Vol. VIII. Thursday, October 27, 1892. No. 10

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Although a great part of an editor's work is monotonous, and after the novelty has worn off, uninteresting, there is yet much connected with it that is very pleasant. Especially so is that portion of it which brings him into contact and communication with graduates, for probably more than any other student he has an opportunity to exchange ideas with them, not only through the columns of the paper itself, but by conversation and letter. The W P I, reaching out to the past and present, affords its editors an opportunity of standing between the two. They are mediums through which to some extent graduate and undergraduate are kept in touch with one another. Men, our seniors by twenty years, and holding prominent positions in the great industries of the country, stop from their work for a few minutes to write, and when the letters come, the references to old traditions, the slyly poked fun at the Faculty, the fraternal style in which they are written, all show that for the moment the writers have forgotten that forty years have made them men of business, whose every minute has a value, but instead for the time being they are back with us striplings of to-day, sympathizing with us in our difficulties and encouraging us in our work. The word W P I is almost always an open sesame to the time and thought of a graduate, and the one who pronounces it takes precedence over others.

About three weeks ago the Editors mailed circular letters to the Alumni subscribers of the W P I asking them for suggestions and criticisms upon the paper, with a view to profit by their advice. Since then we
have received perhaps a dozen replies. At first we were inclined to think from the limited number that the paper was about at perfection now, and beyond criticism, but as we still have a few scattered doubts in regard to this, conclude that there must be some other explanation. Probably each individual thinks that his opinion alone would have no value; yet we must draw our conclusions from all the replies, and every one who takes the trouble to answer, does us a favor.

On two things nearly all of the letters we have received seem to agree, and both these things affect most the Alumni. The first is a demand for a more extended personal or Alumni column. But how is this to be obtained? Can the Editors correspond every fortnight with each individual graduate, and find out just what he is doing or has done? If the Alumni wish to know the whereabouts of one another, if students are to see the positions which the men who preceded them, occupy, then the Alumni must themselves furnish the information which they alone can give. Modesty will not do here. Look at the number of items in this week's personal column and then answer, is this all of interest that has happened in the past fortnight to our three or four hundred graduates? When the annual catalogue appears, scores of changes are there recorded, notices of which have never been sent to the W P I, but the fault we believe, lies entirely with those who lose most by it, and by them it must be remedied. The accomplishment of this end is very easy. If every graduate would dedicate to us a postal card and a few seconds now and then, the empty Alumni Notes would soon be filled.

The second point upon which the letters seem to coincide is in the suggestion that brief articles from the Alumni respecting experiments and original work in which they are engaged, would be of great interest. Of this we have no doubt, but here again the Alumni element enters into the solution of the problem. To several we have written asking for articles upon specified subjects, and a ready compliance has followed; but there is so much of interest unknown to us that we must ask the rest to write of their own accord. The only condition is expressed in a letter from an '87 graduate, "I do not think it wise to publish scientific articles unless readable to at least the Senior Class," for it must be borne continually in mind that the W P I has to play many parts. It stands for the Institute journal and the Institute newspaper; it must be readable to graduate and undergraduate; it must be both technical and non-technical. So it is almost impossible under the most favorable conditions to make it all of interest to each subscriber. However, there are few of our readers who would not be interested in contributions of the kind suggested, and most earnestly would we urge graduates to give others, in this way, the benefit of their work. So please remember us and send us a column or two of encouragement now and then.

**IS THE PRACTICE OF ATHLETICS INJURIOUS TO THE STUDENT?**

The two reasons given by parents for refusing to allow their sons to engage in athletics are:—
(1) The student may be injured physically, and (2) his studies may suffer. The first objection may be easily set aside. Hunt the world over and before you find one man who has been physically injured by the practice of athletics, you will find ninety-nine whose condition baa been bettered. Consult the leading physicians; consult the leading athletes; consult any one who has had anything to do with athletes or athletics. All will unanimously agree that the man is physically improved by the practice of athletics. Instances are on record of doctors advising young men dying of consumptive diseases to engage in athletics; in two such cases, to the
writer's knowledge, the men after a few years' practice, were cured of their diseases, and even became athletic champions.

In our own school a man who had practiced running for the first time last spring said recently, "My training last spring helped me wonderfully in my work on the farm this summer." Another who had run this fall in two or three practice cross-country runs, says that he never felt so well before in his life, and intends to continue running all winter in the gymnasium. Dudley A. Sargent, a physician who has had more to do with athletics than any other in the country, writes as follows: "Out of this number of athletes, I have not found over one per cent. affected with the slightest cardiac disturbance, and in only two of these cases did I feel positive that the trouble was due to athletics alone. * * * I have yet to learn of a single case where a sound heart in a sound organism has been injured from the practice of athletic exercises under proper conditions and capable supervision."

Now the careful parent will say, "I have no objection to the short runs, but it is the long distances, such as the cross-country runs, which I think will injure him." Why will it injure him more than the short runs? Because it exercises the muscles more, or because it strains the heart less? The short distance run is one continual strain on the heart and internal organs. The long run does not strain the heart to any great extent, and the work falls almost wholly on the muscles of the legs. Dr. Sargent says, "Running and walking are natural forms of exercise, and the alternate movement of the arms and legs, when not too rapid, tends to facilitate the circulation of the blood." Thus the long runs tend to strengthen the man more readily than the short ones, and the internal strain is much less, although in either case there is practically no danger.

That the studies of the student who engages in athletics do not suffer thereby, can easily be proved. When a student who has taken part somewhat in athletic exercises is compelled on account of low scholarship to leave school or fall back a year, the unthinking, the ignorant man says, "Athletics did it!" Indeed, it would readily be shown, if an investigation were made, that the student would have failed before had it not been for the influence of athletics. For the time given to athletics would not have been spent in study in most cases, but would have been wasted idly or in a worse occupation than athletic training.

On the other hand, to him who works faithfully in school the practice of athletics is a wonderful aid. After training for a while he finds that his brain is in a clear condition, and his reasoning powers greatly improved. He finds now that he takes hold of his studies with much more energy; that now he has more ability to study; that now he can study for a longer time without becoming wearied; and as a result of this, he is able to learn his lessons in less time than before, and in much better shape.

So, mothers and fathers, take care that, in wishing to provide for the welfare of your son, you do not deprive him of that which will do him the most good. The average student in this school goes from September to June with but little more exercise than walking to and from the school. Then in many instances, for two months he is expected to do manual labor on a farm, or elsewhere. You wish him, after having exercised not a muscle in his body for ten months, to violently exercise all his muscles for two long hot months. The result is apparent. The student comes back to school weaker if anything in bodily strength than when he left, tired and in need of rest.

If you desire your son to have strength to complete his course; if you wish him to come to the front rank in his studies, to be as strong physically as the average man of his age; if you desire him, when he graduates, to be a man and not a weakling, broken down from three years unceasing application to his studies, compel him to engage in athletics!

IS VOLAPÜK A SUCCESS?

Much good natured fun has been expended upon this strange word and what it stands for, which those interested have borne with patience, knowing that all new things are ridiculed. A few have denounced the idea, generally those who knew the least of the subject, while almost all who have taken the trouble to study it thoroughly are warm in its favor. Still there are many as yet unacquainted with its real purpose who will be glad to read a brief account which will answer the oft-put question, "What is Volapük?" and give such information about it as a cultivated person should possess. We think this can be made interesting even to those who have formed no plan to study the subject deeply.

Volapük is a language, in one sense—that is, it is a means of communication. But it is not intended to do the work or to take the place of any one of the existing languages of the earth. Frenchmen will continue to talk French, Germans will converse in German, and Americans will still use the English language after Volapük is firmly established in its own proper sphere. They will no more interfere or clash than do the symbols of algebra with those of chemistry.
What, then, is the sphere of the new language, volapük? Its sphere is international,—it is a common ground on which all the peoples of the earth can meet, though ignorant of each other's languages, and exchange ideas on equal terms. It is a bridge over the chasm which now divides nation from nation, race from race.

"But why not use English," says some critic, "for such an international language?" "Pourquoi ne pas se servir du Français?" says, on the other hand, a French objector, and the Italian exclaims,—"La lingua Italiana sarebbe piu bella." We need not answer any of these at present, but allow them to answer each other, while, instead of proving that none of them will serve the purpose even if agreed upon by all, we show what our proposed international language is like.

In the first place it is regular. The irregularities are what trouble the learner of languages, the rules are easy enough, but the exceptions are the puzzling part. If we speak of houses, why not of mouses instead of mice? Why not gooses and not geese? We have a rule that the plural of English nouns is formed by adding s to the singular; in volapük there is precisely the same rule, to form the plural add s to the singular, but this rule is a rule; it applies in every instance, and if you have learned to form the plural of one noun you have learned the process of every noun there is or ever will be. You may dismiss the subject of plurals from your mind in the calm assurance that you will never need any further instruction upon it. But consider the long and annoying experience necessary before one can feel sure of the plural of every German word to say nothing of the gender.

Again, volapük's pronunciation is easy and regular. When you have learned the sounds of the letters, most of which are the same as in English, you can, by remembering that the accent is always on the last syllable, pronounce correctly any word, though you never saw it before, and spell correctly any word you may hear. You will encounter no such puzzles as those which confront the poor foreigner when he tries to read such a line as this—Though the tough cough and hicough plough me through. It is this regularity and simplicity extending all through volapük, which make it far easier to learn, easier to read, and easier to write than any natural language, so much so that comparatively little effort is required to become fairly proficient, able to read any letter or other composition, with occasional use of the dictionary. As to grammar, all the changes to which volapük words are subject have been tabulated on a single page of note-size paper and not in small type either.

"And what good will it do me when learned?" is the next question and a very sensible one. In the first place, it will give you a better command and better knowledge of your own language by having something with which to compare it. It has long been remarked that the study of another language has a broadening effect, and enables us to think in thoughts, not merely in words, to get a true perspective by looking at ideas from more than one point of view and that the same study cultivates the power of critically analyzing our own speech and separating what is merely conventional from what is exact and logical. Alexander John Ellis, late President of the English Philological Society, who is perhaps as competent to decide as is any man, has given us his deliberate opinion that time would be saved in learning the classic tongues by beginning with a simple, regularly-inflected language like volapük.

An international language will be an absolute necessity for the next generation, the present generation finds it a recreation and a luxury. Many of those who take up the study of volapük are fascinated by its completeness, its directness and its perfect adaptation to the end sought. They take a delight in the study merely as mental gymnastics. Later they find another pleasure in what the language brings them—the power to correspond on equal terms with people of distant lands and unfamiliar races. We say on equal terms, and ask by what other possible means can this be done? Our correspondent would be ill at ease writing in English, and we, if trying to use his language, would be at a like disadvantage. But by the use of volapük an international intercourse has sprung up such as the world never before knew. Thousands of letters pass between distant places between writers who never saw each other's country nor heard each other's language, but who readily communicate their thoughts and learn how people live and what are their surroundings in some far away home, strange, perhaps, and remote as that of Kwok-Lokwai, a Chinese volapükist of Amoy.

Volapük, though so new as not yet to have attained more than a small part of its full usefulness, is yet old enough to be more than a mere experiment. This is evidenced by the extensive literature already existing in the language, the number of titles in its bibliography approaching fifteen hundred. Every field of literature is embraced, poetry, science, travel, history, drama and religion. And no civilized country is without its adherents, and it is possible to travel the civilized world knowing but this one world-embracing language.

The great philologists and scientists are its friends and supporters. They best know the needs of the world and are best able to see the abilities of volapük to supply their needs. The
wonder is not that volapük has not done more than it has done, but that it has done so much.

Here are some figures in round numbers which are food for contemplation, and may furnish a Banquo's ghost, which will not down, for those, who, in ignorance, would still shout "boogy" when volapük is named: 50,000,000 volapük grammars have been sold. 1,000 commercial houses make volapük their international language of correspondence and accounts; 50 languages have its text-books adapted to their dialects. In an address before the first annual convention of the North American Society for the Propagation of Volapük, the following statements were made:

Among recent publications in volapük are "one of 328 pages printed at Leipsig, Germany, and the other a handsome volume of 582 pages published and printed at Yokohama, by two learned men, one of them a native Japanese."

It has now about 1,000,000 students quite competent to use it, and over 30 newspapers and periodicals. Wherever you go, no matter whether it be to New York, Greenland, Europe, Siberia, China, Australia, the Cape of Good Hope, Chili, or the Sandwich Islands, you find volapük literature on sale, and people who know, teach, and learn it, and there is scarcely a civilized country but has its organized associations and clubs. In Europe, volapük is taught already in commercial and other schools, especially in France."

At the International Convention held in Paris in 1890, there were over 500 delegates present representing about forty different nationalities, and the entire proceedings of the convention were carried on in the one language which all understood. A gentleman living in Worcester who had no knowledge of any tongue save his own, took up volapük a few years ago and is to-day in constant correspondence with volapükists living in China, Russia, Italy, Austria, Germany, Denmark and France. Opinions upon politics and international relations, methods of conducting, and suggestions in business are exchanged, yet the writers know nothing of each other's language and have never seen one another.

MILLING VERSUS PLANING.

Abstract of Paper read before the W. M. E. by W. T. Hatch, '73.

Any question outside of morals has more than one side, owing to varying conditions. One of the most common questions in manufacturing is, "Would you mill or plane this?" and it is a question not only of mechanical but of commercial policy. It is determined by comparative cost, the quality being standard.

The amount of metal removed is about the same in each case. It would appear that the friction is greater in the milling cutter, but that it presents more cutting surface to the work and so has a greater chance of conducting away heat. As to accuracy there is little to choose, the essentials for good work in either case being a true and heavy machine, that the work be held firmly and so as not to spring it, that the operation be sufficiently slow to avoid excessive heat, and that the tools or cutters be kept sharp. Good work can be done, under these conditions, on either tool. One prominent manufacturer of medium-sized lathes roughs his beds by planing and finishes by milling, while another of as great prominence does precisely the opposite. The latter method would seem to occasion less spring, but each builds excellent lathes. There are outside considerations which generally determine the economical course.

Planers, as their name suggests, produce plane surfaces, and occupy proportionally to their rate of work more floor space, and are heavier than milling machines. They have wide range of adjustment and require great skill in operation, both in fastening work and adjusting tools; are better fitted for jobbing work than for specific manufacturing. Milling machines have, until within a few years, been used for special work and parts of sewing machines, etc., which require easy and rapid reduplication. Special fixtures and jigs used with them give facility in handling work. Not unusual for a workman to run three to six, the object being to keep the machines waiting rather than the operator. Milling cuts like this takes 2 to 5 minutes each and are paid for at the rate of 15 to 30 cents per 100 cuts. This is one extreme of the question and is beyond the competition of planing. Another case of greater economy of milling is in irregular sections. It may here be remarked, that if irregular surfaces are to be produced on the planer requiring several adjustments of the tool, it is better to string along a number of pieces to save time. The more broken the surface the greater comparative economy of milling over planing. The greater the width compared with the length the greater advantage in milling, and frequently several parallel cuts can be made successfully on a miller when they could not on a planer.

Of course the cost of fixtures and cutters enters into the economy of milling, but their cost is usually overestimated. Brown & Sharpe, Providence, R. I., have made for some years a specialty of cutters which may be sharpened by grinding radially the face of the teeth. Cutters of this sort are exceedingly durable. It is easy to see that the first cost of cutters and fixtures is a small item when the pieces of work come in large lots.
Specialization has driven concerns doing a little of everything a generation ago to one of two courses, either to go out of business or make a large number of special parts. This is just the condition of economical milling, and the extensive and extending use of the milling machine is due to this specialization, not the cause of it. It is the application of the principle of the manufacture of sewing machines to steam-engines and machine tools.

NOTES BY ENTROPY.

Mr. Editor:—

In regard to Mr. Wyman's letter, and the discussion relating to tempering steel, I believe the particular bar of steel has more to do with the result than all the hardening compounds in the world. Out of eleven bars of steel, pieces of which I recently hardened, two failed to harden at a red heat. All the pieces were made by the same firm and were supposed to be exactly alike. A man will often get discouraged over a lot of steel and will lay it to the water. Then he gets a tub of salt water and a little vinegar, etc., and a new lot of steel and all goes well. I think a piece that will harden in any of these mixtures will harden equally well in pure H₂O.

That soapy water will not harden steel is untrue. A piece of steel thrown into slightly soapy water will be found on cooling to be spring tempered and very strong, according to the steel.

Will some one tell us whether there is a point below welding heat at which ordinary machinery steel will unite itself in the same way as the tool steel which Mr. Wyman showed? It would be very convenient to be able to weld finished pieces occasionally without hammering them.

I met one of my former class-mates the other day. He used to be a very nice draughtsman in school. Used to put in all his arcs for fillets, etc., with the compass as carefully as if they had been railway curves. Used to measure every line he drew down to the hundredth part of an inch. Now he puts in the small curves free hand, and if it is just after pay-day he puts in the large ones with the aid of a dime, or a quarter, etc. Just before pay-day he always thinks he will make a lot of standard circles of thin brass or steel with a little hole in the middle so that he can mark his centre for the pattern-maker to work from. Now when he gets a dimension wrong he don't worry over it.

He just puts down the correct figure and lets it go. He says the drawing is a sort of illustration he is making so as to remind the workman to look for the sizes.

The next time I see him I expect to find him doing his drawing on the shop floor with a piece of chalk. I hope he won't though. Lots of people might just as well as to do the way they do. Every drawing and sketch, no matter how simple, ought to be saved at least until proved absolutely worthless. Every drawing ought to be dated. One is just as likely to hit on something which he may wish to patent as not. A dated sketch is of great value in proving priority of an invention.

If '93 has any men who are interested in Steam Engineering after studying Thermo, and want to measure engine clearances accurately, I would suggest that cylinder oil is much better than water for that purpose. It does not run through a small crevice nearly as easily.

It seems a pity that no one can write a decently interesting text-book on Thermo. If one could get a little insight into this important subject before he went to the bottom of it, he might be able to worry through, and know a little more than that. "Hirn's Analysis is a thing they use on a steam engine." The trouble is most of the men seem to stay pretty near the bottom of the subject. The way it is taught puts me in mind of the way my grandfather learned Latin. He learned the whole book so he could repeat it in Latin, and then after he was heartily sick of it he began to find out what the words meant.—Yours,

Entropy.

THE W P I AND THE ALUMNI.

About a fortnight ago the W P I Board sent out circular letters to all the Alumni subscribers asking for suggestions and criticisms upon the paper, hints as to the matter published and the like. In response to our humble request we have received not over two thousand replies, but as many of these contain points that directly refer to the Alumni, and may also be of interest to students, we make several clippings. One of the first letters came from an '84 man, who writes:

"The part of the paper which it appears to me is sadly deficient is that devoted to the Alumni, and if one-tenth of the Alumni would send some paper connected with their own business once a year it would add immensely to the value of the W P I."
An '88 man writes us a very encouraging letter and says among other things:

"First, make much of the personal column. That is of most interest to all Alumni and the best advertisement for the Tech. * * * If you could arrange a series of articles on important branches of industry which are represented by the Alumni, and written by men who are well up in their professions—of whom there are scores among our ranks—it would be of much value to the students, of interest to the Alumni, and a good thing for the paper. I believe it would pay in raising the standard of your paper among advanced college journals, and possibly lead the Faculty, in some moment of affability, to credit your work on the paper as so much done in English." [These italics were not in the letter.]

A graduate of '82 writes: "It is to be regretted that more of the boys among the Alumni do not find time to contribute something to the columns of the paper."

An '82 man says: "I think other short technical articles of strictly practical character, and coming from the Alumni, would add to your paper." And '82 in the same strain adds: "It seems to me a few more papers might be inserted of technical interest."

NOTICES.

Oct. 27, Thursday. First concert in Y. M. C. A. course.
Oct. 28, Friday. Lecture, First Univ. Church, by Dr. Gunnison, "From Blarney Castle to Westminster Abbey."
Oct. 31, Monday. Master Cyril Tyler, Boy Soprano, at Mechanics Hall, under auspices of Y. M. C. A.—Final Cross-country run at 4.45, from cor. West and Highland sts. to Tautnuck P. O.
Nov. 1, Tuesday. Republican Torch-light parade.
Nov. 3, Thursday. Grand Republican Rally, Mechanics Hall.
Nov. 5, Saturday. Foot-ball game at Oval, 3 P. M.
Harvard Freshmen vs. W. P. I.
Nov. 8, Tuesday. Social at Pleasant St. Baptist Church.
Nov. 10, Thursday. Social at First Baptist Church.
Germania Orchestra, second concert in Y. M. C. A. course, Association Hall.
An attractive athletic program will be given every Thursday evening by the U. C. ME. Club at the Rink.

FIRST CROSS-COUNTRY RUN.

'93 Wins by Seven Points.

Last month the Athletic Association voted to hold the cross-country runs in the fall instead of in the spring as heretofore. On Monday evening the first of the runs of three took place. The course was from the boat-house on Institute Park to Barber's Crossing and return, about 4 1/2 miles. Twenty-seven men appeared in winged slippers, nine from '93, Parker, Dyer, Strong, Vail, C. E. Goodrich, Coombs, Derby, Farwell and Baker; thirteen hopeful Middlers, Linnell, Davenport, McFarland, E. B. Smith, Gordon, L. Killam, Gallagher, W. B. Fuller, Eastman, H. N. Smith, Cobb, Nye and Scott; and only five Juniors, O'Connor, Hentz, Wellington, Fletcher and Dove.


Goodrich, '93, and Fuller, '94, came in neck-and-neck and made a very pretty sprint at the finish, Goodrich winning by a stride. Baker, Parker, Gordon, Gallagher, Strong and Davenport, the first six, each received a badge.

The score by classes was:—

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Mr. Z. W. Coombs acted as starter and referee.

L. W. Rawson, '93, was judge at stake. E. B. Whipple, '94, and C. A. Harrington, '95, kept score. W. J. Denny, A. C. Comins and A. D. Flinn, '93, took the time. Dr. Fuller and instructors Viles and Phelon showed interest enough to be present as spectators.

Although the air was damp and chilly the time made was very good. Baker's record cut last season's 25 m. 35 sec., made by E. L. Smith, '92, by one minute and twenty seconds. Dadmun's record, April 17, 1891, on the course from the corner of West and Salisbury Sts. to Barber's Crossing and return was 25 m. 11 1/2 sec. Parker, '93, and Gordon, '94, were two dark horses who showed their paces for the first time. Their excellent work created much surprise. Both finished in good form.

Several men who were prominent in the last runs were missed in this one. Some of them might have been found doing good work on the
foot-ball field under the direction of the new coach, Ellis of Dartmouth. Others were disqualified or not in condition. Altogether the run was very satisfactory.

UNFORTUNATE AGAIN.

Amherst Aggies, 18; W. P. I., 4.

The gentlemen agriculturists from the cozy old town of Amherst scored a second victory over the Tech this season on Saturday, Oct. 15th. The game was at the Oval, at 3 P. M., and except for the warmth the weather was without fault.

After the good showing against Brown the week before, most everyone expected a little better exhibition on the part of the home eleven than was granted, but there is no question but that the Aggies play a strong game. Their blocking was especially fine and effective. Their method of lining up was one to effect good work in interference. The ends and halves formed practically a second line, and six men ran with the ball instead of one.

Rogers, Brigham and Brooks were solid in the centre. “Brig.” made a gain every time he was at the ball. Goodrich, at right-tackle, showed up well for a new hand. Ware played a good game at left-end and with Chase did some fine work at tackling, while the remainder of the line and the backs played well, individually.

The teams faced each other as follows:—

**AGGIES.**

Manley, right-end-left.
Henderson, right-tackle-left.
Boardman, right-guard-left.
Howard, centre.
Burrington, left-guard-right.
Duffield, left-tackle-right.
Melandy, left-end-right.
Putnam, quarter.
Berry (Capt.), right-half-left.
Bagg, left-half-right.
Davis, full.

**TECH.**

Ware, left-end.
Butterfield, right-tackle.
Brigham, centre.
Rogers, left-guard.
Brooks, right-guard.
Goodrich, centre.
Stone, F. H.
Chase.
Allen (Capt.), right-half.
Stone, F. B.
Southgate.

Tech tried to break the centre, but struck something. Three attempts gave Tech the ball and heavy plunges of all from backs into the line drove the ball up to 2 yards of the goal line. Allen made the down, the whole team shoving him on. Southgate failed to kick goal.

W. P. I., 4; A. A., 0.

The crowd of 200, including many fair ones, cheered to the echo. But Amherst was not beaten. A V, a run by Bagg, one by Duffield, another attempt by Bagg spoiled by F. H. Stone, and another V gave them a touchdown. Perry kicked goal.

A. A., 6; W. P. I., 4.

In the 9 minutes left of the first half, a V, runs by Brigham, Allen, and a buck at the centre by Southgate gained 20 yards. Southgate fumbled, Aggie sent Bagg, Perry, and Duffield and the ball was at the centre. Bucking the Tech centre resulted as usual, and Tech secured the ball. Allen made a fine rush of 20 yards, and time was up.

A. A., 6; W. P. I., 4.

A V, runs by Perry, Bagg, and Melandy, and for the first time a successful buck at the centre gave Aggie a touchdown in 7 minutes. Perry kicked goal.

A. A., 12; W. P. I., 4.

Tech tried the V, sent F. B. Stone around the left end, and Allen gained 15 yards. Then Amherst took the ball and sent Bagg for 10 yards. Perry was tackled by Brooks who broke through and lost 6 yards. Bagg was dropped on by Ware, a close decision then gave the Aggies a gain of 5 yards in three downs. Perry gained 10 yards, Duffield 3, but the Tech was given 5 yards for Aggie’s holding in the line. Aggie went right on gaining, however, and Duffield made the third touchdown, and goal was kicked as usual.

A. A., 18; W. P. I., 4.

In the remaining 7 minutes Tech tried hard to score. A V gained 5 yards, and 5 more were given for holding, but 5 were also taken from them for offside play. A run by Allen and the game was won, ball on the 20-yard line.

HARVARD '94 vs. WORCESTER TECH.

The weather throughout the game was good with the exception of a brisk wind. Only a small crowd attended, mostly students. Harvard brought quite a delegation. Harvard’s game was more quick than strong, doing good work around the ends and with the guards. Worcester’s game was strong in some places and decidedly weak in others. The halves were thirty minutes long.

At 10.50 the teams lined up as follows:—
HARVARD takes fifteen yards by Smith, '95, and keeps the ball. Right half-back gains by being blocked well. Ball goes out of bounds and Harvard takes fifteen yards. Harvard punts and keeps the ball. At this point Harris makes a splendid tackle, bringing down his man immediately. Harvard has the ball and takes it out of bounds. Takes fifteen yards. No gain. Lincoln makes a good tackle for which he is justly cheered. A gain of five yards and then another larger one brings the ball well into Tech territory. A few more rushes carries the ball close up to Worcester's goal and a touchdown is made by Brooks who, however, fails to kick goal. Score 4 to 0. Four times Worcester gains. Then Harvard takes the ball and pushes it the other way. Quarter-back fumbles. At this juncture a new movement is tried. The ball is passed to Harvard's right guard who goes through in good style and leaves the ball close to the line of bounds. Ball goes to Worcester on a fumble. Shortly after it again changed hands and then went outside. A bad fumble by Harvard's men send the ball toward their territory and Worcester gets it. Time is called. Score 4 to 0 in favor of Harvard.

TECH.

| WARTE           | left ends | HARVARD.
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<td>Harris</td>
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<tr>
<td>Lincoln</td>
<td>half-backs</td>
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<td>Stone, '93</td>
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<td>Southgate</td>
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<td>Fields</td>
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<td>Stone, '95</td>
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When a punt is made by the opposite side our rush line should stop their men and not turn around to watch the ball. The backs can tend to that. Some skilful tackles and rushes were made by both sides, but more can be done.

Southgate had to do more than his rightful share of the playing.

If the regular team had been playing there would undoubtedly have been a different story for Tech men to tell. But to encourage the team, the practice under coaching instructions already shows.

A little "slugging" and some kicking was indulged in, and several were hurt, one or two quite badly.

Several times it was quite noticeable that the Harvards lined up and had the ball in play before some of the Tech men were in position.

SECOND RUN.

'T93 Increases her Lead to 34 Points.

The second cross-country run of the series was held last Monday afternoon. The course was from the corner of West and Highland streets around the watering-trough at Coes Square and return, a distance of about 4½ miles. The weather was rather cold and windy, but this did not trouble the runners as much as the dust.

'T93, by the last run, was seven points ahead of '94, and because the contest was wholly between these two classes and the score was so close, enthusiasm ran high.

Twenty-three men started off when Referee Coombs gave the word at seven minutes of five. When the boulevard was reached the men began to spread out, and when the last man went around the turn at Coes Square, Baker and
Parker had already covered over half a mile of the distance back to the finish. The pace was a very stiff one from the start, and if there had been less dust probably last year's time would have been equalled. The finish between Parker and Baker was a very pretty and close one, Parker winning only by a few inches. Then about two hundred yards behind came Gordon, '94, Gallagher, '94, Strong, '93, and Davenport, 94, all in a bunch. Another hundred yards back Farwell, '93, came trotting along. Coombs, '93, Dyer, '93, Derby, '93, and Butterfield, '93, all came in almost abreast, in 9th, 10th, 11th and 12th places. Except Goodrich, 20th, '94 had all the rest of the places.

The men who scored with the number of points follows:

'93.—Parker, 20; Baker, 19; Strong, 16; Farwell, 14; Coombs, 12; Dyer, 11; Derby, 10; Butterfield, 9; Goodrich, 1. Total for '93, 112.

'94.—Gordon, 18; Gallagher, 17; Davenport, 15; Linnell, 8; Heald, 7; Cobb, 6; Eastman, 5; McFarland, 4; Fuller, 3; Killam, 2. Total for '94, 85.

'95.—O'Connor, 13. Total for '95, 13.

These totals added to those of the last run leave the standing of the classes as follows:

'93, 213; '94, 179; '95, 28.

The first six who received ribbons were the same as in the first run, and except Baker and Parker, who changed places, they were in the same order.

The standing of the men for the medals is,—Baker, 39 points; Parker, 39; Gordon, 36; and Gallagher, 34.

The time of the first man in was 24 min., 37 sec. The time made by E. L. Smith, over the same course last year, was 23 min., 29 sec. When we hear of the winners of two-mile runs in colleges all around us making the time, 12 minutes and over on a good track, it seems as if our long distance runners stood a pretty good chance of doing something at the intercollegiate meet next spring.

THE PHI GAMMA DELTA RECEPTION.

On Thursday evening, the 20th inst., Pi Iota Chapter of the fraternity of Phi Gamma Delta tendered a reception to the Trustees, Faculty and Instructors of the Institute at the home of the Chapter, No. 7 Highland St. The committee on arrangements consisted of Hugh M. Southgate, William C. Howe, Charles A. Burt and Roswell J. Clapp. Through their efforts the house presented a very pretty appearance, the halls, parlors and dining room being decorated with palms, ferns and cut flowers. The guests were received by Hugh M. Southgate, William C. Howe and Richard C. Cleveland, the other members of the fraternity acting as ushers. During the evening refreshments were served by the Chapter's steward, James A. Young.

The following is a list of those present, sickness and previous engagements keeping many away whom the boys would have liked to have seen present:

G. Henry Whitcomb and wife.
Rev. Austin S. Garver.
Rev. C. M. Southgate.
Dr. Fuller and wife.
Prof. Geo. E. Gladwin.
Milton P. Higgins and wife.
Prof. A. S. Kimball and wife. Everett Kimball.
Prof. U. Waldo Cutler and wife.
Prof. Geo. H. White.
Prof. L. L. Conant.
Alton L. Rice.
Zeilotes W. Coombs.
Ernest W. Desper.
Arthur L. Smith.
Daniel F. O'Regan.
Mrs. Howe.
Miss Howe.

A very pleasant evening was spent, the members of the fraternity enjoying the occasion of meeting the professors and their wives socially, and will look forward to the time when they can entertain them all again.

CAMPAIGN CLUB.

A meeting was held October 17th, at which eighteen were present, to organize a Republican Campaign Club. Owing to the insufficiency of notice it was decided to adjourn until the 18th, and to make a canvass of the classes.

Oct. 18th, '94 had a class meeting, so again only a small number were present. A committee of three from each class were appointed to make a more thorough canvass.

Oct. 19th, the Club met and chose a President, Secretary and Treasurer. Wm. H. Larkin, Jr., '93, H. S. Davis, '95, and R. J. Clapp, '93, were elected captain and 1st and 2d lieutenants, with power to appoint whatever officers they might need to assist them.

About 40 men joined at once. They are drilling under Capt. Larkin and will undoubtedly make a good appearance in the big parade. The uniforms will probably be gowns and mortar boards in either class or school colors. They will carry rolls of "parchment."

One or more political meetings of the Club may be arranged, but as yet nothing definite has been done.
The short time that this organization will exist must appear as an argument in favor of its continuance. It is of course bad policy to let any politics interfere with business, but it is the duty of young men to take some interest either on one side or the other.

---

THE TENNIS CUP.

1253 Curtis Ave.,

CLEVELAND, O., Oct. 15, '92.

EDITOR OF "W P I":

Dear Sir:—In the Oct. issue of the "W P I" I notice an article headed "Tennis Summary." In this article it was stated that Mr. Coburn is the present holder of the Landsing Cup, but had Mr. Southgate defeated Coburn the cup would have become Southgate's personal property.

When I gave the tennis association the possession of that cup it was on the condition that it should always remain a property of the Association. I consider the intentions of the Association (if truly expressed by the above) a breach of faith and dishonorable on the part of the Association.

When the Association obtained possession of the cup, it added an amendment to its constitution, substantially to the effect that the cup shall always remain the property of the Association and be competed for annually; the president, vice-president and secretary constitute a committee to look after the cup and see that the above amendment shall be executed. Therefore I consider the intentions of the Association unconstitutional and improper.

Perhaps the constitution has been further amended or revised. But in the autumn of '87 the Secretary of the Association notified me that I had been made an honorary member, as an expression of appreciation for my past services to the Association. Then, considering my relations to the Association, if such a radical change was made in the constitution, common courtesy would demand that I should have been duly notified. But the above-mentioned article is my first knowledge of the intentions of the Association. Hoping you will find space in the W P I for this letter,

Yours,

JANG LANDSING, '87.

[All the available records of the Tennis Club have been searched and no mention of the Landsing Cup can be found. It has been generally understood, however, that if any student should be able to keep the cup all the time that he was a member of the Institute it would become his personal property on leaving. The W P I for Oct., 1885, says, "It is to be held by the Association as a permanent possession." Ed.]

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DISGRACEFUL NEGLECT.

We were covered with shame on Friday evening last when several friends asked us where the Tech flag had been all day. Columbus Day, a holiday of national and international significance—and our bunting lay shamefully concealed in its box, while from public schools and business blocks, and from the institutions on the opposite hills the national colors were proudly waving in the wind!

Fellow-students shall this happen again? Rather let us buy two square feet of land on Bliss' field, put up a pole, and nail the flag to its top, there to stay three hundred and sixty-five days in the year! When one piece of bunting rots, purchase another; and let not this blot fall upon our patriotism again.

---

ALUMNI NOTES.

'77. W. M. Towle has charge of the shops at Pennsylvania State College, State College, Pa.


'89. According to the Spy the first conversation between Worcester and Chicago, by long distance telephone, was held last Monday evening between a Spy reporter and A. P. Allen, '89, who is now in charge of the electrical department of the Long Distance Telephone Co. at the latter place.

'90. H. E. Austin is Prof. of Chemistry, Botany and Natural History, at the Maryland State Normal School, Baltimore, Md.

'91. H. J. Somerset is located with the Canadian General Electric Co. at Peterborough, Ont.

'92. F. E. Hammond visited the Institute last Monday. He has just left his position at North Adams and is on his way to take a place as draughtsman with the American Bridge and Iron Co., Roanoke, Va. Marden, '88, is with the same company.

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TECHNICALITIES.

Prof.—"Always μ W but sometimes μ P."

The Worcester Academy eleven was defeated on the 14th of this month by the Brown freshmen. Score, 10 to 8.

An eleven from Dean Academy of Franklin defeated the Dalzell eleven at Agricultural Park, Oct. 15. Score, 4 to 0.

The U. C. ME intends to give special rates to Chinamen using the pool tables in consideration of their furnishing their own queues.
Jo Ban. "Do you know any one who can play in an orchestra?"
Guy Tar. "I’ve played second fiddle ever since I can remember."

Prof. X. "Suppose I were to lecture the class twice as much as I do; would the law of diminishing returns go into effect?" Student. "I think it would immediately."
1st Senior. — "Why don’t you get a shave?"
2nd Senior. — "Haven’t any money."
1st Senior. — "Why don’t you get it on your face?"

Boy: "Father, to what regiment did the minute-men belong?"
Father: "The sixty-second, of course."—[Clipping.]

Instructor Viles says it must be a Rood man that will keep the men at the Laboratory beyond the hour and make them late for the German recitation.

There is a difference in opinion among the members of the English class whether the face of Grover Cleveland is or is not a limited subject for an essay.

Overheard in the basement. "What’s the matter with you? Having a spasm?" "Yes, you see I study so little I have lots of waste energy and am driven to spare some."

How natural it will seem when we return to the Institute ten years from now, to see the clock in the Physics lecture room still indicating twenty-four minutes of nine!

Physics Lab. "Say, have you had this experiment?"
"Yes, last week."
"How do you do it?"
"Oh I don’t remember."

An alumnus who graduated fully ten years ago wrote recently, referring to the solicitation of papers from the Alumni, and said: "I suppose the excuse ‘I have no time’ would be worn so threadbare that it would no longer be accepted even by the Faculty." Evidently the little brown covered blank books with their pages telling of sickness and "business" are not a new invention.

In a genealogy now being published at our printer’s, there is an account of an old veteran who had a remarkable experience. The account reads as follows: "About the year 1828 he fell from near the top of the spire upon the roof of a meeting-house he was building and so indented it, by breaking one of the rafters, as to obtain lodgment there until relieved. He was not sensibly injured, but soon went about his work." This story should be taken in small doses, and only when in good health.
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