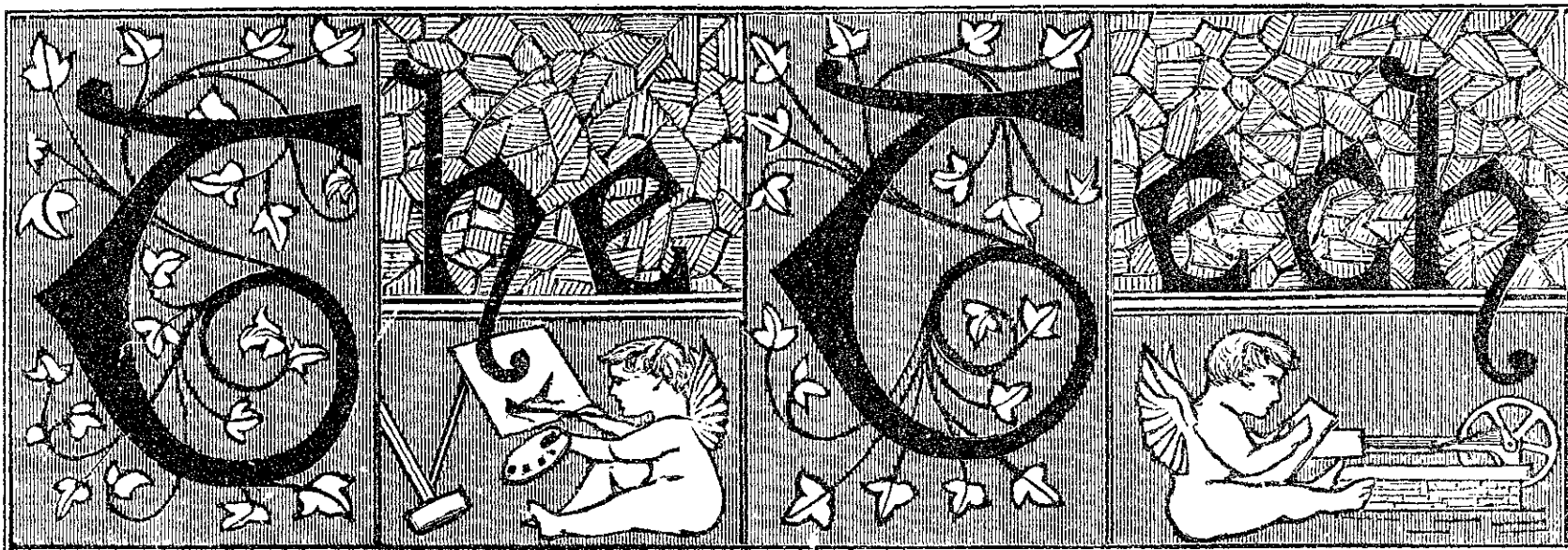
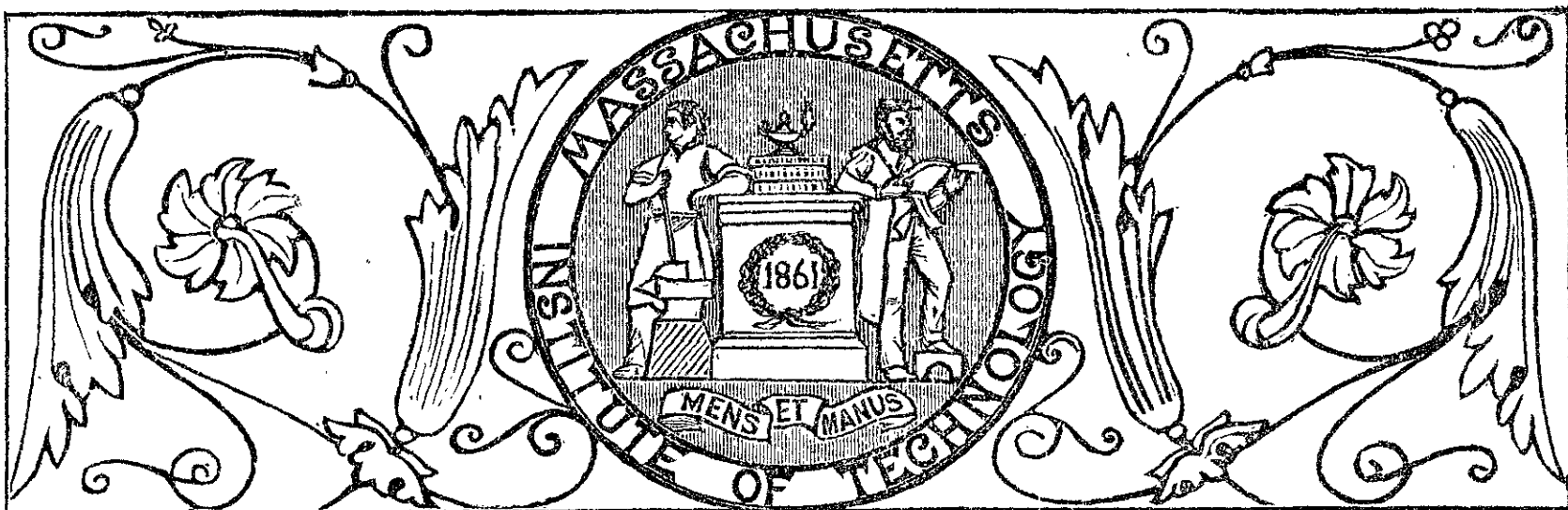




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The Tech.

VOL. V.

BOSTON, JAN. 14, 1886.

NO. 7.

THE TECH.

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

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THE day of publication of THE TECH has been changed from Wednesday to Thursday. Since its foundation it has always been issued on the former day; but this year, on account of its increased size, it has been out at that time only by the greatest exertions on the part of both editor and printer; hence it was thought advisable to make the change. Contributions intended for the next number must be in our mail-box as early as the Wednesday evening preceding publication, as heretofore.

THE much dreaded semi-annuals are now at hand, and the traditional midnight oil and wet towels are in order. "Cramming" is almost universally considered, by those who do not have it to do, as not only injurious to health, but also an illegitimate method of gaining a good stand. When one writes home how hard he is "grinding" during the examinations, how late he is sitting up nights, and other tales of woe, paterfamilias will probably reply that he sees no reason

why he need be obliged to study so excessively before the examinations, if he had given sufficient attention to the subjects when he first went over them, together with other consoling remarks of like nature. This seems to be a popular impression among those who do not know anything about it.

With the amount of work to be done here at the Institute, it would be hard to find any one, no matter how much of a dig he is, who could say at any time, with perfect confidence, that he was thoroughly up in every one of his studies, and behind in nothing. There are hundreds of odds and ends that continually slip by unattended to, or at least cannot receive the attention they deserve, through lack of time. We are constantly getting behind in some branches in order to catch up in others, so that in most cases a certain amount of grinding becomes vitally important. Even the Faculty appreciate the necessity of giving us certain days for study between the examinations, and the schedule for the coming ones seems to have been very well planned in this respect.

While a long period of habitual midnight study would soon undermine a man's health, a few days of it, with an interval of rest afterward, will not seriously harm any one of good average constitution. We might even go so far as to say, that there are certain advantages to be derived from cramming. A "cram" is said to differ from a legitimate review, in that the former is an effort to load the mind in a short time with the details of the subject studied, while the latter is a larger and more systematic survey of the same, which lack of time too often renders impossible.

The one direct advantage gained from cramming, is perhaps its discipline. The art of acquiring in a short time a good general idea of a subject is a great accomplishment, and one which few possess; yet this is what this much-

abused process of cramming does for us. It trains the mind to open itself, as it were, and take in a very great deal at once, and to become accustomed to so doing; and there may be many occasions in after life when it would be decidedly to our advantage to be able to book up well on a subject in a short time. In such cases we would find our old college custom would come to our assistance in a very welcome manner.

We would not have it understood that we favor absolute reliance on cramming as a means to "get through" one's examinations, to the neglect of regular study; far from it. But as long as so much work has to be done, it had best be recognized as perfectly allowable, if not advantageous, and nearly all have to depend on it.

IT is safe to say that there is no department at the Institute in which more improvement is being made, during the present year, than in that of analytical chemistry. Under the direction of its new head, many much-needed reforms are being introduced. The ancient methods of analysis, hitherto in use there, are gradually being discarded, and replaced by the more modern ones. Better attention is now given to the students, who no longer feel that in asking a question of an assistant, they were begging a great and irredeemable favor, and not a right. And, above all things, the student is now made to feel the object is, not the number of red and blue marks, but to learn as much as possible about the methods of chemical analysis.

IT is not surprising that students feel, and are allowed, a certain license and freedom of behavior. But liberty always brings dangers and responsibilities in its train, and it is for the students themselves to consider these dangers and responsibilities, that they may sustain the good character of the institution of which they are members, and prepare themselves for time to come. The students of the Institute have almost no restrictions put upon their behavior, the only rules that relate to their deportment

laid down by the Faculty being such as would be prompted by gentlemanly instincts in any case. The prominent times of trial are when numbers of the students are together, as then the feeling of liberty is greatest, and it is at such times that the public opinion of the character of the students as a whole is largely formed. Individual character is influenced more, probably, in quieter circumstances, and the eternal vigilance should never be relaxed. There cannot be too much of good, honest fun, and there is nothing against having it, so long as self respect and the rights of others do not suffer.

THE Freshman class are entitled to a position on the editorial board of THE TECH, which is to be awarded strictly according to merit. No contributions whatever have been received from that class. If, after waiting a reasonable time longer, none are received, the position will probably be given to some other class, as we cannot afford to maintain the vacancy.

WE regret to announce that Mr. F. Manton Wakefield, '87, has been compelled, by the pressure of his studies, to resign his position on THE TECH. On account of his long connection with the paper, his loss will be much felt. Members of the Junior Class are invited to hand in contributions to compete for the vacancy.

THE Committee on Photographs of the Senior Class would call attention to the fact that sittings for pictures *must* be made before Feb. 1, 1886. Appointments may be made with Mr. Hastings, 147 Tremont Street, corner West, at any time. All who have not done so are requested to attend to the matter as soon as possible.

THE next TECH, No. 8, which would ordinarily be issued Thursday, January 28th, will be delayed until February 4th, in order to avoid appearing during the vacation. No. 9 will be published a week later.

Kissed.

Laughing, my cousin Isabel
 Had challenged me to kiss her! Well,
 By stratagem I soon obtain
 What force would labor for in vain.
 I boasted. "Don't be proud," said she;
 "'Tis nothing wonderful; for see —
 Your valor's not so very killing;
 You kissed me — true — but I was willing." w.

The Cruise of the Arethusa.

THIRD PAPER.

NORTHWARD FROM BONNE BAY.

OUR party left Bonne Bay, July 1st, our destination being Cow Head, situated some fifteen miles to the northward. During the afternoon the breeze was light, and our headway not so rapid as could have been desired. As it was quite late in the afternoon when we reached our objective point, we decided to anchor in a small cove for the night, and not run into the harbor proper until we could get a pilot more familiar with the dangerous rocks and reefs about the entrance than ours was.

Cow Head is a small settlement situated about half way up the western coast of Newfoundland. It may possibly be able to boast of one hundred inhabitants, but certainly no more than that. The houses, or, more properly speaking, the huts, are small wooden arrangements, and have never known such a thing as paint.

The people along the western coast are dependent, for the most part, entirely upon fishing; and if that means of subsistence fails, they accept the only other alternative — and starve. The larger portion of the settlements have no store whatever, and Cow Head is no exception. All the necessities of life are purchased from the trader. The "trader," as it is called, is a floating country store, the stock including everything, from patent medicines to tinware. The pay is taken entirely in dried codfish, and the inhabitants generally have to give the highest prices for extremely coarse articles, and receive a very low valuation for their fish.

The amount of ignorance prevailing in some of these places is very great; and yet one will not wonder at it when it is remembered that

many of the settlements are entirely isolated, and the people only see the trader, or an occasional fisherman as ignorant as themselves.

Three days amply sufficed for us at Cow Head, when we set sail for Ingornachoix Bay. The run being about fifty miles, and the wind ahead, we started very early, so as to get in that night, if possible. The breeze gradually lessened, and by afternoon we were becalmed for several hours; evening promised to furnish the desired zephyr, but we were again doomed to disappointment. Our progress for that night, as shown by our log, was just a mile and a half. Next morning we succeeded in making the desired harbor.

From Ingornachoix Bay proper a narrow arm makes inland about five miles; and it was to the extreme upper end, known as Hawkes Bay, that we were bound. The land has lost much of the wild aspect seen farther south, being now considerably lower, and less hilly. We remained at our anchorage for a day, and then ran out toward the bay. Our work detained us here for three days, and then we continued our journey. As our next harbor is under the control of the French, it may be well in this connection to speak of what is known as the "French Coast." An old treaty, dating back a great many years, gives the French the right to fish along the western coast of Newfoundland for about two hundred miles, to occupy such harbors as are necessary for the purpose of carrying on this business, and to erect temporary houses and sheds. But neither the French nor the English have the right to erect permanent buildings, nor give deeds for the land. To settlers, the English authorities can only say, "Go ahead and erect such buildings as you want, and if the French do not disturb you we will not." This treaty has been of exceedingly great disadvantage to the coast, as it prevents very material improvements that would otherwise be made. Port au Choix is the name given by the French to the principal station occupied by them during the fishing season of the summer months.

The harbor is small, not a mile square, and quite shallow for the most part. On either



COW HEAD.

side are the fish-houses and shanties occupied by the men. The former are simply large, wooden frame-works tented over with white canvas. The men are for the most part from Brittany and Southern France. The fishing season is of about four months' duration, so they time their journey so as to arrive about the first of May, and leave the first of October.

At the time of our visit they had five of their vessels in Port au Choix. Their small fishing-boats are strange-looking contrivances to one accustomed to the sloop or schooner rig. They are, as a rule, two-masted, and lateen rig. The sails are dyed, to prevent mildewing. The colors vary greatly, some being of a salmon tint, while others are green, red, black, according, I suppose, to the fancy of the man who colored them.

The scene later in the evening, when there is a large fleet of these boats coming in from their day's work, each one racing with every other, and all the men jabbering away in the peculiar dialect of Brittany, while over all the red summer sun throws its last rays, as it sinks down behind the dark waters of the gulf, is one that can well carry the spectator, mentally, to some of the small ports on the coast of France.

The fourteenth of July, the anniversary of the taking of the Bastille, is regarded and celebrated in France somewhat as the Fourth is with us. With the French fishermen the day was observed with as much ceremony as could be expected of a crowd of men three thousand miles

from home, and in a place completely shut off from the outside world. All day long we could hear their cries of "Vive la Republique," and by night they were all tolerably well under the influence of liquor. In the evening they fired guns and pistols, and then went down to the shore and built an enormous bonfire, round which they circled and sang the "Marseillaise;" and when they had tired of that they amused themselves by abusing the Germans, and calling them all the names their vocabulary afforded.

Distant about two miles south of Port au Choix is Point Rich, the site of a lighthouse belonging to the Canadian Government. Port au Choix is situated on a peninsula, the neck of land connecting with the main-land being, scarcely a quarter of a mile wide. On either side of this narrow neck is a cove, the eastern one being known as Gargamelle, and the western one as Old Port au Choix.

The latter is a deserted fishing station, the old houses and stagings giving evidence that the place has seen better days. About half-way distant between Old and New Port au Choix is a small cove known as Barbacé. On the eastern side of the cove is a cliff about a mile in length and a hundred feet in height. At its foot there is exposed, at low water, a great floor of rock, over which are strewn immense rectangular masses of rock, as regular in outline as if cut by human hands. The strata lie in a nearly horizontal position, and, owing to the uneven hardness of the rock, have been worn most curiously

by the action of the weather and waves. Here is, apparently, a turret, and there steps leading to the top. From the level floor at the foot a grassy bank lies against the side of the wall of rock. From the water side the whole presents the appearance of a gigantic fortification, so regularly have the various parts been sculptured by the natural agencies.

At Gargamelle we obtained our finest fossils. On the northern side of the cove the shore much resembles Barbacé. The rocky floor at the bottom of the cliff, in this case, however, is not covered at high tide.

In these rocks are great numbers of fossils of various kinds. Our method of working, was first, to have some of the party go over the ground and see what was to be found. The specimen desired was often shown on the perfectly smooth surface of the rocks. Around such a fossil we cut a trench, varying in depth. When this was done small hammers and chisels were brought into requisition, and by having several persons gently tap around all sides of the fossil, we were generally able to split it up in the slab of rock, without injuring the specimen in the least.

B.

The Student at the Tech.

In the West End of Boston lie
Two large buildings, placed closely by
The Brunswick, tow'ring to the sky;
And 'tween them both a street runs by
To many-towered Trinity.

And up and down young men oft go,
Gazing long with eyes of woe,
Upon this architectural show,—
The Massachusetts Tech.

There, hairs whiten, senses quiver,
Students in their shoes do shiver
On those days which last forever—
The semi-annuals.

There, encased by many powers,
While a proctor fiercely lowers
At a youth, who from him cowers,—
The student at the Tech.

There he works, the livelong day,
At magic roll, with figures gay;
He hath heard a whisper say
A curse on him should't give away
The student at the Tech.

The proctor comes, with looks of hate;
He hides the cribs—but ah! too late;
The magic roll unrolls in state;
The student now has met his fate
At the Massachusetts Tech.

Out flew his hand; but far and wide
The tangled roll rolled from his side;
“The curse is come upon me!” cried
The student at the Tech.

So down the weary stairs' expanse
He wanders slowly, in a trance,
Seeing all his own mischance
At the Massachusetts Tech.

So, at the closing of the day,
He packed his trunk and sailed away.
Preserve us from such actions, say
The students at the Tech.

F. L. V. H.

Althausen.—A Romance.

(TRANSLATED FROM THE GERMAN.)

CHAPTER III.

AND how wonderfully pretty she looked in her simple, and yet rich, adornments; and how heartily she bade him accompany her, since the father and mother would not come until later.

“The longing after her Heinrich cannot oppress her heart very heavily,” thought Arnold, gleefully, as he drew her arm through his own; and they started off in the fast-falling twilight for the dance-hall. A feeling stirred him to which he knew not how to give words, and a thrilling sensation darted through his breast. He could feel his heart throbbing painfully, as the maiden laid her arm on his. “And to-morrow I must go away, and leave all this,” he said to himself with a sigh, unaware that the words could reach his companion's ear. But she said, laughingly, “Do you not care, then, to remain with us any longer—longer, perhaps, than would be pleasant to you?”

“And would *you* like me to remain, Gertrud?” asked Arnold; and he felt the blood surging with fuller strength into his forehead.

“Yes, indeed,” she said, composedly; “for you are so good, and so pleasant—my father likes

you, also, and —— Heinrich is not here," she added, roguishly.

"Yes; but if he should come to-morrow?"

"*To-morrow?*" she said, and looked at him earnestly, with her large, dark eyes. "Between then and now there lies a long, long night. To-morrow? You will understand *to-morrow* what that word signifies. But we will not speak of that now," she broke off; "to-night is the merry festival which we have so long, so *very* long waited for, and we must not spoil it by sad thoughts; and here we are. The men will not look cross because I bring a new dancer with me, I hope."

Arnold was about to reply, when the music started up, and drowned his voice. The musicians played after a remarkable fashion of their own. Gertrud conducted him into a brilliantly-lighted apartment, where a group of peasant-girls were chattering away, and there she left him for awhile, to become acquainted with the other fellows and maidens before the real dancing began.

Arnold did not feel very comfortable at first among so many strange faces, their costumes and their speech seemed to him so strange and uncouth. The unwonted tones which sounded so sweetly from Gertrud's lips, grated harshly now on his ear. The young fellows were, however, very friendly toward him; and one of them, coming up to him, took his hand, and said,—

"It is very sensible of you to remain with us. Only live a jolly life, and the interval will pass away quick eno'."

"What interval?" asked Arnold, less astonished at the expression than that the fellow should have surmised he meant to make the village his home. "You mean, I suppose, the time before I come here again?"

"And you mean to go away again, do you?" said the young peasant, quickly.

"Yes, to-morrow — or next day, at most; but I shall come back again."

"To-morrow? So — do you, indeed? Ha! ha! ha!" laughed the young peasant.

"That is pretty good! But we will talk more

of that *to-morrow*;" and he, with the rest, burst into a droll laugh which made Arnold almost shiver — he knew not why.

All at once the musicians gave a sign that the dance was to begin, and thereupon Gertrud came once again to his side and took his arm.

"Come; we must not be last," said the maiden, gaily; "for, as the Mayor's daughter, I must open the dance."

"But what a strange melody they are playing to dance by," said Arnold. "I cannot keep time to it at all."

"It will go all right," laughed Gertrud; "after the first few minutes you will find out the way, and I will tell you how it goes."

Every one now pressed into the dancing-hall except the card-players, and Arnold soon forgot everything else in the blissful sensation of holding the beautiful girl in his arms. Again and again he danced with Gertrud, and no one seemed to wish to quarrel with him on that account, although the other girls teased him somewhat about it. One thing only disturbed him; close by the tavern stood the old church, and in the parlor one could distinctly hear the sharp, dissonant clang of the cracked bell. At the first stroke it seemed as though the staff of a magician had touched the revellers. The music ceased in the middle of a measure, the throng of men and maidens stood as if rooted to their places, and every one counted out the slow, tedious strokes, with upraised finger. As soon, however, as the last sound had died away, the whole scene was again life and gayety. It was the same way at eight, at nine, and ten o'clock; and when Arnold inquired the reason of this mysterious behavior, Gertrud laid her finger upon her lips, and appeared so sad and melancholy, that he would not for the world have troubled her more about it.

At ten o'clock there was a pause in the dance, and the musicians, who must have had iron lungs, preceded the young people into the dining-room. Here everything went merrily; the wine flowed freely; and Arnold, who could not remain behind the rest, began to calculate

what a hole this festive evening was going to make in his slender treasury. But Gertrud sat near him and drank with him from the same glass; and how could he find a place for such cares? But suppose her Heinrich should come to-morrow!

CHAPTER IV.

THE first stroke of eleven sounded, and again the tumult was calmed,—again the breathless listening to the tiresome strokes. A kind of horror came over him—he knew not why; and thoughts of his mother, and home, darted through his mind. Slowly he raised his glass, and bowing, emptied it as a greeting to his far-away loved ones.

“To whom did you just now drink?” asked Gertrud, as she again laid her arm on his.

Arnold hesitated with the answer. Perhaps she would laugh at him if he told her. However, with a gentle voice he said to her, “My mother.”

Gertrud said nothing to this, and went silently back to the other room—but she smiled no more;—and before the dance had begun again she asked him, “And is, then, your mother so very dear to you?”

“More than my life,” he said simply.

“And does she love you just as much?”

“Does not a mother always love her child?” he answered solemnly.

“And if you were never to go back to her——?” she continued.

“Poor mother!” said Arnold; “her heart would break.”

Just then the dancing began, and Gertrud said quickly, “Come; we must not lose a second of this;” and wilder than ever the dancing went on. The young men, heated by wine, were boisterous, and the hilarity increased amid great uproar, in which the music was drowned. Arnold disliked the din and noise, and Gertrud had also become very still and quiet; but with the rest, the excitement waxed only greater and greater.

In the midst of a new dance Gertrud suddenly

stopped, and taking his arm, whispered, “Come!”

Arnold lost no time in asking whither, for she had slipped away from him again, and was on the way to the door.

“Where are you going, Gertrud?” said two of the dancers to her.

“I shall soon be back again,” was the short answer; and a few seconds later she stood with Arnold out in the cool evening air before the house.

“Where are you going, Gertrude?” asked Arnold.

“Come!” she said; and, seizing his arm, conducted him through the village, past her father’s house, only stopping to dart in and bring back a small bundle.

“What have you there?” questioned Arnold, horrified.

“Come!” was the only answer; and they went thus together until the outermost limits of the village were passed, when Gertrud turned off from the path to a small flat knoll, from which the brightly-lighted windows and doors of the Town Hall could be seen. Stopping here she put out her hand to Arnold, and said, feelingly, “Greet your mother for me. Farewell!”

“Gertrud!” cried Arnold, as astonished as he was dismayed, “are you going to send me away from you thus in the middle of the night? Have I displeased you in any way?”

“No, Arnold,” said the girl, calling him for the first time by his first name; “it is just—just because I like you, that you must go away.”

“But I cannot let you go back to the village alone, and in the dark,” besought Arnold. “Gertrud, you do not know how much I love you—how deeply you have obtained possession of my heart in the past few hours. You cannot know——”

“Do not say more,” Gertrud interrupted him quickly; “we will take no farewell. When the clock has struck twelve—it can hardly be more than ten minutes of it now—come again to the door of the inn; I will wait for you there.”

“And until then——”

“You must remain here in this place. Promise me that you will not move a step to

right or left until the bell has sounded out the twelve strokes."

"I promise it, Gertrud ; but then ——"

"Then come," said the girl, reaching him her hand in parting.

"Gertrud !" cried Arnold, in a beseeching, heartrending tone. She remained an instant, as if hesitating, then suddenly turned toward him, threw her arms about his neck, and Arnold felt the icy-cold lips of the beautiful girl upon his own. It was but for a moment—in the next second she was gone, and had flown back toward the village, and Arnold stood still, perplexed by this unaccountable behavior ; but recollecting his promise, he remained in the place she had left him. He now first observed that the weather had changed in the last few hours. The wind howled through the trees, the sky was thick, and black clouds were scudding by, when a few large drops of rain betokened an approaching thunder-storm. Through the dark night shone brightly the lights from the tavern, and he could even hear occasional bursts of music and the shouts of the people—but not for long. Only a few minutes had he stood in the place when the strokes of twelve began to peal forth from the old church-tower. In the same moment the music was hushed, or deafened by the howling storm, which now broke so fiercely over the mountain-sides that Arnold was obliged to bend down close to the ground in order to keep from being blown over. In front of him, on the earth, he felt the packet which Gertrud had brought with her from the house, and which contained his knapsack and sketches. Astounded, he rose again. The hour had struck out, the piercing of the storm was over, but nowhere in the village could he discover a light. The dogs which shortly before were howling and baying were now quiet, and a misty cloud was springing forth from the ground.

"It is time to go back now," murmured Arnold to himself, as he picked up his things ; "and I must certainly see Gertrud once more, for I cannot part from her in this way." "The dance is over and the dancers are going home, and if the Mayor will not house me over night

I will stay at the inn. In the darkness it is not so easy to find my way through these bushes, though."

He sought carefully now for the path on which he had come with Gertrud, which led to the broad street of the village, but he only wandered the deeper among the bushes. The ground was wet and boggy, and with his thin boots he sank into it at every step. More and more bewildered, he went here and there, but the ground grew even more wet and muddy ; his hands were wounded with thorns ; he thought that it would be best to wait for one o'clock to strike, to find the right direction ; and finally he came to a tree, where he decided to stay, in which he could at least keep dry until morning. How slowly the hours passed ! Ever and anon he listened intently for the sound of the old cracked bell, but it did not come. At last there came a little glimmer of light in the east ; the clouds had cleared, the sky was bright, and the little birds were twittering around him in the tree.

He looked about eagerly now for the familiar objects,—the old, brown church-tower and the weather-stained roofs,—but in vain ; nothing but a broad strip of alder bushes greeted his view. There was no recognizable path out of the place, and no trace of human dwellings in the vicinity. Brighter and brighter grew the day ; the first sunbeams fell upon the wide, green surface spread out before him ; and Arnold, not in a condition to solve this riddle, wandered back over the place. He thought he must, in the night, have lost his way, and wandered far from the right path, and was almost determined to seek it somewhere else, when he came upon the stone which Gertrud had pointed out to him ; also the old willow-tree near by. He knew well enough now where he was, and where Althausen *should* be ; but where was it ? He went rapidly back through the valley, keeping the same direction strictly which yesterday he had gone over with Gertrud. Here he recognized the bending of the cliff over which the mist had hung ; and now, certainly, nothing but the alder bushes separated him from the first houses. Now he felt that he had attained it,

and pushed them to one side — only to find himself again at the same swampy morass in which he had waded around the night before! The village had disappeared! He must have spent several hours more in unavailing search, when it occurred to him that if he went to the nearest village, he could procure a guide who would easily conduct him to Althausen. But now his strength began to fail him. Deadly tired, he threw himself down under a tree, and taking out Gertrud's picture from his portfolio, his eyes hung with bitter sorrow on the features of her who had, he found to his horror, taken only too fast a hold upon him. At this moment he heard a rustling behind him; a dog sprang out; and as he jumped to his feet a hunter stood before him, and looked at him with curiosity, he was such a ragged and bewildered looking spectre.

"Thank God!" cried Arnold, shoving the sketch into his portfolio, "for sending a human being here. You came to me as though I had called you, Herr Forester, for I think I have lost my way."

"Gott in Himmel," said the old hunter, "if you don't look as though you had spent the whole night here in the bushes — and Dillstedt only a half a mile off, where there is a good inn! You look exactly as if you had come head over heels through the mud and thorns."

"You are well acquainted about here, I suppose?" asked Arnold, who wanted to know, most of all, where he was.

"I should think so," laughed the hunter, as he lighted his pipe.

"And what is the name of the nearest village?"

"Dillstedt — right over there," said he, pointing with his finger.

"And how far have I come from Althausen?"

"From *where*?" cried the hunter, as he took his pipe from his mouth in consternation.

"Althausen," said Arnold.

"Heaven bless me!" said the man, giving an upward look. "I know this forest well enough, but how many leagues deep in the earth the *enchanted village* lies, only God knows — and — it is none of our concerns."

"The enchanted village!" cried Arnold, in amazement.

"Althausen — yes;" said the hunter. "Right there in the swamp, where the old willows and alders are now, it once stood; but it is many a hundred years since it sunk out of sight — nobody knows why, or whither; and the saying goes that every hundred years, on a particular day, it comes up to the light again — but no Christian would wish to happen there accidentally. But, by heavens! it did you no good to make your camp among the bushes, for you look as white as a sheet. Here, take a swallow from my flask; 'twill do you good. And now you had better go into the village as soon as possible, and get into a good, warm bed."

"Where to — Dillstedt?" said Arnold, bewildered.

"Of course; there is none nearer."

"And Althausen?" he persisted.

"Be good enough not to name the place again," said the hunter, crossing himself devoutly — "especially here, right on the place where we now are. Let the dead rest, especially those who have no rest, and are likely to dive up here between us at any time."

"But yesterday I was there. I ate, drank, and danced there."

The hunter looked at him a moment, and then said: "Perhaps you mistook it for Dillstedt. There was a dance there last night, and it isn't everybody who can stand their strong beer."

Arnold, instead of answering, took out the picture of the village, and of Gertrud, and said, "Do you recognize these?"

"No!" said the hunter, shaking his head; "there is no such church-tower in the entire vicinity."

"That is Althausen," said Arnold, decisively, putting the sketches back with a sigh.

The good-natured hunter looked at him as if he thought him not quite right in his mind; and then he offered to accompany him to the next village.

"No," said Arnold; "I thank you, but I can find it all right. And so every hundred years the village comes up to the light of day?"

"So the people say," said the hunter; "but who knows if it is true." And now with a friendly greeting the man went on his way.

Arnold turned, and trod slowly along the path. When a little above the level, where he could overlook the entire spot, he stopped and looked back. "Farewell, Gertrud!" he murmured softly; and as he went along over the mountain-path the big, bright tears welled up into his eyes.

(CONCLUSION.)

A Vacation Conference.

SCENE: Freshman snugly ensconced in the old gentleman's favorite chair, smoking cigarette; his father, sitting so as to obtain a side view, looking him over with a doubtful expression.

Father: "Well, I am glad to see you home again, my son. How do you like the Institute?"

Son: "Come, now, don't you spring that old gag on me, too; every one asks me that."

Father: "But you know we heard nothing of you, except frequent demands for money, and a list of the things you wanted Christmas. By the way, those were very nice presents you sent us all."

Son: "Yes; haven't you received the bill for them, yet? That reminds me, you will get a bill for my chemical breakage—about twenty dollars. I think I'll drop chemistry next term."

Father: "Why, I don't like to have you drop any studies; you know I wish to have you graduate."

Son: "You just wait till you get the report of my examinations, and I guess you'll find that I must drop more studies than chemistry. It's too confounded hard work being a regular; only a fifth of the class will graduate. I don't get time for anything."

Father: "Why, from the reports that Mr. Munroe sent me, I should judge you had taken plenty of leisure."

Son: "Well, I can't study at the Tech., it's so noisy; and I don't like to study evenings, for fear of injuring my eyes."

Father: "What do you do evenings?"

Son: O, go to the theatre, or rink, or round with the boys somewhere; you didn't send me enough money last month, so I had to spend my board money. I owe for six weeks, now.

Father (after long, uncomfortable silence): "Well, it don't appear to me that you have been using your time to the best advantage. On the whole, I don't think you had better go back next term. I've got a place for you at the mill, and you can begin work on Monday, sir."

Noticeable Articles.

The *North American Review* for December contains three papers on Gen. Grant—"Halleck's Injustice to Grant," by Col. F. D. Grant; "An Acquaintance with Grant," by Gen. James B. Fry; and "The Mistakes of Grant," by Gen. W. S. Rosecrans. The paper on the "Progress of Texas," by Governor Ireland, gives one a lively idea of the vastness and the immense resources of our country. Texas alone "is larger than half of Europe, omitting Russia, and can support a population equal to the present population of the United States, and yet not crowd her people." In 1836 her population numbered 50,000; in 1885, 2,500,000. In 1870, the assessed value of her property was \$150,000; it is now \$603,000,000. Some of the items are: Cattle, \$81,000,000; horses, \$32,000,000; sheep, \$9,000,000; railroads, \$40,000,000. Of the 274,000 square miles, a large proportion are rich in minerals; and on 46,000,000 acres of timber land, there grow 194 varieties of wood. There is an account of the capture of John Brown; and E. Gov. Boutwell writes on "President Johnson's Plans and Motives."

In the *Atlantic* for January, Mr. John Fiske gives an account of "The Political Revolution in England which was set on foot by the American victory at Yorktown. There is an anonymous review of the recently published "Life of Garrison" by his sons, which concludes thus: "It is a striking fact that in the rapidly expanding Valhalla of contemporary statues in Boston, only two—those of Webster and Everett—commemorate those who stood for the party of defense in the great anti-slavery conflict; while all the rest—Lincoln, Sumner, Andrew, Warren, Harriet Martineau and prospectively Garrison, Parker, and Shaw—represent the party of attack. It is the verdict of time confirming in bronze and marble the great words of Emerson: "What forests of laurel we bring, and the

tears of mankind, to those who stood firm against the opinion of their contemporaries!"

The admirable address on Culture and Science, by Prof. Sonnenschein, of Mason College, Birmingham, Eng., mentioned in a recent article, has been reprinted in No 2,164 of *Littell's Living Age* for December 12th, and may be had, together with much other good reading, for 18 cents.

The Contemporary for December contains an article on Government in the United States, by Mr. Gamaliel Bradford, of Boston, whose initials are often to be seen at the bottom of political articles in our newspapers. Mr. Bradford is severely critical on the shortcomings of our Government, and his criticisms are well worth considering, but somehow we get along. It is certainly well to have the best possible steam-engine, but with a strong boiler and plenty of steam, even a clumsy one will work.

Disturbances in the East are here to disturb the peace of the learned Prof. Freeman, and in this miserable little war between Bulgaria and Servia, he saw the hand of his *bête noir*, "the Imperial Royal and Apostolic Chief of the House of Hapsburg and Lorraine." But anything which Mr. Freeman does not know about the history of the Eastern question may be pretty safely said to be not worth knowing, and therefore his papers are always worth reading.

Prof Sayce, the learned Assyriologist at Oxford, has a curious paper on the origin of the alphabet; and a lady, Mary F Wilson, writes an exceedingly interesting account of the new prophet and religious reformer, the Bâb, who appeared in the East about 1843, and founded the sect of the Bâbys. The story of, and end of, the new prophet and the persecution of the sect is a pathetic one; but "the blood of the martyrs is the seed of the Church," and Dr. Bruce, writing lately from Persia, gives the present number of the Bâbys at 100,000.

A short time ago the versatile Liberal Prime Minister of England, Mr. Gladstone, saw fit to take up the cudgel in defense of the entire accord of the Book of Genesis with the revelations of modern science, as against the views of that excellent writer, the Rev Prof. Réville, in his admirable "Prolegomena to the History of All Religions," the last volume of the Hibbert Lectures. Mr. Gladstone has brought down upon himself, in the *Nineteenth Century* for December, rather crushing replies from the great naturalist Prof Huxley on the one hand, and the most learned of comparative mythologists, Prof.

Max Müller, on the other; and between them he fares rather hardly, so that the reader is tempted to advise him to stick to finance, which he understands, and to the pacification of Ireland. The closing remarks of Prof. Huxley on the true relations of Religion and Science are admirable. "What we are usually pleased to call religion nowadays," he says, "is for the most part Hellenized Judaism, and not unfrequently the Hellenic element carries with it a mighty remnant of Old-World paganism, and a great infusion of the worst and weakest products of Greek scientific speculation; while fragments of Persian and Babylonian, or rather Accadian mythology, burden the Judaic contribution to the common stock."

"The antagonism of science is not to religion, but to the heathen survivals and the bad philosophy under which Religion herself is often well-nigh crushed. And for my part, I trust that this antagonism will never cease; but that to the end of time true science will continue to fulfill one of her most beneficent functions—that of relieving men from the burden of false science which is imposed upon them in the name of religion."

"This is the work which M. Réville and men such as he are doing for us; this is the work which his opponents are endeavoring, consciously or unconsciously, to hinder."

W. P. A.

The address of Dr. Odling before the Institute of Chemistry, is reprinted in the *Popular Science Monthly* for January, 1886. This is the address which provoked the criticism alluded to in the last number of THE TECH. In its turn, the criticism has called forth a reply from Dr. Odling (*Nature*, Dec. 3d), and a remonstrance from Dr. Frankland (*Chemical News*, Dec. 18th); All of this is worth reading and reflecting upon.

W. R. N.

The Century for January is at hand, with pages full of interest to all. A large space is devoted to the war papers, chief among which is an account of the "Second Battle of Bull Run," by Gen. John Pope, and there are installments of the serials by Henry James and Mary Hallock Foote. "John Bodewin's Testimony," by the latter, is a charming story of life among the mines. In addition, there is a short story, "Trouble on Lost Mountain," by J. C. Harris. The conclusion of the papers are "The City of Teh-rân," which is finely illustrated, a biographical sketch of Guiseppe Verdi, one of Stockton's short stories, besides the usual number of poems and other articles.

List of Publications, M. I. T.

MASS. INSTITUTE OF TECHNOLOGY.—Twenty-first Annual Catalogue of the Officers and Students, 1885-1886. Pamphlet, 8vo, pp. 156. Boston, 1885.

——— President's Report, Dec. 9, 1885. Pph. 8vo, pp. 24. Boston, 1885.

CLASS OF '87. *Technique*, 1885. Annual, published by members of the Junior Class of the Mass. Institute of Technology. Pph., 8vo, pp. 152 and xlv. Boston, 1885.

CLARK, F. W. ('80). Lixiviation and Amalgamation Tests. *Trans. Am. Inst. Min. Eng.*, 1885. (pp. 5).

CROSS, CHAS. R. ('70). Kittler's Electrotechnical Handbook Review. *Science*, VI. (1885), 447.

——— Experiments with the Thermal Telephone. *Proc. Am. Acad.*, XXI., 257-261; *The Electrician and Electrical Engineer*, IV., 419 (November, 1885); *Teleg. Journ. and Electr. Rev.*, XVII., 386 (Nov. 7, 1885).

——— with James Page. Measurement of the Strength of Telephone Currents. *Proc. Am. Acad.*, XXI., 248-256; *Teleg. Journ. and Electr. Rev.*, XVII., 412 (Nov. 14, 1885).

GALLOUPE, F. E. ('76). Elevated Railroad. A description of the Meigs System. *Trans. Am. Soc. Mech. Eng.*, 1885; *Am. Engineer*, Nov. 19, 1885.

HOWE, H. M. ('71). On the Combined Contraction of Iron. *Trans. Am. Inst. Min. Eng.*, 1885.

——— Copper Smelting. Bulletin No. 26, U. S. Geological Survey; Pph., 8vo, pp. 107. Washington, 1885.

HYATT ALPHEUS (Prof.). Cruise of the *Arethusa*. *Science*, VI. (1885), 384.

LANZA, GAETANO (Prof.). The Course in Mechanical Engineering at the Mass. Institute of Technology. *Trans. Am. Soc. Mech. Eng.*, VII. (pp. 9).

——— Transmission of Power by Belting. *Id.*, VII. (pp. 11).

MINOT, C. S. ('72). Physiology of the Brain. *Science*, VI. (1885), 521.

NEWELL, F. H. ('85). Permeability of Sand Rock. *Eng. and Min. Journ.*, XL., 79. (Aug. 1, 1885).

NICHOLS, W. R. ('69). Chemistry in the Service of Public Health. *Proc. Am. Assoc. Adv. Sci.*,

XXXIV. (1885). Also, reprinted, pph., 8vo, pp. 20. Salem, 1885. Abstract in *Chem. News*, L. (1885), pp. 222.

PEABODY, C. H. ('77). Steam Engine Tests made in the Mechanical Engineering Laboratory of the Mass. Inst. Technology. *Trans. Am. Soc. Mech. Eng.*, VII. (pp. 10).

PICKERING, W. H. ('79). Colored Media for Photographic dark room. *Proc. Am. Acad.*, XXI. (1885), pp. 244-247.

SEDGWICK, W. T. (Prof.), with W. R. Nichols, ('69). A Study of the Relative Poisonous Effects of Coal and Water Gas. *Sixth Ann. Rep. Mass. State Board of Health, etc.*, 1885, *Supp.*, pp. 275-313.

WESSON, DAVID ('83). Laundry Soaps, and their Adulterations. *Amer. Analyst*, I., No. 21, pp. 8-9.

WILLIAMS, F. H., M.D. ('73). A Text-Book of Pharmacology, Therapeutics, and Materia Medica. By T. Lander Brunton, M.D., etc. Adapted to the U. S. Pharmacopœia, by Francis H. Williams, M.D., Boston. 8vo, London, 1885.

Technics.

Hygienic Lecturer.—"Milk, gentleman, contains all elements necessary to the support of the human body. I know no substance which possesses more or a better quality of nutriment than milk."

Voice.—"I do!"

Lecturer.—"What is it?"

Voice.—"Cream!"

Can a blue pencil be defined as "the rod of correction?"

FRESHMAN CHEEK.—*Absent-minded pater*: "Want your allowance, hey? How much is it?"

'89: "Fifteen dollars."

Pater, aroused: "What! I thought it was ten!"

'89, *calmly*: "I have found it expedient to raise it."

BARBER-SHOP HUMOR.—*First B.*: "D'yer know wot the femernine of hare is?"

Second B.: "No. Bangs?"

First B.: "No. Rabbit!" (*Convulsive laughter.*)



Takuma Dan, '78, recently appointed Chief Engineer and Manager of Miebe Imperial Coal Mines, Chikugo, Japan.

John W. Cabot, '79, and Emma L. Baker, were married at Hyde Park, Ill., Dec. 23d. Cards were out for a reception in this city December 26th.

Frank D. Chase, '81, Assayer, Pueblo Smelting and Refining Co., Pueblo, Col.

W. H. Bunce, '84, Financial Agent and Assistant Manager of Evening Star Mining Co. and Morning Star Consolidated Mining Co., Leadville, Col. P. O. Box 133.

C. S. Robinson, '84, with Joliet Iron and Steel Co., Joliet, Ill.

C. H. Bartlett, '85, in charge of Draughting for Contemplated Improvements on Concord Railroad.

S. A. Whitney, '86, with Whitney Glass Works. Office, 59 Murray Street, New York.

Albert D. Currier, '87, Student in Patent Law. Room 54 Portland Block, Chicago, Ill.

Henry M. Steele, '87, on the Engineer Corps of Baltimore and Ohio Railroad. Located at Philadelphia, Penn.

WE made a mistake, in the last number of THE TECH, in stating that the St. Rollox chimney was the highest in the world. A chimney has recently been built for the Metternich Lead Works, in Germany, which has a total height of 440 feet.



Mr. La Rose, '89, has been received into Theta Xi.

The meeting of the Society of '88 is indefinitely postponed.

The K, S recently initiated Messrs. Dempsey and Greeley, '88.

Mr. W. B. Douglas, formerly of '87, recently paid us a flying visit.

The officers of the Battalion of '89 are being instructed in the use of the sabre.

The average age of the present freshman class at the time of entrance was 18 years and 2 months.

Several members of the Technology Cycling Club rode over 1,000 miles during the past summer.

How the boys will waylay the postman when they get home, on the chance of hearing from J. P. M., you know.

Friends of Prof. Niles will be glad to learn that he has recovered from his long illness, and is again able to be about the Institute.

Mr. F. H. Newell, '85, read a paper on Late Methods of Drilling for Oil and Natural Gas, before the last meeting of the Society of Arts.

There has been excellent skating at Jamaica, Newton Centre, and Auburndale, though the Christmas vacation gave but little opportunity to enjoy it.

Photographs of the foot-ball and base-ball teams of 1885 can now be obtained at Notman's,—the former for \$1.50, and the latter for 75 cents.

Thirty-three States of the Union, besides the District of Columbia, are represented on our lists of students. Canada, Scotland, Chili, Cuba, and Japan are also represented.

P. Marchington, letter-carrier, wishes to return thanks to the officers and students of the Institute of Technology, for their kind remembrance on "New Year's" day.

The Society of '87 held its regular monthly meeting at the Parker House, Friday, January 1st. About twenty members only were present, it being "Happy New Year."

Now, Freshmen, we look for the first signs of promise of that "noble fruitage" that is to come in "the harvesting of '89," to quote from *Technique*.

A gentleman was told he would receive a present that would make his coat-tails stand out straight behind; whereupon a small boy remarked that it "must be a *bustle*."

The C.B.A. Society held a regular meeting at Young's Hotel, December 31st. Messrs. Bates and Mauran, '89, were initiated. The initiation exercises were concluded with a dinner.

It is rumored that after the semi-annual vacation, only Sophomores will be allowed to work in the analytical laboratory in shirt-sleeves. Third-year men will be required to wear seersucker coats, at least, while Seniors will be expected to appear only in full dress.

During the last few days the Freshmen have been seen wandering around the halls with their H₂S generators. Dreadful rumors as to their purpose was circulated, which however were proved groundless, when it was learned that they were merely taking them to their drawing-room for use as models.

Profound ignorance seems to prevail among third-year men as to the nature of the approaching semi-annual examination on Constitutional History, and surprise is expressed that that subject was omitted in the collection of examination papers recently published by the Society of '87.

Junior German.—"Elsbet war ein hübsches munteres Mädchen"—"Elizabeth was a pretty

lively girl." "Telemach bot ihm ein Geschenk zum Abschiede an"—"Telemachus offered him a parting drink" "Hat sie uns nicht mit unerhörten Listen geäfft?"—"Has she not with unheard of craft monkied with us?"

On the 30th ult. the orchestra played in a creditable manner before the Young People's Society of the Dudley Street Baptist Church, and were afterward very pleasantly entertained by their audience. After the semi-annual vacation they will make a speciality of dance music, having been invited to play for one of the Fraternity parties.

The pedestal beside the door of the Art Museum, which formerly supported a statue, was occupied one morning recently by a tobacco-shop Indian. We hope this was not the work of a certain '87 man, whose prowess last year won him the *soubriquet* of Sign Snatcher. We *hope* not; for some Amherst students, who abducted a similar wooden Indian the other day, were kindly allowed to pay for him to the tune of thirty dollars.

Mr. Van Brunt made the criticisms, and gave the mentions, in the designs for a railway station. Of the five who submitted drawings, Mr. Wakefield, '87, received first, Mr. Brainerd, '86, second, and Mr. Prescott, '86, third. Of the sixteen who handed in designs for a gardener's cottage, Mr. Billings received first, Mr. Loud second, Mr. Kimball third, Mr. Chandler fourth, and Mr. Carleton fifth.

RIFLE REPORTS.—Two of the third-year electricals repaired to the Walnut Hill range, Saturday, January 2d, to participate in the decimal rest match, with the following results:—

B.—8, 3, 0, 2, 2, 0, 0, 1, 0, 0; total, Double F.

T.—9, 0, 0, 0, 0, 9, 0, 0, 0, and a broken window; total, \$2.35.

At the opening of the Institute (1865-66), there were 72 students in attendance, and 10 instructors of all grades. A few years later (1875-76) there were 255 students and 37 instructors. This year, just twenty years after the opening, there are 730 students and 62 instructors.

THE COLLEGE WORLD.

HARVARD.—Harvard has fifty-three student organizations, the largest numbering seven hundred and fifty.—There are now twenty historical, and ten political economy, courses in the curriculum.—Harvard is to be allowed to play foot-ball next year.—The sum of \$100, the gift of John Osborne Sargent, of the class of '30, is to be awarded this year to the Harvard student making the best metrical translation of a lyric poem of Horace. The piece selected for the competition of this year is the second epode of Horace. Students in regular standing in any department of the university are allowed to become competitors. The sum may be divided into three prizes, if circumstances seem to require it. Translations must be handed in before May.

IN GENERAL.—A Brown student has recently given to the college \$650, to beautify and improve the athletic grounds.—Each senior at Trinity is required to write a poem of one hundred lines before graduation.—*Targum*. Even the horrors of writing a thesis do not induce us to change our lot for his.—The new catalogue of Bowdoin College shows an attendance of 186 students, of whom 67 are in the medical school.—A number of college professors, social economists, and others, recently met in New York, and formed an organization to be known as the American Economic Association. The object is "to promote among thinking men a more careful study, and a better understanding of the economic problems, and especially those in which labor is involved." Among the officers are, Pres. Francis A. Walker, Pres. Adams of Cornell, Prof. James of University of Pennsylvania, and Prof. Ely of Johns Hopkins.—*Argus*.—Boston University has 662 students this year.

"Noticed anything fresh to-day?" asked the dude, as he strolled into the editorial-room. "Nothing until you dropped in," replied the editor, carelessly; and no more was said.—*Ex*.



TWO NEGATIVES.

Just outside of the ballroom's glare,
Out of the reach of the noise,— the flare
Of the lights within scarce reaching there,—
We sat on the stairway-landing.

She was quiet, demure; and yet,
Something lay in the glance she let
Out through the drooping fringe of jet,
That was wicked, notwithstanding.

What could I do but bend my head,
That the glance might perhaps be better read;
And then,— well, that we will leave unsaid;
The temptation was past withstanding.

"Don't: stop!" she exclaimed in indignant tone;
"Don't, stop," the colon to comma had grown;
"Don't stop," and the comma had well nigh flown:
Am I blamed for misunderstanding?

— *Yale Courant*.

Mamma (with much show of indignation):
"I have called you three times. I am very much annoyed.

Charlie (who is fond of Bible stories): "Well!
The Lord called Samuel three times, and he didn't get mad about it, did he?" — *Life*.

MONOPOLY.

I.

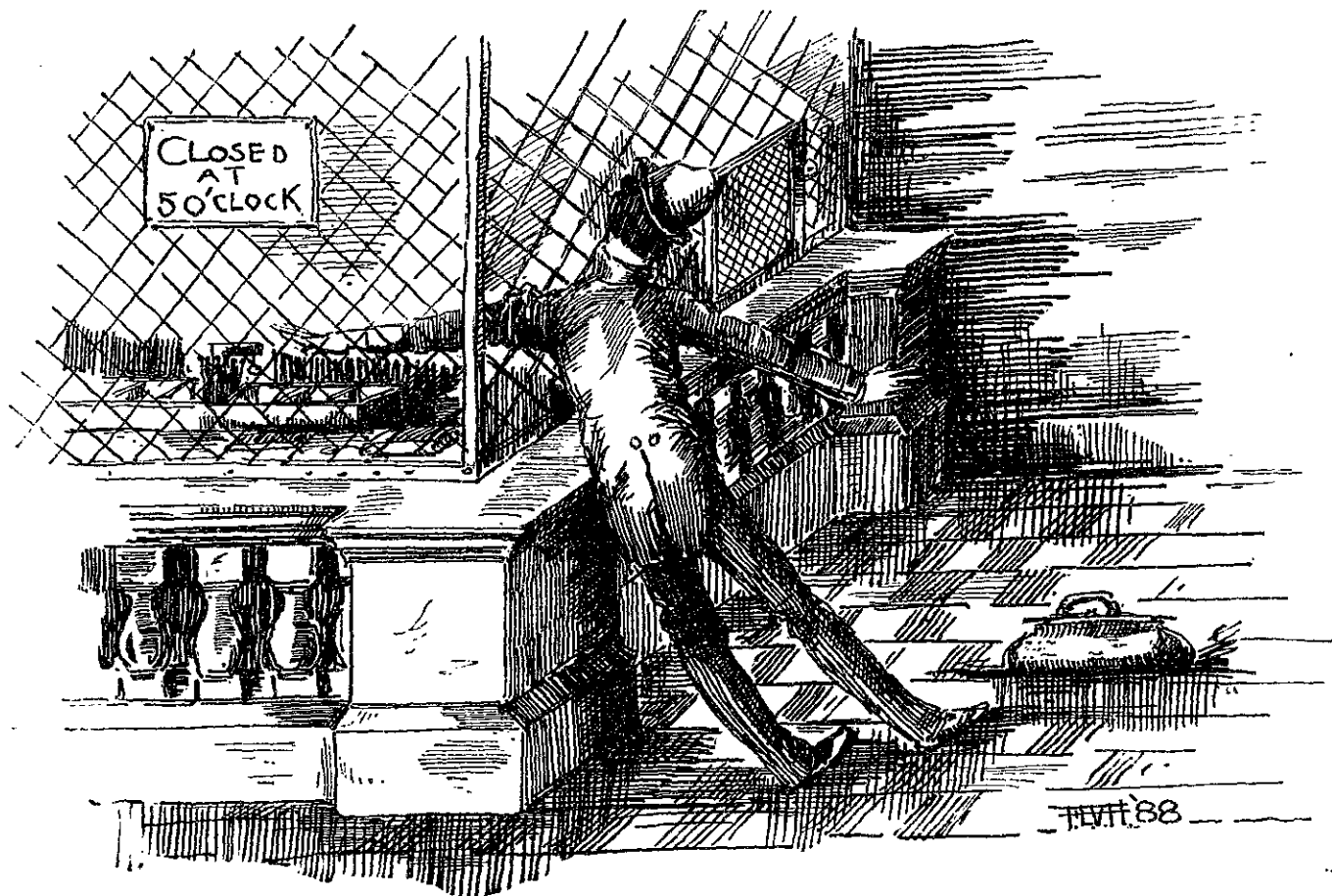
"These monopolies rise,"
Said a sophomore wise,
"Out of error, and methods unfair;
And for men with the chink
To give others, I think,
Is the only way quite on the square—
The only way quite on the square."

This he swore, by J. Laughlin and J. Stuart Mill,
Was the only defensible notion—until,

II.

"All alone in the shade,
With a sweet little maid,
Quite forgetting his I. Econ. Pol.,
He was heard to declare
That monopolies *there*
Were not very bad things, after all—
Not very bad things, after all.

— *Lampoon*.



5.30 P.M. HOW NEAR AND YET SO FAR.

NOT EXACTLY WHAT HE MEANT TO SAY. *She*: "That was my daughter, Mr. Smith; people say she is the perfect picture of her mother."

He: "Yes; but pictures always flatter, you know."—*Transcript*.

De Fones: "How did you like that blonde I introduced you to the other night?"

Van Smith: "Too tall. If I ever get married, it will be to a girl who is *petite*."

De Fones: Well, you're right. Of two evils, I've been told, choose the least.—*Rambler*.

Startling figures — Ghosts.—*Ex*.

Trade notes.—In Chicago, Ill., butter is *firm*, and cheese is *quiet*.

A well-known author in a street-car, rising and giving his seat to a stout woman, who does not acknowledge the civility:—

"I'm obliged to you, madam."

Stout Woman (flushing angrily): "For what, sir?"

Gentleman, (courteously): "For taking my seat." Hilarity among the other passengers.—*Beacon*.

"What do those letters stand for?" asked a curious wife of her husband, as she looked at his Masonic seal. "Well, really, my love," he replied, "I presume it is because they can't sit down." She postponed further questioning.

— *Ex*.

NEW YORK ENGLISH.—*Algy*: "'Arry, me boy, what's o'clock?"

Harry: "I've left me watch hat 'ome, old chappie." (*To bootblack*:) "What's o'clock, me lad?"

Bootblack: "It's a big watch, you dern fool." (*To boy in next street*:) "Hi, Jimmy, come an see the swell as never seed a clock."—*Rambler*.

"What is the expressage on imponderables?" asked Blummer of the agent, who was pasting a label on a box.

"On imponderables, sir? What's imponderables?" said the agent, looking up.

"Well, something that can't be weighed."

"We can weigh anything on them scales."

"No, yer can't. I want to express an opinion;" and he softly glided out.—*Life*.

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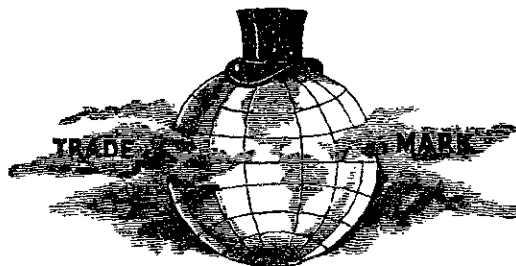
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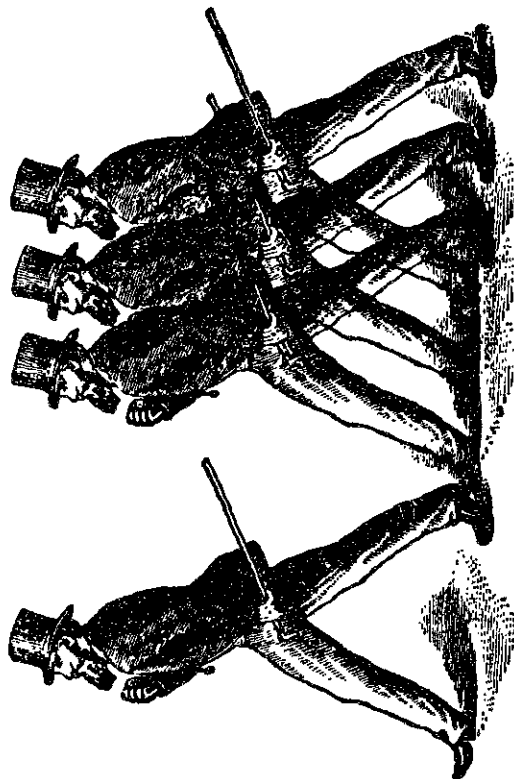
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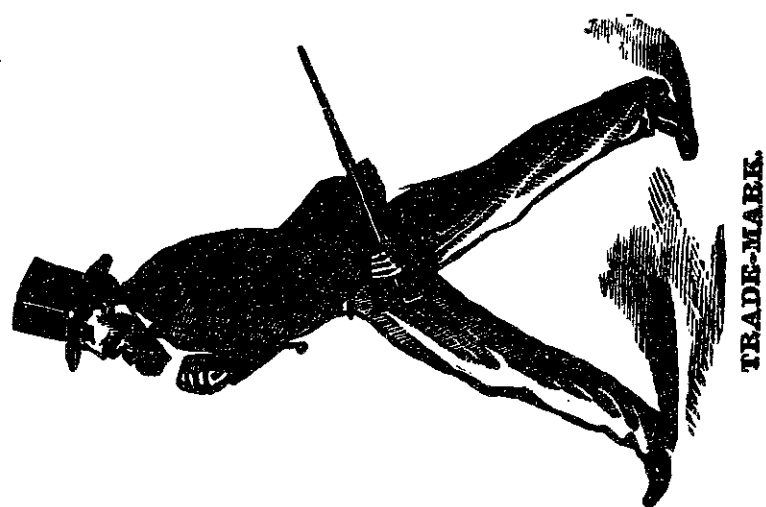
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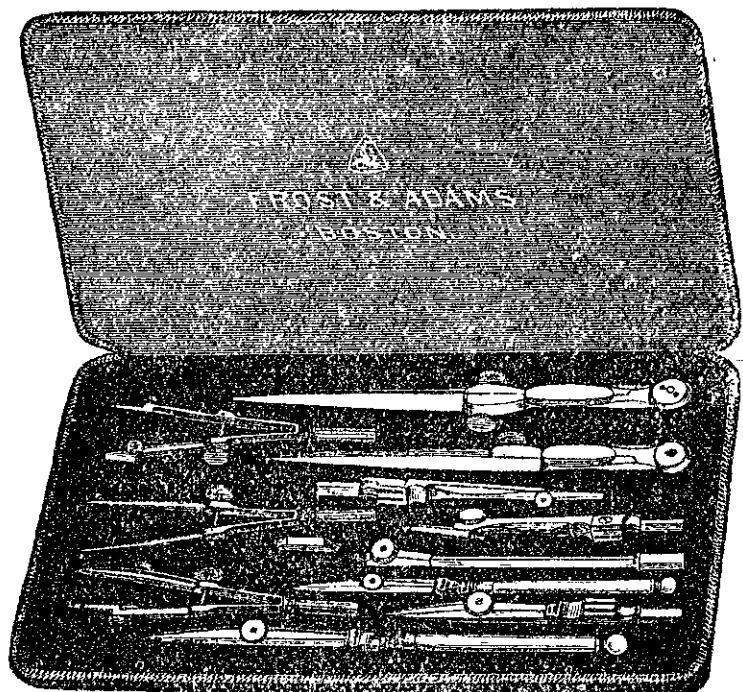
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