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286 Main Street, Opp. Bay State House.
With the last issue the Senior editors severed their connection with the WPI, and the paper is now in the hands of Ninety-five. Mr. Hapgood needs no introduction to most of the students here at the Institute; it is sufficient to say that his associates believe that under his guidance the paper will have a successful career. It is said that the new board intend the inauguration of no new policies, and that the purpose of the paper will remain the same as heretofore: to represent the student opinion and to assist, in so far as lies within its power, in the healthy development of the Institute.

The paper has long suffered from a lack of support on the part of what might be termed its legitimate clientele, and the new board intends to secure this co-operation of Tech men, both student and alumnus, that the WPI deserves. No paper can be a success unless it has financial support. In this respect the results of last year are none too encouraging, and unless the support is increased it is doubtful if the paper can long continue free from debt, as it now is.

No work at the Institute requires more sacrifice, wins less acknowledgment, nor is of more value, than that done on this paper. Now that it is over, only feelings of gratitude and pleasure remain. The WPI will always be remembered with the greatest affection, and its progress watched with the keenest of interest. 

JOHN M. GALLAGHER.

The Aftermath of '94 is before us, unchanged in form and general appearance from the one of last year, it being the intention of the editors to make it an annual of the Senior class. The engraving and printing are excellent, while the binding is at once unique and significant. It is, on the whole, an excellent one and a credit to all concerned.

Many have thought that the ruling of the Faculty would make the book dull and uninteresting. This is a mistaken idea; for, while the book is free from many of those personal grinds that have made so many of the former annuals objectionable, every one of the Faculty is remembered.

It is unusual for the annual to appear before Commencement and the move of this year's board is an excellent one, and one that will undoubtedly be followed by future
boards. The advantages of having the annual out in the spring term are many. As stated in the introduction, the time for work on theses and examinations is not interfered with, and the financial part can be settled before graduating. To these advantages already mentioned it might be added that the number of books sold the student-body is increased, and that the benefit which the advertisers derive is made greater.

Again we say that the Aftermath of '94 is an excellent one, and a copy should be possessed by every student in the Institute.

We desire to call the attention of Ninety-six to the fact that there is a vacant editorship from that class, which will be filled at the next regular meeting of the Board, held the last of this month, and it is our desire that there may be many candidates for the position. Candidates for this or future editorships are at liberty to select their own work, reporting games, etc., or we will assign the subjects; it makes no difference to us, only we reserve the right to publish any articles so submitted. It should be remembered that the selections are made impartially, the ability of the candidate alone determining his election.

The college journal is admitted by all to be the best training school for regular newspaper work, and work on the WPI gives experience that can be obtained in no other way excepting on the staff of a newspaper, while the work of the editors is so assigned, that no one is obliged to spend an unreasonable amount of time in the performance of the same.

The result of last Saturday's game is by no means discouraging. To be sure, we did not win, but in such a game there is little more credit in victory than in defeat. That it was the first game of the season for both teams was plainly evident.

The game has proven three things: first, that the nine is made up of heavy hitters; second, that several of the players need to have a more intimate knowledge of the fine points of the game; and third, that there should be one captain, and but one. Nothing gives a team a more juvenile appearance than to have all the players continually kicking against the umpire's decisions. This is the captain's business, and his only. The sooner the players appreciate this fact, the better will be their playing, and their appearance to outsiders.

We do not believe that it has ever been the intention or desire of any fraternity or society in the Institute to control, wholly or in part, any class or college elections. But many repetitions of the course taken by Ninety-four at her recent election for class-day officers will soon lead the fraternities to combine and get control of whatever they desire. That Ninety-four should deliberately oppose all fraternity candidates, simply because they were such, casts considerable reflection on the Class.

We take pleasure in presenting to our readers in this number a short account of the Manual Training Teachers' Association of America. The article was written for the WPI by the president of that association and cannot fail to be of especial interest to those interested in manual training.

FREE DRAWING.

Sometime in '85, chancing to meet Mr. William Fuller, '84, he called my attention to the WPI and frankly told me that I should subscribe. I did so on the spot and I owe him a vote of thanks because of it. By means of it old associations have been revived and constantly kept alive. After reading the succeeding numbers of the paper I resolved that it deserved to be supported. I determined that I would do by every alumnus I might meet, as nearly as I could, exactly what Fuller had done for me, and that, from time to time, I would lend my hand to the Editors.
The first I have attempted whenever and wherever the opportunity offered; the second has been one of those things that I have thought I could better do to-morrow, and not one hand's turn have I done to this day. Every mention that has been made in the columns of the WPI in all these years concerning drawing, has prompted me to write in order to say a word for my hobby, or at least to say something. But "to-morrow" has always been a better day.

Now I am told that the Editors have adopted a new plan. Some of us have been complaining, with the result that different alumni in the various localities have been especially appointed to give the boys a nudge. Mr. Francis W. Treadway, '90, dropped me a line some time ago telling me that he was to be the monitor and that he wanted "items." "More power to his elbow," said I, and I put it off till "to-morrow." Today he sends Mr. Windsor T. White, '90, to me requesting that I send something for the WPI; I said I would and here goes. Let us have more Treadways, more Fullers, and more Whites all along the line.

As I have not the copies of the WPI at hand which contain mention of drawing, I will not attempt to answer any question nor to refute any argument that has been raised in times past, but will simply make note of such thoughts as the subject suggests to me. In several of the articles that are dimly registered in my mind complaint is made of the Faculty. Some blame the Faculty because it does, and some condemn it because it does not. Now that is right. I am with the boys when they strike at the Faculty, because I am a very vulgar portion of a faculty myself, and I like to see the other part get a gentle reminder when it needs it. There is nothing selfish about that.

But Free Drawing is an elementary study, and I question if it has any right in the curriculum of a polytechnic institute. If a student has been through the elementary and intermediate schools, and has failed to acquire a practical command of Free Drawing, it proves one of two things: either he is marvelously stupid, or his teachers have failed to do him justice. Free Drawing is one of the simplest subjects to teach as well as the easiest to acquire if properly approached.

A drawing is made of lines which have only length. If the student intelligently observes the relative proportions of their ends he will intelligently locate them. If he can do this in one instance he can always do so and thereupon he possesses the capability to draw anything at sight.

Learning to draw requires no special intellectual endowment. No other mental constitu-

tion is required than the capability to comprehend the advantage of the employment of the same common sense to drawing that is necessary in every other pursuit. If this is true, if learning to draw is so simple a matter, it will be asked: Why so few people learn it. The answer is not far to seek. The fault lies with the teachers and not with the pupils. Instruction in drawing almost invariably begins at the wrong end. It is the rule among teachers of drawing to postpone the study of foreshortening, rather than to begin with it at once, as they should. It is commonly thought that the drawing of foreshortened forms is most difficult, and not to be attempted until considerable skill has been developed, all of which is true. But education is not forwarded simply by doing, no matter how perfect the execution. It is only in the degree that doing provokes more effective thinking that it is educational.

By beginning, as is the common custom, with flat copy, or imitation exercises, and gradually advancing from the simplest to what is regarded as most difficult, the novice is led through an almost endless series of insipid exercises that destroy the intellectual appetite and frustrate the very end they are blindly planned to attain. Where such processes are pursued—and the places where they are not are rare indeed—the necessity, as well as the incentive, to thought are well nigh eliminated. The pupil becomes inattentive and heedless, or, more probably, he drops what he styles "baby-play" and gives up trying to learn, rather priding himself on his lost "talent." This is utterly wrong and entirely avoidable. What the beginner needs is not first to "do" something, nor to "make" anything, but to understand both the nature and purpose of what he attempts. When the teachers of drawing comprehend this and act accordingly, every freshman will as certainly possess a practical command of drawing as he is expected to have fair capability in English composition. When such a time comes—and it will not long be delayed—Prof. Gladwin and his kind will no longer be called upon to waste their energies on other people's bad jobs. Freshmen will not enter the drawing-room with the conviction, born of sad experience, that time spent in Free Drawing is wasted. But each one will approach the drawing-table with a clear understanding, a firm conviction of his own powers and deficiencies, and a thorough determination to improve every moment.

And a word as to how this is to be done. If, instead of "doing" drawings, the pupil is induced to use drawing, and every picture is made for an end outside of itself, every exercise may be as incisive as the blow of a well-directed
hammer. If in the beginning, the pupil is called upon to use drawing as a means of describing two objects, both of which stand more or less nearly in his line of vision and if he tries to describe, by drawings, different objects, parts of which are much foreshortened, his attention will be most effectively centered upon that radical difference between the drawing and what it describes. He will then correctly regard the drawing and its office. He will understand that the existence of square corners in an object is not a sufficient reason why there should be right-angles in the picture.

When the pupil reaches this stage—and no one need be long in doing so—he is intelligent in what he attempts. When he draws, he looks at the object to discover how it can be described, and ceases to look at it to find out how to reconstruct it or to reproduce it on paper.

But even this is hardly a practical accomplishment. Except it is carried farther than this, except something more is attained than the mere accomplishment of facility in object drawing, it had almost been as well that nothing at all had been done.

The ability to draw from the object is of little, if any value, except to the professional draughtsman or artist. In practical life the presence of an object that happens to be under discussion renders a drawing of it superfluous, and no one will take time to draw it. But in discussing an object that is not at hand, its description in lines is always helpful and many times it is indispensable. At such times, he who possesses the capability to draw from the imagination has an added practical power at his command, which will be constantly called into requisition. Its acquisition is attainable by all, and candidates for admission to all higher institutions of learning should be required to possess it.

Cleveland, Ohio.  

FRANK ABORN.

THE M. I. T.—W. P. I. GAME.

The ball team opened the season on Saturday last, playing Mass. Institute of Technology team on the South-End grounds in Boston. The day was cold and far from an ideal one for baseball, and the attendance—which was less than 300—was made up almost entirely of Boston Tech students. The only disagreeable feature of the game was the umpiring, and that was decidedly poor. The man who officiated in that capacity bore the name of Sullivan. He is an outclassed league player, and is at present coaching the Boston Tech nine. He pretended to call balls and strikes, while his associate looked after the bases. It was too strong a combination for Captain Zaeder's men and so they were defeated, but only after a hard struggle.

The game commenced with the Worcester team at the bat. Philpot was the first man up and got his base on balls, immediately stealing second. Knowles struck out, but the catcher muffed the ball and Knowles was put out at first. Philpot stole third base and scored a moment later on a passed ball. Zaeder reached first on the right fielder's error of his fly. Gordon, the next man, knocked to Murphy, but in the latter's anxiety to make a double-play he threw wild and both were safe. Bunker struck out and Harris got his base on balls. The bases were then full, but Cullen was not equal to the occasion, and struck out.

For the M. I. T. men, Mink was given his base by Abbot. Murphy went out on a fly to right. Then both Dunarsque and Fitts made hits to left, Mink in the meantime coming home from second and being safe on a close decision. Rawson hit over first base and Dunarsque scored. Then Thomas hit to Abbot, who fumbled, and the batsman was safe at first, while Fitts scored. Burnett hit to left, bringing in Rawson. Prince sacrificed to Cullen, and Thomas and Burnett scored. Howland hit a grounder to Abbot and was out.

Score: M. I. T., 6; W. P. I., 1.

In the second inning, Fisher got his base on balls. Abbot struck out. Fisher reached second on a passed ball, and scored on Philpot's two-base-hit. Philpot stole third and Knowles again struck out, but the catcher fumbled the ball and Knowles was safe, while Philpot scored on the throw to first. Zaeder waited for four bad balls. Gordon made a two-base-hit, sending Knowles in and advancing Zaeder to third. Bunker flied out and Harris fanned the air.

Mink reached first on a pop fly which fell between Gordon and Cullen. Then Murphy hit a fly to Gordon, but that player misjudged it and the batsman was safe. Dunarsque struck out. Fitts hit a hot grounder to Abbot who fielded to Knowles in time to catch Mink. Zaeder put Rawson out unassisted.

Score: M. I. T., 6; W. P. I., 4.

In the third inning, the Worcester men made six runs. Cullen the first man at the bat, sent an easy one to Rawson, but he overthrew and Cullen was safe. Fisher hit to short, but it was fumbled so Cullen reached third and Fisher second. Abbot hit to second and Cullen scored. Philpot popped a fly to right but it was muffed, thereby allowing Fisher to add another run to the W. P. I. score. Knowles banged out a two-bagger, bringing in Abbot and Philpot. Zaeder was retired, pitcher to first. Gordon drove a liner to left, Knowles scoring. Bunker hit safe-
ly, and Gordon brought in another run. A moment later, Bunker was caught napping at first. Harris hit safely to first but was put out in attempting to steal second.

Thomas reached first on a fumble and was advanced two bases on Burnett's hot drive past Zaeder. Prince sacrificed to Zaeder, Thomas scoring. Howland's hit went by Knowles and Burnett scored, Howland going to third on the throw home. Mink hit the first ball pitched to Harris, and was out. The next ball Murphy hit to the same place, Harris making a grandstand catch.

Score: W. P. I., 10; M. I. T., 6.

The fourth inning opened with Hayward in the box and Thomas behind the bat. The Boston men had also made one or two other changes. In this inning it began to look as though the Worcester players would never get home alive. Cullen was hit and took his base. Fisher shared a similar fate. Two passed balls let Cullen score and Fisher reach third base. Abbot was given first by Hayward, as was also Philpot. Knowles was hit, and thus Fisher was forced home. There were now three men on bases and no one out. Zaeder could do nothing and struck out. Gordon went out on a foul fly; Bunker hit an easy one to the first baseman and was out, leaving the bases full.

Fitts hit to Abbot and was retired at first. Rawson, the next man, was safe on a close decision. Thomas's hit netted him three bases, Rawson reaching third. A passed ball brought them both home. Cullen's muff of Burnett's grounder allowed the batsman to reach his base. He stole second. Prince struck out. Hayward was given his base by Abbot and immediately stole second. Both he and Burnett scored on Bigelow's hit to centre, Bigelow reaching third on the throw home. Mink hit an easy one to Harris, but he muffed it, and Mink was safe, while Bigelow scored another run. Murphy reached first but got no farther, for Fitts was out at first.

Score: M. I. T., 13; W. P. I., 12.

Harris hit to Hayward and was safe. A moment later he was declared out on a questionable decision. Cullen struck out. Fisher waited for four poor balls. Waite now took Abbot's place, but failed to do anything.

Rawson hit a long drive between Gordon and Bunker, and stole third on the next ball pitched. Thomas hit a hot line-drive to Knowles who caught it and also put Rawson out, thereby making a double-play unassisted. Prince went out, Cullen to Zaeder.

Score: M. I. T., 13; W. P. I., 12.

Philpot was out at first. Knowles struck out. Zaeder hit to short and was safe. Gordon followed Knowles' example and struck out.

Worcester, in this inning pulled out of a small hole. Hayward, the first man to bat, got his base on Philpot's error. Bigelow and Mink got their base on balls. Murphy hit to Cullen who threw Mink out at the plate. Fitts hit a fly to Gordon, and Bigelow attempted to score on the put-out, but was caught at the plate.

Score: M. I. T., 13; W. P. I., 12.

In the seventh inning both sides went out in one, two, three order.

In the eighth, Fisher got his base on balls, Waite struck out, Philpot knocked a fly to centre and was out, Zaeder reached his base on a missed third strike, Gordon hit a fly into the left fielder's hands.

Prince reached first on Gordon's muff, but was out at second. Hayward went out and Bigelow struck out.

Score: — M. I. T., 13; W. P. I., 12.

The ninth and last inning started in rather brightly for the Worcester nine. Bunker drove a hot grounder to Fitts who fumbled, allowing Bunker to reach first. He stole second. Harris hit a fly that Burnett at first gathered in. Bunker stole third. Cullen struck out, but Thomas missed the ball and then threw wild to first allowing Bunker to score. Fisher got his base on balls and Waite hit a fly to centre, Cullen scoring. Philpot was out on a fly to left.

Mink, the first M. I. T. man to bat, hit to the infield and was safe—so the umpire claimed—at first. There was lots of kicking done at this downright steal and Captain Zaeder took his men from the field, but wisely decided to finish the game. Murphy then made a long hit and Mink scored, as did Murphy on a wild throw, and the game was lost to Boston Tech.

Here is the summary:

<table>
<thead>
<tr>
<th>M. I. T.</th>
<th>A.B.</th>
<th>B.H.</th>
<th>P.O.</th>
<th>A.</th>
<th>R.</th>
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<td>Mink, l.f.</td>
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<td>2</td>
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<td>4</td>
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<td>1</td>
<td>2</td>
<td>0</td>
<td>3</td>
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<td>3</td>
<td>8</td>
<td>2</td>
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<td>Burnett, p. and lb.</td>
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<td>3</td>
<td>0</td>
<td>2</td>
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<td>27</td>
<td>7</td>
<td>15</td>
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<th>W. P. I.</th>
<th>A.B.</th>
<th>B.H.</th>
<th>P.O.</th>
<th>A.</th>
<th>R.</th>
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<td>1</td>
<td>3</td>
<td>0</td>
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<td>Cullen, 2b.</td>
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<td>2</td>
<td>2</td>
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<td>5</td>
<td>3</td>
<td>3</td>
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Abbot, p., 2 0 0 2 1
Waite, p., 3 0 0 1 0
Totals, 40 6 24* 10 15

*A Winning run made with no one out.

Innings 1 2 3 4 5 6 7 8 9
M. I. T. 6 0 2 5 0 0 0 0 2 15
W. P. I. 1 3 6 2 0 0 0 1 1 14


A COACHING PARTY.

How to spend the vacation in the most profitable and interesting manner is a question which confronts us all at vacation time. Six Techs think they have solved it. So the first Monday morning of the vacation found M. Percival Whittall, '96, Charles A. Burt, '94, Clifton H. Dwin nell, '94, George W. Eddy, '96, Henry J. Fuller, '95, and William H. Stone, '96, assembled at the Phi Gamma Delta Chapter House ready for the start. With Mr. Whittall driving, the gaily decorated four-in-hand started, accompanied by Mr. Baldwin, '94, to serenade the in habitants as far as Adams Square.

The first stop was at Clinton, where a visit was made to the Wire Cloth Mills. Here earnest discussions were overheard as to whether we were advance agents for Barnum's Circus or only patent medicine men. Since returning we have learned that our identity has been discovered.

Fitchburg was reached about six o'clock, and after giving a few P. I.'s and Polly Wolly's in town, we went to Mr. Dwin nell's where we were hospitably entertained by Major and Mrs. Dwin nell. In the evening we attended an entertainment in the Y. M. C. A. course given by a Tableau d'Art company from Boston. Of course we found seats in the front row reserved for us. We not only enjoyed it very much but were furnished with an unending topic of discussion as to the relative merits of the pianist and the second girl on the left. The next morning an early start was made, and after giving many carefully rendered bugle calls and yells for the benefit of our friends of the night before, we started on. At noon we camped in true gypsy style, and then proceeded to Westford, where we were met by J. C. Abbot, '94, and were royally entertained by Mr. and Mrs. Abbot in their beautiful home.

Lowell was reached in time for dinner. In the evening we were the guests of Mr. Paul Henderson at the Highland Club. Although Wednesday was rainy the ride to Lynn was much enjoyed. As we came down a long street we saw a crowd of urchins assembled and we prepared for a cordial reception, and we got it. (Where the chicken, etc.), and we were presented with enough vegetables to supply a Tech boarding-house a month. We remained at the Seymour House over night, some of the party attending the Theatre in Boston. Thursday morning we drove down through Chelsea and Charlestown into Boston, in the face of a stiff sea breeze. Inasmuch as driving is hardly enjoyable in the crowded Boston streets we kept on to Cambridge, and gave the inhabitants a little variety in yells instead of the familiar Rah! Rah! Rah! Harvard! The ride through the Newtons was very fine. Thursday night was spent at the Woodland Park Hotel where the Massachusetts Delta Chapter of Sigma Alpha Epsilon was recently instituted. The evening was spent in bowling and playing pool. (See sporting extra of the W P I for results). The next morning we drove to Wellesley Hills where we were very cordially received by Colonel and Mrs. Plympton and family, friends of Mr. Eddy. Some of us went to Wellesley in the afternoon to call and of course had a very enjoyable time. A very pleasant evening was spent at Colonel Plympton's, and we shall all remember our stay there as the most pleasant episode of our trip. Saturday morning we were homeward bound.

At South Framingham a stop was made to have a photograph taken, and Worcester was reached about four o'clock, and after driving around the Institute and through Boynton Street to the Chapter House the party disbanded. Fifty-seven towns were passed through, and about one hundred and seventy miles traversed. To all who are in search of a pleasant vacation we would say "Try coaching."

SHOP TRAINING.

We take the following from an editorial in the current number of The Engineer:

As to the value of personal knowledge of the details of machine work, and its utility in the profession of Engineering, there does not seem to be room for argument, but like all other questions, there are many opinions concerning it. The Worcester Polytechnic Institute is one of the oldest institutions in the country of its kind, and has a larger number of graduates than any other. Quite recently the question of reducing the Shop Course was considered, but before
taking decisive action the views of graduates were obtained as to its propriety. These views have been published in pamphlet form and are as follows, in part:

Says one: "When I came to designing machinery I found that I had none too much shop practice. One cannot become a good draughtsman unless he is well acquainted with the pattern-shop, foundry, and machine shop. The chief failing of the draughtsmen with whom I have had to do, has been their lack of experience in the shop." Another, from large experience gained at home and abroad, replied: "All have heartily indorsed the great and vital importance of combining with a technical education a large amount of shop work, and nearly all have regretted that they have not had more." Still another says: "What we need is not men who are extraordinary mathematicians and fancy draughtsmen, but men who have had some experience as mechanics and know how to put everything on a drawing, that belongs there, in a clear and concise manner."

This is exactly the argument which we advanced in these columns and supported in the Engineer from the time the subject was first brought up, for the reason that, in doing actual work in the world, the man who can handle a hammer and is familiar with machine tools can make his way where the man without such knowledge would be idle. Not only this, but we have held and still hold the view, that men who intend to be consulting or constructive engineers or superintendents of works are unable to judge of whether their work is likely to be successful or not, unless they have personal knowledge of good and bad work.

MANUAL TRAINING TEACHERS' ASSOCIATION OF AMERICA.

At the close of the Educational Congress in Chicago last July, a group of manual training teachers in attendance tarried an hour and discussed the question of organizing a manual training association. The objects in view were mutual improvement, the unifying of methods of teaching, and the development of the work along the lines that are educational and necessary. It was decided to form such an association, and a committee of three, consisting of Mr. George Robbins of Frankfort, Ky., Mr. Charles A. Bennett of the New York Teachers' College, and Mr. George S. Waite, Superintendent of the Toledo Manual Training School, was appointed to draft a constitution, submit it, through the mail, to each of the individuals present, and afterwards to conduct an election of officers through correspondence. The officers chosen were Geo. B. Kilbon, Springfield, Mass., President; George S. Waite, Toledo, Ohio, Vice-President; and George Robbins, Frankfort, Ky., Secretary and Treasurer.

The above mentioned officers constitute the Executive Committee, which is at present at work arranging for the first annual meeting of the association next July. A cordial invitation has been received from the Board of Managers of the Drexel Institute, Philadelphia, to meet at the Institute, and the invitation has been gratefully accepted. The time has not yet been decided, but will probably be during the second week in July. The Executive Committee confidently expect to enlist some of the best manual training talent in the country as speakers, and to arrange a programme of live topics for discussion.

The committee in charge will be glad to receive from interested workers suggestions in regard to topics for discussion, or on any points which will tend to make the meeting a representative one, and one that shall deepen interest in the cause where it already exists, and to create an interest where it does not already exist. Copies of the constitution and applications for membership can be had by writing to any one of the officers of the Association, or to the Editor-in-Chief of the W P I. The membership fee is one dollar, which is to enable the Association to meet the unavoidable expense of printing and such other expenses as are necessary to the life of such an association.

'97'S CIVILS IN VACATION.

All students in the Civil Engineering Course devote the first week of spring vacation to outdoor practice, but to the Freshmen is this week particularly interesting, as it is almost the first of their out-door work. The Freshman having for the first time the transit in his charge, is like the child in the nursery with a new toy, and his evolutions with it during the first few days are a source of amusement to observers. The startling things he finds out about the instrument, the wonderful results he obtains, and some of the original ways he devises for doing work, would astonish and amuse even the most disinterested.

All are more or less acquainted with the magnetic deflection of the compass needle, but that is nothing compared with the way the telescope itself is oftentimes attracted out of line when it is in the hands of these novices. As examples, the following came to the writer's notice recently. A '97 man with his instrument set up at one end of a long street, was sighting down the line, when a bevy of High School girls crossed the
line, and the telescope was noticed to steadily but surely turn and follow the course of the fair damsels around two sides of a long square. Another Civil, in fact he is extremely civil, with his eye at the instrument thought he saw a young lady close by smile at him, and accordingly looked up to have a passing word with her. What was his surprise to find that she was at least a half-mile away. But this was not to be for long, the ever watchful eyes of our instructor were upon us, and with the remark that Harvard street on a pleasant afternoon was too much for Freshmen, he sent us to greener fields, and the rest of the week we could have been found cutting brush and climbing barb-wire fences between West street and the Boulevard.

THE AMHERST CONCERT.

On Friday evening, March 30, the Amherst Glee, Banjo and Guitar and Mandolin Clubs gave a very pleasant concert before a fair sized, but appreciative audience in Mechanics Hall.

The programme of the evening was as follows:

Part I.

Glees—Song to Alma Mater.
Old Amherst.
Columbia March, The Banjo Club.
Glees—Big a Jig.
Slumber Soft.
The Country Band.
Solo by Mr. McAllister.
Paul Jones's Waltz,
The Mandolin Club.
Glees—Integer Vitae.
Johnny Sands.
Bonnie Bessie.
Solo by Mr. Burnham.

Part II.

Love and Beauty Waltz,
The Banjo Club.
Glees—Selected.
The Tar's Farewell.
Serenade.
Solo by Mr. Loud.
Glees—Soothing Lullaby.
A Foot Ball Fable.
Solo by Mr. Porter.
March of the Janizaries,
The Banjo Club.
Amherst Medley,
The Glee Club.

The work of all the clubs was excellent, but it seemed a pity that the Mandolin Club should appear but once. The solos of Mr. Porter were especially fine.

The spring trip of the clubs includes fourteen cities and they return to college about April 12. This summer they take a two weeks' trip through England.

Several Tech men were present, and it is hoped that the "pointers" they received will be apparent in our concert this month.

A WATER-WHEEL.

During the recent vacation, a member of the Institute spent a few days in the town of Walpole. As he was being shown the sights, his escort spoke of water-wheels, built by C. M. Allen, '94, that had aroused considerable interest among his townsmen. Immediately the Tech man's curiosity was aroused, and he was conducted to the home of Mr. Allen, who received his visitors with his wonted cordiality, and showed them the object of their visit. As described by the Tech man to the writer, it is as follows: Several rods from the house is a small pond that supplies the house with water, brought by means of a canal to within a short distance of the house, where the wheel is situated. The wheel itself is quite an elaborate affair, and is used for pumping water, sawing wood, and in summer is very useful in turning an ice-cream crank. At present Mr. Allen is making tests with his wheel in connection with his thesis work. It is one of the sights of the little town of Walpole, and visitors to that town are sure to be shown it.
THE GLEE CLUB CONCERT.

At a recent meeting of the Glee Club, it was decided that the proceeds of their concert should be divided as follows: the first hundred dollars will go to the Athletic Association; any more that is made, up to fifty dollars, will go to the Base-Ball Association. The Base-Ball Association has also been given the programme. The Base-Ball Directors appointed the following committee to arrange the programme: W. E. Hapgood, A. H. Warren and R. S. Riley; Mr. Gordon will assist this committee. The date of the concert is as yet undecided.

CAMERA CLUB EXHIBIT.

The Camera Club will hold its annual exhibition, Saturday afternoon and evening, April 21, in the Mechanical Model Room in Salisbury Laboratories. The committee has the promise of a large number of prints, both from present and past members of the club, and will endeavor to make the exhibition as great a success as it always has been.

The price of admission will be fifteen cents and all students are urged to support it by their presence and that of their friends.

ALUMNI NOTES.

'79. At the annual meeting of the American Society of Civil Engineers, held in New York recently, Mr. Spencer Miller read an unusually interesting paper on "Cableways." His descriptions and details were made clear by a comprehensive series of stereopticon slides. The paper created much interest and discussion among the large number of engineers present.

'81. Seth B. Weaver, head draughtsman with the Crain Elevator Co. of Chicago, died last month. The next W P I will contain a short account of his life, etc.

'82. J. J. Donovan has been appointed a member of the Cascade Road Commission of Washington. The Seattle Post Intelligencer in speaking of the appointment says, "The appointment of Mr. Donovan is assurance that incompetence and extravagance will not hereafter characterize the work."

John G. Oliver, for nine years in charge of the draughting-room with Warren & Swasey, at Cleveland, builders of the famous Lick Observatory telescope and other noted work, is now conducting a prosperous business under the firm name of Bardous & Oliver. Their aim is high class mechanical work and are engaged in the manufacture of brass-working machinery, turret machines, and all kinds of special machinery, employing about twenty-five men. Mr. Oliver is also the proud father of a daughter, Hortense Lockwood Oliver, born February first.

'87. Ernest H. Fairbanks, who, for the past four-and-a-half years has held the position of an examiner in the department of Steam Engineering in the United States Patent Office, has tendered his resignation and entered upon the practice of patent law with John A. Wiedersheine, of Philadelphia. Mr. Wiedersheine is a solicitor of patents and one of the oldest and most prominent lawyers in Philadelphia.

Besides being a graduate of the W. P. I., Mr. Fairbanks is a graduate of the Worcester Academy, '83, standing second in his class, the first honor going to President B. L. Whittlow of Colby; also a graduate of the Law School of Columbian University, where the degree of Master of Laws was conferred on him.

'90. The mention made of Everett J. Lake in a recent issue of the W P I was incorrect. Mr. Lake is at present Secretary of the Hartford Lumber Co., of Hartford, Conn.

Charles F. Treadway is engaged in the lumber business with Nicola Bros., of Pittsburg and Cleveland, and is at present located at High Bridge, Ky.

'93. Arthur C. Comins, Gr., and Charles T. Tatman, L. S., of Harvard University, were two of the Harvard representatives at the national convention of the American Republican College League held in Syracuse, N. Y., April 6th.

Leslie P. Strong is teaching in the Springfield High School. He instructs in Algebra, Geometry, Physics, and Chemistry.

Richard C. Cleveland, recently with the Ingersoll Rock Drill Co. of Montreal, has engaged in business in this city, where he will permanently reside.

Mr. Jonathan H. Child has been appointed first assistant city engineer of Woonsocket, R. I.

'94. Frank O. Plummer is now employed by the Columbia Electrical Company of this city.

SHOP NOTES.

Business at the shop continues brisk. The new rules in regard to making up time have proved satisfactory, much more so than those in vogue during the Christmas recess. By the new regulation, the Seniors and Juniors had the benefit of the first week, while the second week was reserved for the Sophomores.

The shop has been filled during the whole recess.
The Seniors are still at work on the pump, which is rapidly nearing completion. A few orders for twist drill grinders have been received. Among these there were two for England and two for Germany. The elevator business continues good, numerous contracts having been recently closed. Among these are one for C. A. Cross, at White River Junction, Vt.; one for the Union Wadding Co., Pawtucket, R. I.; one for the Merchants Freezing and Cold Storage Co., Providence, R. I.

Also a contract for moving an elevator from one block to another across the street, for C. C. Houghton & Co., on Front street, in this city. One of the largest, if not the largest elevator contract ever made by the shop was closed a few weeks ago. This is in the large business block in course of construction for Kent & Stanley, at Providence, R. I. The building is 275 feet long, 221 feet wide, and seven stories high. The elevator plant comprises four elevators, two for passenger service and two for freight. The contract also includes the pumping plant and pressure tanks which are to be employed; the city water pressure not being sufficient for the requirements of the contract. The passenger cars will be of iron, and all the modern details for safety and comfort will be supplied. The contract calls for the completion of the work by July 1st, and the work is being pushed rapidly forward.

An order for 32 drawing stands was received and filled a few days ago. Also a quite large order for bench grinders. This order comprises: 3 1-in. standards; 6 1-in. countershafts; 4 1-in. bench grinders; 4 $2-in. bench grinders.

Work on the new engine is progressing, the cylinder has been bored out, and but little remains to be done on it. The condenser is also being pushed forward.

**COLLEGE NOTES.**

The Amherst Senate has at last disbanded. The Rensselaer Polytechnic Institute has 188 students. A class bowling tournament is being held at the M. I. T.

The class of '91 at Yale has recently published a class book.

The Dartmouth students have pledged $1,000 in support of this year's ball team.*

The young ladies at Lasell have formed a boat-club similar to that of Wellesley.

A yacht race has been proposed by Yale, between Yale and Harvard.

At the recent Oxford-Cambridge games, the mile run was negotiated in 4.19 ½.

The polo teams of Stanford and California Universities play entirely on artificial ice.

The M. I. T. Athletic Club cleared $1.85 on the N. E. championship games that they gave a few weeks ago.

Thirty-five Amherst students belonging to the glee and banjo clubs will take a trip to Europe this summer.

The will of a late Californian provides for a legacy of $400,000 to be devoted to the establishment of a School of Industrial Arts at the University of California.

The annual intercollegiate shooting-match between the clubs at Harvard, Yale, and Princeton will be held this month.

The gifts of Henry W. Sage to Cornell have alone amounted to considerably over a million dollars.

Prince Besolow, the young African prince, who is in the freshman class at Williams, has been called back to Africa to take charge of his kingdom.

The contributions to the new American University at Washington already amount to $400,000, not including the site provided by the people of Washington, valued at $500,000.

Hereafter Harvard men will not be allowed to represent the Boston Athletic Association in any games in which the university has made entries.

Mr. Wilson, chairman of the Ways and Means Committee, was president of the University of Virginia when elected a member of the House of Representatives.

The class of '84, at Amherst, has challenged the class of '91 to a base-ball game to be played in Amherst on Commencement day.

The basketball tournaments that are being held by the women's colleges are exciting almost as much interest among the girls as football does among the male portion of the college gentry.

**SCIENTIFIC NOTES.**

Electric flat-irons are now used quite extensively in laundries. 90,000 pins per hour is what the modern pin-machine accomplishes.

The estimated weight of the iron in rails on all the railways of the United States is 83,000,000 tons.

Despite the liability to think otherwise, statistics show that ninety-seven out of every hundred return from Arctic exploring expeditions.
Tests on steel have been made at the Massachusetts arsenal lately with results contrary to popular ideas.

Steel is stronger at zero Fahrenheit than at ordinary temperatures. The minimum strength is at 210 degrees, while above that point the strength increases until it is maximum, at 550 degrees.

Aluminum will soon replace tin for all household purposes. A German chemist has discovered a means of plating aluminum, so that it will become more much popular.

A prehistoric human skull was found in Alabama in 1890. It measured thirty-four inches just above the ears.

The net annual returns of the railroads in this country show a decrease during 1893 of three dollars per mile of railroad.

Five days, thirteen hours, and eleven minutes, is the best run ever made across the Atlantic. This time was made a short time ago by the Cunarder "Lucania" from Sandy Hook to Queenstown.

Pitch pine beams will shrink in thickness from 18\(\frac{3}{4}\) inches to 18\(\frac{1}{2}\); spruce from 8\(\frac{1}{4}\) to 8\(\frac{3}{4}\); white pine from 12 inches to 11\(\frac{1}{4}\), yellow pine a trifle less. Cedar beams will shrink from a width of 14 inches to 13\(\frac{1}{4}\) elm from 11 to 10\(\frac{1}{2}\), and oak from 12 to 11\(\frac{3}{4}\).

The deepest boring of which we have any knowledge up to the present time, is at Parvschowitz, in the district of Ribnik, in western Silesia. The depth attained is 6,688 feet, and the diameter of the hole is only 2.75 inches.

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**TECHNICALITIES.**

During the vacation painters have been at work in Boynton Hall.

The subject for the Y. M. C. A. meeting of April 24th will be "what is my desire."

The Holy-Cross-Tech game scheduled for last Tuesday afternoon, was cancelled owing to the poor condition of the grounds resulting from the recent snow.

The Easter number of the University Courier is one of the best issues of a college paper that we have ever seen.

Alex. W. Doe was elected editor-in-chief of Ninety-five's class-book, at a recent meeting of the class.

Harris Moore, '94, who has been laid up most of the winter with typhoid fever, has returned again to his work here at the Institute.

Professor Haynes, and Heald, '94, and Lanson, '96, sang in the chorus of "The Messiah," given in Central Church during the vacation.

For the rest of the year the Juniors will have one hour less of Political Economy per week. In its place, an extra hour of English Literature has been substituted.

The proposed team-race, open to any boarding-house team, has fallen through, although eight teams had signified their intention of competing.

The days on which the Y. M. C. A. meetings will be held are now alternate Tuesdays and Thursdays. This change has been made for the convenience of many of the divisions, and it is hoped that an increased attendance will attest to the wisdom of the change.

Mr. H. J. Chambers, '95, has the sincere sympathy of his classmates and the whole institute in his sad bereavement. On Wednesday, March 28, Mr. Chambers was called home by a telegram, announcing the critical illness of his father. He immediately left for home, and the next day we received tidings of his father's death. His death, which was sudden and unexpected, was due to paralysis.

The members of '95 have voted to assess themselves $1.00 each during the months of April and June, to be devoted to the expenses of the class-book. This is a step in the right direction, and will greatly relieve the exacting demands for assessments during the Senior year.

Quite a large number of the classes availed themselves of the opportunity to get some of the sumner practice made up during the first week of vacation and the machine shop and draughting-room were well filled.

- A Civil,
- Out surveying,
- A shady park close by;
- A maiden,
- Pretty looks conveying,
- But not so very shy.
- A transit,
- Left standing quite aloof,
- Instructor not about;
- A bench
- Beneath a shady roof,
- The sequel—think it out.

Our base-ball team will play their first home game at the Oval, April 28th, with the Worcester Academy team. Last year the Techs won the first game with the Academy team but were defeated in the second game.

Each team is very anxious to show its superiority over the other in this game as the teams are composed of the same players that opposed each other last year.

If every Tech who has any interest in the success of the team will make it his duty to attend the game and encourage the team, something that was lacking last year, we may expect a good result.
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My underwear will outwear all others.

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