THE TECH.

Published on alternate Wednesdays, during the school year, by the students of the Massachusetts Institute of Technology.

BOARD OF DIRECTORS, 1881-2.

H. WARD LEONARD, '83, President.
HENRY F. ROSS, '82, Secretary.
I. W. LITCHFIELD, '83, Treasurer.
WALTER B. SNOW, '82.
H. B. GALE, '83.
A. STUART PRATT, '84.

BOARD OF EDITORS.

ARTHUR W. WALKER, Editor-in-chief.
G. W. MANSFIELD, '82.
GEO. J. FORAN, '83.
F. F. JOHNSON, '84.
ARTHUR D. LITTLE, '85.
HARVEY S. CHASE, Civil and Mechanical En'g.
GRENVILLE TEMPLE SNELLING, Architecture.
CHAS. H. TOMPKINS, JR., Mining and Chemistry.
E. TILDEN GIBBONS, Sporting Editor.
SAMUEL M. MUNN, General Advertising Agent.

TERMS:
Subscription, $2.00 per year in advance.
Single copies, fifteen cents each.
Communications requested on matters of general interest.

ALFRED MUDGE & SON, PRINTERS, 34 SCHOOL STREET, BOSTON.

STUDENTS AND FRIENDS:

GREETING.

TO-DAY is issued the first number of our paper; and, although we tremble at the thought of the work before us, we begin it gladly. We believe that the same public spirit that founded THE TECH will sustain it to the end.

The Institute has never been rich in papers. Only one, we believe, has ever been published. Some years ago, the Spectrum shone for a time, but soon faded away. Still later, an attempt was made to establish another paper, but in vain; the first number never appeared.

And now comes THE TECH, asking its share of favor. Even as its predecessor, it attempts great things. It will be its aim to promote the interests of the students of the Institute, and maintain a friendly spirit among them, breaking down the ancient barriers of class and department. It will exercise a guardian care over the members of the school, protecting the Freshman, curbing the Sophomore, correcting the Junior, and supporting the Senior in his old age. It will open an avenue for the expression of public opinion, and will aim, in every possible way, to help all in the development of their young manhood and young womanhood. It is hoped, too, that it will keep the interests of the Institute before its graduates, cherishing among them the memory of their Alma Mater. Our brother and sister colleges, also, will become better acquainted with us through this paper.

We cannot look far into the future. We cannot tell what buds of genius may be unfolded in these columns. But even if genius does not bloom; even if the beauties of rhetoric and poetry are not developed here; even if this paper becomes, like the school it represents, only a field for plain, honest work, — we shall nevertheless be sure that the efforts we make are stepping-stones to further attainments, helping us all to the higher and nobler uses of our lives.

It may be interesting to the graduates and friends of the Institute to know the history of this paper's formation, and its plan of management.

About a month ago, a meeting of the students was held for the purpose of considering the publication of a school paper. A committee of five was chosen, with instructions to examine the matter in detail. A week later the committee presented a report in favor of the proposed paper. The recommendations of the committee were subsequently embodied in the present form of government.

The management of THE TECH consists of a board of directors of seven, representing the
various classes of the school. The directors have charge of the publication of the paper. They elect the editorial board, consisting this year of ten members. The directors are responsible to their respective classes for the property and funds in their charge, and hold their positions until the election of the full succeeding board.

The energetic chairman of our board of directors has been, from the first, prominently connected with THE TECH, and deserves the thanks of the entire school.

THE prize for the best design for the cover of THE TECH has been awarded to Mr. G. F. Shepley, of the Architectural Department. Mr. Shepley has gained not only the mere prize, but also the approbation of all interested in our paper.

Communications.

Public Spirit.

A DEGREE from the Institute of Technology conferred upon a young man is proof that he is a good, patient worker, or that he has born ability; and we are proud of our membership of an institution whose graduates are, in one respect at least, promising young men. But ability to learn the lessons taught here, and to graduate even with high honors, is but a small part of true manly character. In doing this and nothing more, the man is simply working out his own selfish interest. If he works for the betterment of his own condition that he may do his share toward bettering humanity, he works nobly.

The true manly character involves much more than working for marks. Every man has duties other than those to self. It is only the meanest of men who do not recognize their duty as citizens of the State. Nearly all men pay taxes, and expect to pay them. Nearly all men want to pay taxes for the support of those things which minister directly to their own personal wants.

The mean and niggardly men are quickly sifted out when a subscription paper comes round, asking support for some scheme for public benefit. How utterly degraded and low is the man who draws from the pockets of whole-hearted, public-spirited men, money to pay for the benefits which his selfishness allows him to enjoy! It would be harsh to call such a man a thief, would it not?

The world needs a generation of public-spirited men; men who, when a church is wanted, a school, a public library, a park, or anything of common benefit, can realize that want and bear their full share of the expense. We all know rich men who are so notoriously stingy that they are never approached for a subscription. Men of more public spirit have to fill up the blanks left by those Shylocks who are unfriendly to any public benefit. Thank God! there are public-spirited men in every community.

If a man—a young man, let us say—is poor, and honestly says that he cannot afford to give as much in money as others, it is no disgrace to him. But his circumstances do not excuse him from the duties which he still owes to society. He is bound to give his personal support, and whatever money he can, to the worthy objects before him.

Let us bring these principles home to ourselves. We, members of the Institute, form a little community. First of all, we owe our allegiance to our government. This done, we have duties to each other and to the organizations which exist for the common benefit of all. We have several such, and they are commendable and deserve the support of every member of the Institute.

This paper, in its infancy, has thus far met with meagre support. A good part—the best part—of the fellows have shown an interest in it; yet there are many who have met the attempts of its founders coldly. Selfishness is an excellent indication of character.

We have an Athletic Club, organized for the promotion of athletic sports and such exercise as is necessary to the health of a student.
Only a few men deny the real value of this organization to its members and to the students as a whole, and these few men are probably afraid of being asked for a subscription. It is noticeable that they are always ready to come and bring their friends to enjoy an afternoon's entertainment at the club's expense. Of course the members are glad to have them come and enjoy the entertainment that is provided by the club for those that are members; but such visitors are like the men who avoid taxation but still enjoy public benefits.

The result of this status is that the free-handed men have to carry the whole burden of expense and labor of any scheme which may be proposed. Now, the meanness of the men whose selfishness will allow them to indulge in such "sponging" is utterly disgraceful to them, and to the institution to which they belong.

Contributions.

Some Wonderful Insects.

SOMEbody has said that the most wonderful bit of matter the world contains is found in the brain of an ant; certain it is that many of the ant's doings show an almost human intelligence, and make us pause in the proud assertion that we only are God's reasoning creatures.

Many of the stories told of them seem almost incredible, but those which I shall here bring forward have all been well attested.

It is well known that ants have a means of communication with each other in their long and sensitive antennae or "feelers," though how they manage to convey information through such a channel is a mystery. They have also considerate faith in each other's statements, if one can use the word here. When one of them discovers any food, he finds no difficulty, if the mass is too large for his unaided efforts, in making known his discovery or in persuading his friends to accompany and assist him.

One naturalist put an ant in a pill-box with a dead fly. The ant, after climbing out of the box, went directly to his nest, returning soon with seven friends, who climbed into the box and carried the fly away piecemeal. As the fly was out of sight, their coming showed, of course, their faith in their companion. Nothing shows the high intelligence of the ants more conclusively than their co-operation in labor. If they have to carry anything a long distance, they do it by relays; one relay taking it for a short space, then passing it on to the next. Frequently one ant may be seen stretching and pulling at the leg of a dead grasshopper, while another gnaws the tendons at the point of greatest strain.

But it is in their military operations that their organization is most apparent. When, as frequently happens, a nest of one species determines to make war against that of another, scouts are first sent out, who discover the location of the approaches and entrances to the foreign nest. The attacking army then sets out under the guidance of the scouts, and commanded by officers who run along by the side of the marching column. The officers are readily distinguished by their smaller size and large heads. They possess in their jaws a powerful means of preserving discipline.

When the nest is reached, guards are posted at every entrance but one. Through this one the attacking party enters, and the fighting is chiefly under ground. Such of the defenders as try to escape by the other entrances are put to death by the guards outside, and it is usually not long before the nest is in the hands of the besiegers. Then if the victors happen to belong to one of the species which are known as the "slave-keeping ants," all the eggs found in the conquered nest are transferred to the other, where they are carefully tended until the ants, thus born in slavery, are hatched.

The duties of these slaves vary in the different nests. In some they have to fight; in others they care for the eggs, turning them frequently, and taking them into the sunshine in fair weather. One species of fighting ants have jaws of such large size and peculiar formation as to prevent their feeding themselves. They are therefore
dependent on their slaves, who make a pulp of the food by chewing, and then transfer it from their jaws to those of their masters.

Ants possess some mysterious means of discerning between friends and foes. Let two ants who came from the same nest, or whose fathers came from the same nest, meet, and immediately there is a most undoubted recognition; they rub antennae and show signs of pleasure at the meeting. If, however, they happen to be from different nests, they proceed, on the principle that a stranger is necessarily an enemy, to fight to the death.

As soon as two hostile ants have fairly locked their twelve legs together, they may be picked up and put on the stage of a microscope, where they can be seen to fight in a style that puts to shame a Greco-Roman wrestling match.

Certain species store under ground in autumn the seeds of one or two grasses. When the time for harvesting arrives, some of the ants climb the stems of the grasses, and by biting cause the seeds to fall. The ants on the ground below then take them and carry them by relays to the nest, where other ants store them in underground chambers. And here the ants display a knowledge which exceeds our own; for though these seeds are in damp chambers under ground, they rarely germinate. If, however, the ants are driven away, the seeds speedily spoil.

All ants are fond of sweet things, and certain colonies, as is well known, gratify their taste in this direction by domesticating, rearing, and protecting the aphides or plant lice, which in return supply them with a sweet secretion.

Similar indications of intelligence might be multiplied almost indefinitely; enough have been produced to show why the study of these little creatures is beginning to seriously modify the views of those scientific men who hold that man's reasoning powers differ not only in degree but in kind from those of the lower animals.

A. D. L.

Our third-year friends are finding out all about rectangular parallelopipedical particles.

JANITOR JOHN is a terrible bore,
Always turning one out of door.
He comes around when you wish to work,
And over his shoulder his keys will jerk.
And stops and talks till he drives you away,
However much you may wish to stay.
He collects old boards at the end of one year.
And sells them the next to the Freshies, I hear.
In spite of all, he's a great favorite,
And finds naught but friends when he comes each night.

T. H. H.

The Mechanical Engineers at Providence.

THE third and fourth year mechanical engineers made a pleasant visit to Providence on the 10th of October, by invitation of Mr. Geo. H. Corliss, to witness a trial of the large pumping engine built by him for the city of Boston. This engine was designed to pump up to the surface the sewerage delivered at Moon Island; but was rejected by the city, the contract being given to Mr. Leavitt, of Calumet and Hecla fame. The Corliss engine is now to be used in connection with the Providence Water Works.

The engine was set up in the yard of the Corliss works. It forced water from a reservoir into a large vertical pipe, from the top of which it was discharged again into the reservoir, the average head being 47.22 feet. The results of the twelve days' test are unequalled in the history of pumping machinery.

The compound engine has two walking-beams, their common axis of rotation being fifty-four feet above the ground. The beams connect at one end with the high and low pressure pistons respectively, and at the other end with a large fly-wheel. The latter is placed
between the beams, the cranks being 90° apart. A Corliss upright boiler delivered steam at one hundred and twenty pounds' initial pressure to the eighteen-inch high-pressure cylinder, whence it is passed, by a receiver, to the thirty-six-inch low-pressure cylinder, and thence to a surface condenser. Both pistons have six-foot stroke, and the steam was cut off at about one fifth. Four pump plungers,—three feet diameter, three-foot stroke,—two for each beam, on opposite sides of the centre, delivered, one after another, eighty-five cubic feet of water at each revolution. The number of revolutions per minute was 27.5. From three hundred and four indicator cards taken during the trial, it was found that the mean horse-power was 244.6, and that the coal burned per horse-power was 1.52 pounds per hour. The average actual duty for the whole run was 111,906,926 foot-pounds for one hundred pounds of coal.

An advantage is claimed for the Corliss over the direct-acting Leavitt pumps in the construction of the valves. The weight of the hinged valve of the Leavitt pump must be lifted by the engine when the valve opens, and solid substances may become squeezed in under the hinge and prevent the valve from closing. Mr. Corliss maintains that sewerage is liable to contain solid bodies, including even cats and dogs. So he puts the valve disk on one end of a horizontal lever, hinged at some distance from the disk itself, and attached at the other end to a vertical rod by which the valve is moved. The weight of the rod balances that of the valve, so that the valve requires less power to lift it. A spring is also connected with the rod. If now any obstruction—a yellow dog, for example—prevents the closing of the valve, the latter is not injured; and if the dog is not too large, he is at the next stroke carried serenely on his way.

Having wandered through the extensive works of the Corliss Engine Company, the delegation of embryo engineers next visited the large establishment of Brown & Sharpe, where they were cordially received and conducted through the buildings. A great variety of articles is made by this firm, and much time might be profitably spent in studying their various special methods and machines for doing fine, accurate work, as well as the model system by which the business is managed. The visitors were struck by the neat appearance of the shops and the careful provision for the comfort of the workmen. Even in the foundry, white curtains hung at the windows, the walls were clean and white, the room well ventilated and lighted, and made comfortable by steam radiators.

After a short visit to the Harris-Corliss Engine Works, the party took the seven-o'clock train for Boston. Such excursions may be made a source of much information and pleasure, and the boys say, “The more of them the better.”

H. B. G.
CLASS OFFICERS: George Faunce, Jr., President; J. W. Johnson, Vice-President; G. T. Snelling, Secretary and Treasurer.

The testing machine is one of the Freshman's seven wonders of the laboratory.

Mr. Hall (embryo chemist) is slowly but surely recovering from a painful wound, received while performing a difficult experiment.

The mechanicals have been doing some very good practical work "indicating" engines during the past two or three weeks.

Gen. Walker visited the metallurgy class last Wednesday; hence the appearance of satisfaction and pride on the countenances of '82.

Mr. Lowe (chemist to be) was nearly blown up and burnt up by gasoline the other day. He escaped with only burned hands. Be cautious, dear brother.

The Senior Class has petitioned for instruction and practice in the use of the Institute's fire apparatus. Their petition has been granted.

The miners propose to have a day of fasting and prayer. The jewellers' sweepings of Mr. French have been at last agglomerated. Quite a successful run was made on Thursday.

A visit to the upper regions, lately made by one of the miners, found the mechanicals barely alive in an atmosphere which would have rivalled that of the Black Hole of Calcutta. It is his opinion that unless they are more particular, some one will have to be carried home in a peculiar vehicle before long. Their health demands better air. Let them act immediately.

The regular students of '82 are divided as follows: civil engineering, 2; mining engineering, 5; mechanical engineering, 5; chemistry, 6; architecture, 3; physics, 1; natural history, 1. Total, 23.

"Jack" Warren has accepted a position in the Exeter Machine Shop.

The person who borrowed the editorial umbrella need not feel called upon to return it. Let him regard it as a gift of charity. It will cover a multitude of sins.

CLASS OFFICERS: J. G. Eppendorff, President; Frank Tenney, Vice-President; Harvey S. Chase, Secretary and Treasurer.

"Dan" Boon has resumed work in his father's shops at Fort Wayne.

Kwong has returned to China; it seems rather queue-rious not to see his pleasant face.

Sawyer is married and working in the navy yard.

The lectures on electro-dynamomertics were very interesting; we shall soon be in the physical laboratory.

"Wind und Wetter" promises to be quite difficult.

Prof. R—— is bound to have his notes red; he always hits the nail on the head. "Is n't that nobby?"

As regards our petition about constitutional history, we had better remain in the frying pan, had n't we?

Speaking German is an expensive habit. One of our fellows tried it the other day, and paid twenty-five cents for the privilege of saying six words. He entered the "Foreign Book Store," and the following conversation took place: "Haben Sie ein Märchen?" — "Ja." — "Was kostet?" — "Fünf und siebzig." Had our friend used his mother tongue, the salesman would have understood that his customer was from the Institute and would have allowed him one third discount. "A little learning is a dangerous thing."

We hope that the time and money that the Junior Class have spent upon the integral calculus, learning how to compute areas, will not keep them in a(r)rea(r)s the rest of their lives.

The regulars are classified as follows: Civil engineering, 3; mining engineering, 6; mechanical engineering, 7; chemistry, 3; architecture, Total, 20.

We would suggest that some student of electricity write an article on "The Efficiency of the Institute's Telephone System."
CLASS OFFICERS: G. T. Jarvis, President; A. L. Botch, Secretary and Treasurer.

The class of '84 entered the M. I. T. with seventy-five members. It contained representatives from fifteen States, and from Mexico, Japan, and China. We regret to note the absence this year of our Oriental friends, who were called home during vacation. We followed the custom of '83 by giving a Freshman ball; near the close of the second term we gave a small party in the gymnasium, in connection with the prize drill. The latter resulted in the awarding of the prizes to corporals Hunt and Bridgman respectively. The class was well represented in athletic sports, a large proportion of both the base-ball and foot-ball teams being taken from its number.

We are now entering upon our second year with sixty-six members, four of whom are new men. Five are mastering the science of curves, "cuts and fills," and "trusses and draws"; seven are becoming familiar with the various parts of the steam-engine and the application of forces; nine are looking forward to reclaiming minerals from the earth by means of the pick and shovel, hammer and drill; while one is acquiring the science of beauty in combination, and nine more are mastering symbols, atomic weights, and molecular composition. Many more are working with a view to the immediate requirements of the walks in life which they have chosen. The Tech extends a hearty support to all, and hopes to hear often from the various departments in which the class is represented.

A FRAGMENT.

DEDICATED TO ROBERT.

Paper in hand stood the printer boy,
   Papyrus before him;
And his face lit up with a smile of joy,
   As a fiendish thought passed o'er him.
He stamped that thought on the yielding pad,
   With many a hard impression;
"Who reads them notes," quoth the grinning lad,
   "Will require an extra session."

CLASS OFFICERS: H. G. Pratt, President; Redington Fiske, Vice-President; W. A. Chapman, Secretary; Edward H. Dewson, Jr., Treasurer.

The military organization of the Freshman Class is now fairly effected. The officers are as follows: A. Stuart Pratt, Major; W. A. Chapman, Adjutant; T. H. Howard, Quartermaster; Jean Grosvenor, Sergeant-Major; H. Ward, Quartermaster-Sergeant; R. H. Hunt, R. H. Damon, Captains; F. F. Johnson, T. C. Dupont, First Lieutenants; W. H. Dawes, C. R. Richards, Second Lieutenants.

The students of '85 have, almost without exception, signed a petition praying the Faculty for permission to substitute brass buttons for the prescribed gutta percha buttons of the uniforms. The Faculty have seen fit to refuse the petitioners, but for what reason it is difficult to determine. That the object of the petition will yet be granted is a consummation devoutly to be wished. The military drill, at its best, is one of those blessings that are forced upon us; and to a large class, composed of students who already have an acquaintance of from one to six years with the allurements of "setting up," it partakes of the nature of a "dem'd horrid grind." Further, the purchase of uniforms is obligatory, and by many of the students is undesired. It seems, therefore, in view of these facts, that the wishes of the Freshmen, as expressed by so unanimous a petition, should be respected.

If Coleridge, who wrote that on entering the city of Cologne he "counted two-and-seventy stenches, all well-defined and several stinks," could have spent a part of last week in the First Year Laboratory, he would have voted by a large majority that the city of Cologne was nowhere.

Copeland, '85, ran fifteen miles the other day in the gymnasium. He showed considerable pluck to keep up as he did, though the time was not especially good.
Civil & Mechanical Engineering.

In this, our first issue and the beginning of editorial life, the department of civil and mechanical engineering would present its compliments to the other departments of The Tech, and can but offer its congratulations on the brilliant prospects of the career now opening before them. It also, with all modesty, must present congratulations to the Institute at large on its good fortune in securing the services of so efficient a board of editors. Under the leadership of our noble chief, we may have good reason to hope that our enterprise will speedily walk along to a prominent position among publications. We are sorry that the editor for mining and chemistry has resigned; his other duties proved too engrossing. His successor, however, needs no further recommendation than that he is a member of '83. An interesting though not immense field lies open to the editor for '82. The other laboratory editor will sometimes give us accounts of the miners' geological jaunts on Saturday afternoons, including a dissertation on billiards as played at North Adams. Our artist will wield a mighty power, and the unwary youth may find the tolling of his-Snell-ling-er long in his unhappy ears. In our own department we shall strive to be always forehand, and have all our articles entirely chaste. Our uncommin-ly energetic advertising agent will fulfil his duties by filling our business columns with advertisements; while our sporting editor will interest us by detailed accounts of matters of athletic importance, probably including the running high jump of two Saturdays ago. Last, but not least, though Little, our '85 friend worthily completes the list.

The transformation that takes place in the shops at 4.30 p.m. — when the grimy, leather-aproned artisans from the forge or file shop are changed into fresh-faced, charming youths — is sometimes rather startling, and reminds us of the advent of the beautiful butterfly!

Department of Architecture.

Since last term the Architectural Department has changed hands; and Prof. Ware, its founder, has been succeeded by a corps of professors, consisting of Mr. T. M. Clark as head of the department, Mr. W. P. P. Longfellow as adjunct professor, and M. Létang as assistant professor. The regrets in the department at Mr. Ware's departure were many and sincere. The students, and in fact the art world in general, had come to look upon Mr. Ware and the Architectural Department as one; and when the first suggestion of his leaving us came, it seemed too preposterous to be entertained for a moment. The extreme popularity of Prof. Ware, and the real love with which all the students regarded him, make the part of his successors a peculiarly difficult one.

The students will soon be well acquainted with the new professors. The lectures on "Construction" by Prof. Clark have been very interesting. Prof. Longfellow is with the students hardly enough to become acquainted at once. As to M. Létang, his genial ways are well known to all. Besides the regular instruction of the department, lectures are expected during the winter from Mr. Van Brunt, Mr. Cummings, and Mr. Rotch, on "Ornament," "The Decorative Arts," etc.

There were many sad hearts in arriving at the laboratory ten days ago; the solid chimneys were in ruins.

That the drawing-room is not kept open until six is at present a great grievance with the regulars.

The Seniors are now at work on a problem in grouping. The programme calls for a frontispiece, the drawing to be in color on double elephant, finished by Dec. 5.

Two experiments made in Mr. Kidder's laboratory by Messrs. Coolige and Ely, on the tensile strength of cement joints, seemed to show that the strength varies directly as the area.

Lack of space compels us to omit the report of last Saturday's games. It will be given in full in our next issue.
SALICYLIC ACID is coming into general use in France as a disinfecting and sanitary agent, and for the preservation of food. The Austrian government has succeeded in propagating sponges from cuttings in the Adriatic Sea. The economy of the process is doubtful.

T. L. Phipson of England claims to have isolated a new metal, which he calls actinium. "It is silver-white and extremely brilliant."

A United States army surgeon, Geo. M. Sternberg, M. D., has discovered that human saliva injected under the skin of a rabbit infallibly causes the death of the animal, usually within forty-eight hours.

Recent investigations on colliery explosions show that when coal dust is added to air containing so little fire-damp as to be harmless, the mixture becomes powerfully explosive. Certain other forms of fine dust produce similar effects.

Unsuccessful attempts have been made of late in England to apply Bessemer's principles to the extraction of copper from its sulphuret by blowing air into the burning pyrites. The presence of compounds of phosphorus greatly facilitated the process.

Comets are popularly believed to be quite rare. Kepler, however, made the remark that they were probably as common in the heavens as fishes in the sea. Calculations fix the number of comets at over three hundred thousand.

Nature, in a note on the laxity with which American colleges grant degrees, says, "The action of the American Association will, at any rate, put people on their guard against American Ph. D.'s, S. D.'s, as well as D. D.'s."

Perhaps the most suggestive of recent discoveries is that of the German geologist, Dr. Hahn. He has found in meteoric stones which came from outer space an entire series of organic remains which he identifies positively as zoological. So far, only representatives of the lower orders—the sponges, corals, and crinoids—have been recognized.

---

At Exeter.

OUR team played its first game of the season with the Exeter eleven at Exeter, on Saturday, Oct. 29.

The Exeters played well, and were superior to our men in passing, but infinitely inferior in rushing, kicking, and tackling; which is rather to be wondered at, considering our poor chances for practice and the good ones of Exeter.

Game was called at seven minutes past three, and the close of the first inning found us with one goal, zero for Exeter. In the second inning we obtained another goal, and in spite of the Exeters' "Brace up!" they were unable to obtain any advantage. Time being called, the score stood two goals to nothing, in our favor.

Too much credit cannot be given Capt. Pratt for the skilful way in which he handled his men, and to Haines for his brilliant running and capital goal-kicking. As for the other members of the team, it is needless to say they all did well,—the record of two to nothing against as good a team as Exeter's plainly shows the fact; and Institute men may rest assured that, with a little more practice and experience, our team would rank with the first.


At Amherst.

The game last Saturday between our team and Amherst Agricultural College resulted in a victory for us, by the score of one goal to one touch-down.

Our men forced the game throughout, and obliged Amherst to touch down three times for safety. The match was played during a pouring rain, and our score would probably have been larger had the innings been of the usual length, instead of half an hour each. Hillyer, by good running, made the touch-down from which the goal was kicked.

Referee: Moore. Umpires: Bennett for Technology; Floyd for Amherst.
Graduates of the Institute never need to marry; each man is his own Ann Eliza.

Some curious phenomena were observed in the gymnasium the other day. The gym was polarized; we do not know whether it was polarized Long.

We are sorry to hear that one of our professors has been suffering from water on the lungs. We trust he will let water alone in the future.

Practical application of the calculus: If the person who stole tights, etc., from the gymnasium can be caught, he will be inter-grated.

An '85 man, having smashed his apparatus, is said to have made a cutting retort.

Why is modern France like ice cream? Chorus of historical students: "It has n't any Bonaparte, of course."

One of the members of '85 has been reading Boswell's "Life of Dr. Johnson," and has thereby been fired with an ambition to become a lexicographer. We give below some of his definitions:

Hash: A conglomerate aggregation of the ultimate particles of the unknown.

Pencil: An elongated strip of graphite encased in cellular tissue.

Beer: An artificial expedient for occasioning a febrile rise.
T. E. MOSELEY & CO.

IMPORTERS AND RETAILERS OF

BOOTS AND SHOES,

469 Washington St., Boston.

For Gentlemen:—Waukenaphast’s English Shoes & Gaiters, Horth’s French Shoes & Gaiters.

Every style and variety of American Shoes and Gaiters, from the Lowest Prices to the Finest Grade, to be found. Also make to measure with promptness and at the lowest cash prices.

T. E. MOSELEY & CO.,

469 Washington Street - - - - BOSTON.

HATTERS AND FURRIERS.

D. P. ILSLEY & CO., Importers of Ladies’ and Gentlemen’s Hats and Furs.

ILSLEY & CO. will exhibit for the season of 1881 one of the largest and most valuable stocks of Ladies’, Gentlemen’s and Children’s Goods ever exhibited by them. They come from the best makers, both in Europe and America, and include every leading style of the year. We are now receiving English and French Derby and Opera Hats from styles personally selected by us, and manufactured expressly for Students’ wear.

385 Washington Street, Opp. Franklin Street, BOSTON.

F. L. DUNNE,

SPECIALTIES

IN

FINE TAILORING

252 Washington Street - - BOSTON.
EDWARD S. KELLEY - - - DRUGGIST,
SUPERIOR MUCILAGE FOR STUDENTS' USE,
$1.50 PER DOZEN.
HOTEL BERKELEY (NIGHT BELL) - - - COR. BERKELEY & BOYLSTON STREETS, BOSTON.

ESTABLISHED 1830.
ALFRED MUDGE & SON,
PLAIN AND ORNAMENTAL
BOOK & JOB PRINTERS,
34 School Street, Boston, Mass.

Two lines of Goods which meet with large sales during the Holidays,
CHRISTMAS AND NEW-YEAR'S CARDS

PAPETERIES OF BOX PAPERS.
We claim to carry of each the largest lines to be found in the city. Also,
Autograph Albums, Photograph Albums, Lap Tablets,
Students’ Note Books and Blank Books, and Stationery
of every description. & Visiting Cards, to order, a specialty.
WARD & GAY,
184 Devonshire Street - - - BOSTON.

FRED W. BARRY,
BLANK BOOKS,
108 WASHINGTON STREET, BOSTON.
Special Rates to Students.

"LINENE."
PATENT PROCESS,
Cloth-Backed Drawing Paper.
Manufactured under Geo. K. Snow's Patent of Dec. 6, 1872,
for uniting Cloth and Paper in continuous Rolls.

put up in rolls of twenty-four yards, thirty-six inches wide. Price, six
dollars. Sample for trial sent free to any address.

REVERSIBLE COLLAR CO.
32 Hawley Street, Boston, Mass.
GEO. K. SNOW, Pres't. GEO. N. MARSH, Tres.

CARL SCHÖENHOF,
146 TREMONT STREET (SECOND DOOR NORTH OF WEST STREET) - - BOSTON.
To Students a Liberal Discount.

ARDY's
ARTIST PHOTOGRAPHER,
No. 493 Washington Street. Boston,
Between Temple Place and West St.

CLASS PHOTOS A SPECIALTY.
A. J. WILKINSON & CO.
IMPORTERS AND DEALERS IN
HARDWARE & FINE TOOLS OF EVERY DESCRIPTION,
LATHES, SCROLL SAWs, and MACHINISTS' AND MANUFACTURERS' SUPPLIES,
184 to 188 WASHINGTON STREET (Between State Street and Dock Square) - - - BOSTON.

BOSTON FOREIGN BOOK STORE.

ESTABROOK & EATON,
Importers, also Manufacturers of
FINE
Domestic Cigars,
222 & 224 WASHINGTON STREET,