The Tech.

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THE TECH.

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THE members of the Co-operative Board after necessary delays and hard work, have opened the much-talked-of lunch room in the basement of the Rogers Building. We might use, with great appropriateness, the old expression about "a long-felt want being supplied"; for every day when the morning's lectures and recitations are over the "want" is very apparent, and the lunch room has come to cater to it.

Last year several of the Directors considered the plan, but it was not till the first of this that any definite steps were taken for its accomplishment. In the general canvass of the Institute, it received a very hearty indorsement from the students and instructors. The Faculty, without whose support any such scheme must have failed, were decidedly in favor of it, and the Corporation of the Institute have borne much of the expense in fitting up the rooms.

The Woman's Educational and Industrial Union has its direct management, and will supply all food and service. The same order is required in the lunch rooms as in any other rooms of the building.

Wholly in the interests of the students, the prices very low, the food of the best quality, the rooms neat, light, and attractive, there can be no doubt but that the success of our Institute lunch room is assured from the start.

JUST before the 25th of last December a petition for two days extra vacation at Christmas was presented to the Faculty. The petition was signed by about two thirds of the undergraduates, and it was generally expected that it would be granted; nevertheless it was refused, mainly on the ground that it did not represent the wishes of a decided majority of the students. It was felt that many of the signers had no particular interest in the success of the petition, and that many who did not sign it were decidedly opposed to the necessity of losing two days out of the work of the term. Moreover, the usual three days had been allowed at Thanksgiving, and the loss of more time would interfere with the recitations and lectures in many of the courses. At the same time, there was a tendency toward granting a longer Christmas vacation if good reasons for such action should be found.

Many of us would be willing to give up the Thanksgiving holidays, and all would be glad of more time at Christmas; now is the time to petition for a change if one is really wished. It is understood that the members of the Faculty would personally prefer to have extra

time at Christmas, and that a petition would receive much more consideration now than if postponed till next December.

After all, what good does the Thanksgiving vacation ever do? Only those men who live in New England can go home, and they could go just as well if only one day were allowed. The majority stay in Boston,—the Freshmen to work up plates in mechanical drawing; the Sophomores to study Descrip; the Juniors to plug for a Heat examination; and the Seniors to do odd jobs in the way of problems and themes: not the ideal way of spending a vacation, surely. Now, if we had one day at Thanksgiving, and four days, or possibly a week, at Christmas, we would have some spare time in the holiday season, when everyone wishes for it, and we would get a real vacation, not the empty form of one.

This is the proper time to make an endeavor to change, and a very slight effort on the part of the undergraduates would, in all probability, effect the improvement desired. Now is the chance for some enterprising man to start a petition, and win for himself the thanks of Tech. men of this and future generations.

A GREAT deal has been said in our columns about "the hole in the ground" sometimes known as the "drill shed" or "shanty," or perhaps the "spacious drill hall." Whatever name we may give it, the reality, to our sorrow, always remains the same. Some of our predecessors have gone so far as to predict what we might expect in the near future, even looking up figures which would obtain certain shadowy results.

At the present we do not care to feel around in the dark; we merely look upon the reality. If you are of an inquiring nature, go on some rainy and close Tuesday, Thursday, or Saturday morning to our gymnasium (pardon our using the term), at or near the hour of ten. Of all healthy and well-ventilated halls that you have ever had occasion to deal with, you will place this one at the very end of the list. Still, for three hours every week two or three hundred students go there to drill. If it is exercise, is it healthful exercise? Is it surprising that the Freshmen soon begin to show signs of fatigue? Imagine, the floor is one mass of dust, although the janitor sweeps up all he can; but these two or three hundred students march around that floor, stir up the dust, become heated, and fill their lungs with that vile air. This is healthful exercise!

We accept the present condition of affairs, and will not speak of the best remedy; viz., tearing down the "spacious hall." But better ventilation is possible. At present if the windows are opened, being so low, a direct draft is caused. To overcome this there ought to be, at least, two or three scuttles cut in the roof, to allow the foul air to escape. We are a silent and long-suffering people, but now look for a change. There might be one objection to this scheme,—the people in the immediate neighborhood might object to the dust thus caused; but luckily our prevailing winds are from the east.

WE sometimes wonder, when we consider the large proportion of Institute students that board in Boston, why it is that in so few cases lodging houses are hired and wholly occupied by students. Though not one of the most economical, it is certainly one of the most agreeable plans for alleviating the miseries of boarding house life. Where the experiment has been tried, it has, so far as we know, been successful, and those who have shared in it, have found in it a common profit and an uncommon pleasure.

The prevailing custom of taking things as we find them, without hope of improvement, and the disinclination to embark in an undertaking that requires much effort to make it a success, have made most of us "rather bear those ills we have than fly to others that we know not of"; but to those who have tried it, there is a fascination in this independent style of living which is not to be found in any other.

A Breath from the Maine Woods.

FOR the last four or five years my friend Lincoln (commonly known in camp as "the Loafer") and I have made it a point to spend a part of our summer in the backwoods of Maine. So last spring, as Tech. work drew to a close, and visions of the summer vacation rose before us, we began to make plans for our customary outing. There was little to prepare in the way of kit, for experience had taught us what to carry and what to leave behind, and everything needful was at hand. The great questions were, when to go and where. The first was easily settled, for July was the only month that we both could spare. The second was not so easily answered, and many and long were the consultations held upon this all-important topic.

Down the west branch of the Penobscot? No go. We had been down once, and we knew that the river was too wild and rapid to be safe for two men and one canoe alone. Down the Allaguash? Also no go; it would be too long a trip. Moosehead, Brassua Lake, and Moose River? Out of the question, as we would get no good fishing. Finally we decided to go to Ktaadn Iron Works, which lie about thirty miles east of the foot of Moosehead Lake, with nothing between them and Canada but thick forests, dotted here and there with lakes and mountains; they make an excellent starting-point and base of supplies for a camping trip.

Accordingly, on June 26th we shipped a box of provisions and a light canoe for the Works, and followed ourselves June 30th, leaving Boston on the night train for Bangor. Our camp kit we took in a trunk, thus avoiding having to pay express or freight; we also carried a camera, a light rifle, and our fly-rods.

Monday morning found us in Bangor, but we made only a short stop of two hours, leaving at seven o'clock on the Bangor and Piscataquis road for the Iron Works; and after a tedious ride of nearly four hours we alighted at our journey's end.

Ktaadn Iron Works is a very small place. It consists of the smelting furnace, the store, the station, a small hotel, and ten or a dozen houses. It is almost surrounded by mountains lying in two parallel lines running east and west. Between them is a narrow valley, down which flows the west branch of Pleasant River, called by the Indians "Munolanamónungun," which astounding word means in English, "the place where very good paint is found"; and, indeed, a brief acquaintance with the Works will make it hard to believe that the Indians were not inspired when they named the place. The soil and water are both full of iron, so that by mixing them one can get a very good reddish paint. The easiest method of testing this is for one to take a walk in the early morning or after a rain; and if on returning to the hotel one does not find one's clothing tinted all over with various shades of red and yellow, and one's self a veritable walking sample sheet of different qualities of natural paint, I am much mistaken.

Alongside of the river runs the Gulf road, which after thirty-five or forty miles brings one to Chesuncook Lake. For eight or ten miles from the Works this road is passably good in summer; for the rest of the way, however, it is used only in winter with sledges.

Pleasant River bulges out just at the Iron Works into a charming little pond called Silver Lake, ringed round with lofty mountains, and fed by numbers of little streams, which, babbling down from the hills pure and cold, are the abiding-places of that delight of anglers and prince of fishes, the true *Salmo fontinalis*, the speckled trout. At the foot of the lake, so close to the outlet that its piazza overhangs the river, stands the little hotel, and on this our eyes rested as soon as we stepped from the train.

We requested the station agent to have our trunk sent after us, and hastened up to the hostelry. Here we engaged a room, and as soon as our trunk put in an appearance proceeded

to array ourselves in camping costume. This done we went back to the station, and inquired for our canoe and provisions. To our dismay we found that they had not arrived, and after some questioning we extracted from the agent the information that they probably would not be along before Wednesday night or Thursday morning. This made it impossible for us to start for the woods before Friday. We went back to the hotel for dinner, and in the afternoon took a two-mile walk after some trout and to cool our wrath. We decided to go into camp near the hotel the next day and await the coming of our property: we did not do this, however, for that night it came up an easterly storm, and we stayed at the hotel till Friday morning waiting for it to clear. However, this arrangement was good in one way, for at the hotel we met a very pleasant gentleman, a Harvard professor, and his son. They were going to camp on Long Pond, a beautiful lake ten miles up the Gulf road, the headwaters of Sebec River, and the home of the land-locked salmon. A Mr. Dean of the Works had a shanty on the pond where they were going to stop, and they invited us to go in with them, and camp on the same lake. So it was arranged that on Friday morning we would take a big buckboard and all go up to the lake together.

Tuesday morning the rain held up awhile, and Lincoln and I started out for a walk to Houston Park, about two miles southwest from the hotel, just over the ridge of Ore Mountain. Our way led us by a well-worn road as far as the ore beds on the side of Ore Mountain. This mountain is, like a volcano, clothed night and day in light filmy wreaths of smoke, for much of the ore takes fire when exposed to the air by the pick and shovel. When we were on the mountain two or three piles of ore were burning. Tiny rills of water, colored dark red with iron, were flowing down the slopes, and a strong smell of sulphur filled the air. After we had watched the miners at work for a few minutes we hurried on our way, for the Loafer remarked that the pits were too suggestive of a certain place of future residence to make him feel altogether comfortable. After leaving the ore beds the road degenerated into a bridle-path, and then into a spotted trail, and just as we reached the pond it vanished entirely. We had been told there was a boat on the pond, but after searching for it some time with no success we gave it up, and as it had begun to rain hard again we faced about and started for home. We reached the hotel at about five o'clock, tired and hungry, dried our clothes at the smelting furnace, had supper, and suffered all the evening under a steady fire of sarcasm from the Professor as to the fish that we did not kill, and how neatly we could climb over a boat and not find it; for there was a boat on the pond, and we had been within ten feet of it when we gave up the search. We stood it as long as we could and then turned in.

Wednesday and Thursday passed somehow, —slowly, however, on account of the rain. Thursday our box and canoe came, and we spent the day in getting everything ready for the start on Friday.

Friday morning we were up early, and seeing by the rich colors in the east that we should have a fine day, hastened to get our traps down stairs and out of the house, ready for the start.

At half-past six breakfast was over, and the buckboards were at the door. On them we loaded all our kit and ourselves. The Professor, a great broad-shouldered, fine-looking man, in a decidedly campy looking costume, with a little black pipe in his mouth, gave some last directions about forwarding any important mail or telegrams, then seated himself beside Mr. Dean, who gave the word to start, and we were off for camp.

Our road, always ascending, led us up between the hills. At first the land was open, and pretty well cleared of underbrush, but after a little while we plunged into the woods. The tall pines shot up round us straight as

arrows, squirrels ran among the branches, and the tracks of deer and wildcats began to be visible in the muddy parts of the road. Now we followed close along the bank of the river, here sparkling and foaming over the rocks in its bed; then we turned into the woods and threaded our way among the trees, where the river could no longer be heard, but all was quiet save for the calling of bluejays, numbers of which continually flew before us. We gave ourselves up to enjoying our novel surroundings and to slaying black flies.

After a time we reached a clearing on the river-bank close under the brow of Chairback Mountain, where lives an old man named Young, a curious specimen of human nature, about whom many queer tales were told us at the Works. Here the horses were watered, after which we went on, and in course of time reached the Forks. At this point the road divides, that leading to Long Pond turning off to the right and crossing the river by a ford, the main road going straight on past the Gulf, a strange chasm in the mountains, three miles long, deep and narrow, through which Pleasant River runs.

A wire bridge here crosses the river, for the use of loggers when the river is swollen in the spring. Two posts are planted on each bank and connected by wire ropes. A platform four feet square is hung from these ropes, and travels along them on small wheels. A rope passing over blocks on either bank is made fast to the car, and one pulls himself across by means of it. We, being somewhat hurried, tried to take three over in the car at once, all unmindful of "strength of materials,"—but alas for us! When in the middle of the stream the posts yielded to the strain, the bridge collapsed, and we took a bath. Fortunately the bridge crossed above the tail of a rapid, and the water, though swift, was not deep. We had the pleasure of wading ashore and repairing the bridge, which took us some time.

Once across the river, the road leads straight up the mountain-side over one of the spurs of Chairback.

We are now seven miles from the Iron Works. The horses have hard work, for the road is in horrible condition, and we all have to get out and push. Slow progress is made for a mile and a half, when we come upon an old wood-sled drawn up by the road.

"All out," says Mr. Dean.

We get out and load all our traps on the sled, tying everything on firmly. One horse is harnessed to the sled, and we start on again.

The trail now lies up the bed of a mountain brook, over logs, stumps, corduroy bridges, through mud-holes and pools of water, till the youngest of the party, whose first attempt at trailing this is, wishes to know if we are not lost. However, nothing can last forever, and this trail comes to an end after awhile in a thicket of pine trees, and Mr. Dean calmly remarks, "Head of sled navigation. We'll hoof it now a mile."

Having sent back the driver with the horse, each of us loaded himself with thirty or forty pounds of kit, and we started off in single file to follow a spotted trail over the crest of the mountain to the shore of the lake, which was to be our home for the next month.

The trail was at first soft and muddy, leading across a small hollow between two ridges; but soon we began to ascend the last spurs of the mountain, and after an hour's tramp through the thick woods we caught a glimpse of blue water through the trees, and in a few minutes passed between the two log cabins belonging to Mr. Dean, hurried down the path to the shore, and stopped on the borders of the beautiful lake, stretching away far to the west, where loomed up a lofty mountain, standing out black against the evening sky, while over it hung the sun, round and red like a globe of fire. Only a short way down the lake on the left a long rocky point jutted out, beyond it another, and still another, just off which lay a small island, round which, as we could see with a glass, several loons were

swimming, and even as we looked their wild free laughter floated over the water like a greeting from the guardian spirits of the lake.

The third point mentioned above Mr. Dean pointed out to us as only a mile away, and one of the best camping-places on the lake; so launching our canoe and loading her with the few necessary articles we had brought over with us, and leaving the rest of our kit to be brought across in the morning, Lincoln and I set out down the lake. We made haste, for it was late, and it would take some time, even after we had located the camp, to get our supper and prepare for the night. By means of landmarks given us by Mr. Dean we succeeded in going straight to the desired spot, and while the Loafer set up the tent, I got firewood and cooked supper. This eaten, we cleared the tent floor, and made our beds of sweet hemlock boughs. Then we started the night fire, and sat before it in the tent door smoking and laying plans, for an hour or so, after which we turned in and were soon sleeping soundly on the healthiest bed I know of, —a springy hemlock mattress, on the ground under the pines in the wilderness of the Maine woods.

(To be Concluded.)

A Thought.

We live but to die? Ah, yes! but the thought
  Should bring neither scoffing nor pain,
But yet sweet content; for no thing is naught,
  And loss there is none without gain.
The bird that was lost o'er the trackless seas
  Found death in a land bare and bleak,
But there sprang forth in time green grass and trees
  From the seed it bore in its beak.
And the rose that bloomed on the open lea,
  And was wooed by the roving wind,
Opened her heart to his soft-whispered plea,
  Was kissed, and then left far behind;
But though the rose died, and, with'ring away,
  Returned to the dust of the plain,
The rover, the wind, breathes sweeter each day
  From the scent of the flower he hath slain.

W. I. F.

M. I. T. Departments.

III. Mining, Engineering and Metallurgy.

Primitive man began mining operations in a little hole in the ground, by building a fire on the rock, then quenching with water and hammering off the softened portion. The length of one notched-stick ladder measured the depth of possible mining.

Later the excavation was made chip by chip with steel hammer and gad.

In the 17th century gunpowder was introduced in mining, this with better ropes and ladders brought the depth of the mine down to 300 feet or so, when the labor of lifting water and ore by hand or by mule power usually stopped the work.

Gradually one improvement after another has been added, such as powerful pumps, hoisting engines, wire ropes and fans, until we find Pennsylvania coal mines hoisting 500 to 1,500 tons of coal a day, and from a depth of 1,000 feet or more, and the great Calumet and Hecla Co. mining 3,700 tons of copper rock a day, down 3,500 feet and more on the slope.

The science of Metallurgy has developed proportionally. For example: in primitive times a hand bellows and a little forge yielded a few pounds of wrought iron per day. In 1865 to 1870 iron furnaces were 30 feet high and produced from 20 to 25 tons of cast iron per day, now in 1890 the furnaces are 75 to 80 feet high and 100 tons per day is only a fair yield and 200 or even 250 tons is not uncommon.

The Bessemer converter at first handled only a few tons per day, whereas now three converters and a rolling mill will turn out 850 tons of rails per day requiring 5 to 10 large blast furnaces to keep up with them.

These changes have not only called for an increased number of engineers and metallurgists, but for a greater differentiation of their duties. Obviously this differentiation cannot

be pushed back into the school to any great extent; it is only practicable to give a general course which shall lay the foundation for future specialization and which shall so equip the student that he may with the least loss of force and time find for himself the limited sphere he is to fill in the world's economy.

It is to offer an answer to the question how can the school best fit a man for a specific place in the mining or metallurgical profession that this paper is written. We may begin by making the following classification of subjects.

There are certain ground-work studies that are fundamental for all branches of the engineering profession. They are mathematics, physics, and chemistry. These must be as thoroughly mastered as possible, they must become a part of the man so that their use shall require no effort of will or of memory.

Special technical subjects, as mining, metallurgy, geology, mineralogy, etc., must be pursued far enough so that the student can see his way clear to master them afterwards if necessary. Language may be included here as an important agent for accomplishing these results.

Certain branches may be called introductory studies since they serve to introduce the student to his life work. They are applied chemistry, assaying, surveying, and a knowledge of machinery. In these he must be sufficiently competent to render his services important to his employer early in his career.

Besides the above there are the subjects included under the head of general information and training, as English history, literature, political economy, business law, etc., the more of these a student can get the greater will be his influence.

This classification seems to us to give the maximum effect to the four years' work so that while the graduate is not a finished expert, he is in a position where he can become a specialist within a reasonable time, and on the other hand, if later he is called upon to assume the general's position and become a manager he will find his training to have given him the ground-work upon which to build for that position also. This claim is borne out by the number of graduates who already hold such positions.

Primarily an engineer must be a man who can think, and by that I mean must be able to observe his facts, properly record them and draw reasonable conclusions from them.

No one is so wise, but that he will occasionally ask what time the eleven o'clock train goes, but a person who continues to ask this class of questions had better seek his livelihood elsewhere than in engineering.

Application of the mind, concentration of thought upon one thing at a time is essential. An engineer must have this power to be successful. A student has to study chemistry, French, and mathematics on one afternoon. While he is studying French he is wondering how a certain chemical reaction would work, when he is studying his chemistry he is wondering whether he understood a certain equation in algebra. Such a student is on the wrong road, he should do one of two things immediately, either learn how to study or give up engineering. The proper way to learn to concentrate thought is to assume that for the one or two hours the very rotation of the earth depends upon the mastering of this lesson. When once the subject is exalted into sufficient importance and so held up, the application will come easily enough.

Why is it that so many students fail to continue as regular students at the Institute? Because they have not learned how to apply themselves.

The course at the Institute is not difficult for a person who has learned to apply his mind, and who works the prescribed number of hours on that basis.

We see then that the courses at the Institute must treat certain departments exhaustively, certain others just to the limit where the student can stand by himself and continue in

case of need; but above all the student must acquire the power to think independently, to record accurately and to draw reasonable conclusions.

To this end the Institute has held the forefront among technical schools of the world in giving its students an opportunity to experiment practically upon a variety of subjects during their course and with a variety of different experimenters as their instructors. What they fail to get from one instructor they are pretty sure to pick up from another.

The special laboratories of the mining engineering and metallurgical department have been evolved out of a very small germ since the year 1870. At that time the Ecole des Mines of Paris, the Royal School of Mines in London, and one or more German schools as well as the two or three leading American schools had what were called metallurgical laboratories. They were rooms with little crucible and muffle furnaces such as we now have in our assaying room. In these crucibles the students made a great variety of small melting tests. This ended the practical course.

The Institute took the ground that a mining and metallurgical laboratory should contain apparatus for experimental work in concentrating, amalgamating, and lixiviating ores, as well as smelting and refining metals.

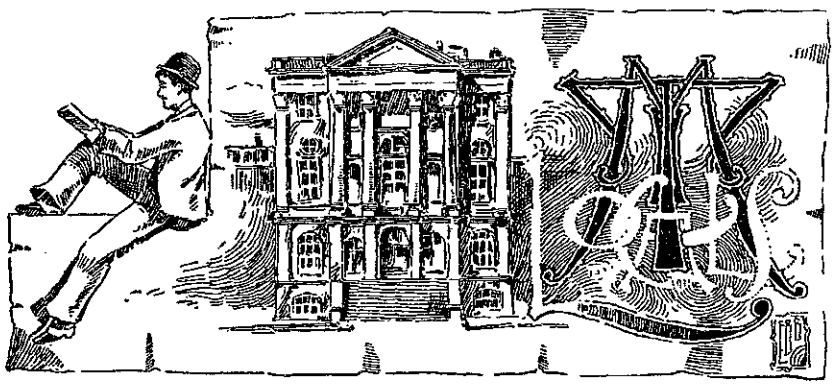
The difficulty which a student finds who goes to take a practical course in a mill or smelting works, is that the chances are the works will be in perfect running order all the time he is there. He does not have a chance to see the engineering qualities exercised which brought the works into smooth running condition, and he does not appreciate the engineering qualities that are being exercised to keep the establishment running smoothly, in other words he cannot break down and mend up. By having a laboratory with small sized tools in it, we can give him a chance to get them into running order, and to keep them running smoothly for a time, sufficiently long for the purpose. If they run too smoothly we can easily cause a catastrophe to happen which must be overcome, in order to continue the operation.

These operations take place on a scale varying from two pounds to two tons. The quantity is made as large as is practicable in every instance, the limit being such a weight that the labor of doing the work begins to interfere with the quality of scientific work that the student can put upon the subject, and at the same time the quantity is large enough so that the qualities of the work and the difficulties attending it are well illustrated. We believe we have chosen limits in these respects more successfully than any school in this country or abroad.

The recent further specialization of the courses in mining, engineering, and metallurgy has been made with a view to add one new introductory subject to the course namely, machinery. In Pennsylvania the large Anthracite mines with hoists and pumps and the large iron industries with their blowing engines, rolling mills, etc., must require many men versed in machinery. The first option is directed to the mines, the third option to the rolling mills. These fields have not been occupied at all as yet by M. I. T. students. In Michigan, Wisconsin, and Minnesota, all the great iron regions are still developing and will want men. Scarcely any M. I. T. men are to be found in these regions yet, none in the machinery departments. Further West in the mines and works of Colorado, Montana, California, etc., our men find employment when they seek it.

In reply to some questions as to the outlook in the mining profession in the West, a graduate of the Institute says that while mining takes a man away from civilization, it offers certain compensations, namely, a larger salary and less temptation to spend it than would be the case in the East.

ROBERT H. RICHARDS.



C. B. Vorce, '88, was in town lately.

Z. W. Bliss, '89, was in the city last week.

A few more *Techniques* can be had at Maclachlan's.

Second year Miners have commenced quantitative analysis.

Sign your name to contributions that you put in THE TECH box.

Several overcoats have been stolen lately from Room 27, Rogers.

Mr. Wood takes Mr. French's place as Instructor in Mathematics.

The Spring Meeting of the Athletic Club will be held during March.

Room 33, New Building, is being fitted up as a chemical laboratory.

There are about forty less Freshmen in the Chemical Laboratory than last term.

'92 holds a preliminary meeting to-day for the choice of its *Technique* Board.

The Athletic Club has applied for admission into the Amateur Athletic Union.

The Athletic Club has purchased a tug-of-war clamp. Another long felt want filled.

Second year Civils now look for cold weather; open weather means field work.

The Athletic Civils no more need to train. They merely run up to their drawing rooms.

Both the Sophomores and the Freshmen talk of organizing baseball teams in the spring.

The Glee Club has dates which will have to be cancelled unless more tenors can be obtained.

Mr. S. L. Coles, formerly of '91, is employed at the New York office of the *Electrical Review*.

President Walker and a number of the Faculty patronized the lunch room on its opening day.

Tech. now hopes to see the *Technique* editors start a new row, and buy a "dummy" for the football eleven.

The editors of *Technique* disposed of seven hundred copies of their book during the first hour it was on sale.

It is stated that Mr. Hutchins, '89, Assistant in Mechanical Engineering, will resign to take a professional position.

All those interested in Students' Prayer-meetings are invited to attend them, Monday mornings, at 8.40 o'clock, in 15 Rogers.

The Woman's Educational and Industrial Union has the direct management of the lunch room, and will supply all food and service.

There were a great many Tech. men at the Athletic Meeting, Saturday night, but as the prizes went, Tech. did not seem to be in it.

H. Slade, '92, has now accepted a "lucrative position" as a machinist with his father. '92 will now have to look up another humbled catcher.

The third year Chemists and Chemical Engineers visited the Merrimac Chemical Company's works at South Wilmington, Friday, Feb. 14th.

It is suggested that the pilot house on the roof of the Engineering Building has been placed there to enable special students to lay their courses.

Members of the Co-operative Society are requested to send all suggestions for changes or additions to the list of tradesmen to F. H. Meserve, '92, Secretary.

The partitions in Room 14, New Building, have been taken down, and it is used for a lecture room. It will accommodate two or three hundred students.

As the noon hour approaches now-a-days, enticing odors of sandwiches and soup steal upon the senses of the hungry students in the lecture rooms of Rogers.

A disgruntled New Yorker, who is taking a special course at the Institute, says that the World's Fair should be held here, as most of the curiosities are already on hand.

Old Columbus Avenue students who are now on St. James Avenue are preparing a petition for a street car line. They then will claim as much noise as the old avenue.

Copies of THE TECH containing the articles thus far published in the series of M. I. T. Departments will be mailed to any address on receipt of the price, fifteen cents per copy.

The American Protective Tariff League offers prizes of $150, $100, and $50, for the best essays, written by senior college students, on the subject of the "Application of the American Policy of Protection to American Shipping engaged in International Commerce."

In two more weeks the wiring will probably be completed in the Engineering Building, and the mechanical laboratory will be in running order, and then we may expect to have the windows washed, the rooms numbered, and springs put on the outside doors. Peace, like all things, comes to those who wait.

The co-operative lunch room will be open for business between the hours of 12 M. and 2.15 P. M. on every day but Saturday, and it is probable that it will be open on that day also, for a shorter time.

It has been decided that only members of the Co-operative Society, *i. e.*, those holding tickets, can have the privilege of using the lunch room, and, as the present tickets are only good till April 1st, in order to accommodate any who are not members, tickets have been issued now in advance of the regular date, and will be in force until April 1, 1891. These tickets entitle the owner to the discounts at the co-operative stores in the city as hitherto.

Perhaps by the casual observer it has not been noticed what a "deep voiced" lot of men there are in Tech. This fact has been proved by the Glee Club. When the club was selected they had a large variety of first and second basses to choose from, but in tenors they were less fortunate. The Seniors leave them in a still greater need; in fact the future of the Club depends on their getting more tenors. If there are any men in the Institute who can sing tenor, they now have a chance to do credit to themselves and to Tech. by saving the Glee Club. This is an institution which, heretofore, has always been a credit to Tech., and we have so few such that we cannot afford to lose one, especially the Glee Club.

All students expecting to take degrees must make up all conditions before March 1st.

Tuition bills for the second term are now overdue.

The annual convention of the New England Intercollegiate Press Association will be held at the Quincy House, Boston, Saturday, February 22d.

The third of the Afternoon Tech. Parties will be held at Cotillion Hall, on Washington's Birthday.

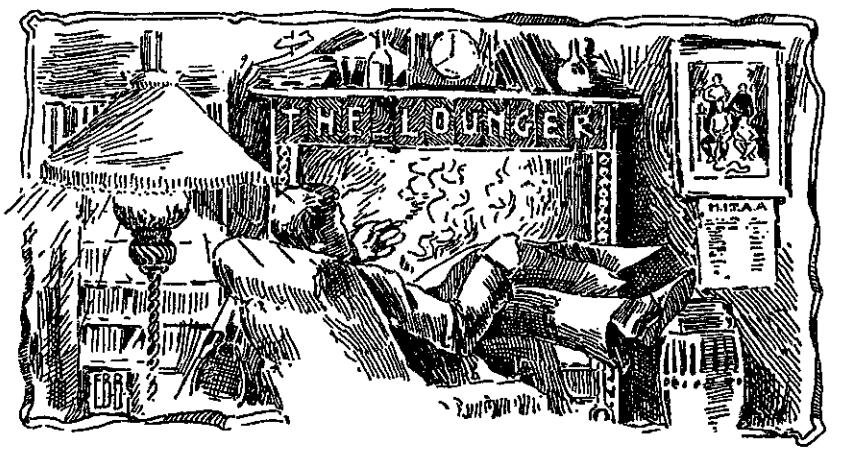
The K_2S met at the Boston Tavern, Thursday, February 20th, and initiated several new members.

The English Department will occupy several of the rooms in Rogers vacated by the Mechanical Engineering Department.

Professor Gray's lectures on "Business Law" are very popular with those who have the privilege of hearing them.

Professors Drown and Richards are attending the Convention of the American Institute of Mining Engineers, at Washington, D. C.

Students going from the new building to the lunch room are requested to use the entrances on Newbury Street.



Apropos of the appearance of "Technique," the Lounger has some interesting recollections, although they do not concern the current volume. It was a year ago, or perhaps two years, that he went for his noonday lunch to a restaurant which was especially favored by the patronage of a number of the Institute's preceptors. These erudite worthies had a table by themselves where they discussed the bill of fare and the concerns of the Institute with equal zest. They numbered among them names that to trifle with might bring retribution on our head, even to pointing out the way across the Common that makes the first step in the path to our native village. Suffice it to say that none of our instructors were better known, or commanded more time and attention by means of their official organ, the Tabular View.

"Technique" had just appeared, and the paper-covered volume was in all hands. Even the professorial table was supplied with copies which were being critically perused by their owners. The Lounger's seat was at the table immediately adjoining, and while he was waiting for his frugal order to come on, he could not help remarking what was passing among his neighbors. Professor X. held a copy at arm's length, and regarded it through his gold-bowed glasses with that uncompromising expression that he bestows on the classes that come before him with unprepared exercises. Dr. Z., at the opposite end of the table, had been smiling like the proverbial basket of chips over the first page of the "grinds," until of a sudden his smile vanished utterly from his lips, and he cast two or three sidelong glances at his colleagues, only half persuaded that they were not laughing at him. The other *dramatis personæ* at the table were Professors A. and B., each with an understrapper or confidential assistant. Each of the former gentlemen alternately glared or laughed at his opposite as the assistants read pertinent passages. It was a sight to which the Lounger's description does not do justice, but one that taught him thus early in his course that professors and members of the Faculty are no more than human when the mask of authority no longer conceals their faces.

. . . . . .

The Lounger is unable to pass by the lunch room either in a literal or figurative sense. He has provided himself with a brand new co-operative ticket, with all the rights, privileges, and appurtenances thereto belonging, and intends hereafter to make his headquarters in the lower northeast corner of the Rogers Building, the abode of the last organized department of the Institute. No scientific man who is not a dyspeptic can refuse to partake of viands prepared according to the laws of cookery by apparatus designed by a *Professorin*, and constructed by the engineer of the Institute. The bill of fare, too, is severely plain. There are no French dishes of polyglot nomenclature to "keep the word of promise to our ear and break it to our hope," but everything is English and edible. And, paragon of dining rooms, there are no tips to the waiters, who are deft-handed and willing enough to suit the most critical. Do you wonder that last Monday every table was filled, and that this popularity is on the increase. If the Lounger descants longer on its excellencies he will lose his chance at his favorite table. Do not be satisfied at second hand, but try for yourself this triumph of co-operation.

Two Valentines.

As I am Thyne
& Thou art alle
To Me,
Do Thou be Myne
& heare my Calle
To be
My Valentyne.

All my thoughts and my dreams are of thee,
Ma chérie;
Thou art light, life, and love unto me,
All the three.
Let thy heart be my home,
Nevermore will I roam;
I beseech thee my valentine be.

G. K.

College Notes.

The Manhattan and New York Athletic Clubs have secured new grounds at Morris Park, said to equal any in the world. The grounds will be laid out under the direction of trainer Goldie. A distinguishing feature is that cross-country runs can be seen by the spectators for a distance of eight miles.

Over forty candidates are training for the Exeter nine under the direction of White as captain. The training consists of ten minutes' practicing in batting, ten minutes' work at the chest-weights, and running a mile.

The endowment of the Boudinet Fellowship in History at Princeton has been increased, so that it hereafter will yield $400 per year. It is to be made resident also, and tenable three years, if the Fellow manifests special aptitude for original work.

The annual bowl fight between the Freshman and Sophomore classes at the University of Pennsylvania took place on Monday. The Freshmen were at first successful, but afterward the bowlman escaped, and the Sophomores finally won the contest.

The University of Pennsylvania crew will row the following races this year: One at New London, in the triangular race with Columbia and Cornell; the Childs cup and Sharpless cup races at Philadelphia, and the Schuylkill and Harlem regattas.

The amendment of the national agreement, adopted at the meeting of the National Base Ball League last Wednesday, provides that any amateur club which plays with the clubs of the Players' League, shall be debarred from subsequently playing with a club working under the national agreement. This will affect all college teams.

Haverford College has purchased the library of the German scholar, Dr. Gustave Bauer, of Leipsic. The library consists of eighty thousand volumes, and is a very fine collection of ecclesiastical literature.

A prize of $25 has been offered by two alumni for the best Princeton song, to be given by the leader of the college Glee Club, on or before June 1st.

The officers of the Harvard Football Association, together with Captain Cumnock, have been appointed a committee to draft a new constitution, starting the association on a new basis.

The baseball team of Bowdoin will be very strong this year. The nine will make a trip through Massachusetts early in the spring, and will try to arrange a game with Harvard.

It is proposed in the future to hold the annual promenades at Yale in the new gymnasium, instead of in the armory, as in the past. This will very greatly reduce the lavish expenditure at present necessary.

A circular has been sent out by the committee in charge of finishing the Yale gymnasium, soliciting $40,000 more to complete the amount needed for land, building, and equipment.

It is not yet decided who will stroke the Yale crew this year. Both Captain Allen and Harrison are considered for the place. Harrison, who has been stroking the first crew lately, weighs 158 pounds, is a strong, wiry man, and thoroughly familiar with the Cook stroke.

There are 108 men pursuing post-graduate courses at Yale—double the number so engaged last year, and three times the number for the year before.

There are 150 names on the waiting list at Memorial Hall, Harvard.

Cornell closed the football season with a debt of $600.

Last week the candidates for the Harvard Freshman crew were again thinned out, so that only nineteen men are left out of the 110 who tried for the crew.

Over $10,000 has been subscribed for a new athletic field at Columbia.

Professor Harper, of Yale, has recently received a number of valuable casts of ancient inscriptions in the Semitic language.

No student over twenty-one years will be allowed to compete for a scholarship at Cornell after 1891.

According to the *Yale News* the valuation of the University buildings is $1,769,000.

The oldest living graduate in the United States is Amos F. Parker, of Fitzwilliam, N. H. He graduated from the University of Vermont in 1813, and is nearly 98 years of age.

Co-education is evidently a success at the University of Michigan. The Senior class, in choosing their class day officers, elected a Miss Harrat poetess.

An early number of *Harper's Monthly* will have articles on Harvard, Yale, and Princeton.

The Cornell Glee and Banjo Club will make a Western trip during the spring vacation.

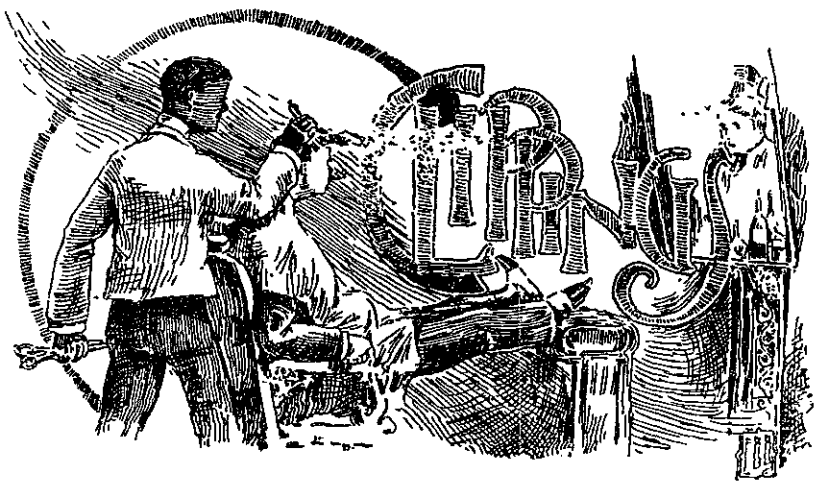
Cornell University was awarded a gold medal at the Paris Exposition for its educational exhibit.

The tug-of-war teams at Yale are to hold a series of inter-class pulls. Every effort will be made to develop some good material for the 'Varsity team.

Forty-three men have presented themselves as candidates for the Harvard 'Varsity Nine. Among them are Howland, Evans, Corning, Cummings, Dean, and Downer of last year's team.

It is reported that a league will be formed by the Freshmen of Columbia, Cornell, University of Pennsylvania, and Bowdoin on account of Harvard's refusal to row the Columbia Freshmen.

Amherst College is to have an alumni advisory committee to control the athletic interests of the institution. The committee will comprise three members of the Faculty, three alumni, and three undergraduates.



I sing of the feminine gender,
  Of a maiden I deeply admire,
An earnest and loyal defender
  Of classics and sciences higher.
On calculus this girl was crazy,
On Hebrew and Sanskrit as well;
  When I said, "Be mine,"
  She replied, "I decline,"
And the reason I quickly can tell.

CHORUS.

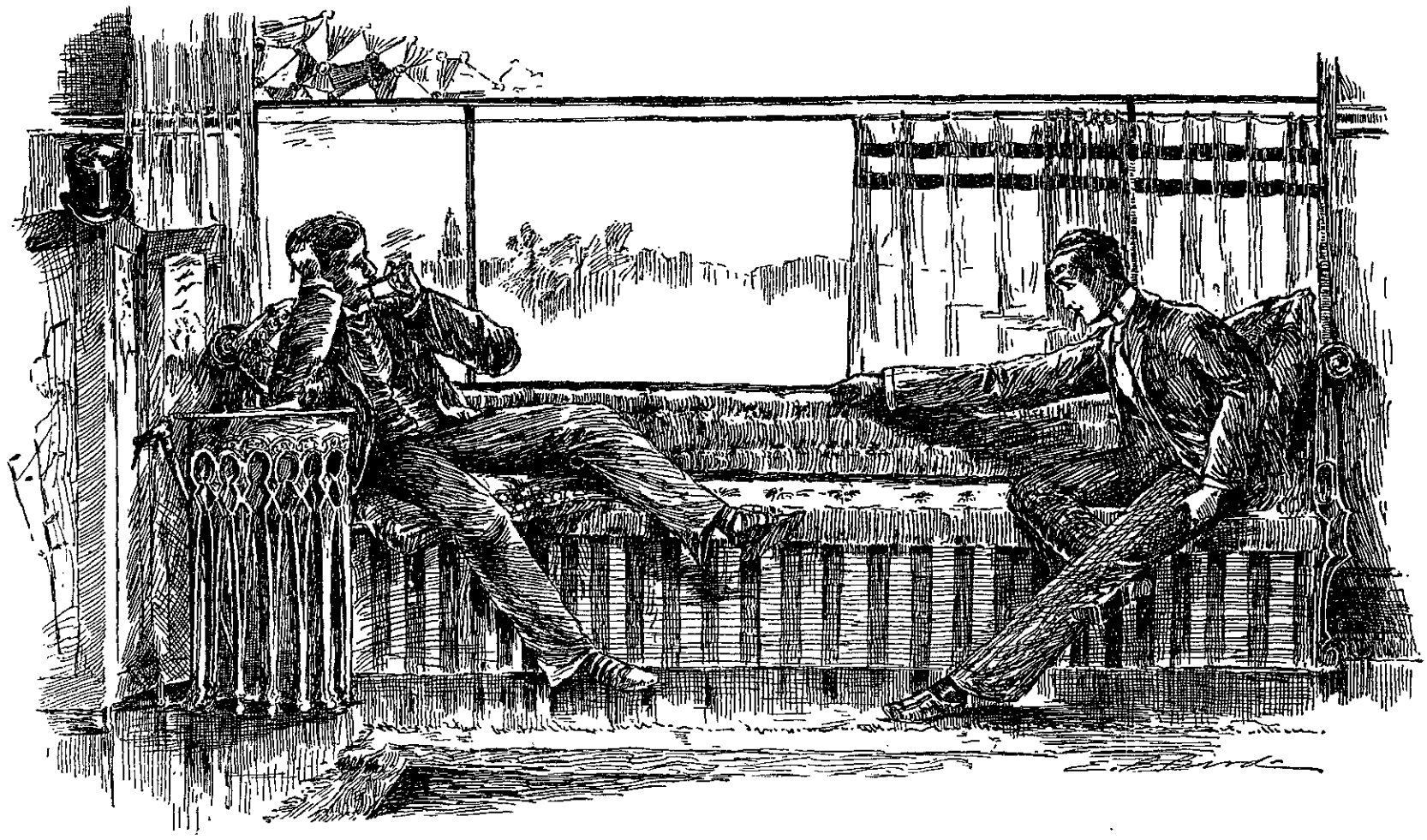
For she said, "At a college called Vassar,
  I've found the life of my choice,
For there is psychology, likewise biology,
  Physics, in which I rejoice.
For chem. I've a great predilection,
For logic, and German, and Greek;
  In Latin a native,
  I know every dative,
And French I can fluently speak."

I told her I long had adored her,
  I plead every day at her feet;
She answered that I only bored her,
  Her requirements I couldn't meet.
I told her that I'd been to college,
That I'd been stroke oar on the crew,
  In many a town
  I'd made my touch-down,
And in tennis was not "in the stew."

I said I was sure I could please her,
  I'd make it the aim of my life;
Of burdens and cares I would ease her,
  If she'd be my own little wife.
We'd move in the very "first circles,"
We'd "osculate" better than they;
  At this she looked stern,
  And her cheeks hot did burn,
And so I turned sadly away.

CHORUS.

When she cried, "At a college called Vassar,
  I'd found the life of my choice;
For there is psychology, also biology,
  Physics, in which I rejoice;
For chem. I've a great predilection,
For logic, and German, and Greek;
  But only come back,
  I will give it up, Jack;
And oh! I'm too happy to speak."



"JACK, YOU LOOK TIRED; ARE YOU GOING TO THE TECH. PARTY?"
"I AM TIRED, OLD BOY; I'VE BEEN."

On the sofa they sat in cheerful content,
Hand in hand, loving, billing, and cooing,
While the lamp at full height its radiance lent
To the lovers pursuing their wooing.

"If you love me, my angel," he finally said,
"Just lower that light till it's dim."
But with down-lowered eyes, and with cheeks rosy red,
Thus answered she then unto him:—

"Why, what a request! To think that I'd dare!
It's ridiculous! horrid! I couldn't!
I'm surprised that you ask me when you're fully aware
You can do so yourself, though I shouldn't."

'Twas after the ball,
'Twas dark in the hall,
Her "good-night" was not very emphatic;
'Twas such a good chance
For sweetest romance,
And I lingered with longing ecstatic.
'Twas dark in the hall,
'Twas after the ball.

'Twas after the ball,
'Twas dark in the hall—
Such a chance for a parting romantic!
And—she was not cold;
Why was I not bold?
When I think of it now I am frantic.
'Twas dark in the hall,
Just dark—that was all.

I am not rich, and yet my wealth
Surpasseth human measure;
My store untold
Is not of gold,
Nor any sordid treasure.
Let this one hoard his worldly pelf,
Another court ambition—
Not for a throne
Would I disown
My poor and proud condition!

The worldly gain achieved to-day
To-morrow may be flying;
The gifts of kings
Are fleeting things—
The gifts of Love undying!
In her I love is all my wealth,
For her my sole endeavor;
No heart, I ween,
Hath fairer queen,
No liege such homage ever.

Praise, fond lover, her tender heart,
Her tender voice, so low and sweet,
Her tender eyes, where lovelight lies—
But never, never her tender feet.