illustrated descriptive pamphlet of the Institute issued recently, a list of members and associate members of the Alumni Association, a colored view of Alumni Field, announcements of the Alumni Association for the reunion of 1915, the program of exercises in connection with the celebration of the 50th anniversary, also of the coming commencement, the material sent to the Alumni and colleges in connection with the 50th anniversary celebration, a copy of the Daily Telegram of Sunday, June 6, of the Evening Gazette of Friday, June 4, and of the Evening Post of Saturday, June 5, all containing accounts of the approaching celebration, lists of delegates, etc.
Preliminary Sketch of Technical Education.

The earliest systematic training along industrial lines in connection with any school seems to have been given at Moscow, Russia, in 1763. This was at a charity school for foundling boys, opened by the Empress Catharine II. The boys were taught trades in work-shops, shoe-making, carpentry, tailoring, brass founding, etc., and were thus enabled to earn an honest living. Other schools of like nature followed in Russia, their distinctive feature being practical work on serviceable manufactures. It was indeed a Russian system, antedating the Russian system of sixty years ago by nearly one hundred years. In 1860 this industrial school became the Imperial Technical School of Moscow, with a six years' course of study, and an average of fourteen hours a week given to shop practice. The Institute of Technology at St. Petersburg was established in 1867. It is chiefly a school of chemistry and civil engineering, while at Moscow, the emphasis is laid upon mechanical engineering.

Industrial work in schools was begun in Sweden in 1735; in Bavaria before 1806; the Polytechnic at Vienna dates from 1815. L'Ecole Polytechnique at Paris was founded in 1790, and has been from the start a school of military engineering.

Most of the German technical high schools were organized between 1820 and 1870 and their work has been chiefly theoretical, although, about 1880, machine and wood shops were started at Berlin and Munich. Practically all of these schools developed from lower or secondary industrial schools.

France, from 1825 to 1865, led the world in the practical applications of science in school instruction to the improvement of arts, trades, and manufactures. There was the central school at Paris and the Foremen's Schools in the provinces, which took
up the higher work and were followed by a great number of trade and apprentice schools. In France many of our American engineers were educated and from France came undoubtedly the impulse that founded in 1824 the first engineering school in this country, Rensselaer Polytechnic in Troy.

The period of establishing scientific departments in colleges began in 1847 with Sheffield Scientific at Yale, Lawrence at Harvard, followed in 1849, Chandler at Dartmouth in 1852, the Polytechnic Department at Washington University, St. Louis, in 1854. But the great impulse to technical education in this country came through the national land grants, under the Morrill Act of 1862. There were three causes of this action on the part of the government; first, the known stimulus given to agricultural interests and to foreign manufactures by the beginnings of technical education in Europe; second, the acknowledged superiority of those manufactures, especially in France and Switzerland, as shown by the exhibits of goods at the earlier world's expositions; third, the fact that the Civil War compelled this country, through the depredations of Confederate cruisers, to rely on its own constructive energy and to develop its own resources. The Morrill Act, supplemented by other laws, resulted in the organization or reorganization of some seventy schools which receive aid from the government. Some of these are purely agricultural colleges, other partly agricultural, partly technical. A very few afford thorough training for engineering pursuits, such as the Massachusetts Institute of Technology in Boston, Cornell University at Ithaca, N.Y., Purdue University at Lafayette, Ind., and the engineering departments of several state universities, notably Michigan, Illinois, Ohio and Wisconsin. Most
of these were organized between 1865 and 1880. In addition there
have been established on private foundations seven independent
technical schools which have taken a leading rank among institutions
claiming to give an engineering education. They are in order of
foundation, Rensselaer Polytechnic Institute, Troy, N.Y., organized
Worcester Polytechnic Institute, in 1824; Massachusetts Institute of Technology in 1861; which also
received funds under the Morrill Act, in 1865; Lehigh University,
South Bethlehem, Pa., in 1866; Stevens Institute of Technology,
Hoboken, N.J., in 1871; Case School of Applied Science, Cleveland,
O., in 1881; and Rose Polytechnic Institute, Terre Haute, Ind., in
1885. As noted above, the Worcester Polytechnic Institute stands
third in the order of foundation, but it was the pioneer in this
country of all those schools in which the actual construction of
machinery is made a part of the course of instruction.
CHAPEL EXERCISES

In John Boynton's letter of gift, occurs the following passage: "Whereas, in making provision for the security of piety and good morals in connection with seminaries of learning, the statutes of the Commonwealth contain the following article (Gen. Stat., Chap. 38, Sec. 10), it is therefore enjoined upon the Trustees to see that these provisions are applied faithfully to this school, and that, while all sectarianism and all control of one religious sect over another is strictly prohibited, the Bible, in the authorized version, shall be in daily use, and such devotional exercises as consist with a due sense of our dependence upon the Divine blessing."

The purpose of the founder in this connection was carried out by the Board of Trustees. A commodious chapel was arranged for in the plans of the first building, Boynton Hall, and from the very beginnings of Institute life, chapel exercises were made a feature. These exercises were held from the opening of the Institute until 1875-76, at 5:55 P.M. and each day of the week except Sunday; from that time until 1885 they were held five times weekly and at 9:50 A.M., students in practice being excused from attendance. In 1890, the hour was made 9:45 A.M., and it stood at this hour until 1892. In February, 1892, the Trustees, at the suggestion of President Fuller and the Faculty, voted that after March 1, 1892, compulsory chapel exercises should be abolished, attendance being made voluntary. Until this time, attendance at the exercises had been compulsory on all students except those engaged in practice. The Principal or President was in charge, or, in his absence, some professor, usually the oldest one in order of appoint-
ment. The exercises consisted of Bible reading, a prayer and the singing of one or more hymns under the leadership of a small choir composed of students. Instrumental music was furnished by a small organ, played by a student or some member of the Faculty.

The original organ, purchased in September, 1870, at an expense of $100, had become so worn after twenty years of service that the gift of a new organ at Christmas, 1890, by Mr. A. H. Hammond, a well-known organ manufacturer of Worcester, was most acceptable. Mr. Hammond's son was a member of the Junior class at that time.

The reason why chapel exercises were made voluntary was that they seemed to have lost their religious and reverential character. There was much disorder during the exercises and matters were conducted by different members of the Faculty, under the general supervision of Professor Alden, who, in November, 1894, had been appointed Dean of the Faculty by the Board of Trustees. Few members of the Faculty attended the chapel exercises and few students. All singing was, of course, out of the question. Even this form of voluntary chapel exercise was given up during the year 1896-7, and since that time no chapel exercises of any sort have been held at the Institute. Efforts have been made from time to time to establish some form of student assembly, but these have come to no result. Opinions among the members of the Faculty have been widely divergent as to making such an assembly compulsory. This divergence of opinion has been an obstacle to any definite action. Moreover in late years the Institute has had no room available to accommodate the entire student body.

Chapel exercises, entirely voluntary, were resumed with
the beginning of the second term, 1925-6. They have been held in the Library, under the general direction of the Secretary of the Institute Young Men's Christian Association. At first the exercises were held each day at 9:50 A.M., classes being dismissed at 9:45, and being resumed at 10:05. Later, the Saturday morning exercise was given up. The President, various members of the Faculty, local clergymen of practically every denomination, and representative laymen from the city, have addressed the meetings.
LECTURES

Lectures as a form of instruction were much used from the very beginnings of the Institute. The catalogue for 1870-71, the first real catalogue issued, has the following note: "Lectures.—These are given by the professors and by non-resident professors, on various subjects. The students are in all cases required to pass an examination on the lectures." In those earlier days practically all of the instruction in Physics, and much of that in Chemistry, was given in lectures. Furthermore, all work in Geology, and much of that in Architecture, as long as this department was conducted at the Institute, was given by non-resident lecturers. It was customary from the first to introduce as often as possible speakers from outside, to address Faculty and students. This did not occur frequently in those earlier years, but several lectures were given that may be mentioned. In February, 1888, Dr. Lemuel F. Woodward gave a lecture on "Emergencies", outlining the course to be followed in case of any accident. In May, 1890, Gen. O. O. Howard gave an address to the Faculty and students, in the chapel on Practical Work. He illustrated this address by many examples drawn from his Civil War experiences. On the 19th of October, 1891, Hon. Joseph H. Walker, Congressman, from the Worcester District, gave a lecture on the silver question which created much interest among members of the Faculty and students. Later, more lectures were given, and Dr. Nondenhall, on assuming the duties of President, inaugurated a regular course. The announcement of this innovation appeared in the catalogue of 1895. It read:

LECTURES

The Institute is greatly indebted to the gentlemen who have from time to time addressed the students in the lecture courses of the year 1894-95. The special course was given to the Senior Class in connection with their study of econ-
omics. The general course was addressed to the entire body of students. A list of lecturers and subjects is given on page 12. The work of the gentlemen who so generously contributed to the success of these courses was fully appreciated and is gratefully remembered by officers and students alike.

The list referred to above is of interest, and it follows:

**LECTURERS FOR THE CURRENT YEAR**

**Special Course.**

<table>
<thead>
<tr>
<th>Lecturer</th>
<th>Subject</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hon. P. Emory Aldrich</td>
<td>On Constitutions and Law.</td>
</tr>
</tbody>
</table>

**General Course.**

<table>
<thead>
<tr>
<th>Lecturer</th>
<th>Subject</th>
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<tr>
<td>Dr. G. Stanley Hall</td>
<td>On the Brain.</td>
</tr>
<tr>
<td>Dr. George Lincoln Goodale</td>
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<tr>
<td>Prof. Edward S. Morse</td>
<td>On the Principles of Evolution.</td>
</tr>
<tr>
<td>Mr. Gustavus C. Henning</td>
<td>On Testing Machines and Appliances.</td>
</tr>
<tr>
<td>Prof. N. S. Shaler</td>
<td>On Glaciers and Glacial Epochs.</td>
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</table>

Dr. Mendenhall's wide acquaintance among men of national reputation will explain how he was able to secure such excellent speakers. The catalogue of the following year modifies the general statement somewhat. It is appended.

**LECTURES.**

A general course of lectures by gentlemen of distinction was addressed to the entire body of students in the year 1894-5, and a similar course is planned for the current year, the list of lecturers and subjects being found on page 12. The work of the gentlemen who so generously contributed to the success of this course was fully appreciated, and is gratefully remembered by officers and students alike.
The list referred to is as follows:

INSTITUTE LECTURES FOR 1896
Partial List.

J. M. Allen  
John A. Brashear  
E. S. Corthell  
Charles B. Dudley  
B. E. Fernow  
J. Evarts Greene  
Almon Gunnison  
William Kent  
Charles F. Mabery  
Daniel Merriman  
Edward S. Morse  
Henry G. Prout  
E. Harlow Fussell  
W. T. Sedgwick

Hartford, Conn.  
New York City  
Altoona, Pa.  
Washington, D. C.  
Worchester, Mass.  
Worchester, Mass.  
New York City  
Cleveland, O.  
Worchester, Mass.  
Salem, Mass.  
New York City  
Worchester, Mass.  
Boston, Mass.

The lectures were given during the first two years on Monday mornings. Later an hour, from 11 to 12, was reserved on Wednesday morning. There was no compulsion as to attendance, but the great majority of students considered the lectures an opportunity and never failed to attend. The public also were invited. The plan of offering a course of lectures was continued through the year 1897-8, though a smaller number was offered during this year. The plan was given up with the close of the Institute year, 1898-9.
COMMENCEMENTS

The first Commencements were exceedingly simple, the exercises being confined to the space of one day. All arrangements for those early Commencements were in the hands of the Faculty, acting under the advice of the Board of Trustees. The increase in the number of graduates, the formation in 1873 of the Alumni Association, which was to become so powerful a factor in the Institute's development, the tendency among the undergraduates to adopt the customs long in vogue at liberal colleges, all these causes led to a great expansion in Commencement activities.

For many years the morning of Commencement Day was given over to the reading of theses, later of thesis abstracts. In the afternoon came the formal exercises, the delivery of the addresses, the conferring of diplomas, the announcement of prize winners. In the evening came the reception of Hon. Stephen Salisbury, President of the Corporation, to the graduating class, the Trustees, members of the Faculty and invited guests.

As time went on, a longer period was demanded for the festivities of Commencement week. Class Day exercises were early introduced; a Baccalaureate sermon became a feature in 1893, and has continued to be a feature ever since. After the death of Mr. Salisbury, in August, 1884, a new order was introduced in the matter of receptions. President Fuller entertained the graduating class and their friends at his home on the evening of Wednesday, the day before Commencement, or on that afternoon. This custom was continued during Dr. Fuller's administration. It was taken up by Dr. Mendenhall and continued as long as he was President, and Dr. Engler kept up the same custom until his departure in 1911. During the two latter administrations, the
reception was made an important social event in the city, a large number of invitations being issued.

The graduating classes have at many Commencements conducted dances or receptions of their own. These dances have been held Tuesday or Wednesday evenings, although on one or two occasions in recent years they have been held Thursday evening. Other forms of entertainment for members of the graduating class and their friends have been devised but have hardly become permanent fixtures. Most of the fraternities keep open house on some day during Commencement week; many of them have dances one or more evenings, and house parties for the entire week are not infrequent. In 1899, when all Class Day exercises were given up, the Senior Class spent the Monday of Commencement week at an outing of its own at Rebboli's Grove. Later classes had their outings at Lake Quinsigamond. At these outings a clambake was usually a feature and baseball games and various athletic contests were held. This custom has been kept up to the present time. In 1900 a concert was given by the Glee Club in the Chapel, Boynton Hall, for the entertainment of the graduating class and their friends. In 1913, the Dramatic Association repeated its play, Eldern's Uncle, on the evening of Commencement Day.

In 1896, the Senior Class challenged the Faculty to a baseball game. The challenge was accepted, the game being played on the old Fair Grounds to the pleasure and amusement of a large number of friends. This Faculty-Senior ball game has become a fixture in Commencement Week, having been played each year, except 1910 and 1915, since 1896, on Alumni Field. Once or twice, other athletic events have been scheduled for Commencement week. For instance, in 1908, the Institute baseball team closed its season
Wednesday afternoon, June 10, the day before Commencement, in a game with Boston College. This game was played on the rough field on West Street, then called Alumni Field. Most of the spectators had to stand, few seats being provided, and it was hardly possible to collect an admission fee. The field was very rough, hence scientific playing was out of the question. The Institute lost, 6 to 1. Again, on Tuesday, June 8, 1915, a baseball game was made a feature of the Celebration. The Institute played the team from Massachusetts Agricultural College, losing by a score of 8 to 1. This game was played on the new Alumni Field, in the presence of a large attendance. In other years efforts have been made to hold track and field sports during Commencement week, and once or twice the concluding games of the spring tennis tournament have been played at that time. Such efforts, however, can hardly be said to have gained popularity. As at present arranged, Commencement week is so crowded with events that interest in any athletic contest seems to flag. The success of the W.P.I.-M.A.C. game noted above, however, may form a precedent for years to come.

Of course, the concluding event of the week, the Alumni Dinner, has risen to the utmost prominence and importance. At the dinner various addresses are given, reviewing the work of the year, noting gifts, etc., and furnishing a general conclusion to the activities of the Institute year. For many years the graduates have formed by classes and, headed by the band, have made a longer or shorter tour of the grounds, finally marching to their places at the banquet tables. In 1914, as the new Alumni Field was practically complete, the procession took a longer route, marching by Salisbury Street and Park Avenue to
the field, where impromptu sports were held, to signalize the
opening of the field. In 1915, the especial feature of Commence-
ment Day, for the Alumni, was the laying of the corner stone of
the new gymnasium. The attendance of Alumni was larger than
usual, nearly 700 being present. The line formed in front of
Boynton Hall, and, headed by the Worcester Brass Band, marched
to the scene of the ceremony. The stone was laid by Mr. George
I. Rockwood, '88, President of the Alumni Association, after
which the various classes re-formed and marched to the Electrical
Engineering Building, where the dinner was held. For this parade
of the Alumni Professor Z. W. Coombs has, for a number of years,
acted as Chief Marshal, at the invitation of the Alumni Association.

Of course, the returning classes mark their particular
anniversaries by class dinners and reunions, in addition to the
general Alumni Banquet. The classes which celebrate are especially
those which have been out three, five, ten, fifteen, twenty and
twenty-five years. The place of honor is given the twenty-five
year class, but the ten-year class is generally most conspicuous
in its demonstrations.

The class of 1914 marked an epoch in the general
nature of Institute Commencements: It appeared, for the first
time of any graduating class, in cap and gown. This costume
was worn on all official occasions, from the Baccalaureate sermon
until after the Alumni Dinner. In 1915, the graduating class
followed the example of its predecessor in wearing academic
costume during Commencement week. Moreover the members of the
Faculty and instructors appeared in cap and gown for the first
time. This costume was worn by them at the Baccalaureate Sermon,
at the celebration exercises in Mechanics Hall, and at the com-
mencement exercises in Tuckerman Hall.

At the present time, and this has been true for several
years, the activities of Commencement extend from the Baccalaureate
sermon Sunday afternoon or evening, through the Alumni Dinner,
Thursday afternoon at 2.

A pleasant feature of the earlier Commencements, which was
kept up until the death in 1884 of Hon. Stephen Salisbury, the
first President of the Board of Trustees, was the presentation
by the graduating class of photographs of its members to Mr.
Salisbury, in an album. After Mr. Salisbury's death, this presenta-
tion was continued, to the Institute. From 1890 to 1896, inclusive,
the classes gave their photographs in a large frame, and these
framed pictures now hang in the corridors of Boynton Hall. After
1896, the custom of presenting photographs was discontinued by the
classes, one reason being that the annual class book usually con-
tained half-tone reproductions of the members of the class.

On the death of the second Mr. Salisbury in 1905, the albums
of the earlier classes were given to the Institute, and are now
carefully preserved. When the graduates in the first class, 1871,
returned in 1906, their thirty-fifth anniversary, it was found
that not one of the seventeen graduates in that class had died.
This was a remarkable record. To signalize it, the photographs
of the class at graduation, together with their photographs in
1906, were collected and placed in one frame. This notable group
now hangs in Boynton Hall. Of course, the photographs of the
class at graduation were in the possession of the Institute at
that time. The photographs of the graduates, as they appeared
in 1906, were collected by Mr. Edward F. Tolman, '71. It was a
task of great difficulty, but was successfully accomplished. Mr.
Tolman was the first member of the Class to die, his death occurring in January, 1910.

In the following pages will be discussed more in detail, the regular Commencement exercises, the Examining Committees, the Baccalaureate Sermons, and the Class Day exercises.
The first Commencement at the Institute was held on Wednesday, July 26, 1871, in the Chapel, Boynton Hall. In the morning of that day, at 8:30, was held an examination of the members of the Senior Class, conducted in Boynton Hall by a committee of scientific gentlemen, selected, as the contemporary accounts tell us, "with especial reference to their familiarity with the various subjects on which the class were to be examined". The committee and their specialties were, in Chemistry, President William S. Clark of the Massachusetts Agricultural College at Amherst, George P. Rockwood, Esq., of Manchester, N. H., in Mechanics, Charles H. Parker, Esq., of Boston, Professor John Trowbridge, of Cambridge, and George Crompton, Esq., of Worcester; in Civil Engineering, George Faymond, Esq., of Fitchburg and Hon. Phinehas Ball of Worcester; in Architecture and Design, Hon. David H. Mason, of Boston, Professor William P. Trowbridge of New Haven, Conn., and Professor William R. Ware, of Boston.

The catalogue of 1871-2 had made the announcement that "at the annual commencement the Senior class is subjected to a public examination, conducted by a committee invited from the community at large". This practice of having an examining committee was continued until 1893, the class that graduated in June of that year being the last class to undergo this examination. The catalogue of 1870-1 had made a similar announcement with regard to a public oral examination. This, it said, was held the last Friday in June, and was conducted by a committee invited from the community at large. In 1870, the committee consisted of the following gentlemen: Rev. Lewis Sabin of Templeton, Hon. P. Emory Aldrich of

This examination at the Commencement of 1871 was conducted by the presentation on the part of the class of theses, accompanied by explanatory drawings and plans. The members of the graduating class discussed their theses, though, as contemporary accounts state, "in too scientific and abstruse a manner to be thoroughly enjoyed by the large audience in attendance." At the close of the examination, the theses, plans, drawings, etc., were submitted to the Examining Committee for examination and report.

During the morning of this first Commencement Day, shops, laboratories, and drawing rooms were open for inspection, and were visited by the many friends in attendance. At noon a collation was served to the Trustees, the Examining Committee and the guests in one of the rooms of Boynton Hall. At 2:30 P.M., the formal exercises were held, in the chapel, as has been said. The invocation was asked by Rev. E. Porter Dyer, of Shrewsbury, followed by the introductory address of Hon. Stephen Salisbury, President of the Board of Trustees. The Commencement Address was then given by Professor William P. Trowbridge of Sheffield Scientific School, on the subject, "What are the principles and merits of the applications of science to active business?" At the conclusion of this address, the valedictory on behalf of the class was delivered by Elmer P. Howe, of Worcester. The diplomas were then awarded by President Salisbury of the Trustees. The exercises closed with benediction by Rev. Mr. Dyer. Music was furnished during the exercises by an instrumental quintet. In the evening of Com-
mencement Day, Mr. Salisbury gave a reception to the graduating class and a number of invited guests, including members of the Trustees, of the Examining Committee and prominent residents of Worcester.

The general plan of the first commencement was followed for many years. In 1872, the day was July 31, the examination coming at 9:30 A.M., the regular Commencement exercises at 2:30 P.M. Addresses were delivered by Hon. George F. Hoar, on behalf of the Trustees, and by Principal Thompson. The chief address of the day was given by Rev. Andrew P. Peabody of Cambridge, whose subject was, "The worth of an extended education to the manufacturer, the mechanic and the artisan."

No radical departure in any detail was made from the general plan outlined above for many years. As time went on, the formal address on the part of the Trustees was given up and only the Commencement address was delivered by some distinguished scientist or statesman, or some member of the Corporation. The award of prizes to the six students of highest standing, from the graduates' Aid Fund was made a feature of the Commencement exercises, following the award of the diplomas. As the graduating classes became larger and the attendance at the exercises greater, more adequate quarters had to be sought for the exercises. From 1885 to 1889 inclusive, the graduation exercises were held in Mechanics Hall; from 1890 to 1894, inclusive, they were held in Association Hall of the Young Men's Christian Association Building on Elm Street. In 1888, the hour of the graduation exercises was changed from 2:30 in the afternoon to 7:30 in the evening; the following year the hour was made 7:45, an hour which was continued until 1893, when it was made 8. In 1894, the hour was 8 P.M. also. Reading
of theses had been held in the morning in Boynton Hall, generally at 9:30 A.M. In 1894, 1895 and 1896, this general reading of theses was replaced by the reading of one thesis from each of the departments in which degrees were conferred, this reading taking place at the exercises of graduation.

No valedictory address on the part of the graduating class was given after 1893. The address on the part of the Trustees, which had been a feature of all commencements from 1871 until 1881, was not given after that year. In 1882, an address on the part of the Alumni was delivered by Henry P. Armsby, '71, in place of the address on the part of the Trustees. In 1883, Principal Fuller, elected in 1882, gave the Commencement address on the subject, "The Present Place and Work of Technical Schools". Again in 1894, as he laid down the duties of his office, he summed up the history of technical education and of the growth of the Institute in a commencement address entitled "A Quarter Century Review."

In 1895, the first Commencement over which President Mendenhall presided, the exercises were again held each year until 1907, in which year they took place in the quiet laboratory of the new Electrical Engineering Building, marking the dedication of this building. Beginning with 1908, and continuing until the present time, these exercises have been held in Tuckerman Hall of the Woman's Club Building.

Instrumental music has generally been introduced as a feature of the Commencement exercises. In 1896, the Institute Glee Club sang several times during the exercises, replacing the instrumental quintette and orchestra.
In the early days of the Institute, the Governor of the Commonwealth was often present at Commencement, usually making a short address. In 1885, Governor George D. Robinson was present and spoke; in 1895 Governor Greenhalge; in 1896, 1898 and 1899, Governor Wolcott addressed the gathering briefly; in 1907, Governor Guild, and in 1914, Governor Walsh.

The date of Commencement in the early years was the last Wednesday in July. This date was gradually brought nearer the beginning of the month, standing in 1875 at July 7th. For some years it fell always during the first two weeks of July, then in 1881, it was June 30th, for the first time on a Thursday. It has been on a Thursday ever since. In 1891, it was again brought nearer the beginning of June, standing that year at June 18th. In 1901, it was definitely fixed as the second Thursday in June, coming that year on the 13th. Since then it has varied from the 8th to the 14th.

From the earliest times, the members of the graduating class have, at Commencement, marched in a body to their places, either upon the platform, or in the front part of the hall. Since 1912, they have formed at the Electrical Engineering Building, and, under the direction of the Chief Usher of the day, usually the President of the Junior Class, have marched to Tuckerman Hall. In 1915, Faculty and instructors, with the speaker of the day, the Trustees and several of the delegates to the Celebration, formed at Boynton Hall and marched to Tuckerman Hall, preceded by the Senior Class. At the entrance to the hall, the Seniors formed two lines, through which the remainder of the procession passed into the hall, the Seniors following.
President Engler, early in his administration, introduced the custom of handing to each graduate his own diploma as he came upon the stage. In former years the diplomas of graduates in each course were handed out in a bundle. At the commencement in 1914 and 1915, the graduates went upon the platform grouped by courses, each man receiving his own diploma from the President. This plan had all the merits of the former one, but saved much time.

The seating arrangements for the Baccalaureate sermon and the exercises of Commencement Day have from the beginning been in the hands of ushers chosen from the Junior Class, headed usually by the President of the Class.

The speakers at the various commencements have almost without exception been men of national prominence, and their addresses have been not only interesting but of great value. It is impossible to quote from these addresses, but mention must be made here of the remarks of Senator Hoar at the Commencement exercises of 1900. Senator Hoar was present, as a member of the Board of Trustees, and was called upon by President Mendenhall to speak, after the regular address of the day had been delivered. He said in part:

"My words will be but a salutation and a congratulation. Dr. Mendenhall was for once not accurate when he said that there were two of the original board of Trustees surviving. There is but one. I am the only one alive of the little company which met in my office in 1865 and adopted the plan of this institution and promised John Boynton to do our best, in so far as in us lay. Mr. Morgan came in later. The single most pleasant recollection of my life is the recollection of that transaction. I do not think there is anything more delightful in the world than to help plant a tree and see it grow. This tree has grown and its shade has been for the building of the nation.

We have sent out year after year from our classes young men who have been highly taught in the arts of life,
and who have become all over the country men of moment, who have helped administer great business transactions upon which the safety and prosperity of the nation depended.

I do not think there is any investment of capital which brings such a return as that given by such an institution as this. Suppose we graduate each year, as we hope to do shortly, a class of 30. The man without the training which we give him could not at the best earn more than $1000 a year. We give him an education which is worth $2000, at the least to him. Thus we have created $100000 a year of value to the community in a single class. And it is lodged where moth and rust do not corrupt and where thieves do not break through and steal. In 30 years it has grown to $3,000,000, and in 30 years we have graduated 30 classes, which has given the country $90,000,000."

These words from Senator Hoar were listened to with profound attention, and form, perhaps, one of the most valuable contributions to the early history of the Institute on record.

In the appendix of this book will be found a complete record of the dates of Commencement, of the speakers on the various days, with their subjects, also a list of the valedictorians of each class, as long as the custom of having a valedictorian was followed.
BACCALAUREATE SERMONS

The first Baccalaureate Sermon was delivered before the Class of 1893, with members of the Board of Trustees, of the Faculty, and many friends as their guests, on the evening of Sunday, June 18th, in Central Church, by Rev. Daniel Merriman, pastor of the church. This custom of having a Baccalaureate has been observed ever since. A list of Baccalaureate preachers is given in the Appendix. The sermon has been preached each time in Central Church, except in the year 1904, when it was given in Plymouth Church.
BACCALAUREATE PREACHERS


Sunday, June 17, 1894, Rev. A. Z. Conrad, of Old South Congregational Church, Worcester.


Sunday, June 14, 1896, Rev. A. Z. Conrad, of Old South Congregational Church, Worcester.

Monday, June 21, 1897, Rev. Edward Everett Hale, D.D. of Boston.


Sunday, June 18, 1899, Rev. Almon Gunnison, D.D., of the First Universalist Church, Worcester.

Sunday, June 17, 1900, Rev. Spencer B. Meeser, of the First Baptist Church, Worcester.


Sunday, June 8, 1902, Rev. Willard Scott, D.D., of Piedmont Congregational Church, Worcester.

Sunday, June 7, 1903, Rev. Albert W. Hitchcock of Central Congregational Church, Worcester.


Sunday, June 4, 1905, Rev. Francis J. Van Horn, D.D., of Old South Congregational Church, Worcester.


Sunday, June 9, 1907, Rev. Edward P. Drew, D.D., of Old South Congregational Church, Worcester.

Sunday, June 7, 1908, Rev. Shepherd Knapp, of Central Congregational Church, Worcester.

Sunday, June 6, 1909, Rev. Austin S. Garner of the First Unitarian Church, Worcester.

Sunday, June 5, 1910, Rev. Shepherd Knapp, of Central Congregational Church, Worcester.

Sunday, June 4, 1911, Rev. Allyn King Foster, of the First Baptist Church, Worcester.
Sunday, June 9, 1912, Rev. Allyn King Foster, of the First Baptist Church, Worcester.


Sunday, June 6, 1915, Rev. Edward C. Moore, of Harvard University.

Sunday, June 4, 1916, Rev. Allyn King Foster, of the First Baptist Church, Worcester.


Sunday, April 14, 1918, Rev. Henry B. Washburn of St. Mark's Episcopal Church, Worcester.

Sunday, June 22, 1919, Rev. Wm. R. McNutt of First Baptist Church, Worcester.

Sunday, June 6, 1920, Rev. Maxwell Savage, of the First Unitarian Church, Worcester.

Sunday, June 5, 1921, Rev. Shepherd Knapp, of Central Congregational Church, Worcester.

Wednesday, May 31, 1922, Rev. Edward Cummings, of South Congregational Church, Boston.

Wednesday, June 6, 1923, Dr. A. Z. Conrad of Park Street Church, Boston.

Wednesday, June 4, 1924, Rev. Henry W. Hobson of All Saints Episcopal Church, Worcester.

Wednesday, June 10, 1925, Rev. Maxwell Savage of the First Unitarian Church, Worcester.

Wednesday, June 16, 1926, Rev. R. W. McLaughlin of Piedmont Congregational Church, Worcester.

Sunday, June 19, 1927, Rev. Wm. R. McNutt of First Baptist Church, Worcester.
COMMENCEMENT SPEAKERS


Wednesday, July 12, 1876. Professor William Thompson, D.D., of
the Hartford Theological School, Chaplain. Address on
behalf of the Trustees by Rev. E. H. Hall; address of
the day by Professor F. A. March, of Lafayette College,
Easton, Pa., subject; "The Educative Power of Manipu-
lation." Valedictorian, John C. Woodbury, of Charlton.

Address on behalf of the Trustees by Rev. B. D. Marshall,
Commencement Address by President P. A. Chadbourne, of
the University of Wisconsin, Subject: "Physical Sciences
as the Product and Promoter of Civilization." Valedic-
torian, Bernard F. Booker of Buffalo, N. Y.

Wednesday, July 10, 1878. Rev. George E. Horr of Worcester, Chap-
lain. Commencement Address by Hon. George S. Boutwell
of Groton. Governor Rice also spoke. Valedictorian,
Frank T. Fay, South Lancaster.

Address on behalf of the Trustees by C. H. Morgan.
Commencement Address by Professor Rossiter W. Raymond
of New York, subject; "Machinery and Education; A
Study in Evolution." Valedictorian, Edward Barnes,
of Northboro.

Address on behalf of the Trustees by Hon. P. E. Aldrich.
Commencement Address by President Joshua L. Chamberlain
of Bowdoin College, subject, "Obedience". Valedictorian,
John B. Allan of Worcester.

Thursday, June 30, 1881. Rev. George A. Bartol, D.D., of Lancaster,
Chaplain. Address on behalf of the Trustees, Rev.
Daniel Merriman. Commencement Address by Professor
William R. Ware, of Boston. Valedictorian, John I.
Souther, of Worcester.

Address on behalf of the Alumni, H. P. Armsby, '71. Com-
encement Address by Rev. Alexander McKenzie of Harvard
College. Valedictorian, John J. Donovan, of Plymouth,
N. H.

Thursday, June 28, 1883. Chaplain, Rev. A. A. Miner, D.D., of
Boston. Commencement Address, Principal Homer T.
Fuller, subject; "The Present Place and Work of Technical
Schools." Valedictorian, Charles A. Clough of Vineyard
Haven.

Commencement Address, Hon. Eustace C. Fitz of Boston.
Subject: "Business Manhood." Valedictorian, William F.
Brooks of Minneapolis, Minn.

Commencement Address by President Daniel C. Gilman, of
Johns Hopkins University. Subject; "Handy-Craft". Gov-
ernor Robinson spoke also. Valedictorian, Joseph Beals,
of Westfield.

Thursday, July 1, 1886. Chaplain, Rev. Calvin Stebbins, of Worcester.
Commencement Address by Hon. Birdsey G. Northrup, of
Clinton, Conn. Subject: "Education and the Labor Que-


Thursday, June 21, 1894. Chaplain, Rev. G. R. W. Scott, D.D. of Leominster. Commencement Address by President H. P. Fuller, Subject; "A Quarter Century Review". (There was no Valedictorian after 1893.)

Thursday, June 20, 1895. Chaplain, Rev. Alexander H. Vinton of Worcester. Addresses by President Stephen Salisbury of the Corporation; President T. C. Mendenhall of the Faculty and Governor Frederick T. Greenhalge. Selected theses were read.

Thursday, June 18, 1896. Chaplain, Rev. Elijah Horr, D.D., of Worcester. Addresses by President Salisbury, President Mendenhall and Governor Roger Wolcott. Selected theses were read.

Thursday, June 24, 1897. Chaplain, Rev. John E. Tuttle, of Worcester. Commencement address by President G. Stanley Hall, of Clark University. Subject: "The New Personal Hygiene." (No theses were read after 1896.)


Thursday, June 21, 1900. Chaplain, Rev. Daniel Merriman, of Worcester. Commencement address by Professor Edward S. Morse of Salem. Subject: "Can City Life be Made Endurable?"
Thursday, June 13, 1901, Chaplain, Rev. Henry B. Washburn. Commencement Speaker, Professor Nathaniel S. Shaler, subject; "The Place of the Engineer."

Thursday, June 12, 1902, Chaplain, Rev. A. W. Hitchcock. Commencement Speaker, Dr. John K. Fees, subject; "Recent Progress in Astronomy."

Thursday, June 11, 1903, Chaplain, Rev. Austin S. Garver. Commencement Speaker, Mr. O. H. Tittman, subject; "The Work of the United States Coast & Geodetic Survey."

Thursday, June 8, 1905. Chaplain, Rev. Albert W. Hitchcock of Worcester. Commencement Address by Professor Robert Fletcher, Director of the Thayer School of Engineering, Dartmouth College. Subject: "A Definition of Engineering Education."


Thursday, June 8, 1911. Chaplain, Rev. Allyn K. Foster, of Worcester. Commencement Address by Professor William T. Sedgwick, of Massachusetts Institute of Technology. Subject: "Scientists and Technicians in the Public Service."


Monday, April 15, 1918. Chaplain, Rev. Leslie Willis Sprague.
Commencement Speaker, Spencer Miller, W.P.I. '79, subject;
"The Graduate Opportunities for National Service."

Commencement Speaker, Franklin D. Roosevelt, subject; "The National Emergency of Peace Times."

Commencement Speaker, Dr. G. Stanley Hall, subject;
"Psychology and Industry."

Friday, June 10, 1921. Chaplain, Rev. Shepherd Knapp.
Commencement Speaker, Hon. Everett J. Lake, Governor of Connecticut, subject; "Relatives Values in Education."

Friday, June 2, 1922. Chaplain, Rev. Shepherd Knapp.
Commencement Speaker, Frank Farnum Drewser, subject; "The Next Step in Industrial Development."

Friday, June 8, 1923. Chaplain, Rev. Maxwell Savage.
Commencement Speaker, Col. Benjamin O. Johnson, W.P.O., '00, subject;
"The Trans-Siberian Railways".

Friday, June 6, 1924. Chaplain, Rev. Maxwell Savage.
Commencement Speaker, Professor George F. Swain, subject; "How to become a Successful Engineer."

Friday, June 12, 1925. Chaplain, Rev. Shepherd Knapp.
Commencement Speaker, President-elect Ralph Earle, subject; "The Naval Defense of America."

Friday, June 18, 1926. Chaplain, Rev. William R. McNutt.
Commencement Speaker, Mr. John E. Aldred, subject; "Conservation Vs. Waste."

Commencement Speaker, Mr. William E. Wickenden, subject; "Technology and Culture."
CLASS DAY EXERCISES

The custom of having Class Day exercises was introduced early. On Commencement Day, July 31, 1872, at the close of the regular graduation exercises in the afternoon, the graduates in the Class of 1871 and 1872 met, and, marched to a point on the road leading up from Boynton St. to Boynton Hall. The class tree of 1871 had already been placed in position along by this road. Around the tree the two classes formed; an address was then delivered by H. P. Armsby, '71, at the conclusion of which the members of the two classes joined hands and sang "Auld Lang Syne". Each class then cheered the other, after which '71 escorted '72 to the spot selected for planting its tree. Here the class song was sung, composed by a member of the class of 1872, and the tree was planted. The two classes then formed in line and marched about the grounds, cheering the Trustees, the Faculty and the buildings, closing their exercises with a parting cheer for the Institute.

For many years this general plan of Class Day exercises was followed, with more or less variation. In 1873 a class oration was delivered for the first time, the custom of having a class song still being observed. Until 1885, the exercises took place after the regular exercises of graduation; that is, late in the afternoon of Commencement Day. They were held about the class tree, the location varying naturally and shifting to different parts of the grounds. In 1885, the Class Day exercises were held at 12 o'clock noon, immediately on the conclusion of the reading of the theses. This hour was chosen in 1886 and 1887.

In 1888, the exercises were held on Wednesday afternoon,
the day before Commencement. More elaborate preparations had been made than ever before. A platform for the speakers had been erected in the grove at the north of the Institute grounds and a band furnished music. The custom of holding the Class Day exercises on the Wednesday before Commencement Day, inaugurated in 1888, was followed for many years, and this day came to be looked upon as Class Day.

In 1890, the reading of the Class History was made a part of the program of Class Day. In 1891, a Class Poem was read, in addition to the Class Ode which was sung. In 1892, a Tree Oration was added to the Class Oration. In 1893, the Class Poem was given up, but a Banner Oration was added, also an Address to the Undergraduates. The Banner Oration dealt with the prowess of the Class in retaining the Cross Country Championship. This year the exercises were held on Monday, June 19, the Commencement exercises falling on Thursday, the 22nd. In 1892, Class Day had been on Tuesday. In 1894, Class Day was observed on Commencement Day, Thursday, June 21, at 2:30 P.M. The regular Commencement exercises came in the evening.

In 1895, the exercises were held on the afternoon of Commencement Day, the speakers departing somewhat from the formal orations of previous years and giving general discussions of various phases of their Institute life.

A Farewell Address was delivered as one of the features. In 1896, Wednesday afternoon was again chosen and the earlier form of orations was followed. A Class Prophecy was added. In 1897, there was no departure from the programme of the preceding years. In 1898, a similar programme was followed, but, as the day was
rainy, the exercises were held in the chapel, Boynton Hall.

The Class of 1899 held no Class Day exercises and succeeding classes held none through the Class of 1908. The Class of 1909 resumed the custom of holding Class Day exercises. Tuesday, June 8, was the day chosen, the hour being 2 P.M. A boulder with the class numerals was dedicated, a class tree was planted, a class oration was delivered, and the class history was read. The Class of 1910 held no Class Day, but instead gave a lawn party after the President's reception, Wednesday evening, June 7, and at midnight presented to the Institute the sundial which now stands on the lawn in front of Boynton Hall. The Class of 1911 held only a lawn party, its gift to the Institute being the Class of 1911 Scholarship. This scholarship, awarded under present rules to a resident of the State of Ohio, was first held by a member of the Class of 1917.

Class Day was revived by the Class of 1912 which held its exercises Wednesday afternoon at 2:30. There were the usual features on the program, the class oration, class history, class prophecy and ode. The class gift was a pledge to raise and pay the Institute the sum of $2,500, within three years, this amount to be a contribution to the Alumni Fund. Similar exercises were held by the Class of 1913, whose gift was a set of gates for Alumni Field. The classes of 1914 and 1915 also held their Class Day exercises, the hour being the same as in the two preceding years, 2:30 P.M., Wednesday, the day before Commencement. The gift of the Class of 1914 to the Institute was

The gift of the Class of 1915 was a pledge of $4,615., divided among various Institute activities.
The history of Institute Glee Clubs and their formal appearances has been given elsewhere in this volume. On several occasions, however, students at the Institute have attempted a more ambitious undertaking, in nature more or less dramatic.

The first of these attempts, referred to as the Tech Minstrels, took place in Horticultural Hall, March 25, 1892. It involved a chorus, soloists, the appearance of the Tech Banjo and Guitar Club, all assisted by a company of local instrumental performers called the Elberon Orchestra. Contemporary accounts speak of the performance in high praise.

The following year saw produced, May 12 and 13, in Worcester Theatre, a more ambitious affair. This was a musical comedy based on the old nursery tale and named from it "Jack and the Beanstalk"; it was often referred to as the Tech Burlesque. The music of the play was written or arranged by E. W. Marshall, '93, and he was really the author of the entire Burlesque. It was an unqualified success.

On the 26th and 27th of April, 1895, "Shylock, Jr." was given by Institute students with some outside assistance. W. S. B. Dana, '97, wrote the music, and the libretto was written by Harry W. Doe, a well known newspaper man of Worcester. Mr. Doe also took an active part in the play. The plot was borrowed with many changes from the Merchant of Venice. Musically and artistically a success, this play was certainly, though the financial returns, which were for the benefit of the Athletic Association, were not large.

The skill of Institute men as actors lay dormant from 1895 until the spring of 1911, when a play, "Eldern's Uncle", by a Tech
man, H. P. King, formerly of the Class of 1911, was produced April 29, 1911, in Worcester Theatre. The play was not perhaps of great merit as a play, but it called out a crowded house, and was a great success. This success resulted in the formation in the spring of 1911 of the Dramatic Association made up of members of the cast, managers, assistants, etc., to undertake the annual production of some form of dramatic performance. The association started with a handsome balance in its treasury, although its purpose is to aid other worthy Institute enterprises so far as it can, and, with this object in view, has already given money to the Tech News. Under its favoring auspices, successful performances have been given as follows: On May 1, 1912, in Worcester Theatre, "The Flirt", by C. A. Gray, who was connected with the office of the Institute, on April 11, 1913. "Man Proposes", by H. L. Tilton, of the Class of 1914, this also in Worcester Theatre; on March 26th and 27th, 1914, in Tuckerman Hall, Woman's Club Building, "Lost - A Fortune", by Windsor R. Davis of the Class of 1916; on March 25th and 26th, in Tuckerman Hall, "The House that Jack Built", by Windsor R. Davis, '16. Each of these plays was most creditably given and was received enthusiastically by large audiences. Each was a financial success, also, and the Dramatic Association was still further strengthened financially.

In this connection it may be noted that for several years Tech Night has been celebrated at one of the local theatres, practically all the seats in the body of the house being taken by Institute men and their friends.