

The

OPPI.



Vol. VIII.

Wednesday, April 27, 1892.

No. 2.

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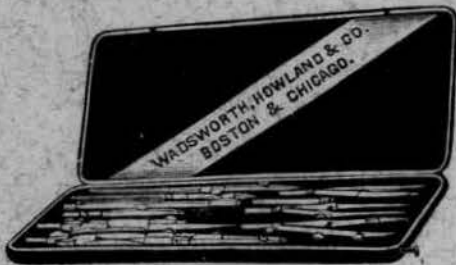
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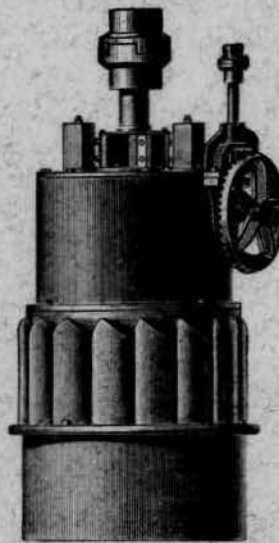
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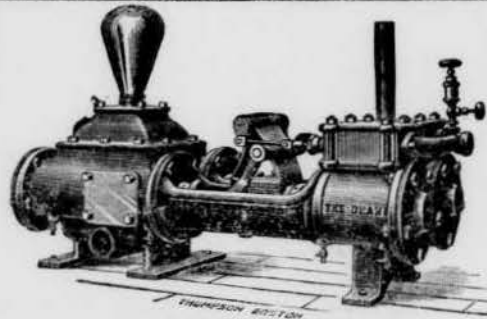
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# THE W P I

Vol. VIII.

WORCESTER, APRIL 27, 1892.

No. 2.

## THE W P I.

Published on alternate weeks, during the School Year, and devoted to the interests of the Worcester Polytechnic Institute.

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Judging from classes which recently have graduated from the Institute and from personal acquaintance with students, there is probably in the school to-day, quite a large number of men who intend to continue their studies elsewhere, after leaving here. To these there can be added a larger number who never have had the subject brought especially to their notice and consequently have never considered it to any great extent. With this in mind, the W P I editors have for some time been planning a series of articles upon the opportunities for Tech graduates at the various post-graduate schools, thinking that they would be a source of information to those already intending further study, matter for thought to those who have never given the subject consideration, and reading of interest to all. It is then with pleasure that we publish this week the first of the series, from the pen of the first editor of the W P I. The writer is not only a graduate from the Tech but also from Harvard, and is on that account especially able to write upon that University from a Tech standpoint.

The contributors have been asked to outline the courses to which a B. S. is eligible, the advantages offered in the way of apparatus and facilities, standing of the professors, the conditions of entrance, degrees offered and the like. It is expected that this week's article will be followed by others upon Johns Hopkins, Cornell, Clark and the German Universities.

The unexpected announcement which we are allowed to make in another column to the effect that Lake will at once begin coaching the foot-ball men, will be a pleasant surprise to all students. Last fall, owing to the unavoidable delay in commencing things, no coach was engaged until the season was nearly over and largely as a consequence of this the first eleven did not win a game. But with the squad training for a time this spring and steadily during the fall under the direction of such a player, a much more favorable season can be expected. Captain Allen is to be congratulated upon his success and every one should appreciate our common good fortune.

This fact also goes to emphasize another, which is that this spring sees displayed by the students a most unusual push in every form of athletics and every kind of school interest. The vigor with which things are being managed and the general awakening from the indifference heretofore existing are very noticeable and deserve comment. The formation of a Base-ball Association, the prompt arranging for practice and games; the overhauling of the Athletic Association and the largely attended meeting of a few days

ago; the new life shown by the Athletic Directors; the changes in the Tennis Club; the persevering manner in which the show was carried to completion; the Cross-Country Runs, and the commencement of Intercollegiate training—all these things point to a healthy revival which has long been needed. Now that the inertia is overcome, let the ball be kept rolling until we take the position in athletics that we ought.

The small attendance of students last Saturday was anything but an encouragement to the nine to play a winning game and to the Manager to arrange a promising schedule for the spring. Whether or not we can support a good team is as yet an unsolved problem, but one which will be answered negatively in a very short time if the substitute players, the Press, and the dead-head members of the W. A. C. are the only spectators at the games. Every one who is able should attend and give his money and help the cause. Let the base-ball enthusiasts have a fair chance and then if failure results, admit that we cannot play.

### HARVARD.

#### Opportunities for Tech Graduates at the Cambridge University.

KÖNIGSBERG IN PRUSSIA, March 25, 1892.  
TO THE EDITORS OF THE W P I,  
WORCESTER POLYTECHNIC INSTITUTE:

GENTLEMEN:—Your invitation to contribute to a proposed series of articles on the graduate schools of America finds me ready to respond with a few words on that of Harvard, considering it indeed a privilege to write in its behalf and to find a place again in your well-remembered columns. You suggest that I assume the position of advisor to some Tech B. S. desiring to continue his studies in broader lines than those necessitated by an engineering school and uncertain as to the place, the proper studies, or most desirable advantages to be sought. While much may be said in general, it is clear that such advice to be entirely satisfactory must be formulated to suit the needs of the individual. The average case, however, is that of the man with a decided interest in Chemistry, Physics, Political Economy

or Mathematics, desirous to increase his knowledge in his specialty and at the same time pursue, under a wise direction, a broad course of reading in Philosophy, History, Fine Arts, Literature, or the Natural Sciences, or in all of these, and at least to live in companionship with men who will bring him into a new atmosphere of thought through their greater interest in these subjects.

If the further study of his specialty for one or two years under able guidance were the only consideration of the Tech B. S., there could be from his starting point but little choice between either of the schools mentioned in your letter, namely, Clark, Johns Hopkins, Cornell and Harvard, for it is only when a student begins to specialize in his chosen field that he is competent or needs to choose between the masters. This, however, should not in any case be the only consideration or at first, at least, treated as of greater importance to the second. In the other subjects, however, the Tech is of necessity in no sense a graduate student. He takes up the elements side by side with the second or at most, third year undergraduate, his only advantage over the average in the class being perhaps in the discipline of his mind and the ability to work hard learned at the Tech. His need, then, is a university equally strong in its undergraduate and graduate schools as he is to be a student in both. Clark, then, avowedly a school for the advanced specialist only, is no place for him.

Between the other universities then he must make a choice. The advantages offered by any one of them are so many and so varied that there is certainly occasion for a careful study and comparison of their claims. I suggest that any student anxious to get absolutely the best for himself do this systematically, in so far as he can, by a careful comparison of the statements in their respective catalogues; that of Harvard and probably of the others also, together with the President's report for the year being at his service in the Public Library. Compare in this way the number and extent of the laboratories, museums, libraries and other buildings, the number of courses offered in any one department, and the number of professors engaged in conducting them, the number and amount of scholarships and fellowships available for graduate students and the advantages to be derived from the location of the university itself. Further than this, I also can have but little positive knowledge of either Johns Hopkins or Cornell and in justice to all must confine myself to my own experience in Harvard.

Cambridge can be reached from Worcester in less than two hours, and no Tech is, therefore,

excusable if he leaves before visiting the oldest and certainly in wealth of association the richest of America's universities. Certainly the heritage of two hundred and sixty years has given to Harvard something of value which money and erudition alone are powerless to obtain. It is this something, this life where the beauty and nobility of the long past goes hand in hand with the fulness and energy of to-day, this great power of association that we fellows, who have lived and must live so long with the new, need the most. Your first walk will say more to convince you than I in this connection. A man cannot view the Apollo in the Louvre without instinctively lifting his head and improving his form and a Harvard student cannot walk each day under the stately elms, past the old ivy-covered buildings, Appleton Chapel and Memorial Hall, eloquent through associations with the illustrious dead, or wander occasionally along the Charles, past the homes of Longfellow and of Lowell to Mount Auburn, where so many of them rest to-day, without a lifting of the spirit, an inspiration to better things, a resolve to be worthy of that Alma Mater who has honored him by enrolling his name with theirs.

And the past is not all dead as witness the names the catalogue shows upon the Faculty list and the power and activity of the Harvard Clubs from New York to California. A university with but twenty or thirty years of life cannot admit you to an alumni body of seven thousand members representing so much erudition, power and wealth.

If you are a chemist call on Prof. Jackson, if a physicist on Prof. B. O. Peirce, if a mathematician on either Prof. J. M. Peirce or Prof. Byerly, and these gentlemen will not hesitate to devote a few moments of their valuable time to advising you as to your specialty, or, better perhaps, choose from the graduate students some graduate of another college of two years standing in the University and calling upon him see how willingly and gladly he will advise and assist you.

On the way home then you will be in an excellent attitude of mind to meditate on the well-known phrase, "Harvard indifference." It sounds, in truth, for a real state of things, and differs only in degree from the indifference of the world at large. In a small college, the Tech for example, every man must pay, must attend the meetings, must be interested, and do all he can if the many and varied interests are to prosper. The result is, the active, aggressive spirits are continually probing and urging the others, arousing their dormant energies, bringing out their strong points, fairly lifting them into a place of importance. This artificial

stimulus, very good indeed for the dull, unambitious man, is entirely lacking in the world at large, and exists to a much less degree in Harvard and in the larger universities. A freshman might sit all day in the college square and no one would feel that the interests of Harvard required his being spoken to, except, perhaps, John the orange man. He might sing like an angel and never be asked to join the glee club, write an A essay every time and never be editor of the Monthly, be as eloquent as Cicero and not a member of the Harvard Union, yearn for advice and friends and find neither, if he folds his hands and waits for these things to come to him. Hide your light under a bushel, and few in the little world of a great university, or in the great world without, will take the trouble to remove the bushel. On the other hand, the man, with a little energy and ambition, prepared to show a lively sympathy with any one or all of the varied interests about him, will find a key to every door he is fitted to pass.

What will it cost? Nothing, or anywhere between this and two thousand a year. To make one's expenses as a student, advisable only in case of necessity, requires success both as a scholar and as a private tutor; in short, exceptionable ability and strength; but at Harvard it is a demonstrated possibility almost every year. No other university in the world will pay a tutor, however good, three dollars an hour, but I have received that at Harvard again and again. In scholarships and tutor's fees, Harvard has helped me to an average of \$500 a year for the last three years, and is now paying my university expenses in Europe, while other men are on the books who have received more than this in fellowships alone. Harvard says truly, in her pamphlet on expenses, that the records show it is rare that a man of good ability and money enough to cover his first year's costs, is obliged to leave his studies for lack of means. I paid out \$800 a year, about \$100 more than it cost me in Worcester, and I lived better at Memorial Hall, and in larger and more comfortable rooms. My gain in the credit column over Worcester is a simple matter of arithmetic. This indicates only the possibilities open to a *graduate* student in Harvard. Set your own pace, and if the standard is high you will find encouragement and inspiration all along the way, and more than one reward at the finish.

You ask me to suggest the best studies for a Tech, aside from his specialty. The wealth of courses will enable every man to consult his individual taste. Most men, I believe, would advise you, as Prof. Eaton did me, to know something of the History of Philosophy and the

Philosophy of History. Prof. James or Prof. Royce will help you to a start in the first, and, for the second, I believe Prof. Chas. Elliot Norton's "History of Roman and Mædival Art," for the student who will faithfully do the reading of the course, to be absolutely the best. It will be the best correction to a Tech's inordinate regard for the machine possible; it will start lines of thought for him in the realm of the ideal; help him to new standards of beauty, and so indicate the path to a just discrimination between the low and degrading and the high and elevating creations of man. In every department of literature he will find something attractive. Prof. Mark and Prof. Goodale will introduce him to the wonders of zoölogy and botany, in accordance with the modern methods that have made the first of these, at least, a model of progressive science, while Prof. Shaler needs no introduction to the man interested in geology.

Do not be tempted to take too much, and do well what you undertake is a good motto here as elsewhere. Spend two years, if you can; enter the Graduate School, make up the inevitable condition in Latin by passing in Latin A, convince the authorities, by your first year's work, that you possess the qualifications, ask them to determine the conditions for an A. B., and the end of the second year will find you stamped as one of those not very numerous and exceedingly fortunate men who have been able to command both a technical and a liberal education.

Hoping that I have touched upon points that will be of service, and leaving to the catalog and numerous special publications of the Graduate School to fill the blanks, I remain, with greetings to all,

Sincerely and faithfully yours,

J. BRACE CHITTENDEN, '88,

Kirkland Fellow in Harvard University.

#### A TECH IN A NEW BRANCH OF WORK.

Fred W. Speirs, '88, of Worcester, received the appointment last week of the directorship of the People's Institute of Milwaukee, Wis. Mr. Speirs, a few weeks ago was appointed university extension lecturer in economics at the University of Wisconsin and more recently has had the secretaryship of the State Board of Charities of New York offered him, which became vacant by the appointment of John H. Finley a Hopkins man, to the presidency of Knox College. Mr. Speirs, however, has finally decided to accept the Milwaukee position.

The People's Institute is an organization of the educational and philanthropic societies of Milwaukee for the promotion of education, better living, character and citizenship through-

out the community. For two years it has been in operation and with the acquisition of Mr. Speirs its scope will doubtless be greatly enlarged. In different parts of the city, reading, lecture and conversation rooms are maintained, and it also assists the public library in extending its advantages throughout the city. An employment bureau has recently been opened for the convenience of employers and employees, the fees of which are merely nominal. It also co-operates to a large extent with the University of Wisconsin in affording to Milwaukee a university extension course of study and instruction, most useful to the people in their industrial, political, intellectual and social life.

While at the Tech Mr. Speirs ranked well in his department, but was not much interested in his specialty of Mechanical Engineering. In the study of economics, which was far less developed and complete than at present, he took great interest under the instruction of Prof. Cutler, who was in charge of that department in the absence of Prof. Smith. He was quiet and thorough in his work and after leaving the Tech took a further course of economics and political science at Johns Hopkins University, at the expiration of which he taught for a short time as Prof. of History and Political Science in the University of South Dakota, returning later to Johns Hopkins for additional study.

The People's Institute is a peculiar institution and professors of the Tech are considerably interested in the efforts which Mr. Speirs will make in his new position. It is rather unusual for a Tech graduate to engage in this line of work and is an evidence of the constantly broadening character of the Institute. Since Mr. Speirs was here, Prof. Smith has by the introduction of the course in Physical and Political Science greatly enlarged the facilities for work in this direction and now the Institute is prepared to fit applicants for graduation in these special subjects, with little or no reference to the strictly technical work of the Institute. Mr. Speirs' success in obtaining the appointment at Milwaukee will probably cause many to regard the department of Physical and Political Science with more seriousness than heretofore and its usefulness may be greatly extended.

It has been said that the distinctly mechanical features of the Tech have been changing in recent years into something quite at variance with the ideas of the founders. This may be and doubtless is true to a certain extent. Those gentlemen could not see far enough into the future to imagine the demands which would arise in the course of the Institute's growth. They doubtless would be glad to see the oppor-



tunities which are provided for students to take up these studies mentioned, under the thorough and practical management and instruction of the Institute. It does not seem as if any efforts for the promotion of such courses were at all derogatory or at variance with the design of the Tech but rather tend to a natural and desirable broadening of the curriculum. They should not be and are not in opposition to the present course but go hand in hand and tend to the same end, namely—to thoroughly and practically fit the student for his life work, whether in the line of mechanics, chemistry, or economics.

### OHIO TECHS.

Messrs. Frank Aborn, '72, John G. Oliver, '82, and Windsor T. White, '90, have constituted themselves a committee of three to organize an Alumni Association of the Institute for the region about Cleveland, Ohio. They are at present awaiting the appearance of the new catalog in order to obtain addresses. It is proposed to hold the first meeting sometime next June, and any graduates who may be able to attend, are requested to put themselves in communication with some one of the above mentioned men.

### ALUMNI.

'81.—A conference which has had under discussion the means of preventing red rust in wheat has recently been in session in Adelaide, South Australia. It included delegates from New South Wales, Victoria, Queensland, Tasmania and South Australia. Among other persons who took part in the proceedings, was Nathan A. Cobb, '81, who is now a lecturer in a Sydney University. *The South Australian Register* of March 10th says:

"In the afternoon of the second day's session, reports on experiments were asked for, and Dr. Cobb presented one which indicated marvellous depth of research. He made many practical suggestions, and predicted that in five or ten years red rust would be a thing of the past, a prediction which was echoed by the other delegates."

'88.—J. B. Chittenden is at present in Königsberg, Germany. He has the companionship of Prof. Franklin of Johns Hopkins who is absent on a year's leave. They are both studying mathematics and are the only Americans in the city.

'90.—The engagement is announced of Paul B. Morgan to Miss Lessie L. Maynard of Worcester.

Chas. F. Treadway has recently accepted a position in the Openhearth Department of the Wellwan Iron and Steel Co., at Thurlow, Pa.

'91. J. A. Whittaker has the complete supervision of the construction of a new system of sewers for Westboro, Mass.

### NOTICES.

Owing to being unexpectedly left in the lurch by our "reporter" at the last minute, the following list is but partially complete.

- April 29. Friday, 8 P. M. Historical Club meeting and election.
30. Saturday, 3 P. M. W. P. I. *versus* Cambridge Manual Training School at *Grove St. Grounds*.
- May 2. Monday, 7.30 P. M. Meeting of Wasaburn M. E. Society at Laboratories.
- 5 P. M. Third Cross-Country Run.
4. Wednesday, 12 M. Meeting and annual election of W. P. I. Y. M. C. A.
- 3 P. M. Yale *versus* Holy Cross at Oval.
- 7.30 P. M. First Universalist church, Spanish entertainment and readings by Hezekiah Butterworth.
7. Saturday, 3 P. M. W. P. I. *versus* Yale Freshmen at Oval.

### COMMUNICATION.

#### A Case of Ingratitude.

Considering the kindness of students in giving the reporters of the city newspapers information concerning "Tech" affairs, the reward we received was rather surprising. I have repeatedly seen students stopped on the street and asked for news, which was always cheerfully given. Then a time comes when a little tact and judgment, to say nothing of granting a polite request from a fellow newspaper-man who kindly interfered (though in vain except in his own paper), would have prevented the temporary loss to his friends, and disagreeable consequences to himself, of a most popular member. But the greed for news, no matter what, was so strong that they selfishly printed things that would have been better overlooked, and of course this resulted in suspension. Then with remarkable assurance the reporter comes to this student to learn the particulars, saying he will print "something that will fix it all right," and when asked to do nothing of the kind, comes out with the elaborate production of last Sunday, the accuracy and vividness of whose

statements could only be surpassed by the author's imagination. I think it can now be seen that it will be far better if students will carefully guard all "Tech" news and let it appear in the W P I, rather than carry it to city papers which repay their trouble with such kindness as we have just seen. Another example of this eagerness for giving news was seen in the remarks concerning Chapel published a short time ago, which were disgraceful to the Institute.

X.

### INSTITUTE PARK.

This spot which has been so much improved and beautified by Mr. Salisbury, and which is closely connected with the Tech, is this spring and summer, through the generosity of the same gentleman, to receive several additional improvements.

It is expected in time, as was provided by the deed of gift to the city, that buildings for the Institute will be located on the park, and hence the Tech is especially interested in its improvement, not to mention the pleasure derived from its use by the students simply as a park. A stone tower of seam stone from Millstone Hill, 25 ft. in diameter and 30 ft. high, a close facsimile of the famous stone tower at Newport, is to be erected. In the centre there will be a circular iron staircase leading to the deck above.

The park proper and the island is also to be connected by a bridge with granite base and piers. It will be 200 ft. long and 10 ft. high, a very graceful structure, with a centre span of 40 ft. and two end spans of 32½ ft.

Three small pavilions 17 ft. square and a sanitarium will also be placed at different points. With these buildings the park will become one of the most handsome and enjoyable pleasure retreats of the city, and the Institute is to be congratulated on being in close proximity to this beautiful place.

### MEETING OF THE TRUSTEES.

#### Some Important Questions Decided. The New Shop.

The regular quarterly meeting of the Trustees of the Institute was held Saturday afternoon, April 16th, in Salisbury Hall, Messrs. Aldrich, Harrington, Salisbury, Rice, Garver, Lincoln, Washburn, Morgan, and Whitcomb, being present.

The questions which have been raised in regard to the undergraduate mechanical and electrical courses, and which were fully considered in the March number of the W P I, were decided briefly as follows:—

No student shall receive in one year more than one diploma, but he may take up as much

extra work in another course as he is desirous and capable of doing. Thus students who intend to graduate in the Mechanical Engineering Course and who make up all the shop practice may join the Electrical Engineers and take a part or the whole of the electrical work, and in the same manner students intending to graduate in the Electrical Engineering Course may take up the mechanical work. The scheme mentioned in the same issue of the W P I of allowing Mechanical Engineers who make up their shop practice to take up advanced work in the Laboratories and in machine design was considered as impracticable on account of the necessary facilities not being possessed by the Institute.

The question of the introduction of four-year courses, for which plans have been carefully prepared by the heads of the various departments, was referred to a special committee, and will probably come up for action at the regular meeting in June.

Some time ago a committee consisting of Messrs. Morgan, Salisbury, Whitcomb, and Washburn, was appointed to arrange for the drawing of plans for the proposed new shop building. They secured the services of Messrs. Earle & Fisher, architects, and the result of the work of these gentlemen was submitted at the meeting. The plans call for a building 100 feet long, 50 feet wide and 60 feet high, consisting of a basement and three stories, with a tower in front at the northeast corner extending one story higher. The structure will be located at the north of the Washburn Shops running from east to west. The superstructure will be of brick supported by a half-story of granite. The trimmings will be of brownstone except at one angle in the tower where there will be ornamental panels of terra cotta. Each floor will consist of one large room with passages into the corresponding room or floor of the present shop through automatic fire-proof doors. The interior will be finished in hard pine. The roof will be flat, covered with tar and gravel. Elevators will run from the basement to the top floor, and at either end of the building will be broad stairways.

The Board approved of these plans, and recognized the necessity for the erection of the building, but found the question of where the funds were to come from a difficult and as yet unanswered one. All will see that this problem must be settled before further steps can be taken. It is expected that at the June meeting the Trustees will find some way out of this difficulty and then building operations can be begun, and if the work is pushed, finished by October, so as to be ready for use next school year.

Some further business was done, the instructors and assistants were all reappointed for the ensuing year, and the appointment of an additional instructor in language authorized, after which the board adjourned.

### BANJO CLUB AT SHREWSBURY.

Last Friday evening five members of the Banjo Club went to Shrewsbury by request, to give an entertainment at the Grand Army Fair held in that town. They took the Worcester & Shrewsbury railroad to the Lake and thence were driven by team to the town, returning the same way. Their playing was favorably received and a variety of selections were given. Chambers, Dove, and Leland, '95, Ball, '92, and Boyden, '94, played together and Ball and Boyden appeared in a duet. They were followed by Chambers, Dove and Leland in a trio. Ball contributed a song. The musical selections were well rendered and deserved the hearty applause they received. Following the entertainment dancing was enjoyed until all were obliged to leave for the train.

### HISTORICAL SOCIETY.

Friday evening, April 15th, there was a good attendance at the first meeting of the society after the vacation, and the following papers were read:—"English Towns and Guilds," by R. B. Farwell, '93; "English Life in the Time of Edward III.," by E. L. Smith, '92; "Wycliffe and the Lollards," by L. P. Strong, '93. Scenes 2, 3 and 4 of Act II. and scenes 1 and 2 of Act III. of Richard II. were read.

On the evening of April 22d, a very fair number came together in spite of the bad weather, and those who came were glad they made the effort as the papers of the evening were especially able, and showed evidence of careful study and research. They were as follows:—"Battle of Cressy," F. B. Knight, '92, and "Morning Star of English Literature," A. D. Flinn, '93. After discussion of the papers by Profs. Cutler and Smith, scenes 3 and 4 of Act III. and all of Act IV. were read.

Next Friday, the play of Richard II. will be completed and papers on "The Black Prince," by W. J. Baldwin, '94, and "Watt Tyler and the Social Insurrection," by A. D. Butterfield, '93, will be read. As the weather is getting warmer and the time for athletics and sports has arrived, this will be the last meeting of the year and the semi-annual election of officers will occur. A nominating committee consisting of Andrews, '93, Mundin, '92, Prof. Coombs, Bishop, '94, and Baker, '93, will present a list of candidates.

The Club has had a very successful year of existence and now numbers about fifty members. The officers have been painstaking and careful in the performance of their duties, and several of the Faculty have by their assistance rendered the club valuable service. The work planned for the year has been carried out in a thorough and complete manner, and the Club may justly feel proud of it.

Every member is requested to be present next Friday as important business will be transacted.

The neat and plain notices which have appeared on the Club's bulletin board deserve mention, and other societies would do well to imitate the Historical Society in this respect.

### TENNIS CLUB.

#### New Constitution and Rules.

The near opening of the new courts and the changed conditions resulting, have made it necessary for the Tennis Club to repair its old Constitution which has had nearly ten years' wear, and establish definite rules regulating the use of the grounds.

Accordingly the Executive Committee was authorized to undertake the work, and at a meeting of the Club held last Friday noon, submitted a report which, with a few changes, was adopted. An outline of the more important points will be found useful for reference.

Any student may become a member by paying an initiation fee of two dollars. For this he receives a ticket which entitles him to all the privileges of a member until the 15th of Sept. of the following school year. On the 15th of each Sept. an annual fee of one dollar becomes due, on payment of which the ticket is renewed. All members not paying this fee before Oct. 1st, forfeit their membership.

The general affairs of the Club are in the hands of the Executive Committee which consists of the President, from Senior class, and one member elected from each of the other two classes, the election being held on the first Tuesday of the school year. The Executive Committee and three men appointed by them before the 15th of April, shall act as Wardens. Any action of the Executive Committee may be rescinded by a two-thirds vote of the members present at any meeting of the Club.

Limited tickets, to the number of twenty, good for one year, may be issued on the recommendation of the Executive Committee, and the payment of one dollar. These entitle the holder to the use of the courts whenever not required by members. It is expected that these tickets will be taken by children in the neighborhood (especially with Faculty connections), who will use the courts chiefly in the summer months.

Members may invite friends to play with them when other members are not waiting for the courts, but the Wardens have authority to prevent the abuse of this privilege. The Wardens have in charge the enforcement of the Court Rules, and at their request members must produce their membership tickets. No person wearing heeled or spiked shoes will be allowed upon the courts. Members finishing playing must return nets and poles to the place designated, unless they are to be immediately used. During the spring term, members from the Apprentice class shall have the first right to the courts between the hours of 5 and 6 P. M., on Mondays, Wednesdays and Fridays. All disputes regarding the use of a court shall be referred to a Warden for decision.

The Club now numbers about fifty members and has never had a brighter outlook before it. The model courts now being built will probably be ready for play by May 1st. Through the influence of Pres. L. C. Smith, the contractor was induced to make a liberal discount, so that the final bill will be about \$50, all of which has been raised.

### FOOT-BALL.

**Coaching to begin at once. Lake will do it.**

Capt. Allen has had a squad of raw material out for two nights now. The first night twenty-two men were found ready to risk their shins and in some cases their best clothes in a scrub game. Very little actual playing was done, the time being devoted chiefly to verbal instruction. The second night was devoted to practice in passing and falling on the ball, all of which is very helpful.

Butterfield, '93, is trying for half-back; Brigham, '95, for guard; C. P. Ware, '95, for tackle. There will probably be five or six places left vacant when '92 graduates, Tucker, full-back, Alderman and Bartlett, tackles, are all in '92, and one end player has left school. Southgate intends to take the post-graduate electrical course, but just how much time he can devote to foot-ball cannot be stated.

G. P. Davis, '95, for guard; H. Davis, '95, for half-back, and Hodgkins, '93, for tackle, are all showing up remarkably well and will stand a good chance for positions on the first eleven.

A week ago Saturday, Capt. Allen was in Boston and there met Lake. The result of the conference is that the Tech eleven will have the services next fall of the Harvard 'Varsity coach, and the most famous half-back in the country, for Lake although not to return to Cambridge as a student and to play on the eleven, will coach the crimson men, and will come to Worcester

two nights a week for the purpose of instructing ours. And still better news than this is that he will coach our squad this spring, and that too it is expected within a week.

### CROSS-COUNTRY RUNS.

**'94 Wins First Run by a Small Margin.**

The first cross-country run of the season was held Monday, April 18th. The course was from the boat-house, Institute Park, to Barber's Crossing and return, a distance of  $4\frac{1}{4}$  miles. A few minutes past 5, Referee Z. W. Coombs sent off 36 men in a bunch. The air was cool and bracing, and were it not for the dust would have been nearly perfect for the run. A fair sized crowd, mostly of young ladies, watched the start.

A short distance from the scratch, Gallagher, '94, took the lead and set the pace to the turn and for about half-way back; E. L. Smith, '92, hung to him doggedly however, and the last half of the home stretch it was nip and tuck between them. Smith was in better condition and won by 80 yards. Time 25 m. 35 s. Meanwhile Baker, '93, was pushing Gallagher hard for second. "Midge" was too much for the Middler however, and came in second by two or three hundred yards. Baker, '93, O'Connor, '95, and Butterfield, '93, won third, fourth, and fifth, respectively. Then came Wellington, '95, Derby, '93, Harris, '94, Farwell, '93, Allen, '94, Heald, '94, Eastman, '94, Kuwada, '93, Southgate and McFarland, '95. F. W. Parks, '95, broke into a beautiful sprint after leaving Park avenue, passing six men before reaching the line as number 16. Freed, '92, Andrews, '94, Chambers, '94, Vaill, '93, completed the list.

The first ten secured ribbon prizes, and the first twenty obtained points for their class to the number of 21 less the number of their place at finish. The three winning the most points in the three runs will receive gold, silver and bronze medals respectively. The score by classes was:

'94, 73 points.	'95, 37 points.
'93, 69 points.	'92, 31 points.

Instructor Coombs was referee. The judges at the turn were Strong, '93 and Eaton, '94.

The directors of the Association intended to have the last two runs handicap. The matter was brought up in a class meeting of '93, when it was argued that the handicap would destroy much of the class interest. The Directors were asked to make the run scratch but refused. Then the requisite fifteen members asked a meeting. Pres. Fish called one April 21st. Remarks were made against handicaps by a number from '92 and '93. Southgate, in behalf of the Direc-

tors argued in their favor, saying that the class banner and class feeling was a "side issue." A rising vote to abolish handicaps was carried 56 to 27, thus securing the necessary two-thirds by one vote.

#### SECOND RUN.

##### '93 Comes to the Front by the Same Margin.

The second of the cross-country runs was held last Monday afternoon with the weather as perfect as could be asked. The handicap and anti-handicap discussions had created a good deal of class interest and everyone was thinking of the comparative chances of '93 and '94. It was 5.16 when Referee Coombs, having been dismissed from Faculty meeting, gave the word "Go" to a row of 52 bare legs and a pair of overalls. Those at start were: E. L. Smith, '92; Starbuck, Kuwada, Vaill, Butterfield, Baker, Goodrich, Metcalf, and Paull, '93; Linnell, Eastman, Bickford, Burt, Davenport, McFarland, Chambers, H. N. Smith, Fuller, '94; Harrington, Wellington, Clapp, O'Connor, Fuller, Parks, Brigham, F. W. Smith, '95. At the outset E. L. Smith sprang to the lead with Starbuck close to his side and McFarland next. At the Boulevard turn Butterfield had come up, and with O'Connor, was running nearly even with Smith. Then the bunch silently sped along the avenue and soon were lost to sight round the turn. About twenty minutes later the advance of the procession again appeared and just 23 m. 29 $\frac{3}{4}$  s. after the start, '92's only runner scored his twenty points, with Baker about seventy yards behind him. The time last year was 24 minutes. Eighty yards space and then Starbuck, with Butterfield and Davenport a short distance back. Then came Burt, Wellington, Farwell; and Fuller, '94, in a close sprint with Bickford, the former winning by a few inches. Eastman, Chambers, Vaill, O'Connor, Kuwada, Goodrich, H. N. Smith, Harrington, Clapp, and McFarland the last man to score, was then the order. Sometime after this a commotion was noticed down the road, and Metcalf and Brigham came up at a hundred yards gait, to the immense amusement of the spectators. Their delicate forms were close together but Brigham's jumper was too much for Metcalf's smile, and won by a foot—one of Brigham's.

The run was very successful and created much interest. The score by classes was as follows:

'93, 86 points.	'95, 26 points.
'94, 78 points.	'92, 20 points.

The standing of the classes now from both runs is:

'93, 155 points.	'95, 63 points.
'94, 151 points.	'92, 51 points.

The first six men in the lead for the gold, silver and bronze medals are: E. L. Smith, 40 points; Baker, 37; Butterfield, 33; Wellington, 29; Farwell, 25; O'Connor, 24. Many of the best runners, especially from '94, did not enter because of base-ball and Intercollegiate training.

The next and last run occurs Monday evening, and probably will be quite exciting. It is to be hoped that students having bicycles or teams will take pains not to go before the runners, as it is extremely uncomfortable to run and breathe in clouds of dust. Last Monday the riders, for the sake of nothing but curiosity, made themselves a decided nuisance to all contestants, and there was much complaint because of it. There should be no more trouble from this source.

#### TECH, 22; M. H. S., 12.

##### First Victory for Techs on Worcester Oval.

About seventy-five people, including some fifteen ladies, were present at the opening game of the Tech base-ball season which was played with Melrose High School, April 23rd. The Melrose boys have put up a strong game in past years, being the champion High School club of the State.

But they did not play good ball here. For two innings it looked something like playing, but in their half of the third, the Techs pounded the ball at pleasure. Six runs were made in this inning, and after that it was simply a question of how big a lead we would have at the end. Neither side put up really first-class ball, but our boys have shown that they are capable of better things than have developed for some years. And however the Melrose boys played it may be said that the Tech has never had a more manly set of opponents in any contest whatever. There was no kicking nor guying of any sort. It was a perfect game as far as that goes.

The game was called at 3.50 by Umpire McAleer, with the Techs at the bat.

In the first inning Gordon made one run on a base hit, stolen base and two errors, when Melrose came to the bat and succeeded in making three runs chiefly through errors by the Techs.

Perkins opened the second with a two-bagger, Dillon followed by a single to centre, and Gallagher brought both in by a base hit and came home himself on passed balls. Melrose then made two more runs by a clean base hit by Harmon, base on balls for Sears, scratch hit by Sanford, and a succession of errors.

Sears was severely pounded in the third inning, Perkins making another two base hit and

Culley a home run. The Techs piled up six additional runs, and when Melrose came to the bat, Lincoln was behind it and they earned a 0.

Score, Tech 10, Melrose 5.

A three-bagger was made by Perkins in the fourth inning, and the Techs added three to their score, while Melrose added one through Curry, aided by Umpire Magee's questionable decision.

Melrose shut the P. I. boys out in the fifth, and in turn went out in 1, 2, 3 order.

In the sixth, through errors by Melrose, and well placed hits by Lincoln, Allen and Whipple, the Techs obtained three runs, while Melrose went 1, 2, 3 again.

Score, Tech 16, Melrose 6.

M. H. S. made three runs in the seventh, and shut out the W. P. I. Sanford lined out a two base hit, sending in two runs.

Five more scores the Techs now made while M. H. S. again took a 0.

In the last inning Culley made the last Tech run, starting with a base on balls, and coming home on Gordon's hit. The Melrose boys, however, made their score a round dozen by some pretty hits and by our poor playing in the field, and the game belonged to the W. P. I.

#### Score, 22 to 12.

The score follows:—

	TECH.							
	A.B.	R.	IB.	T.B.	S.B.	P.O.	A.	E.
Whipple, r. f.,	6	0	1	1	1	2	0	0
Gordon, c. f.,	5	3	3	3	0	2	0	0
Stone, l. f.,	6	0	1	1	1	0	0	0
Harris, 3b.,	6	2	0	0	0	1	0	0
Perkins, 1b.,	6	3	3	7	0	14	4	3
Dillon, 2b.,	5	4	2	2	0	3	3	1
Culley, s. s.,	5	4	2	2	1	0	1	1
Gallagher, c.,	2	2	1	2	0	2	1	3
Lincoln, c.,	4	2	1	1	1	2	1	2
Allen, p.,	6	2	5	5	0	1	8	2
Totals,	52	22	19	24	4	27	18	12

	MELROSE.							
	A.B.	R.	IB.	T.B.	S.B.	P.O.	A.	E.
Sears, p., s. s.,	4	3	0	0	0	3	6	3
Gilchrist, l. f.,	5	2	0	0	0	0	1	0
Sanford, s. s., p.,	5	3	1	2	0	2	7	1
Barker, 2b.,	5	2	1	1	0	2	2	0
Wilbur, 3b.,	5	0	0	0	0	1	3	4
Dempsey, c.,	4	0	1	1	0	10	3	4
Harris, c. f.,	5	0	0	0	0	0	0	0
Curry, 1b.,	4	1	0	0	0	9	1	2
Harmon, r. f.,	4	1	1	1	1	0	0	0
Totals,	41	12	4	5	1	27	23	12

	1	2	3	4	5	6	7	8	9
Innings,	1	2	3	4	5	6	7	8	9
Tech,	1	3	6	3	0	3	0	5	1-22
Melrose,	3	2	0	1	0	0	3	0	3-12

Earned runs—Tech 8. Two-base hits—Perkins 2, Sanford. Three-base hits—Perkins. Home run—Culley. Passed balls—Gallagher 6, Lincoln 5. Dempsey 6. Wild pitches—Allen 1, Sears 3, Strucko ut—By Allen 4, by Sears 3, by Sanford 2. First base on balls—By Allen 3, by Sears 2, by Sanford 1. Stolen bases—Whipple, Gordon 3, Stone, Dillon, Culley, Allen, Sears, Barker 2, Dempsey, Curry. Umpires—W. A. McAleer of Worcester, G. Magee of Melrose.

## TECHNICALITIES.

H. Eat thinks thermometers can not have degrees until they are graduated.

We learn in Steam Engineering that the four men on one end of a-tug-of-war rope act like "Staples" driven into a post.

Tuesday evening, April 9th, a practice game of base-ball was played with the High School on Bliss' Field. Score, W. P. I., 10; W. H. S., 4.

The barber opposite the Institute was seen to hurriedly close up and depart the other afternoon when he perceived H-mm-nd, '92, coming in his direction.

The mind of one of our Professors must have been running on dogs when he said recently, in describing a Grove cell, "Inside of this is a *chorus pup*." [porus cup.]

The Seniors have chosen Joseph H. Wallace for class poet,—surely Joe is a jack-of-all-trades. Anything from base-ball to poetry seems to be his avocation.

The Japanese maidens will repeat their drill as part of an entertainment to be held in Horticultural Hall, May 9th, for the benefit of the Odd Fellows' Home.

H-w-rd, '93, spent fifteen minutes, amid much suppressed mirth, in trying to see the galvanometer through a telescope after the cap had been put on by another student.

A certain Middler forsook the delights of art enjoyed in the F. H. Drawing-room and devoted the time to losing the superfluous vegetation of his cranium, saying, "I got two cuts at once."

Owing to the natural aptitude of the editors for the study of Steam, our last number stated under mention of the Holyoke trip, that 13.7 lbs. of coal were used per horse-power by the Wheelock engine. It should have been 13.7 lbs. of water.

Truth is stranger than fiction. *Student* [reading from written translation]:—"Hans also did not yet even once, etc." *Professor* [at conclusion, and absolutely serious]:—"Didn't you leave out one adverb at the beginning of that sentence?"

Andrews, '93, has made a remarkable scientific discovery in the shape of a fossil, at the old Coal Mine. It is at present in the hands of Dr. Fuller, and if examination proves it O. K., the name of Calvin H. Andrews will take its place in the annals of fame as a mineralogist.

Cornell has this year followed the example of other universities and will hold a summer school. Classes will be held for about six weeks beginning in July, and the leading members of the Faculty will give instruction.

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## HARVARD, '95, 23; W. P. I., 11.

The Tech team accompanied by several students left the city Tuesday on the 1.40 train for Cambridge. The game was called at 4 P. M., with the Techs at bat, and by the way the freshman pitcher was pounded it looked bad for H. U., '95. If we could have only kept up our work it would certainly have been another victory for the team. The loss of the game may be attributed wholly to the battery. Abbott started out to pitch but his arm was too lame to continue for more than one inning. Then Allen relieved him and continued for four innings, when he also gave it up for the same reason. At the beginning of the fifth, Stone who has not pitched before this season, came in from left field, Southgate taking his place. Stone pitched a good game considering his lack of practice.

The weakest place on the team was behind the plate. Lincoln who began could not seem to hold the ball, and Ware who replaced him at the end of the second inning was no improvement. The freshman ran bases at will. Harris at third also had an off day. He should be taught to make at least an attempt for a ball that comes in his territory. His playing looked more like individual than team work.

The rest of the team played as good a game as could be expected under the circumstances. The playing of Gordon at centre, and Culley at short, was especially good.

Gordon was first man at bat and lined out a hit to centre, Stone was given his base on balls and Hammond reached first on an error by McAdams. Perkins sacrificed and Gordon came home on the hit. Dillon reached first on an error, Stone coming home. Phelan fumbled Culley's grounder and Hammond came home. Harris fouled out to McAdams. Lincoln reached first on an error and the bases were full. Abbott close the inning by striking out. For the freshmen, Cassatt flied out to Perkins, Dreyfus hit to short left but was forced out at second by Whittemore. The later stole second and third. McAdams closed the inning, Dillon to Perkins. Score, Techs, 3; Freshmen 0.

In the second the Techs went out in one, two, three order. The Freshmen made two runs on hits by Phelan and Walker and errors by Stone and Lincoln.

In the third, fourth and fifth the Techs failed to score, but the freshmen kept on piling up their score, making three in the third on three hits and errors, seven in the fourth on a base on balls, four hits and three errors, and four in the fifth by about the same kind of playing. In the sixth, Dillon reached first on an error, coming home on a three-bagger by Culley. Harris

sacrificed, Culley scoring. In their half the freshmen added two more to their score.

Gordon led off in the seventh and got his base on balls. This, with hits by Perkins, Dillon and Culley, and three errors aided the Techs in piling up five runs. The freshmen increased their score to twenty-one on hits by Rogers, Reed, Dreyfus and Whittemore. The Techs did not score again until the ninth when Perkins led off with a hit and aided by a sacrifice and an error brought in the eleventh run. In the last half of the eighth Phelan and Walker got in runs swelling the score to twenty-three.

## The Score.

	W. P. I.						
	A.B.	R.	IB.	S.B.	P.O.	A.	E.
Gordon, c. f.	4	2	1	1	5	0	0
Stone, l. f., p.	4	2	0	1	1	6	1
Hammond, r. f.	5	2	1	1	0	0	0
Perkins, lb.	5	1	1	1	9	0	0
Dillon, 2b.	5	2	1	0	2	3	1
Culley, s. s.	5	2	2	1	1	3	1
Harris, 3b.	5	0	2	0	2	3	4
Lincoln, c.	1	0	0	0	1	0	0
Ware, c.	3	0	0	0	3	3	3
Southgate, l. f.	2	0	0	0	0	0	0
Abbott, p.	1	0	0	0	0	1	0
Allen, p.	1	0	0	0	0	2	0
Totals,	41	11	8	5	24	21	10

## HARVARD FRESHMEN.

	HARVARD FRESHMEN.						
	A.B.	R.	IB.	S.B.	P.O.	A.	E.
Cassatt, s. s.	6	2	2	0	4	3	4
Dreyfus, l. f.	5	2	3	0	1	0	0
Whittemore, 3b.	6	3	3	1	3	3	1
McAdams, c.	5	3	0	0	5	0	4
Phelan, 2b.	6	4	4	2	1	0	2
Wadsworth, c. f.	6	4	2	2	2	0	0
Rogers, lb.	6	2	4	0	11	0	0
Walker, r. f.	6	2	5	1	0	0	0
Reed, p.	5	1	2	0	0	7	0
Totals,	41	23	25	7	27	13	11
Innings,	1	2	3	4	5	6	7
Freshmen,	0	2	3	7	4	2	3
W. P. I.,	3	0	0	0	2	5	0

First meeting of the M. E. Society to be held May 2d. Records of formation and list of charter members to be read, and Pres. Fish, '92, will give an address. Papers by W. W. Bird, '87, on Internal Stress in Castings; by E. F. Miner, '87, on Problems relating to finishing a Monolith for West Point, and by G. I. Rockwood, '88, on 2-Cylinder vs. Multi-Cylinder Engines, and a topical discussion of questions on Clearance suggested by W. V. Lowe, '81, will fill out the evening. All papers are open for discussion.

The sub-committee of the N. E. I. A. A. appointed to amend the Constitution of the Association, held a meeting in Springfield, April 13th. They voted to recommend dropping from the program the tug-of-war and standing broad and high jumps and changing the two-mile bicycle race from ordinary to safety bicycles. They also advised awarding the Championship by points, five for first prizes, three for second and one for third, instead of wholly by first prizes. The report of this committee will be acted upon at a meeting of the Association to be held the night after the sports.



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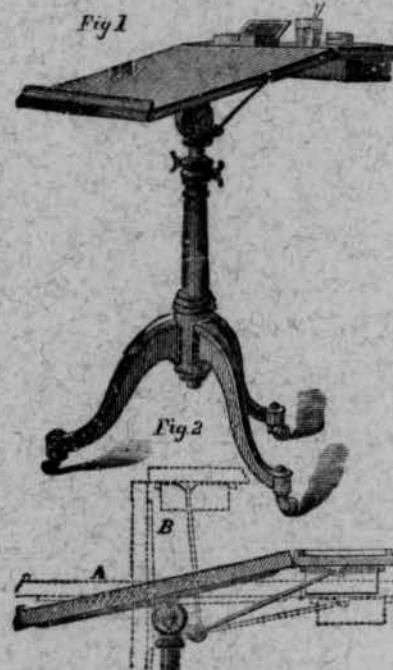
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