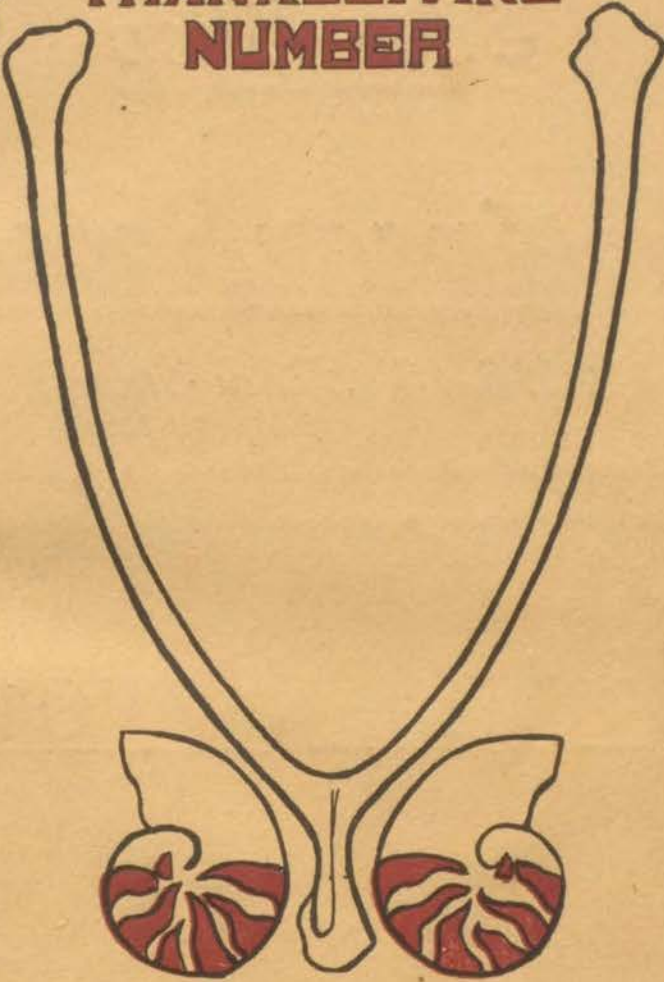


NAUTILUS

VOL. 9

THANKSGIVING
NUMBER

NO. 1.



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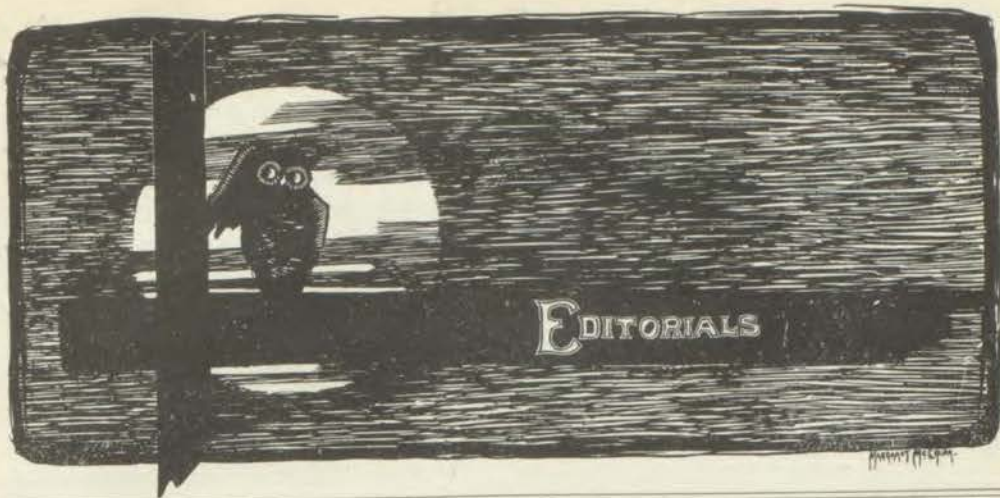
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THE NAUTILUS,
 Manual Training High School,
 Kansas City, Mo.

A GREETING

A new year has begun, and with it has come many changes. Faces dear to us all are missing from our midst. The Senior class of '05 is now widely scattered. Some of its members are attending colleges at various places in the United States, some are traveling abroad, some have entered the business world, while others have returned to old Manual, and are pursuing advanced courses of study. Over five hundred new faces, however, have come among us. The Freshman class has been the cause of much rejoicing among those who are interested in the future of Manual. Brightness, earnestness and energy seem to be the distinguishing qualities of the class of '09. Although some of the Freshmen are short of stature, their intellect does not appear to be stunted. May the years that they spend at Manual prove prosperous and happy to them, and may they ever strive to make themselves worthy representatives of Manual, the finest high school in the land.

NAUTILUS MATERIAL

Contributions to the NAUTILUS are solicited from the Freshmen as well as from the upper class men. All articles

must be written in ink and only on one side of the paper. Short stories, essays and themes on topics of especial interest to the pupils will be gladly received by the editors of the various departments. Short poems are especially sought for by the literary department. Don't forget the local box. Deposit all your witty sayings there. Good material, a large subscription and advertising list will make the NAUTILUS worthy of its name.

THE NEW ARRANGEMENT

Innovations are generally subject to more or less criticism, from the mere fact of their being such, and the new assembly hall system has certainly been no exception. For years pupils have been allowed to choose their own seats in assembly, hence, when all were compelled to take certain seats around their teacher and be subject to the usage of the class room, there was roused some discontent.

Its good features should not be lost sight of, however. Doubtless, the principal, with a broader view and more experience, has better reasons than appear to the casual observer, such as seating the audience more compactly and nearer to the stage, separating visitors from pupils, insuring better order and handling the large number of pupils more systematically and expeditiously.

IMPROVEMENTS IN OUR SCHOOL

While the pupils of Manual were enjoying their vacation this year, the school board, after being vigorously prodded by our principal, gave to our school a list of improvements that would cover more space than we have room to allow for it—but we can say, with a feeling of pride, that the sum of two thousand dollars was expended for our benefit, in various places. Our library has been equipped with a roof, thus making it

more exclusive and quiet, the domestic science department has received a lecture room, while in the business department, two new bank offices have been installed. Thus we see that, while we are not getting a new school, which we need very badly, the board of education has not forgotten us entirely, and the NAUTILUS, as an exponent for the school, wishes to express its thanks and hopes that some day there will be another entirely new "Manual," to accommodate the large number of pupils.

But we must not forget to mention our fine trophy case, which in itself, is a source of pride, and what it contains, a still greater and more valued possession. It is to many of our boys who participated in the athletics last year that we owe our sincere thanks, not only for winning these honors, but, as many of these trophies are individual cups, they deserve credit for allowing them to remain on display at Manual during the school months.

There is nothing more inspiring to a new pupil on entering the building than to see trophies of victory, which may stimulate *him* to do something heroic for Manual.

A FALSE IMPRESSION

As one of the means to establish at Manual a strong school spirit, the NAUTILUS, which prides itself in that it does lend strength to the school spirit, wishes to thwart a prevailing impression that the societies are one large, organized faction, politically and socially, pitted against the school-at-large as the opposing faction. To prevent such a false and unwholesome spirit as this to exist, both parties should unite in a friendly and family movement of unity for the best interests of our school.

We wish to commend the societies for taking the initiative in this movement.

As the pupils of the afternoon session are already aware, the societies have decided unanimously to sacrifice one meeting every other Friday in order that the hours might not be "cut," which had previously occasioned quite a loss of time and progress to the afternoon classes, thus sacrificing the interests of eight hundred pupils for the benefit of not over one hundred society members.

This was quite a deprivation on the societies' part, but they did it willingly and graciously, for the good of the school, which proves that the societies are ever loyal to the best interests of Manual, showing that this situation is due to the double session, and that as soon as Manual is relieved by the founding of a new Manual training school, the single session will be restored, and the societies will resume their full length session without any inconvenience to the other pupils.

THE ALUMNI PAGE

A new department appears in this issue of the Nautilus, the Alumni Page. It is our intention to make it a permanent feature of the paper. Graduates of the school are invited to contribute to this department, especially those who are attending college. We sincerely hope that the new page will not only inspire the students at Manual to pursue a college course, but that it will also prove as an attraction to the Alumni.

DRAWING CABINETS

For the purpose of displaying the work at the art department, two large glass-front cabinets have been placed in the corridor on the second floor. Nautilus covers designed by the pupils are displayed there, also the regular work of the department.

The fact that over fifty pupils contested for the honor of having made the cover design for this year's NAUTILUS shows the interest in that work by our pupils. A committee of experts chose Miss Ida Edlund's Thanksgiving design as most suitable for the November issue. Her simple and original conception, together with its strong execution, make it a very creditable composition.

OUR LATEST SONGS

In the universal excitement attending our big game with Central this year, the pupils have been stimulated to put forth their greatest efforts in organizing a "rooters' club," and a few new songs have been submitted. Owing to the scarcity of time to learn the songs before the game, we here publish two for the benefit of the school:

"Manual," sung to the tune of "Tammany."
 Central thinks she'll win today, just 'cause
 she won last year,
 But today she'll meet our team and shed her
 salty tears.
 It's a shame to disappoint them, but what
 can we do,
 When our team lines up against them and
 goes right straight through?
 What then will Central do?

Chorus.

Manual, Manual, we got beat for many a year,
 Now we've won we'll nevermore fear, for
 Manual, Manual, Can't you hear them? Don't
 you fear them?

MANUAL.

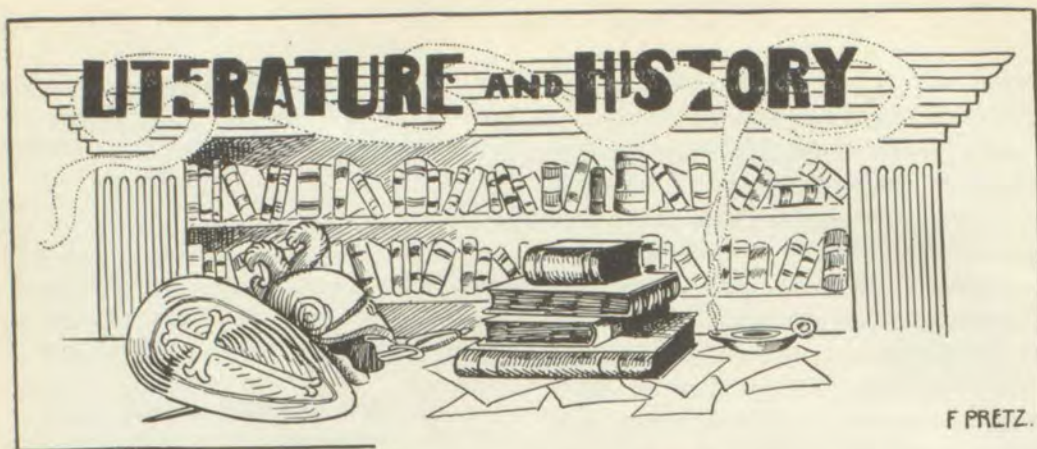
Central says we have cold feet,
 But now they know they're wrong,
 For tho' our feet may be quite cold,
 We know that they are strong.
 They send our boys right thro the line
 And kick a goal each time,
 And when they foot the score by tens
 "Defeat" will make them pine.

Chorus.

Manual, Manual, play the game and play it
 hard,
 Keep your nerve and hold each yard.
 Manual, Manual, whoop 'em up boys! Give
 'em fits, boys.

MANUAL.

Central, Central,
 We are only teasing you,
 Central, Central,
 Just to see what you would do.
 Of course you know that we are
 Teasing, Teasing,
 Central, we are teasing you,
 Don't be angry, Central, we are only teasing
 you.



VIRGINIA'S HIDING PLACE

ETHEL I. McDONALD, '06

The black-winged crows cawed lazily as they flew across the blue sky; and the hot sun of a September afternoon glowed upon the dusty highway and the wide expanse of level fields, which surrounded the old house at the White Plantation in North Carolina, as Virginia White sat by a front window, embroidering a sampler, but glancing up almost every moment to watch for travelers who might be coming up the road.

The white house stood well back from the road, the garden and the carriage drive being in between; but this distance did not prevent the girl from seeing anyone who might be passing up or down the highway. The watch she kept was a keen one, for upon her faithful sentinelship depended the safety of her father.

Major White was an officer in the patriot army under General Gates. An hour before, weary and alone, he had returned home after an absence of many weeks. At this moment, he was in the kitchen eating a hastily prepared lunch. In a few moments he would continue his journey to Sumpter's army. It was just after the defeat of Gates at Camden, and the king's men were jubilant and active through the Carolinas; while the rebels

who escaped were on their way to reinforce Sumpter's army.

The girl at the window suddenly caught the sound of hoofs coming at a sharp gallop up the road. She glanced out and saw a man on a small pony riding up the drive, who, as soon as he espied her, called:

"The British are coming! A party of their dragoons, under Captain Dacy, and conducted by the Tory, Wilson, are riding up from Charlotte like the wind." The messenger, whom Virginia recognized as a boy of the neighboring village, dashed on again, without waiting to answer any questions; while the girl, forgetting her sampler, ran to warn her father.

Major White's bronzed face turned almost as pale as Virginia's, when he was told of the approach of the enemy; but he was a man of dauntless courage. He ran to the window, looked out, and found that he could not escape, for the dragoons were already at the gates.

"What shall we do?" moaned Mrs. White, wringing her hands.

"Please be calm, Mary," said the Major. "If the worst happens, I can defend myself with my sword, which did such good work at the Cowpens."

The officer stood in the middle of the floor thinking, when Virginia seized him by the arm. "Quick! I can save you!" she said; and by main force she pulled him from the kitchen to the outer shed. In the shed stood a large meat barrel, and on the floor by it were several pieces of wood. In her desperation the girl's quick eye saw it, and she drew her father toward it.

"It's a capital hiding-place," said the Major, grasping her intention. "Pack me in as hastily as you can; and you, mother, may go entertain our visitors." Her father crawled into the barrel, and she carelessly threw an old garment and a few sticks of wood across the top, leaving a small portion of it uncovered. Then she returned to the living-room, where she found her mother engaged in an exciting dialogue with the leader of the British party.

"Where have you hidden that rebel, your husband?" asked the officer.

"Major White is capable of taking care of himself," answered the patriotic woman.

"You do not deny then that the traitor is within?"

"Search for yourself. If he is here, you can find him," and Mrs. White sat quietly down.

"Show me the way to your cellar, girl," said the Englishman to Virginia.

"Would it not be better to begin with the attic and go down?" asked the girl, her black eyes dancing saucily. "Because," she continued, "we have wine in the cellar and your men might not be able to complete the search."

"Head the way to the cellar," ordered Captain Dacy, giving her a look which he intended to be severe.

"He is in the house somewhere and we intend to find him," answered the officer.

The house was carefully searched from cellar to attic, and the barn was also explored, but not a trace of Major White was found. The shed had been searched too, but no one thought of looking in the old barrel. When all were in the living room again the Captain inquired, "What do you make of it, Wilson?"

"I don't think the Major is here," returned the Tory. "He heard of our close pursuit and left on a fresh horse before we came."

"Well," said the Captain, "that's my opinion, too; but I would rather have lost my spurs than to have had this search for nothing. But, come, we will make use of the wine in a rebel's cellar. Madam, have you no refreshments for the humble servants of the king?"

"Certainly. Call Chloe, Virginia, and have the table spread at once," answered Mrs. White.

"Order my men to ride on slowly, Wilson, while you and I enjoy this lady's hospitality," said Captain Dacy.

After eating the cake and grapes, the Englishman raised a glass of wine and said: "I have a toast to propose. Let us drink to the health of King George, to the success of his Majesty's arms; and to the downfall of the rebels."

"Papa might object to that," said Virginia, who, at this moment, entered the room after a short absence. "However, he is here to speak for himself."

"Yes, I am here; and I have decided objections to such toasts in my house," said the Major, as he appeared in the doorway holding two loaded pistols. "You intended to make me your prisoner, but the tables are reversed. Virginia, tie their hands."

While the girl was tying their hands, the embarrassed captain asked, "What do you intend to do with us?"

"I intend to make you prisoners and take you to Sumpter's army," was the Major's reply, as a wooly head thrust itself in the doorway.

"Massa, de hosses am saddled and bridled."

"All right, Cato. Are the dragoons out of sight?"

"Dey is. I'se jes' com' in, an' de last red cote am out ob sight."

"It is time I should be going, then. I

shall be with Sumpter by midnight. Help me mount these prisoners, Cato."

"Gee, massa, an' you's took some pris-sunneers! Guess they won't feel like laffin' at Cato ag'in. Cum 'long ole red cote," and he pulled Captain Dacy unceremoniously toward his horse.

The sun was casting long shadows on the green as Major White bade his wife and daughter goodbye; and with old Cato and his prisoners, set out for Sumpter's camp.

DEFEATED HEROES

EDNA L. MOORE, '06

Heroism implies a noble or unselfish devotion to some great cause whether that cause be a successful one or not. We, of the twentieth century, are prone to praise those heroes who have succeeded in their careers, and to neglect those who have failed, although through no fault of their own. Nearly everyone nowadays is familiar with the deeds of Napoleon, Charlemagne and Alexander, but how many people, do you think, know why Schamyl and Kosciuszko are honored names in history? The reason for this ignorance is that the last named men were "heroes of defeat," as a late writer calls them. Nevertheless, they fought just as gallantly and unselfishly, and perhaps even more so than did Napoleon or Caesar, but existing conditions were against them and they failed.

Schamyl, called "Prince of the Faithful," came of a Mohammedan family living in the Caucasus. The Circassian natives, above all else, loved liberty and they had always enjoyed it until Russia annexed their country to hers in 1859. For twenty-five years Schamyl, as their leader, had fought against the Russian armies and had kept them at bay by his marvelous successes. He was able, ener-

getic, and brave. Besides merely commanding the army, he was at the head of their government. His duty it was to subdue internal revolts, to raise the civilization of his people, and to inspire them all with patriotism. Many times were the mountaineers defeated in battle, and on each occasion, Schamyl, mysteriously, escaped. With tireless energy he rallied his forces after each defeat, and in his guerilla warfare, he was a constant terror to the Russians, for they never knew when or where to expect him next. As long as he was free, Circassia could not be subdued.

By frequent invasions of the Caucasus, Russia gradually exhausted the resources of the natives, but it was five months after the final battle of Weden before she captured the chief, and thus made her victory sure. Schamyl had fought with a noble purpose. He had struggled to gain independence for Circassia, as a state, and the freedom of Mohammedan worship, and although he failed to get either, surely he is no less a hero for that.

Kosciuszko was the hero of the Poles in their rebellion against the second partition of their kingdom by Russia. He was at the head of the provisional gov-

ernment which was set up, and the life of the revolution depended upon him. Poland was then very weak and full of traitors and rebels. It was his infinite task to raise his countrymen above their petty quarrels and deeds of violence. He was defeated not so much because of the strength of the enemy, but more because of the jealousies among the Polish nobles and the indifference on the part of the peasants. The Poles seemed incapable of understanding or sympathizing with his great ideas. His capture was the signal for the downfall of the kingdom since it was he, alone, who kept the factions together.

Kosciuszko was certainly a great man. He was not selfish or ambitious in his patriotism and he sought to inspire his people with this same sort of love for country. Long after his final defeat, he labored for Poland. In 1814, he tried to persuade the Russian emperor to give Poland a free constitution, like the English had, and to pardon all Poles exiled from their home land, but, of course, he didn't succeed. He had promised that he would take no active part against Russia again; therefore, he refused to aid Napoleon in later years when the latter planned to restore Poland. How great a sacrifice this must have been to one so filled with patriotism!

Perhaps the greatest Indian in history was Tecumseh. Besides being brave and possessing all the other qualities com-

mon to an Indian, he was wise in practical matters and broad-minded. He was not only a commander, but also a statesman, a diplomatist, and an orator. He possessed a peculiar influence over his followers—probably on account of his superiority of intellect—and they seemed to obey him implicitly.

His purpose was to form an empire by uniting all the Indians and, after doing this, he thought he would be able to drive back the whites. He could not understand that savages are incapable of a perfect union and that civilization must inevitably conquer savagery. He failed because his ideas were too lofty for his people, and yet he is a hero for he gave the best part of his life to the cause which he upheld.

Surely, these three men may be taken as types of the most noble heroes. What matter is it whether they succeeded or not? Their lives cannot have been spent in vain, for they each wielded a great influence over their enemies, as well as their own people. Ought we not to honor them more because of the great difficulties which they struggled to overcome, and to believe that not they, but the time and existing conditions under which they worked, were the causes of their failures? They were respected and honored even in the countries which defeated them, and this should prove to us that it is not the success which attends our efforts, that counts most, but rather the strength of the effort itself.

THE UNDOING OF PROFESSOR DALRYMPLE

GEORGE FREDERIC PATTON

Bill Fishwick sat on an old sugar-barrel in Deacon Crosby's emporium and chewed tobacco. Bill didn't like the weed; he chewed it merely because he had nothing else to do. Bill frequented the deacon's round-up more than he did

his mother's wood-pile, which is saying a good deal for his reputation as a storyteller. He was ten years old, was Bill, and he had never told a lie, modest youth. One thing to his credit: the wisecracks of Stonycrest had it on record (from Bill's

own lips) that he had disposed of forty quails in an apple tree—yes, at one shot.

As Bill sat there, thinking hard and emitting tobacco juice into the coal-bucket, he began to have visions of himself in the arena. Some one forgot about his last year's crops and began to snore with a vengeance. That was Bill's cue. He hoisted himself onto the counter, assumed that self-same dignity that had characterized his grandsire, and began to pull at the ropes like a Patrick Henry.

"Gentlemen," began Bill, by way of introduction, "truth is stranger 'an fiction; but it ain't strange thet Squire Fennion should snore. Naow look yow 'pon yonder sleeper an' say, 'Ther Lord be praised. Thou hast undone us frum ther catacombs—cat—cata—yes, catacombs.'"

"Bravo!" cried Amos Appleby, while a dozen pipes began to glow. "Bravo! Bill's ther cob, by gum. A second Professor Dalrymple come tew rehearse hygiene an' cultur' tew a pack o' ragamuffs. Lay tew, Bill, an' I'll pass araound ther hat an' say nothin' tew the constable as tew how you pilfered my orchard a whet back. He, he, he!"

"Silence," commanded Bill from his point of vantage. "Would you wherit a man when he's on ther pedestool uf his ambition? Gentlemen, arter thet air grave-yard romance of Patch Bottle's, I feel inspired tew preach tew vou Christian doctrun, brother an' sisterly love—related. I'm thinkin' it just, though, before I begin, tew compliment Bottle on his escapin' a horse laugh, an' I'll ask 'im tew kindly erect a monument tew our thoughts in his back yard. Wake up ther, squire," continued Bill, "an' tell 'im ther funeral is over. Then I'll ask ther deacon tew offer his thanks-givin' by spurtin' ther fire a coal or two; then I'll take a decisive chew uf my clover an' set sail."

"Haul in ther gang-planks," sizzled Amos, re-lighting his pipe.

"Gentlemen," Bill lurched forth, "you know as how Professor Dalrymple is what ther books calls a moralist an' a idealist. He works on ideals, you know. Ev'ry mornin' before skool began he would give us a stiff, sandy ole lectur' on bein' good citizens an' card playin'. Well, we fellers got kinder tired uf this year bacon an' eggs, an' so we decides tew tell ther good book tew their professor in ther good book way. A committee uf ther 'mysterious twelve' wuz called, an' we decides tew take ther professor on a snipe hunt. We did. We went down ther Springdale road abaout ten miles, gets a few snipes, sacks ther snipes an' ther professor tew boot, an' drops 'em in a specially prepared cave.

"Well, ther professor found it purty nice daoun thare, I reckon. He had time enough tew consult ther cat—catacombs, study zoology an' rain drops, an' found out how tew star-gaze with a blush. He came back abaout two days arter that wit' vengeance in 'is eye. He laid ther rod on a few uf us, an' swore that we would be looked arter.

"We were. One evenin' ther 'mysterious twelve' wuz mysteriously givin' a little card sociable up in Higgins's barn loft. Jack Lane had been run out four times, an' I wuz jest gettin' ready tew give Pete Higgins a taste uf ther slow an' subtile 'stole away,' when we hears a noise below. Presen'ly ther platformin' we had laid over ther stairway raised slowly, and squelch me if thare didn't stand ther professor. Pete dropped a jug uf 'is dad's best cider under his table, an' Cob Bacon chucked one uf Mr. Carewe's late an' unmistook apples down him quicker 'an a candle can go out.

"Then some feller let off one uf ther professor's sayin's. It wuz Tad Brown.

Says Tad, quotin': 'Forget ye ther past, an' play hard fer ther present.' Then Tad jingled some uf his chips on ther table, an' that set ther professor agoin'.

"He strides into ther room slow and solemn like, like one uf ther clergyry, eyein' us over his specs all ther time.

"'A good evenin' tew you, professor. How's oats over your way?' says Pete.

"'So,' says ther professor, ignorin' Pete; 'so this is ther way you live true Christian lives, is it? So—this is ther way you lay ther pebbles of learnin', thought an' cultur,' is it? Know ye not these pursuits are ther curse o' mankind? Know ye not that such as this,' pointin' tew ther cards, 'instils in you a thirst an' greed fer monetary gain? Know ye then that ye have transgressed; know ye then that ye have sinned an' are on ther way tew ther devil's domicile. I shall—'

"'Have some cider, professor?' butted in Tad.

"'Have done, sir!' roars ther professor. 'What, sirs, are ther meanin' uf these colored discs araound ther room, an' on these tables an' boxes?'

"'Those are apples uf discord, professor,' says I. 'They is what is called ther elements uf mone—ta—tary strife.'

"'Yes,' says Hank Robbins, 'they're corner-stones uf fortun.' I move that ther professor be let in on ther fun. He's got er good swat uf his last month's wages he skins our dads outen uf. But we don't care abaout that. That moves matters mos' prepondrously. So, do unter others as you'd have others do unter you. Forty-nine—one, two, three, eclipse!'

"'Naouw,' went on Bill, 'forty-nine is a singnal uf ther 'mysterious twelve,' an' means tew squelch ther light. Cob Bacon throws a apple at ther lamp, an' out she goes.

"'Help!' yells ther professor; 'I am undone.'

"We falls onter ther professor in er jiffy, an' when he comes tew he wuz tied tew a chair, with a nice pile uf elements afore him. Ther professor began tew mutterin' somethin' abaout ther goddesses of brotherly love, or somethin' like that, but purty soon he sees four aces comin' his way an' he keeps still. Ther game got tew goin' on nice. Ther professor wuz gettin' wise, an' also full o' cider. By half past ten he wuz consultin' Bacchus an' some o' ther planets. Then he began tew snore. We untied him, an' decided tew vanish. Cob took a big piece uf paper an' pinned it up on ther door, with great big letters on it: 'Ther professor has got next.' Then we turned out ther light an' left ther professor tew dream things."

"An' what happened then?" inquired Amos Appleby.

"Well," pursued Bill, "ther skool committee got busy. Headed by Dr. McCune, they goes in search uf ther professor next mornin', an' effects an' entrance intew Higgins's loft. They reads Cob's notice an' ponders. They went on intew ther room, an' there sot ther professor, snorin' steady, an' with all ther elements afore him."

"'Oddsbodkins!' snorts ther doctor at ther sight. 'If it ain't ther professor. Wake 'im up thare, Willoughby, an' demand an explanation.'

"Ther professor wuz touched on ther shoulder very light like, an' ther snorin' ceased. Ther professor opened his eyes, an' layin' his hand on ther table, says, very sleepy like: 'It's your ante, Cob. He, he, he—five—I stay,' an' some more rubbish like that.

"Ther doctor shook ther professor, sayin': 'What is ther meanin' uf this unseemly conduct, sir? Is this ther way you teach your lambs to be good citizens? What be ther matter with you, sir?'

"'Why, hello, doctor,' says ther professor, gettin' up sheepish like, 'is that you? My mind ain't right, doctor. I ain't got good sense. I'm jest naturally, a weak-minded fool.' And ther committee believed it.

"An' what did they do tew ther professor?" asked ther deacon.

"They fired ther professor," said Bill, "an' we had a vacation for a whet. Then we got kinder sorry for ther professor, and posted a big broadside up onter ther doctor's door one night.

"'To who it does concern,' it read: 'Ther professor didn't do it. He wuz

forcibly, maliciously, clandestinely led into a strange flock an' got bit. Ther professor's ham an' eggs is not good, an' he thinks he will take cider instead, tew water 'is flock. We are a bad lot. Acknowledged. With motherly regard for D. Webster an' Price's grammer, we take pleasure in hanging this mistletoe on ther doctor's door. Give us ther professor. Amen.'

"It wuz signed, 'The Mysterious Twelve,' an' that wuz enough tew get ther professor back."

"One on ther professor," grunted Patch Bottle.

JAPANESE TRAITS

HARRY L. HAWKINS, '06

During the great struggle between Japan and Russia, which has recently ended, there has been a continual series of developments in regard to the character of the Japanese people. There were few people, indeed, who believed at the beginning of that struggle that Japan, that little empire in the Far East, could possibly hold its own against the mighty Russians. But this belief was due entirely to the general ignorance of the strength of the Japanese character, and now while the eyes of the world are upon Japan and the Japanese people, eagerly watching them to see what they will next do, bear with us for a few moments while we attempt to delineate a few of their traits and distinguishing features.

A first and last impression of Japan is that of minuteness. The empire called "Dan Nipon" is small, the people are short, the lanes are narrow, the houses are low, and their farms are insignificant. The vast rice crop is raised on millions of little farms, the silk crop in thousands of small, poor homes, and the tea crop in

countless patches of soil. In business matters they seem incapable of managing large enterprises, and do everything on a small scale.

The saying that the Japanese were "great in little things and little in great things," contains some truth, but in recent years and at the present date they display a remarkable dexterity and success in handling large enterprises and are outgrowing their characteristic of smallness, and at the same time being recognized as one of the great powers of the world.

The Japanese are famous for their politeness and courtesy; they are a nation of good manners and for this and other qualities have been styled as "The French of the Orient." From morning till night, from the cradle to the grave, the entire life is characterized by unvarying gentleness and politeness. It has been said by Sir Edwin Russel, "Where in the world does there exist such frank enjoyment of the enjoyable; such tenderness to little children; such reverence for parents and old persons; such cour-

tesy to strangers; such willingness to please and be pleased, as in Japan."

Another prominent and prevailing element of Japanese civilization is, simplicity. They find delight in the simplest forms of nature's beauties, and they plant their standard of beauty on the simplest base. A Japanese admires nature just as it is; he loves a flower as a flower. The Japanese truly worship nature in all her varied forms, and find the greatest delight and happiness in such simple recreations as gazing at the full moon. They succeed in extracting more solid enjoyment out of life than any other people on the globe. Americans sacrifice life to get a living; Japanese, by simply living, enjoy life.

Another characteristic of the Japanese arises from the preceding one, and that is, that they are a merry, light-hearted, and vivacious people. Careless, even to an extreme, free from all worry and anxiety, because easily satisfied with little. They believe that man "by perpetual toil and worry render themselves unfit to enjoy the pleasures which nature places within his reach." It is hoped, perhaps in vain, that the increasing intricacy of modern life in Japan will not entirely obliterate the simplicity and vivacity of the Japanese; for, they seem to have solved the great problem of life,—how to be happy, though poor.

One illustration of their natural incapacity for business life is found in the fact that they have no idea of time. They do not understand the value of time and are given much to what we call "waste of time." The following short poem, "The Land of Approximate Time," from the "Jingles of Japan," illustrates this beautifully.

Here's to the land of approximate time!
Where nerves are a factor unknown,
Where acting as balm are manners calm,
And seeds of sweet patience are sown.

Where every clock runs as it happens to please,
And they never agree on their strikes;
Wherever the sun often joins in the fun
And rises whenever he likes.

The Japanese are too dignified to be in a hurry; so if they miss one train they do not fume and fret because they have to wait for the next one, but take it calmly and patiently. As clocks and watches are still somewhat of a luxury to the common people, we must not expect them to come up to our strict ideas of punctuality all of a sudden. But in the schools, offices, and business places they are beginning to realize that time is valuable and are showing marked improvement.

In the character of the Japanese are blended two inharmonious elements of humility and conceit. Their language, customs, and manners are permeated with the idea of self-abasement, "in honor preferring one another"; but their minds are filled with excessive vanity, individual and national. They call their own country the "Great Japan," and have always had a strong faith in the reality of its greatness. Japan is self-assertive, self-confident, and independent. But the marvelous achievements in the transformation of Japan in the past half century are some excuse for the development of vanity, and the future with its responsibilities, surely demands a measure of self-confidence.

Necessity is the mother of all inventions but to Japan, "necessity is the mother of imitation." They are criticized for being imitators instead of originators,

and persons who have studied their history acknowledge the fact as true. The old civilization was borrowed from the Koreans, and in modern times we have noticed a similar adoption of occidental civilization. However, in late years there have been indications that the Japanese mind is developing inventive power. Originality, is making itself known especially along mechanical lines. In scientific discoveries and researches the Japanese are also progressing.

The national spirit in Japan is excessively strong and has been made powerful by centuries of development. Every Jap is born, lives, and dies for his country. Loyalty is the highest virtue.

The Jap used to quote, "The Japan of the Japanese"; later they began to dwell

on "The Japan of Asia"; but now they grow eloquent over "The Japanese of the World," in which we join with them hoping prosperity shall ever prevail and happiness eternal.

Now from the foregoing characteristics and the remarkable achievements in the last war, are the Japanese, as a nation, worthy to be praised? Should they be recognized as among the ever-climbing mass of humanity? Do they deserve to be called one of "the great nations" of the world? Are they entitled to all the credit that has been given them? To all these questions we answer, assuredly, and hope that her influence on her sister nation will be of an equal standard, if not greater, than the influence of the United States upon China.

A FRESHMAN'S ADVENTURE AT COLLEGE

RUTH PHILIPS

At the time of the Civil War, Columbia, Missouri, was strictly southern, and, though the closing of the war was supposed to have settled all disputes, the southern spirit was still very strong there. Even as late as 1872, the opinions of each side were duly respected, for it was well understood, that if the boundary of either was overstepped, trouble would inevitably ensue.

It was during this troublesome time that a young man on the Union side started to school as a freshman at the Missouri State University. Many of the old landmarks that were loved by the students then, have long since disappeared. Among others, was a mineral spring on the campus, where the students liked to stop, when on the road to the university, and, leading to the old building, was a long cinder road shaded on either side by century-elms. But it has

of late years, been supplanted by a more modern street of macadam. The six stone pillars directly in front of the main building, are all that is left to tell of the numerous adventures of the students within the walls of the old building.

This freshman boarded near the campus, and he had made a habit of going to the spring early every morning before breakfast. One morning he was starting as usual to walk to the spring, when he noticed something tied to the gatepost. Further examination proved that it was no less than a strip of an American flag. On walking farther down the street, his attention was attracted to similar strips hanging from fences, posts, trees, door knobs, and in fact, from every thing to which strips could be tied. What did this mean? He forgot the object of his morning walk, and hunted up the janitor, and from him learned that the

southern boys had broken into the armory on the night before, and had chosen the largest and most beautiful flag there, which, under cover of the night, they had torn into strips, and tied in every conceivable place about the town.

This aroused the freshman's patriotism, and, though he had been advised by a Union professor to keep his mouth shut when it came to politics, he entirely forgot this admonition, and called a meeting of the freshman class, to prove that none from that class had had anything to do with this infamous act. At the hour appointed for the meeting, the old chapel was filled, but when the meeting was called to order, instead of receiving a unanimous answer to the effect that none of their number had been so unpatriotic the night before, he was astonished to find that most of the class were southern. A noisy meeting followed, hot words were spoken; no agreement could be made, and the meeting was finally broken up. But the Union boys, who were only about five or six in number, met in the basement of one of the university buildings, and wrote an article, in which they showed that they at least were indignant to find there were any in the university who would give vent to their unpatriotic feelings by such an act.

The next morning they took the article to the printer's office, not once doubting that it would be gladly received. The venerable editor (Col. Wm. F. Switzler) welcomed them kindly, and entertained them as only such a fine man could entertain, but when the article was delicately mentioned, he was firm in his denial. For, as he said, "This is a southern town, and I must suit my paper to the town. It would be impossible to keep up my reputation, by printing articles offensive to the southerners." So the boys

left disheartened. There was nothing more that the freshman could think to do. He had become suspicious now, and he was up even earlier the next morning, but he was not thinking much about the mineral water as he started toward the campus. He had his eyes open this morning, and it was well he had, for, as he walked up the "curator's road," leading to the main hall, he observed placards hanging from the trees on either side, and upon wondering what was the purpose of the new signs of southern scheming, he found that upon each piece of cardboard had been drawn a rough sketch. Some represented a young man leading a poodle by a string. The dog represented the Union boys, being pulled along by a man whom the artist had named "Indignation.

This was truly overstepping the boundaries, so he opened his knife and cut off the signs, which astonished him by their number, carried them back to his boarding house and burned them in his stove. On going back to the campus to make sure that nothing was left to tell the tale, he met the janitor, who confided to him that the president of the university, feeling mischief in the air, had come to the chapel before the usual hour to assure himself that all was well. He had found the gallery of the chapel decorated in the same fashion in which the trees had been decorated. Being a Union man and as full of northern spirit as the boys, he had ordered the signs to be pulled down.

So when the southern boys came to chapel in greater numbers than usual, expecting to see professors and students gazing at the tell-tale signs, they found not a trace of their night's labor, either on the trees or in the chapel, and a crest-fallen group of boys left the chapel services. The deal was squared at last!

The epithet of "Indignation"—given to the hero of my story, spread all over the small university town, and reached a young ladies' seminary, where this gallant freshman had made the acquaintance of a young lady. After the freshman had become a cynosure of all eyes, it became her self-appointed duty, though a southerner herself, to uphold him among

the young ladies, when scathing remarks as to his reputation were teasingly addressed to her. Though not ashamed of what he had done, it took many years for the freshman to live down that reputation. Many remember the adventure to this day, and often laugh at their youthful enthusiasm.

"A LETTER TO CHAUCER."

(FROM A FOURTH YEAR ENG. LIT. CLASS.)

My Dear Dan Chaucer,
 I fear when you receive this letter
 You'll sigh, and wish that it was better,
 And vow the boys, with pen and tongue,
 Are not as they were when you were young.
 If it's delayed, pray don't blame me;
 I can't find out where you may be.
 Now please don't think I deem your shade is
 Fast locked within the gates of Hades;
 But Purgatory still may claim
 The soul that's not yet free from blame.
 Yet when in this late day and age
 Your works we study, page by page,
 And read the tales of Canterbury,
 Where all the folks seem making merry,
 They're writ with such a charming grace
 You've surely won the better place.
 "To Paradise, care of St. Peter."
 For you what address could be meeter.
 I'll add for still I may not know—
 "If not delivered, send below."
 Dear Dan, if you could hear the praises
 Your tales receive, you'd blush like blazes.
 From Gower to William Allen White,
 Each author claims that you're all right.
 When listening to your pleasant cheer,
 We quite forget your spelling's queer.
 But when the poets of your nation
 So far forget what's due your station
 And call you "Father"—Oh! great guns!
 How you must blush for some of your sons.
 Remember me to John of Gaunt,
 Your sometime friend in earthly haunt.
 And my last words to my dear Chaucer
 Are these, "Your works are very choice, sir."

—Anon.





CENTRAL TEXAS

HOWARD PARET

Texas, the largest state in the Union, contains over 100,000 square miles more than any other state, is over two hundred and twelve times as large as Rhode Island, and in it we may travel for nearly eight hundred miles and not go out of a straight line. Such things are hard to realize. Its scenery is no less interesting than its size, presenting, as it does, a great variety of physical features—ocean shore, great rivers, fertile farm lands, forests, prairies, mountains and arid deserts. A line drawn from the Red river at the southwestern corner of Oklahoma across Texas to Corpus Christi on the Gulf of Mexico, divides Texas into two parts very unlike each other in physical features and productions. East of this line is a very fertile region with fine farms and plenty of rainfall, but the western part of the state is entirely different. As the traveler goes westward from Eastern Texas, he sees the fine farms and crops gradually disappear, and their places taken by boundless plains, rolling or hilly, and he enters "the mesquite region." Population thins rapidly as he proceeds westward, and the country becomes more barren, which to some people would mean uninteresting, and to others very interesting. In the southwestern part of the state are deserts and

many small ranges of mountains. North of these lie the "Staked Plains," a vast plateau region extending far westward into New Mexico. Here are the vast cattle ranches and here are *not* the people. There is a ranch on these plains which comprises about 4,700 square miles of land and there is one county containing 1,000 square miles with a population of four people.

In Texas may be found the two extremes of regions, and Central Texas lies in neither one nor the other entirely; it is midway between. And an interesting region it is. It lies within the mesquite region—a region beginning at about the 98th meridian in Central Texas, and extending westward to California and southward through a large portion of South America. The mesquite region is the region where grows the mesquite tree—a tree of which all Northerners have not heard, probably. Myself, I used to think that it was a large cactus. There could be nothing so different. There are two trees of the region around Kansas City which considerably resemble the mesquite in general appearance. These are the willow and the honey locust, the latter being a much nearer relative, botanically. The leaf of the mesquite is doubly compound

and the flower is in the form of a catkin, developing into a narrow seed-pod about eight inches in length. Ordinarily, the tree is from twelve to eighteen feet in height, but in rich valleys it has been known to reach a height of sixty feet. In its region, mesquite seems to grow almost any place—scattered quite thickly over the plains, mingled with brush and other timber in the creek bottoms, and occasionally on high hills.

Central Texas combines the farms of the eastern part of the state and the cattle ranches of the western part. The country in general is rolling, but in many places are high, rocky hills, barren of trees or brush. Among them are many mesas—hills with very precipitous sides and very flat tops. Small creeks are fairly common, but dry up in summer. Even some of the larger ones dry up completely above ground during the hot months, but continue their courses underground. Where the creeks have thus dried up, they leave long parched stretches of white rocks and pebble and out of these grow and bloom wild four o'clocks. It seems a peculiar habitat for a plant.

The flora of the valleys differs considerably from that of the uplands. That of the valleys nearer approaches in composition the flora of the Kansas City vicinity, as many plants common in this vicinity are also common in the valleys of Central Texas. Among these are horse weed, rag weed, mullein, Virginia creeper, wild grape, sumach, fleabane, sunflower, and different species of daisies. The trees are mesquite, hackberry, live oak, wild China tree, shittim wood, and walnut, the three latter being trees not over fifteen or twenty feet in height.

Outside of the valleys are the mesquite woods. The views in these are precisely the same, mile after mile, and yet they are not without interest. The trees grow

fifty or a hundred feet apart, and occasionally open spaces of some size intervene. The mesquite, with an occasional live oak, is practically the only tree of the uplands. Several species of shrubs grow commonly through the mesquite woods and nearly all are prickly. It seems the nature of desert or semi-desert plants to be prickly.

The yuccas are a curious class of plants. On the plains of Central Texas they may be seen growing thickly, their tall flower stalks standing like poles planted in the ground. The leaves of the plant are evergreen. They are from one and a half to two and a half feet in length and about a half inch wide, are very stiff and are tipped at the end by a point like a needle. They all grow in a bunch with their bases close to the ground and radiate in all directions from the center of the group. The flower stalk rises from the center of the group to a height of from three to five feet and bears many large, whitish-colored, bell-shaped flowers. The flowers are fertilized entirely by moths of the genus *Pronuba*, no other insect attaching itself to this plant, and the flower being so constructed as not to be fit for self-fertilization or fertilization by other insects.

It is generally supposed that mistletoe grows on trees in humid regions, and yet it grows very abundantly as a parasite on mesquite in the semi-arid region in Central Texas. Wherever one goes in the mesquite woods, bunches of mistletoe are always seen growing on the trees. Sometimes there will be a dozen bunches on one tree, and I have seen the bunches three feet in diameter. In Texas mistletoe is also found on hackberry, juniper, shittim wood, China tree, walnut, elm and oak.

All through the mesquite woods prickly pear is very abundant. Many spe-

cies are found in Central Texas. The plants of some species grow nearly as high as one's head, and in great clumps many feet in length. The leaves (or *blades*, as they are more properly called) are from four to eight inches across. The "pears" are from one and a half to two and a half inches in length, and shaped something like a high, thin cup. They stand upright in rows along the upper edges of the blades and several times I have counted eleven on one blade. All summer long they are very green, but about the middle of July they begin to turn red, and in a month all are of a bright red color. The plant is one of the prettiest I know when the edges of the blades bear erect rows of bright red pears.

I have counted seven species of cactus in Central Texas, and this is probably but a small per cent of the total number which grow there. Seventy-one species have been recorded from Western Texas, and probably most of them are also found in Central Texas. Probably the most common one next to the prickly pear is one shaped like a bush and covered with spines two inches long, which the cowboys have named "hell-on-a-stick." They surely named it appropriately.

The animals of Central Texas are quiet different from those of this region. The most common of all the birds is the mourning dove, which is also a very common one of this region. Then there are buzzards, killdeer, mocking-birds, scissors-tailed flycatchers, owls, English sparrows, red birds, cow birds, quail and night hawks—all common. Buzzards are remarkably tame at times. I have passed within eighty feet of one without it flying, and at another time one flew within twenty feet of me. Quail are also remarkably tame at times. One of the

prettiest birds that I know of is the scissors-tailed flycatcher. Its head and breast are a soft gray color with under side of body and parts of tail colored a most delicate salmon pink. The tail reaches a very unusual length, generally about twice the length of the body, and during flight it is spread out and separated into two long, narrow parts, which form the "scissors." Another interesting bird of that region is the chaparral bird or road runner. It is of a general dark mottled color and stands about a foot high. It seldom flies and never at all high. To get away from pursuers it depends upon its legs and it needs no more. Its speed in running is said to rival that of a horse. I once tried running one and I was no match for it.

Texas has sort of a reputation for coyotes, prairie dogs, rattlesnakes, horned toads, tarantulas, and the like, but not so often as might be expected are some of these animals found. On a trip I took to Texas I saw no coyotes, and but one rattlesnake. I heard one man say that he had been in Central Texas for three years and had not seen a rattlesnake. However, horned toads and prairie dogs are common and quite a number of tarantulas are found. The horned toads are interesting creatures, and perfectly harmless. The prairie dogs do considerable damage to ground and yet they are cute little animals. They are so amusing when a dozen or so of them sit up on their haunches at the entrances to their burrows, and bark their protest at intruders. More amusing still is the call of the ground squirrel—a loud, clear whistle. One would scarcely believe that anything other than a bird could make that peculiar kind of call.

Innumerable other curious and interesting things there are in Texas. The state, while it cannot be said to be in its

infancy, as far as development is concerned, is yet far from the stage of development that it will reach. At present it has on its organized farms and ranches over 100,000,000 acres of unimproved land, which is six times as much as any other state in the Union, and it ranks

fifth in the Union in value of agricultural products, even with so much unimproved land. What, then, will Texas amount to when this land is improved and irrigation turns its barren plains into fertile farms and productive orchards?

DYNAMITE VERSUS BREAD AND BUTTER

N. G. S. '07

We say that a body or a substance possesses energy if it is capable of doing work by changing its position, its shape, or its form. Therefore energy, which is stored up in everything, may be defined as "the capacity for doing work." Energy is never lost. If a body falls, some of its energy is turned into heat, but if it were suddenly stopped, the body itself, and the ground around it would be warm, thus showing that the energy had merely changed its form instead of disappearing altogether. The energy which a body possesses is measured by the amount of work it can do, the unit of measure being the "foot-pound," meaning the amount of work done to raise one pound the height of one foot.

Energy may assume many different forms. It may be in the form of electricity or mechanical motion, while in fuel, energy is in the form of heat. In wind it causes the leaves to flutter, while in water it propels the mill wheels. Com-

mon fuels contain an enormous amount of energy in the form of heat. Oil contains the most, for in one pound of oil there are 44,000 heat units, while in wood there are but 16,800. Foods as well as fuels contain an immense amount of energy. One pound of bread and butter when compared with one pound of dynamite is found to contain over three times as much energy. Thus, if the energy in one pound of bread and butter was all released at once, the bread and butter would act with over three times the force of one pound of dynamite, or, it would throw itself about 2,500 miles high, whereas, the dynamite would only be thrown about 800 miles high. From this we can get some idea of the value of bread and butter as a food. When we eat bread and butter the tremendous amount of energy is slowly released, imparting life and energy to us.

BOLL WEEVILS AND BIRDS

H. P. '06

The Department of Agriculture has recently carried on investigations with a view to ascertaining what species of birds feed upon the cotton boll weevil and to what extent. Further investigations will follow, but those already made have brought forth some valuable facts.

As the territory infected by the boll weevil is rapidly spreading and as the damage caused by this insect in the season of 1904 has been estimated at 450,000 bales of cotton, representing a money value of \$22,000,000, it is obvious that all that can be done to prevent these

ravages is a great saving to the cotton growers of this country.

Twenty species of birds have so far been found to eat the boll weevil, the best known of which are meadow lark, quail, mocking bird, cow bird, killdeer and Baltimore oriole. The species which seem to eat the largest percent are the Carolina wren, the Brewer blackbird, titlark and butcher bird, but as these are not the most numerous birds, their value as weevil destroyers may not equal some others. The quail eats very few,

as examination of the stomachs of thirty-five specimens showed but one weevil. Examination of the stomachs of 247 meadow larks (of two species) revealed fifty weevils. No birds seem to devour any great quantity of weevils, probably because a weevil is fairly good sized as compared with a bird's stomach, but taking into consideration the great numbers of some birds and the frequency with which they eat, they nevertheless form an important enemy to one of the most troublesome insects that this country has ever known.

NEW PLANT CREATIONS

H. P. '06

The Bureau of Plant Industry, Department of Agriculture, contrary to the rule, "Let good enough alone," is not satisfied with the number and variety of vegetables, cereals and fruits which we have to eat at present, but is continually hunting and experimenting for new varieties. Whether our food is "good enough" or not, this is a worthy work. In the past year the Bureau of Plant Industry has experimented for new varieties of cotton, corn, oats, tobacco, potatoes, pineapples, pears and other fruits and grains, with very good results along all lines. Numbers of new varieties of cotton have already been originated and

existing varieties have been crossed with the hope of producing a higher grade of cotton. Corn breeding has been carried on for the purpose of producing new varieties of field corn which are better adapted to certain localities of the United States, and of producing sweeter, more tender, and more productive corn for table use. Experiments have been conducted with 40,000 tobacco plants, all grown under the shade of canvas. As new varieties of fruits and grains are being continually introduced from foreign countries, we have an increasing number of varieties to satisfy our wants and needs.

THE PHONO-POSTAL

The latest in the way of fancy postal cards is the "phono-postal." It is a sheet of cardboard, shaped like a postal and covered with an impressionable substance called "sonorine." The records can be made by an ordinary phonograph with a stylus provided with a sapphire point and are engraved so deeply that not more than two or three syllables are lost

by the two stampings of the post office on the concentric lines. Seventy-five or eighty words can be inscribed on the phono-card. The sounds are inscribed in a spiral commencing at the outside of the card and continuing in an ever-narrowing curve until it forms a small circle in the center.

THE DUPLICATION OF THE CUBE

ONE OF A SERIES ON "THE THREE GREAT PROBLEMS OF MATHEMATICS"

HARRY L. HAWKINSON, '06

If we should look down the lines in all sciences and search for unsolved problems, we would invariably find what we were looking for, and the mathematical science would be no exception to the rule. Here we find three. Men have labored persistently and assiduously at other problems, but not compared with the time and labor spent on the three great problems of mathematics. These problems, the oldest in science that I am familiar with, are over two thousand five hundred years old, and they will be called *unsolved* problems for as many years to come; provided, they are solved according to Eudidean geometry. Best Greek intellect was bent upon them. Arabic learning was applied to them, trained minds and untrained minds, wise men and cranks all have endeavored to master these problems and failed.

The three great problems of antiquity to which I have referred in the preceding paragraph are, (1) "The Duplication of the Cube," or "The Delian Problem," as it is frequently called. It is the problem of determining the side of a cube whose volume is twice that of a given cube. (2) "The Tri-section of any Angle," or the division of any angle into three equal parts, and (3) "The Squaring of the Circle," or the determination of a rectangle whose base and altitude are equal respectively to the semi-perimeter and radius of a given circle. While all these problems are of about equal importance, and I introduce them here, I desire to call your attention to the first, at present, and the other two may be presented in future numbers of THE

NAUTILUS. These problems I have derived from Greek sources, hence they have a classical standing in the history of mathematics.

The origin of this problem of duplicating the cube is a complete mystery. One authority says that it originated in architectural difficulties, another says that the Pythagoreans were responsible for it. One of the earliest dates that I have been able to connect with the problem is about 500 B. C. Pythagoras had discovered that the square erected on the diagonal of a given square was just twice as large as the given square, and he then tried, or rather the school founded by him, tried to find a similar law for the cube.

The problem of duplicating the cube is often called the Delian problem, and it might not be entirely out of place to tell here how it acquired that name. About 420 B. C., the Delians were suffering from a dreadful plague of typhoid fever, and as a last resort they consulted the oracle at Delos, to see if he would not cause the plague to cease its activity. He frankly told them that if they would replace his altar, which was in the shape of a cube, by another just twice its size and still retain its cubical shape, the plague would stop its terrible ravages. The people went away gratified over the fact that they had only to replace the oracle's altar and set to work immediately on their seemingly easy task. When they finished, they summoned the oracle to examine his duplicated altar. When he saw it not only duplicated, but multiplied eight times, he grew exceedingly

angry, and made the plague worse than ever. The Delians had doubled the side of the cube, thinking such action would solve the problem, and when that failed they consulted Plato, the great mathematician of early renown.

This problem of duplicating the cube has been proven insoluble; that is, it is insoluble so long as our constructions are limited to the use of circles and straight lines. It has been known for a long time that a construction by means of circles and straight lines cannot be equivalent to the solution of a cubic equation, and since the duplication problem involves cubic equations it is impossible to construct the required cube or to find its side. The problem may be solved many ways, however, if conic sections are used. The following are some of the early mathematicians of note who worked at the problem:

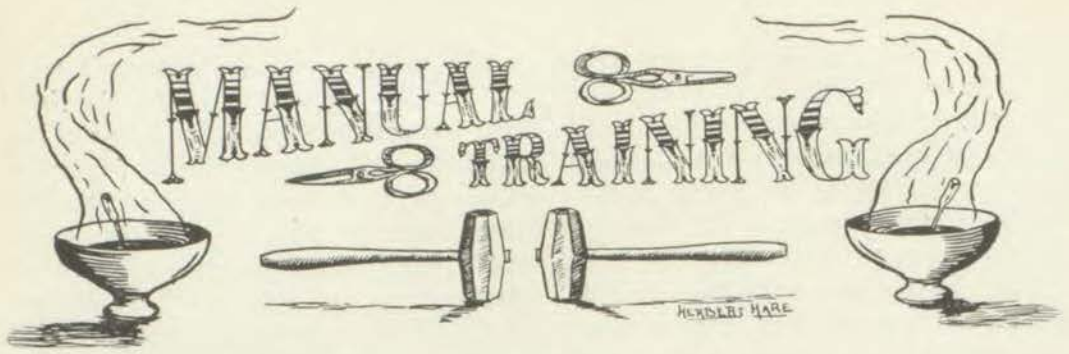
Hypocrates, who lived about 420 B. C., was a man of early note who worked at this problem. He reduced it to finding two mean proportionals between one line and another twice as long as a and $2a$. He observed that in the proportion $a : x :: x : y :: y : 2a$, since $x^2 = ay$ and $y^2 = 2ax$, and $x^4 = a^2y^2$, then $x^4 = 2a^3x$ and finally $x^3 = 2a^3$. But he did not succeed in constructing it. The problem was stated ever afterwards as Hypocrates had left it.

The School of Athens and Cyzicus was very much interested in the duplication problem. This school existed from about 420 B. C. until 300 B. C. Although destined to failure in its attempts to solve this problem, its efforts enabled the members to discover many new theorems, problems and processes.

Archytas lived about 400 B. C., and

is said to have solved the problem, but Plato accuses him of using lines other than circles and straight lines in his constructions. Plato is said to have given the problem a solution, but Plutarch accuses him of inventing some little device to use in his constructions. Menaechmus in 340 B. C. discovered two ways to duplicate the cube by means of curves called "parabolas." He seems to have been the first to have used those curves to solve the great problem. Apollonius in 220 B. C. gave to the world a solution of the duplication problem by finding two mean proportionals between a given line and another twice as long, but alas, he too resorted to non-Eudidean methods in his constructions. As we look closely at these early mathematicians we find that they were strict advocates of Eudidean geometry, but when they could not obtain the required results with the use of circles and straight lines, they resorted to other means and invented ingenious mechanisms to use.

The struggle for truth is often more important than the truth itself. This is the case with the problem of duplicating the cube and its two sister problems. Fortunately for us the problems are insoluble. While men kept busying themselves with geometry, trying to solve these problems, they kept discovering new truths and developing new theories, all of which might never have been known had the problems early received their solutions. So, after all, taking everything into consideration, we may conclude that we are better off, so far as geometry is concerned, that the problems still remain unsolved.



CONDITION OF OUR MANUAL TRAINING DEPARTMENTS THIS YEAR

This summer has witnessed many changes in our various Manual Training departments, especially the boys. Those dear little acorns, the Freshmen, who in four years will make the strong, sturdy oaks known as Seniors, are learning, under the able guidance of Mr. Elmer and Mr. Berry, how to plane a board and how to saw it in two. They have also learned that that "thing to scratch marks with" is called a gauge, also that joinery is not as easy as it looks.

The boys in turning are beginning to hear wonderful stories of life in St. Louis. To look at the boys at work, one would think that the lathes were a thing of life, which were at any time apt to spring out and eat the individual who was unfortunate enough to be in front of it. These young men will probably never realize what a blessing they have in those new bench tops. Only those with experience can possibly know what a bother it was to lose a tool through an inch crack and have to go to the instructor to get keys that the loser might be able to get into some other fellows locker to recover the lost article.

In forging, Mr. Promberger has been added as instructor. Mr. Ellis is still at his old place as assistant, and these two amiable gentlemen are instructing

the Juniors in the use of the hammer, anvil and tongs to the best of their ability. About the only change noticeable in the apparatus, or rather the accoutrements for the work, is the addition of hooks and mounts for the drawings of each of the exercises.

Those mighty, august persons known as Seniors, have learned that "all things are not what they seem," for instance, filing. Mr. Cushman does all of the instructing, while Mr. Stadler has charge of the tool room. In this respect this department has not changed at all. The gas engine built by Mr. Boyd Johnson last year, is not as yet entirely set up, but soon will be.

In the girls' department, very few changes have been made. In sewing, Miss Reynolds has been added, so that now that department is under the direction of Miss Casey, Miss Bone, Miss Griffith and Miss Tudhope, with Miss Lindsey, Miss Reynolds, Miss Emma Humfeld and Miss Nettie Humfeld as assistants.

In cooking, Miss Lamb has been added, so that that department is now under the able guidance of Miss Bacheller, Miss Hazen, Miss Stewart, Miss Kahn and Miss Lamb.

The Sixth hour pupils in Room 41

can give good evidence of their rapid advancement (?) in the art of cooking.

We feel that this part of our school curriculum has improved more than any

other, and as that is the education that our school is famed for, we hope that it may improve each year as it has this year.

A NIGHTMARE

RUTH E. HUNT, '06

It was the night before enrollment day. The black cat was sitting on the back fence, relating his woes in wild, tragic tones which defy description. The great full moon was slowly rolling across the sky, his left eye screwed into a permanent wink and his mouth contorted by the most agonized expression possible. The lone policeman on the corner frequently looked around uneasily and clutched his club nearer his breast.

I, lying disconsolate near the window, knew why these things were so; it was all my fault. The innocent victims in the next room were now probably suffering with nightmares; they might at any moment be seized with the hallucination that burglars were in the house, or that they were being suffocated, or that the house was on fire, or—well, almost anything is possible when one has the nightmare. And I was the cause of it all. To confess the truth, I had made a *pie*; and such a pie has never been seen in any part of the earth or anywhere else. It was meant for a peach pie; but even the "peachy" part wasn't good, speaking mildly and without slang. But the crust! It was the "limit." The only thing it was possible to liken it to was

a petrified sponge, if such a specimen is possessed by a naturalist. When attacked persistently with a fork and sharp knife, it divided with sickening slowness into irregular chunks, and when swallowed went down with a thump.

The whole family had heroically eaten some of— Goodness! what was happening? The whole room was filled with light; as the moon, a savage gleam in his small, round eyes, rushed in at the window, brandishing in his hitherto unseen hands, two pies, counterparts of my own. The black cat sat on the window sill, screeching horribly. Then every member of the family, tossing and throwing pies, burst in, formed a circle around me and danced wildly, juggling pies with incredible rapidity. I screamed—and awoke.

When I went down stairs, the folks were at breakfast. My mother, pale and with heavy circles under her eyes, her food untouched, said sternly, "Ruth, you enroll in the cooking class today, and learn how to make pies." "Yes," echoed father, "that is what I say." "Yes, you've got to," said the rest. I did, and have not been troubled with dreams since.



THE MAGNETIC CRANE

W. S. T.'08

In the back yard of a great iron works lay a pile of pig iron in which there were tons upon tons, each block of iron weighing several hundred pounds. Suddenly, without any apparent reason, the arm of a crane swings over the mass, and a plain block of steel descends until it rests upon the top of the pile. In an instant, like a sleeping army called to arms, the inert iron bars awake from their lethargy, and climbing over one another, each endeavoring to be first, cling to the steel block until there is no longer room for any more. No human hand has touched the pile; no human form is visible to explain this strange behavior. It is all simply the result of touching an electric button, which set in operation the weird, mysterious working of a magnetic crane.

Could the intelligent workman of an hundred years ago have witnessed the scene, he would have had little choice between an exhibition of the supernatural and the belief that he had lost his mind. And yet the scene described is rapidly becoming a familiar one in our large industrial iron works, in many of which not one, but a score of lifting magnets are in constant daily use. The operation, however, like many another wonder-producing effect, is extremely simple and easy to understand.

The block of steel which constitutes the magnet is suspended from the crane, and becomes magnetic or loses its power, when a direct current of electricity is allowed to energize the magnet, or is cut off. A flexible twin conductor cable is used to convey the current to the magnet and a small switch operated by the crane man is usually the only additional apparatus necessary. The amount of current used is small, being from one

to twelve amperes, according to the service for which the magnet is designed.

In operation the magnet is lowered upon the material to be lifted. The current is turned on, causing the pieces of iron to attach themselves to the magnet ready to be conveyed to the desired place. After reaching their destination the current is turned off, causing the magnet to lose its power of attraction, and the load is deposited in the desired place. Comparing this method of operation with the common methods of connecting the load to the hook of the crane with chains, hooks or clamps, the saving of time and labor is apparent. It requires one or two men to attach the load and one or more to detach it at the end of its journey, when the old form of crane is used, but the magnetic crane requires but one man. Magnets can be so quickly attached to and detached from a load that by their use the work is greatly decreased, in some cases more than half.

Small pieces of iron, tin-plate and steel that have become imbedded in the earth as deep as six inches, can be recovered with the magnetic crane by allowing the magnet to descend within a few inches of the ground. The pieces of metal becoming attracted by the magnet are pulled up through the ground from a depth of six inches and become attached to the magnet. In this way the material, which would not have been recovered, is saved at very little cost. For "skull-cracker" work, which consists in raising a ball of iron weighing from one to six tons and dropping it upon iron castings which are to be broken, the accuracy and the saving of time, which is attained in this way, is far superior to work done by a crane without the magnetic attachments.

HER SECRET

HELEN FILLEY, '06

He was going to see "the other girl," the jolly girl, the girl who made the best fudge. He did not think that he liked her best, but I noticed that when he felt blue he went to see her. So tonight he was on the way and he hoped that she would have some fudge. She usually did when she knew that he was coming, but he was going to take her by surprise tonight, so he wished "fudge" as he walked. But when he reached his destination his hopes were shattered at one blow for the table which always held the fudge plate was bare save for a little vase of roses.

For fully fifteen minutes he was dull, unaccountably dull, and his eyes wandered often and longingly toward the little table which seemed so empty. Then it dawned on "the other girl" what the trouble was, and when, with her usual tact, she changed the subject to fudge, her eyes twinkled to see his face light up.

So they made a raid on the kitchen and there he learned why her fudge was creamier and tasted better than the numerous products thrust upon him by his other friends under the name of fudge. She put in just what the others did, two cups of sugar, one of milk, butter the size of a walnut, and chocolate, but when he thought she had everything together she put half a teaspoonful of some white powder into the mixture. With natural curiosity he asked what the magic substance was and she answered, "corn starch."

"This," said she, "and a good deal of stirring, are the secrets of my fudge-making."

Of course it "came out" all right, her's always did. And after that day the girls who made fudge found out the truth of the saying, "There are tricks in all trades."

MANUAL'S FLAG COMMITTEE

GEORGIA MILBURN, '06

A new organization known as the Flag Committee, has come into existence. It is composed of the second and third year pupils, of the Domestic Art department, who with their own ideas and the help of their teachers, have designed and are making attractive Manual flags.

The true origin of this committee must be given to a number of the classes of last year. They had no specific name, but nevertheless, must be given the credit of being the first to awaken an interest in the work. They realized that it was

a good plan; they promoted and encouraged it. Today we see the result of the work of yesterday. A good beginning and a good result always are inseparable; so we never can separate the Flag Committee from the pupils who helped to start it. Manual will some day be proud of a feature that stands a type of the school spirit. Therefore, the first girls must not be overlooked.

Two representatives from each class are chosen, a chairman and a treasurer. By doing this, each class has some spe-

cial interest, some bit of work that it is reasonable for, and it is because of this that their growth is secured. This committee's interests are evenly divided. Each one does one part of the work, and this is done with the best of their ability. One cuts out the letters, another the flags, while another is busy putting the two together. Others may be said to supervise and in this way each one has a share in the work.

We may say, in conclusion, that this committee is not exclusive, but will gladly receive suggestions as to ways and means for strengthening the feeling of interest and good fellowship. Success will be with the committee, for failure is unknown where determination and good-will prevail. However, nothing so draws people together as to gather around the same flag, be it for country or school.





"Nature is upheld by antagonism. Passions, resistance, dangers, are educators. We require the strength we overcome."—EMERSON.

Perhaps it would be interesting to the many readers of the NAUTILUS to know the extent of interest and enthusiasm that really exists along the line of athletics in an institution like the Manual Training high school. The power of this undercurrent of enthusiasm is keenly felt every year about this time, and the result is the organizing of a football eleven for the purpose of winning further glory for our school.

At the beginning of each school year among those that take an active part in athletics, football is the all-absorbing and most interesting topic. Usually, preparations are begun in a short while and in no time, a large number of candidates are practicing every afternoon.

This year a meeting of those interested in this game was held the first week of school. From the number of candidates that attended, and the amount of enthusiasm manifested, the prospects of a successful team were never brighter in the history of the school. Mr. P. B. S. Peters was in charge of the meeting. He

gave the boys some idea of the schedule that he would arrange, and also introduced Mr. Arthur Peters, who has been selected as official coach of the crimson squad. Coach Peters spoke very earnestly on the subject of football and the importance of Manual having a successful team. Speeches were also made by Pauley, Edwards, Sexton and Captain Keeler, members of last year's eleven. The presence of so many available players, and the fact that the school would have these players as a nucleus of this year's team, produced a great amount of encouragement.

In conclusion, Mr. Bainter expressed his feelings. He said: "I feel that Manual is going to make a record in athletics that we will be proud of." And right now, boys and girls, and to whom ever it may concern, it is well to tell you, one and all, that Manual will "shine," not only in football, but in all other athletic contests. And it is up to you to come out and see her win victory after victory.

THE GIRL'S ATHLETIC ASSOCIATION

The athletic girls have come back this year filled to overflowing with vigor and enterprise. They met as soon as possible after the opening of school and elected the following officers:

President.Martha Betz
Vice President.Gladys MacAlister
Secretary.Mary Alfter
Treasurer.Bessie Spalding
Business Manager.Ruth Wilcox
Sergeant-at-Arms.Sidney Smith

Plans have been made for this year's basketball games. There will be twelve inter-class games, each class playing two games, with every one of the other classes. They are now busy organizing their teams, and the games will begin soon

after Christmas. In the spring we hope for some inter-school games.

The association has been and is carried on under the same rules as the literary societies. No persons that have been conditioned or failed are admitted. Freshmen are barred until the cards at the end of the term determine their scholarship.

Our girls' athletic association is the oldest one in the Kansas City high schools, and is one of the oldest societies at Manual. It was organized in 1899, and, though for a time without gymnasium or regular teacher, it mastered all difficulties until it has developed into the present vigorous and enthusiastic body. May it continue to progress and may it have the most successful of years.

MANUAL'S VICTORIES

"To the victor belongs the pigskin."

Every year a great deal of anxiety is manifested in connection with the football schedule, and the harder it is, the more it pleases the students. This year Manual has the hardest high school schedule that could conveniently be arranged. The appreciation of this fact by the boys is shown by the number of candidates that report for practice every day. The schedule is as follows:

Sept. 30. Manual vs. Westport.
Oct. 7. Manual vs. Wentworth,
at Lexington.
Oct. 14. Manual vs. St. Joe.
Oct. 21. Manual vs. Leavenworth.
Oct. 28. Manual vs. Lawrence,
at Lawrence.
Nov. 4. Manual vs. Central.
Nov. 11. Manual vs. K. C. K.,
at Leavenworth.

Nov. 18. Manual vs. Lincoln,
at Lincoln.

Nov. 25. Manual vs. Topeka,
at Topeka.

Manual 24—Westport 0.

Half of success is in making a good start, and in this the crimson eleven has certainly, beyond a doubt, been successful. By easily disposing of the Westport eleven, Manual has clearly demonstrated the fact that their nearest rival will not have an easy time in defeating them.

This game had many features that were interesting, especially to the Manual supporters. From the beginning Manual started off with a furious determination, and their plays were run so rapidly that Westport was completely beaten. The fierce attacks of Manual's

backs pierced holes in Westport's defense and touchdowns followed in rapid succession.

The teams seemed to be evenly matched in weight, but the team work and speed of Manual was far superior to that of their opponents. The Manual boys can be commended for playing as a team and consequently individual playing was scarce. But nevertheless the work of Pauley, Keeler, Edwards and R. Gibson was exceptionally good, while for Westport the work of Dillingham and Waltner deserves mention.

Manual 7—St. Joe 0.

One tick,
Two tick,
Back to the lunatic.

This is one of the many cries that greeted the St. Joe eleven, after one of the fiercest high school gridiron battles ever witnessed here. Although only Manual's second game, it was one of the most important games of its schedule, because it was the first real test of the strength of the crimson eleven. St. Joe had a week previous defeated the Trenton high school by the score of 59 to 0. The fact that Manual defeated St. Joe by the score of 7 to 0 proved that she will not be an easy victim to some of her near rivals.

The game was interesting throughout because both teams were evenly matched in weight and aggressiveness. It required no little amount of effort and merit on the part of Manual to win. This merit was appreciated and very often a thousand of pent-up voices would break forth in applause. At first Manual made a very discouraging start, which looked as though St. Joe would be the aggressor throughout the game. But finally Manual overcame this start and by dogged,

line-smashing plays, tore through St. Joe's defense for a touchdown, and also made a safety.

St. Joe put up a stubborn game and occasionally her backs would go around Manual's ends for short gains. However, the eleven was not able to follow up this advantage. Saunders, C. Motter and McDonald did most of the playing for St. Joe. For Manual Edwards, Anderson and R. Gibson distinguished themselves by brilliant work on the offensive and the defensive. Sexton also played a good game at left guard.

The line-up:

Manual.	Positions.	St. Joe.
Blacker.....	C.	Nelson
Fogel.....	R. G.....	Watkins
Keeler (Capt.)...	R. T.....	Willis
Hinsen	R. E.....	L. Motter
Sexton.....	L. G..	Mitchell (Capt.)
Anderson.....	L. T.....	Poe
Arnold.....	L. E.....	Worthwine
Pauley.....	Q. B.....	Saunders
H. Gibson.....	R. H.....	Moore
Edwards.....	F. B.....	McDonald
R. Gibson.....	L. H.....	C. Motter

On October 11, the second team defeated the Proso Preparatory school eleven by a score of 23 to 0. At first it looked as though Proso's weight would be a help to them, but about sixty yards was the extent of their gains. After that the crimson eleven outclassed their opponents in speed, endurance and team work. The Proso players were not in good condition and were laid out repeatedly, while the Manual boys were always "up and going." For Manual Dixon, Paul, Arnold and Palmer were the best ground gainers. For Proso Mallam did exceptionally creditable playing.

On October 19, the second team of Westport high school was defeated by Manual's second team by a surprisingly large score of 55 to 0. The playing on

the part of the crimson eleven was exceedingly fast. It scored a touchdown for every two and a half minutes of play. Westport was simply helpless on offense, but nevertheless they played a scrappy game and never quit until the end. Individual playing was scarce with the exception of sensational end runs made by Dixon of Manual.

The line-up:

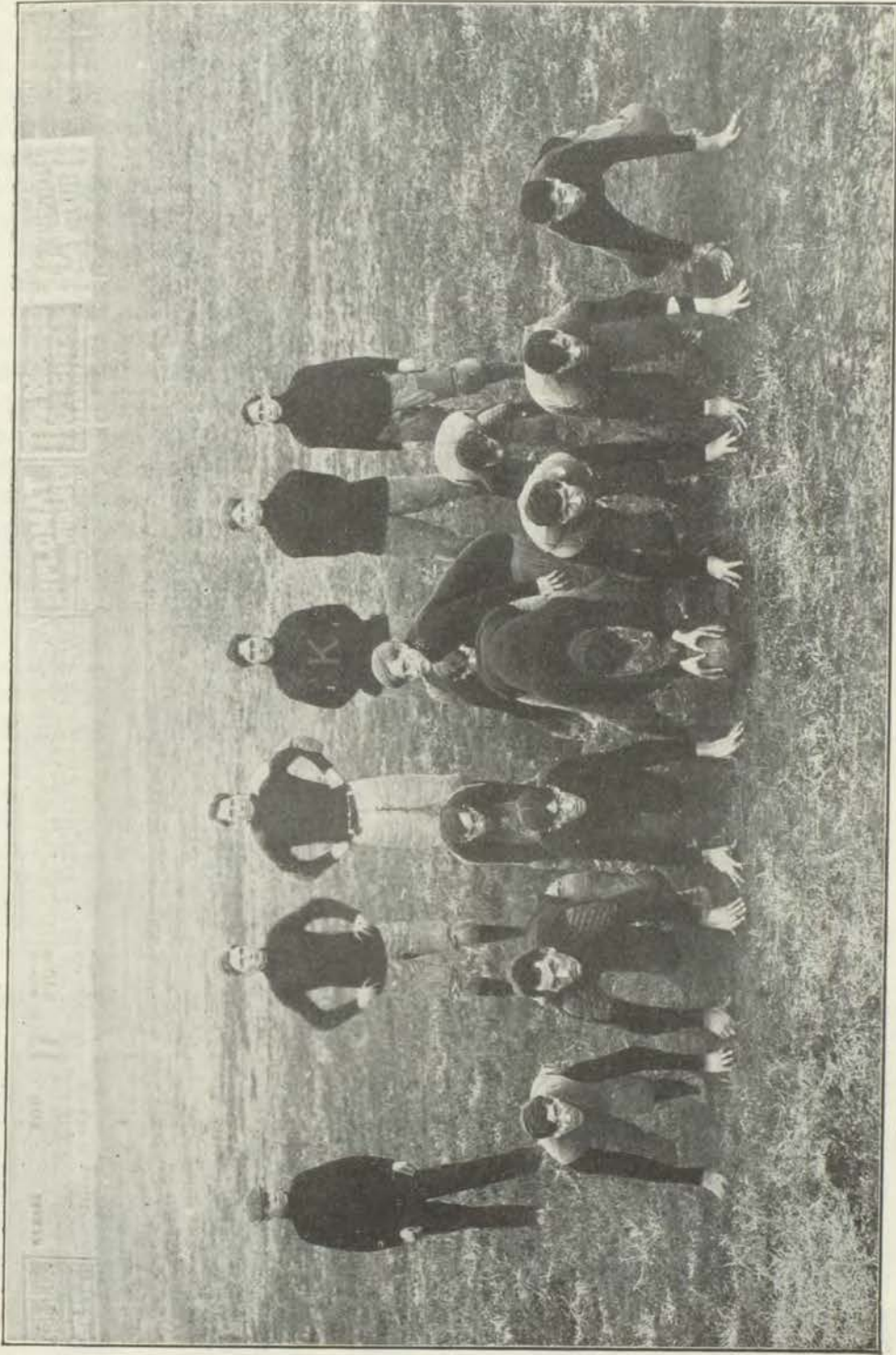
Manual.	Positions.	Westport.
Payne.....	C.....	Marquis
Reed.....	R. G.....	Hawthorne
Fogel.....	R. T.....	Coleman
Etherton.....	R. E.....	Jones (Capt.)
May.....	L. G.....	Stout
Cunningham.....	L. T.....	Wing
Craig.....	L. E.....	Henry

Mann (Capt.)....	Q. B.....	Doll
Dixon.....	R. H.....	Griffith
Arnold.....	L. H.....	Flower
Harnden.....	F. B.....	Newell

Manual 28—Leavenworth 0.

On October 21, before a crowd of 3,000 students, Manual had little trouble in defeating Leavenworth by a decisive score of 28 to 0. The game consisted of many spectacular performances on the part of the crimson eleven, most prominent being the 75-yard run by R. Gibson. As a whole, the team work of the crimson squad was remarkable, it being the fastest of any high school eleven seen here. The game was called before time was up.





The championship team of Missouri and Kansas

A VICTORY FOR THE CRIMSON.

"Yet come it will, the day decreed by
fate,
The day when thou, boastful Central,
must bend
And see thy warriors fall, thy glories
end."

Possibly one of the greatest athletic events in the history of the Manual Training High School took place November 4. Despite the weather conditions, of rain and mud, the wearers of the crimson outplayed the Central team. The boys who participated in this game will not soon forget the sensation of plunging and wallowing in mud and water ankle deep.

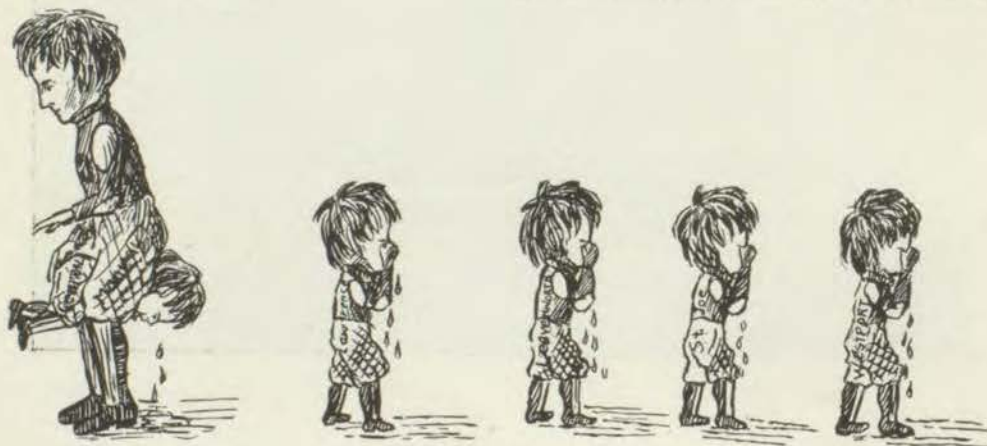
Although the score was 5 to 5, the Manual boys may say, "We have met the enemy, and they are ours," for the game was virtually a victory for the crimson eleven. In spite of the opposing team's superiority in weight, and in spite of the fact that luck was against them, our team acquitted itself so well that the many thousands of enthusiastic rooters expressed the statement that Manual had the best team, and should have had the game.

Fully six thousand people witnessed the display of nerve and determination by the gridiron warriors, and never was there a more loyal or enthusiastic audience. Although it rained continually, not a person left the scene of battle until the game was over.

During the entire game the Manual boys played the better game on both offensive and defensive, although, as has been stated, they were outweighed by the blue and white eleven. Central was exceedingly lucky in gaining on fumbles made by the crimson, but nevertheless, Manual covered twice as much distance in both halves as Central.

"Bob" Gibson, the smallest man of either team was easily the star of the game. He alone gained 108 yards for Manual, which was a great deal more than Central gained during the entire game. Pauley also made many good gains around Central's ends. Captain Keeler, Anderson, Sexton and Hinsin played well on the line for the Crimson, while for Central Captain Mc Kibbon, Smith, Minton, Calvin, and Detherage were the star players. The line-up:

Manual	Positions	Central
Blacker, Kruse.	C.	Sanders
Dixon.	R. G.	Eldred
Keeler (Capt.)	R. T. (Capt.)	M'Kib'n
Hinsin.	R. E.	Calvin
Sexton.	L. G.	Schafer
Anderson.	L. T.	Kaynor, Cecil
Arnold.	L. E.	Mehorney
Pauley.	Q.	Datherage
H. Gibson.	R. H. B.	Langworthy Smith
R. Gibson.	L. H. B.	Minton Palmer
Edwards.	F. B.	Pike, Nance



HERBERT HARE

MANUAL WINS HARD GAME.

On one of the most ideal football days, Manual defeated the Lawrence High School eleven by the score of 5 to 0. About 100 enthusiastic rooters accompanied the crimson eleven to Lawrence. The Athletic Department had engaged a special car in order to make the trip a jolly one for the students. The excursion offered a fine opportunity to everyone to visit the Kansas University, and a number of the Manual boys had the honor of spending the evening at fraternity houses. All of the students expressed themselves as having a fine time, and adding to this the victory of Manual over an eleven that had yet to be defeated, we are sure that the trip was one of glory and success.

The game was the best that had ever been witnessed on that gridiron. The teams were evenly matched in weight, but Manual at times showed more speed, and through this advantage gained the victory. At first it looked as though the game would be an uphill fight on the part of Manual. Lawrence secured the ball on Manual's fifteen-yard line, after

about two minutes of play. But the crimson boys were there to win, consequently they held Lawrence for downs, and in a short while Arnold secured the ball on a fumble and carried it across the goal line, scoring the only touchdown of the game.

On the Manual team the back field men played an excellent game on both defense and offense. Hinsen and Arnold also did brilliant work. For Lawrence, Captain Connelly played a splendid game, very often breaking through Manual's line and making spectacular tackles. The line-up was as follows:

Manual.	Positions.	Lawrence.
Hinsen	R. E.	Milton
Keeler (Capt.)	R. T.	Powers
Dixon	R. G.	Ford
Kruse	C.	C. Hackman
Sexton	L. G.	R. Hackman
Anderson	L. T.	Teeter
Arnold	L. E.	Reynolds
Pauley	Q. B.	Martin
H. Gibson	R. H.	Fitzpatrick
R. Gibson	L. H.	Hill
Edwards	F. B.	Connelly (Capt.)



HERBERT HARA

ALUMNI

University of Missouri.

In spite of the typhoid fever scare, the University of Missouri has an enrollment much larger than this time last year. It seems as if the period of its rapid growth is here, and nothing short of fire or pestilence can stop it. Prospects in every form of athletics are fine and, what seems almost as important to us, the "Kansas City Club" is growing daily in strength, in energy, and in organized, systematized enthusiasm.

ELSIE WINSHIP WADELL, '03.

Ann Arbor, Mich.

The University of Michigan has fulfilled all the expectations of the Manual Alumni. Three members of the class of 1905 are in the literary department, and the same number in the engineering. We have learned since our arrival here what an advantage Manual has over other schools in preparing for all departments. The Kansas City high schools, collectively, have twenty-five representatives here, of which ten are from Manual. The good reputation of our school will be maintained by our earnest endeavor.

VIRGIL K. MORGAN,
EARL BLAIR MILL,
EDWARD S. PIERCE,
GEORGE FULLER GREEN,
DAN BONTECON, JR.,
WM. B. FULLERTON.

University of Chicago.

Greetings from the "City Gray" to dear old Manual and all the Manualites! I wish I could describe my Alma Mater in such glowing terms that you would all want to come here for your college work. We really have the finest university in the West (Chicago, you know, is the educational center of the United States). Our university is growing in popularity rapidly and has a much larger registration this year in all its departments.

Perhaps you did not know that there is kindergarten, elementary and high school, college, graduate and normal school work done here—all under the direct management of the university. A person can enter this school at the age of three and remain here his allotted "three score years and ten," if he chooses. So many and such interesting courses are offered that one could spend a lifetime here and never go over the same work twice. I am sure if you come here for your college work you will never regret it, but will join with me in singing the praises of the University of Chicago.

GRACE MILLS, '04.

Boston Tech.

I am a Freshman at "Tech" and therefore know but little as yet of the institute. I may, nevertheless, tell just a few general features of the school, which any green Freshman might notice. The school has three papers: The *Tech*, which is published three times a week, is in the form of a newspaper; the *Institute*, which is published monthly, resembles a magazine, and the *Technique*, which is issued every spring by the Juniors, is the college annual.

Only knowing the subjects in the first year regular course, I may just say at this point, concerning the studies at the Institute that there are only three new subjects taught which are not taught at Manual, they are descriptive geometry, analytic geometry and military science.

The little time which is not devoted to these studies is now spent in preparation for field day, which is to be held November 11. The contestants are the Freshmen and the Sophomores. The events are tug-of-war, football and relay race. Having mentioned all that I know about the papers, studies and athletics, I will be compelled to close this report.

HARRY L. HAVENS, '05.



The exchange editors of the NAUTILUS are very thankful for the exchanges sent to them this year. They sincerely hope this department will be enjoyed by the friends of the school paper.

"Said the shoe to the stocking: 'I'll wear a hole in you.'
 "Said the stocking to the shoe: 'I'll be darned if you do.'"
 —Ex.

A MATTER OF STRIPES.

A small boy from the North who was visiting a relative in one of the Southern states where convict labor is employed in public improvements, became very interested in the men and their black and white striped clothes. One day he went to a circus and for the first time in his life saw a zebra.

"Oh, auntie," he cried, "look at the convict mule!"—*Lippincott's Magazine*.

WELCOME.

"Oh, uncle, I'm so glad you've called. Baby's so cross, and it always amuses him and makes him laugh when he sees you!"—*Punch*.

AN IMPROVEMENT PROMISED.

"Look here!" exclaimed the old lady. "I want you to take back that parrot you sold me. I find that it swears very badly."

"Well, madam," replied the dealer, "it's a very young bird; it'll learn to

swear better when it's a bit older."—*Tit-Bits*.

"Why," asks a Missouri paper, "does Missouri stand at the head in raising mules?"

"Because," replies the *Paw Paw Corner Bazaar*, "that is the only safe place to stand."

Question for inter-society debate: Whether the dirt that collects under one's finger nails is real estate or personal property.—*Impressions*.

Stranger: "Do you know a man around here with one leg, named Jones?"

Doctor: "Could you tell me the name of his other leg?"—*Ex*.

A big wash-out—on the clothes line.—*Ex*.

"Who is the belle tonight?" asked she, as they stood on the ball-room floor.

He looked around the room to see, and she speaks to him no more.—*Ex*.

"Come in out of the wet," said the shark as he swallowed the unfortunate fellow.—*High School Student*.

Reader: No, there is no limit to the age of Freshmen. They usually walk readily though they have little control of their feet. If conditions are right they sometimes reach a ripe old age.—*Ex*.

The following is a sign upon an academy for teaching in one of the far Western states: Freeman and Huggs, school teachers. Freeman teaches the boys and Huggs, the girls.

PLEASED THE COATS.

A very realistic reminder of the near approach of winter was felt at this place Tuesday and Wednesday, when a cold wind made heavy coats feel good.—*Lowry City, Mo., Independent.*

Student (reading Virgil): "Three times I strove to cast my arms about her neck and—that is as far as I got, Mr. Foster."

Mr. Foster—"Well I think that was far enough."—*Ex.*

"Generally speaking women are—"

"Yes they are."

"Are what?"

"Generally speaking."—*Ex.*

Visitor: "Why are you crying so, Robbie?"

Robbie: Boo-hoo! "Cause de Russians and Japs are having a war."

Visitor: "What a kind hearted little boy."

Robbie: "An, boo-hoo!—some day I'll have ter study about it in school."—*Ex.*

HIS AWFUL MISTAKE.

"Young man," said her father, "do you smoke cigarettes?"

"I should say not!" declared the youth, hastily. "I would consider it disgraceful to be seen with one of those vile things in my mouth. I think all cigarette-smokers should be jailed. Why do you ask, sir?"

"Thought perhaps you could let me have one," said the old man, pointedly. "I smoke 'em myself."—*Ex.*

THOUGHT IT WOULD HURT.

Tommy's pop (explaining the mysteries of country life): "Yes; a hen will sit on an egg and hatch it."

Tommy: "Gracious! I should think it would hurt to sit on a hatchet."—*Ex.*

A PROBABILITY.

Ethel (looking at the statue of Venus of Milo): "It seems to me, Maud, that the women in ancient times had larger waists than they have now."

Maud: "Well, perhaps the men had longer arms."—*Ex.*

Judge: "You stand convicted of marrying ten widows. Have you anything to say before sentence is passed upon you?"

Prisoner: "Only dis, judge: I hope yer'll remember, in passin' sentence, how much trouble I saved nine other fellers."—*Ex.*

"What happened to Rolligan?"

"He drowned."

"And couldn't he swim?"

"He did for eight hours, but he was a Union man."—*Ex.*

MODERN.

Up-to-date Pastor: "The collection will now be taken, and those who contribute ten cents or more will receive trading-stamps from the ushers."—*Ex.*

Fair Passenger: "Won't you have a paper, sir?"

Hoggly: "Why—er—what makes you offer me a paper?"

Fair Passenger: "I thought you'd be more comfortable while women are standing if you could hide your face!"—*Ex.*

Said Farmer Jones, "My cat will starve;

There are no mice to keep it."

"Your barn is full of hay," said I,

"And sure the cat(tle) eat it."—*Ex.*

Teacher—"Now, Tommy, if your father had twenty dozen eggs in his store, and found that eighteen of them were bad, how much would he lose?"

Tommy—"Nothin'. I guess you don't know my pa."—*Ex.*

A young man being asked to lead in prayer, said in part: "Dear Lord, give us pure hearts, sincere hearts and sweet-hearts." "Amen!" responded several young men in chorus.—*Ex.*

SOMEWHAT MIXED.

A young man who was about to be married was very nervous, and, while asking for information as to how he must act, put the question: "Is it kisstomary to cuss the bride?"—*Ex.*

"I want a pair of shoes for my boy."
"French Kid?"
"No, sir; Irish."—*Ex.*

HIS HOPE.

"When you sold me this watch," said the customer, "you said it would work like a charm."

"Yes, sir," replied the jeweler.

"Well, suppose you sell me the charm now. Perhaps that will work like a watch."—*Philadelphia Press.*

PECULIARITIES.

"You must find that impediment in your speech rather inconvenient at times, Mr. Briggs?"

"Oh, n-no; everybody has his little peculiarity. Stammering is m-m-mine; what is y-yours?"

"Well, really, I am not aware that I have any."

"D-do you stir y-your tea with your right hand?"

"Why, yes, of course."

"W-well, that is y-your peculiarity; most p-people u-use a t-teaspoon."—*Tit-Bits.*

FALSE DEDUCTION.

A certain office boy was wont to appear at his employer's office with a very dirty face. One morning he appeared

with the remains of a breakfast round his mouth. The junior clerk with an eye to business, said, "I bet you sixpence I can tell you what you had for breakfast this morning."

"Done!" said the office boy.

"It was eggs," triumphantly replied the clerk.

"Wrong," said the boy; "wot you see on my mouth is yesterday's."—*Tit-Bits.*

Diner (to restaurant waiter): "What have you for dinner?"

Waiter: "Roastbeaffriccassedchicken-s t e w e d l a m b h a s h e d b a k e d a n d f r i e d p o t a t o e s c o t t a g e p u d d i n g m i l k t e a a n d c o f f e e."

Diner: "Give me the fourth, fifth, sixth, tenth, eighteenth and nineteenth syllables."—*Ex.*

Miss Vassar: "I'm just wading through Tennyson."

Mr. Barnade: "So am I, dear. I've just gotten to the middle of 'The Brook'."

"See that man? Well, sir, he landed in this country with bare feet and now he's got millions."

"Gee whiz! he must be a regular centipede."—*Philadelphia Ledger.*

WITTY FATHER.

"Pop, what's a hero?"

"The front line of chairs in a burlesque theater is a he-row, Willie."

"I'll knock daylights out of you," said old Sol, going down behind the western hills.—*Ex.*

LIBERAL.

Mrs. Quiverful: "Tommy, did you give your little brother the best part of that apple, as I told you?"

Tommy Q.: "Yessum, I gave him th' seeds. He can plant 'em an' have a whole orchard!"—*Cleveland Leader.*

EVOLUTION OF A NAME.

Chapter I.

"What is your name, little boy?" asked the teacher.

"Johnny Lemon," answered the boy. And so it was recorded on the roll.

Chapter II.

"What is your name?" the schoolmaster inquired.

"John Dennis Lemon," replied the big boy.

Which was duly entered.

Chapter III.

"Your name, sir," said the college dignitary.

"J. Dennison Lemon," replied the young man, who was about to enroll himself as a student.

Inscribed in accordance therewith.

Chapter IV.

"May I ask your name?" queried the society notes contributor to the Daily Bread.

"Jean D'ennice Le Mon," replied the fashionable personage in the opera box. And thus it was jotted down.

The End.

—*Ex.*

Jay: "I wonder if Prof. P. meant anything by it?"

Guy: "By what?"

Jay: "Why! he advertised a lecture on 'fools,' and when I bought a ticket it said admit one."—*Owl.*

STRONG DENIAL.

Mrs. Caller (Sweetly): "Isn't your husband getting a little bald?"

Mrs. Homer (indignantly): "I should say not! There isn't a single bald hair on his head."—*Ex.*

WHAT HE COULDN'T DO.

Mrs. Peck (contemptuously)—"What are you, anyhow, a man or a mouse?"

Mr. Peck (bitterly): "A man, my dear. If I were a mouse I'd have you up on that table yelling for help right now."—*Ex.*

Lady: "What is the real difference between an apartment, a flat and a tenement-house?"

Janitor: "In an apartment the ladies don't have no children; in a flat they has one or two. More than two makes any house a tenement, mum."—*Ex.*

Student: "I don't think I deserve an absolute zero."

Professor: "No, sir; neither do I. But it is the lowest mark I am allowed to give. Good day."—*Ex.*

Some success is born of conceit, and much conceit is born of success.—*Ex.*

THE ENGLISH OF IT.

The following was overheard in a third-class carriage on the London and Northwestern Railway the other day:

Mother (opening a parcel of sandwiches): "Johnnie, what kind of sandwich will you 'ave?"

Johnnie: "I'll 'ave 'am, mother."

Mother: "Don't say 'am, dear. Say 'am!"

Man in Far Corner (chuckling to himself): "Both of 'em thinks they're saying 'am!"—*Ex.*

Enthusiasm in any calling is more than half of success.—*Ex.*

Nell: "I told Miss Sharpe what you said about her literary club; that you wouldn't join because it was too full of stupid old maids."

Belle: "Did you? What did she say?"

Nell: "She said that you were mistaken; that there is always room for one more."—*Ex.*



Our many admiring friends have often remarked recently that we were losing weight, that they were becoming quite alarmed in fact, and we have smiled a wan, sweet smile, as we thought that we could not hold out much longer under the strain. This viper gnawing at our respective hearts is the lack of locals. Day and night we have devoted to sneaking up on the evasive local. We cannot stand it longer. If the pupils of the school do not come to our support, they will be responsible for our fate.

In the local box at the beginning of the year, a letter was found. It was stamped, sealed and addressed in red ink. We mailed it.

Woodson Dixon, in describing the associate editor, stated the unexpected fact that "of course she is a girl."

Freshie: "How many epidemic points are necessary to graduate?"

Isn't it curious that a man who goes slow on meat is fasting?

We hope that Clara M. has at last succeeded in finding Woodson.

Mr. Cowan: "Young ladies will please cease chewing gum while taking a breathing exercise. Put it anywhere except on the seat."

Miss Gilday (in History): "Where is Normandy located?"

That Bright Senior: "Normandy is on the western coast of Asia Minor."

Margaret McCrum: "Foster, do you think girls can keep a secret?"

Mr. Palmer (slow as usual): "Yes, sometimes a few can, like one or two."

Senior: "Who is that woman you walk with to school every morning?"

Freshie: "Why, that is my nurse."

Pupil in Virgil (reading): "And he spoke these words with his mouth."

Botany Teacher: "Why does the bean have starch in its composition?"

Bright Pupil: "To make the stem stiff."

Miss Fisher says: "Now eat your lunch, if you overlap, but *don't* swallow it."

In the Elocution class the other day the pupils were pronouncing words, one by one. Finally it came to Colin and Mr. Cowan was impatiently saying, "Next, next;" but Elizabeth meekly said, "But I am *waiting* for Colin." It certainly looks bad, but we are sure none of Miss Nofsinger's friends will *tell*.

A thoughtful Senior observes that Mr. Small has a beard like James H. Hyde—behind it.

Nelle Carroll: "Hasn't that little boy, Bowder Broad, no, Broader Bow—well, anyhow, hasn't he grown since last year!"

Someone must have been making a hit with Palmer and Lee.

Where is our glee club? In the good old days when we were Freshmen, it used to go around every week or two and sing at churches, and get ice cream and strawberries. A reformation is needed.

Bernice: "Ancient History began when they discovered man." Who discovered him?

Boy in Mathematics: "The only one I could do out of three was two."

Teachers.

Miss Bachelor is dieting.

Mrs. Lavine is growing younger every day.

Miss Sublette said she just loved to visit Room 10.

Ray Bartlett—"I don't believe the warning bell blew."

Mr. Pauley (after burning some magnesium in chemistry)—"I can't see what I'm looking at."

Miss Jenkins says one gropes in darkness, not in the light. What about blind men?

Three of our gentlemen teachers, in chorus—"Now, the idear is—"

Lucile Field (when asked whom a boy had taken to a party)—"Oh, he didn't take anybody; he stug it."

Mr. Jones.—"I-a will not-a assign a lesson for-a Sunday because-a no one studies on-a Sunday." Ahem!

Mr. Phillips certainly proved his interest in athletics Nov. 4. Covering the whole muddy gridiron and giving the school songs and yells, he was more enthusiastic than anyone else.

It has been said that there are no new jokes. This is not true. We heard a new one the other day. A boy had just bought a new overcoat and he said it wasn't long enough. His father responded: "It will be long enough before you get another." We defy anyone to say they have heard this before.

There was an old man of Tarentum
Sat on his false teeth till he bent 'um;

When asked what they cost

And what he had lost,

He said, "I dunno, I just rent 'um."

Mr. Phillips in Assembly—"It is by attending to details that success is won. For instance, when a little bird smooths all its feathers, it attends to de tail."

Girl—"Isn't Pauly a little cherub? Just too sweet for anything."

Teacher: "Is water an element?"

Pupil: "No, sir."

Teacher: "Why?"

Pupil: "Because, you can get anything you want out of it."

The Proverbial Bright Sophomore: "They learned to irritate the land."

Poor Mr. Curry! He asked Miss Crandall for her company to the ball, and was informed by her that her father would see her safely there and back.

Dorothy (as she sees Stephen in the hall): "Oh, I just knew something lovely was going to happen today."

Pupil in Physics: "Wait a minute, Mr. Page, I didn't understand that clearly. You are entirely too swift."

Mr. Page: "Well, I can't help it. It's just my nature."

Distracted Westport at Manual-Westport game: "Why! Keeler is a man; he has whiskers!"

Mr. Page: "Our lesson will be *down* to the top of page 41." Then he couldn't understand why the pupils grinned at each other.

New girl
Pa admired,
New girl
Ma fired.

Theo said a person was either a hog or a fool when he eats celery, if he *does* select the small tender stalks, he is a hog, but if he *don't*, he is a fool.

And Willard is back again and hot in the chase once more. What is the attraction, we wonder? ? ?

The NAUTILUS begs to announce the fall opening of Dr. Rambeau's dancing class. Open especially to the Virgil pupils.

"Jane, fair maid, my bosom wrings.
Should I then despair?
Because she washes shirts and things?
Think you that I should care?"

A studious Junior remarked that our dear Mr. Raney has a profile like Cicero's.

Colin (as Mrs. Elston told about the fat, jolly monks of Chaucer's time): "I'm going to be a monk."

Foster is really doing very well in Latin, even if he *has* got a black eye.

We see Paul Dodd gets mathematics easily. Just listen to him: "I bought six apples at 4 cents for nine and paid the duffer I bought them from two cents more than I should have paid, so I threw away two of his old apples and only ate four. Did I get even with him? Huh! I guess yes!"

Mr. Gamble: "That onion smells so bad it ought to be ashamed of itself."

"Unto a little nigger
A swimming in the Nile
Appeared most unexpectedly
A hungry crocodile,
Who with the cold politeness,
Which makes the warm blood freeze
Remarked, 'I'll take some dark meat,
Without dressing; if you please.'"

Subjects for Essays:

Talbot's Shamble; or, The Baby Elephant.

Talbot's Height; or, The Statue of Liberty.

Talbot's Stoop; or, The Leaning Tower of Pisa.

Mrs. Elston: "Why haven't you got your essay? Why, the Freshmen never fail to have their's."

It should be remembered that they don't know any better.

Poor Dr. Rambeau! In a mixing in his class of two damsels' names, one explained, "I'm Cross and she's Coarse."

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
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
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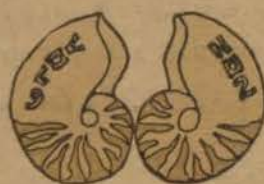
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*"Build thee more stately mansions,
O, my soul,
As the swift seasons roll!
Leave thy low vaulted past!
Let each new temple, nobler than the last,
Shut thee from heaven with a dome more vast:
Till thou at length art free,
Leaving thine outgrown shell by life's unresting sea."*

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NOTICE—The *Nautilus* is published once every two months in the general interest of the Manual Training High School at Kansas City, Mo.

The subscription price is 45 cents per year by mail, 40 cents to pupils of the school. Single copies, 10 cents.

Contributions are requested from all members of the school.

Address all communications to

THE NAUTILUS,

Manual Training High School,
Kansas City, Mo.

A NAUTILUS RECEPTION.



ON the evening of November 3, 1905, the staff was given a very delightful and enjoyable reception at the home of Mr. E. D. Phillips. Mrs. Phillips, as hostess, had planned a number of new and interesting novelties in the way of games, contests, etc., which added to the general merriment. Professor Phillips said that he desired to entertain next year's staff in the same manner, and we can assure them that they have something worth quite a great many pleasant anticipations ahead of them.

MISSOURI UNIVERSITY CONTEST.

The first annual inter-high school literary and declamatory contest, between the high-schools of Missouri, will be held at the State University at Columbia. Manual should regard this contest with more than ordinary interest, as it was through the efforts of Mr. Phillips, our principal, that this contest was instituted.

Stimulated by the success of our own local contest last year, and being ambitious to actuate a greater interest in amateur authorship and to revive an

interest in the too much neglected art of public speaking among our young people, he labored long and hard until the curators agreed to establish this inter-high school contest, the awards being two freshman scholarships each worth \$125.

The first of these contests will occur at Columbia, the first week in April, and we hope to see Manual win one or both prizes.

It is a matter of pride that the contest should have been originated by Manual, and it is now "up to us" to sustain that pride by winning the contest.

In another article will be found a full account of all the rules and regulations.

UNIVERSITY OF MISSOURI, COLUMBIA.

November 6, 1905.

To the Principals of Accredited Public High Schools in Missouri:

The undersigned, on behalf of the University of Missouri, beg leave to announce that, beginning with the Spring of 1906, annual Inter-High School Contests in Debating and the Reading or Reciting of Essays will be held at the University of Missouri in Columbia between representatives of the Accredited Public High Schools of Missouri. "The winner of each contest shall be entitled to an Undergraduate Scholarship of the value of \$125 and exemption from all fees, except laboratory fees, such Scholarship to be paid in installments during the student's first year in the University."

The following regulations governing the contests and the award of the scholarships have been adopted by the Board of Curators:

"1. Scope of Contests. The Contest between the boys shall be in Debate and

that between the girls shall be in the Reading or Reciting of Essays, the subject for debate to be assigned by a University Committee, and the subjects for essays to be selected by contestants; the subject of an essay shall be submitted to the Committee not less than one month previous to the contest in Columbia.

"2. Time. The Contests shall be held on or near the last Saturday in April of each year, the exact date to be determined by the University Committee.

"3. Contestants. Each school entering the contests may send one representative to each contest, i. e., one boy and one girl, the contestants to stand among the highest fourth of the senior class in general scholarship. (Only Accredited Public High Schools may send representatives.)

"4. Preliminary and Final Contests. Each contest shall be divided into a preliminary and a final contest.

(A) Preliminary contests shall be held during the day of the date announced, in the presence of competent judges appointed by the University Committee. The judges shall select from each contest not more than six contestants who may compete in the final contest.

(B) Final contests shall be held during the evening of the date announced, in the presence of other competent judges similarly appointed, and shall be limited to the successful contestants of the preliminary contests.

"5. Length of Speeches and Essays. No speech shall exceed eight minutes in length, and no essay shall contain more than one thousand words. This length may be reduced by the Committee so far as the preliminary contests are con-

cerned. Details of arrangement shall be left to the Committee.

"6. Time Limit of Entrance. Each High School desiring to compete shall notify the Chairman of the University Committee not less than ten days before the contests of its intention to enter the competition, and at the same time shall submit the names of its representatives.

"7. High School Preliminaries. The method of selecting the representatives shall be left to the school principals concerned, but the University advises that preliminary contests be held in each high school as a means of determining who shall represent it. Every representative must bring to the University Committee written credentials from his or her school principal."

The subject submitted for Debate in 1906 is: "*Resolved*, That the representation of the States in the United States Senate should be based upon population with a minimum ratio of one Senator for every 500,000 inhabitants: but each State should be entitled to at least one Senator."

The subjects of Essays may be selected by the contestants, subject to the approval of the University Committee. See regulation 1 above.

It is hoped that this movement on the part of the University will tend to foster an interest among the high school students of the State in questions of current interest and in the correct expression of thought. The Committee will gladly answer any inquiries from teachers or students who are interested.

Respectfully,

A. ROSS HILL,

ISIDOR LOEB,

JOHN R. SCOTT,

Committee.

MANUAL'S SECOND ELOCUTIONARY CONTEST.

Our principal never did a better thing for our school than when he established the oratorical and recitation contest, which by stimulating a greater interest in elocution adds a new and valuable feature to the intellectual and artistic culture of our school.

Last year each literary society, composed exclusively of girls or boys, was permitted to select one representative young man or young lady, while the mixed societies were allowed to select each a young man and a young lady contestant.

Two handsome gold medals, designed by a Manual pupil, Mr. Walter Bacon, and paid for by friends and patrons of Manual, were the prizes offered.

Every detail of the contest was carefully planned and executed, and a wholesome spirit of chivalric enthusiasm was displayed that would have done credit to older and more experienced students.

The oratorical medal was won by Mr. Stephen Luckett of the "Manual Society of Debate," and the recitation medal was won by Miss Gladys Miller of the "A. L. S." society.

In order to make the contest more representative of the entire school, a great improvement will be made this year by adding a boy and girl contestant from the school at large. This change will not only make the contest more democratic, but it will arouse a keener interest and a better preparation on the part of the societies' representatives.

One sensible feature of this contest is in having girls contest with girls only and boys with only boys.

Another appropriate condition is that the contestants must either have studied elocution or be studying that subject at

the present time. This regulation not only encourages the study of the invaluable art of expression but insures contests of a higher grade and better tone.

The next contest will occur April 27th, and the preliminary contests must be all over and the speakers all selected by April 6th.

Each number is limited to eight minutes. The young ladies are allowed to choose their recitations from standard authors, subject to the approval of the managing committee, which for the societies is composed of the principal of the school, the instructor of elocution, and the society's chaperone; and for the school at large, the committee is composed of the principal and the instructor of elocution. In oration the young men are allowed to choose their own subjects but are required to submit the manuscript to the proper committee for approval. All the orations and recitations must be committed to memory for delivery at the *preliminary* contests.

The school management attends exclusively to the selection of judges and chairman of the evening, formulating the instructions to the judges, and caring for the finances.

A small admission fee of 25 cents will be charged to defray the expenses of the contest, and what money is left over will be used in the purchase of books and pictures for the school.

The contest is an admirable agency, for profit and pleasure and we hope that the students will make the best use of it in cultivating the art of public speaking, which in all countries is considered to be a necessary branch of a finished education.

OUR NEW CATALOGUE.

Manual now has an entirely new and complete catalogue, containing 122 pages

of reading matter referring to the different departments and courses of studies, and also presenting a large number of photographs of the laboratories, class rooms and shops.

The list containing the courses of study has been completely revised, and the one therein contained is for "all time". The graduating classes of Manual are also completely given.

It is a surprise and an honor that Manual receives applications from schools all over the country for a copy of our catalogue. A request from New Zealand and one from Canada were received lately. These are some of the things that open our eyes to the fact that Manual is known far and wide, and our school pride is appealed to as students to deserve and to preserve this enviable reputation.

OUR THURSDAY ENTERTAINMENTS.

The school has already been favored with several enjoyable programs this year. Mr. Gustafson gave us a lecture, accompanied by experiments, on chemistry, and Miss Gilday, of our history department, gave us an interesting talk on Japan.

There are many more to come (of the same high class). Each of the five societies will present a program, which will enable the school to see what they are doing along literary lines. These entertainments will be given in the following order:

1. Jan. 17, Mr. Page.
Experimental Lecture on Physics.
2. Jan. 31, *I. O. N. Society.*
3. Feb. 14, *A. L. S. Society.*
4. Feb. 28, *O. I. T. A. Society.*
5. March 14, *Art Club.*
6. March 28, *M. S. of Debate.*
7. April 11, *German Club.*
8. April 25, *Elocution Department.*
9. May 9, *Manual's Glee Club.*

RIGHT OF CERTIFICATION.

Mr. Phillips, our principal, received formal notice last month that Smith College had granted Manual the right of certification, that is, that hereafter girls who have graduated from Manual and who have taken the course that the college recommends for high school work, may be admitted to the Freshman class without taking entrance examinations. This privilege is soon to be granted by Wellesley also, another of the leading institutions for women.

SANTA FE TRAIL MARKERS.

The board of public works recently chose as a marker for the historic Santa Fe trail, a design drawn by Mrs. Maud Maples Miles, a teacher in our own drawing department. The Nautilus heartily congratulates Mrs. Miles on her success, knowing that her design excelled the foremost of local talent.

The plate to be struck off from her drawing will be of bronze, 19x26 inches in size. There is to be a bas-relief showing a typical freighter of pioneer days, drawn by six oxen. A plainsman rides by the side of the oxen, while several mounted men lead the way, acting as guides. The design is extremely suggestive of the method of transportation of early days. The drawing bears the following inscription:

This Marks the Route of the
Santa Fe Trail,
Kansas City to Santa Fe,
1822-1880.

In the lower left-hand corner of the design is the seal of K. C., while in the opposite corner will appear the finished design of the seal of Santa Fe, New Mexico. These plates will be placed on stone markers on the sides of buildings and in the street pavements at the different points already decided upon along the route of the trail.

ANOTHER COMPLIMENT TO MANUAL.

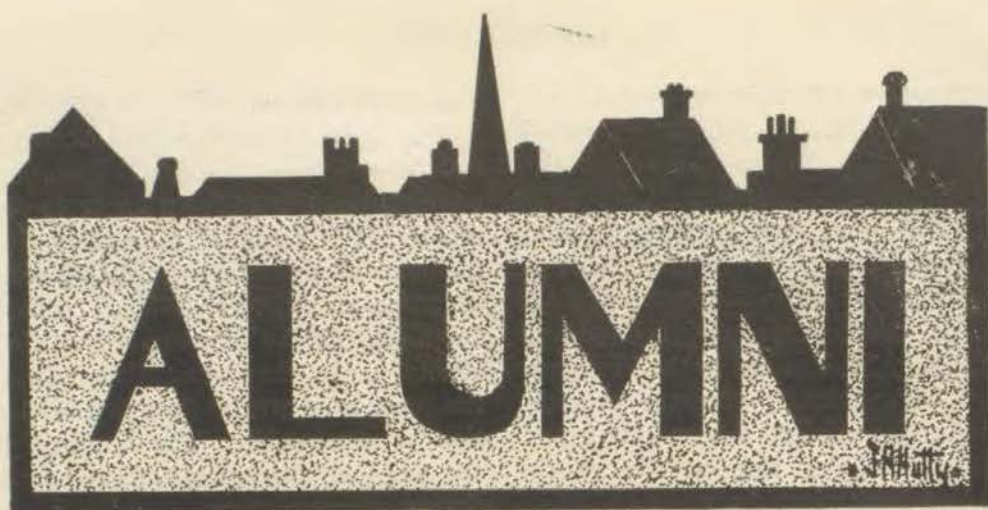
Miss Anna Gilday has been elected a member of the American Historical Society, which is quite an honor to our school. It is a rule of the society that the name of a prospective member must be proposed by some eminent person. Dr. Loeb, of the Missouri State University, made the nomination, making the honor even greater than that of election to membership. The Nautilus, in the name of the school, offers her its sincere congratulations.

THE EDISONIAN SOCIETY.

The latest addition to the list of Manuals's societies is "The Edisonian Society". It is an organization for the advancement and better understanding of science in the Manual Training High School. Its fields are physics, chemistry and engineering. This society is not the old "Science Club", brought back to life, nor is it connected in any way with that or any other organization.

Of recent years science and engineering have occupied a much more important place in world events than ever before and the demand for engineers and scientists who can do things, is correspondingly great. It is the object of the "Edisonian Society" to afford to boys who are taking science or engineering courses, an opportunity to get together and discuss recent progress in those subjects and to do original work outside of the prescribed courses in the class room and laboratory.

It is expected that the society will be the means of creating a great interest in the science departments of the school, while it also fills a long felt want. There are very few schools the size of Manual which do not have a science club, and it should certainly be true that Manual, which supports so many good literary societies, could also maintain a science society of a high standard of excellence.



UNIVERSITY OF ILLINOIS.

The University of Illinois, situated at Urbana, ranks fifth in size and enrollment among our great universities. The enrollment for this year is considerably over four thousand. Our campus is nearly one mile in extent and contains 31 buildings including the Armory and the "Gym." It is level and covered with shady trees and flower beds and several cinder driveways wind around and between the buildings. The general effect is very picturesque and pleasing.

In thoroughness of preparation this school is excellent, our engineering course being exceptionally strong.

We have just closed our football season, and while we met with only fair success this season, the outlook for next year is exceedingly gratifying. We are now about to enter upon our indoor track season, and if we have as much success, in this line, as we have had in the past, we will have no cause for complaint. Baseball, however, is our strong fort. In the last six years we have turned out five championship teams.

As far as I am able to find out there are two Manual alumni at this school. I believe in patronizing home institutions, but I would like to see more of those that do go away to school attend here. GEORGE D. BEARDSLEY, '05.

OXFORD, OHIO.

"Here's to our dear old Western
Wave her flag unfurled,
Nothing can e'er surpass her,
Queen of the College world."

Because of the reputations of the Eastern colleges, we sometimes think that there is no good Western college. But some of us have changed our minds in this respect, and find that to get a good college education, we need to go no farther east than Ohio. The first thing that we love at the "Western" is the beautiful campus, and it certainly deserves all the admiration we can give it. The students are kept in good physical condition by being required to take at least a half-hour's outdoor exercise a day, and to keep regular hours. Then they are prevented from becoming *too* brilliant and studious (as Manual graduates are apt to be) by the recreation evenings once a week when feasts, parties, receptions, etc., hold full sway. Unlike the larger colleges, in this institution the pupils and teachers become personal friends, so that the student feels the effect of the character as well as the instructions of the teacher.

But in spite of the new interests and attractions of college life, we still look back to Manual as a dear old friend. EFFIE DOW HOPKINS, '05.

"THE DIARY OF A SCHOOL MA'AM."

Monday: Thirty little faces all looking at me,—some quite dirty! After the morning exercises, I notice Eddie, my crazy boy, shaking his hand very hard. "What is it?" I ask. "Slice it down," says he. Now this crazy boy is so interesting to me, I must try to describe him. In the first place, he is cross-eyed; in the second, freckled. His white hair is always standing on end, his straw hat has a broken brim, his overalls are too large, and his shirt is a brilliant red.

This Monday proves to be uneventful, but a calm always precedes a storm.

Tuesday: I came to school early and am in the midst of dusting my desk when I observe a great crowd of children congregating about me, and in their midst, Charlie's mother, dragging behind her my youngest pupil. "Why, what is the matter, Mrs. Peters?" said I. She answers in a most excited manner as follows: "What's the matter? Well, I guess something's the matter when your kids go around a-carryin' razors in their pockets and a-throwin' them at my boy. Charlie's face is all riz' up a-ready. Now you just search this here boy's pockets and see if he ain't got a razor about him." At this the victim broke into tears. But notwithstanding that Bobbie looked most innocent, I went through the ordeal. Of course no weapon was found and an explanation soon came from one of the children, who said Bobbie had only thrown an eraser.

Wednesday: For many days Willie had "sulked" and to-day I felt things must come to a crisis. So when time came for his class to recite, I called on him to read. But Willie positively refused. "Stay in," was then my decree. At length recess came and Willie was determined to march out with the rest.

Noting his intentions I brought the young gentleman up on a front seat, but just at the moment my attention was called elsewhere and before I knew it, Willie was rushing from the room, I after him. "Whoopie," shouted the boys as we passed. It was indeed exciting, especially as Willie was in the lead. But, alas! he tripped and I was upon him in a second.

Thursday: A bright, sunshiny day and the children are all smiles. As I look at them it is hard to keep from laughing as their faces are all so different and yet each so pleasant in its own way. Every morning it always takes a little while for things to get in running order. During this time many and varied questions are asked, such as, "Miss Hesper, have you seen anything of my condelible pencil?" To-day all the wants are soon attended to and things go very smoothly with the exception that Anna will talk out. John can't read his lesson, and Bettie will knock over her dinner pail.

Friday: A day of great excitement. We are going to have a Thanksgiving program and the pupils in the big room are coming in to visit. Mabel appears with her hair crimped and in a sky-blue dress; Maude in a pale pink. About these two dresses there is a great dispute among the boys as to which is the prettier. At last after a day of endless duration, the fatal moment arrives. The first number on the program is a "Speech" by George, but George is nowhere to be found. Then I call on Jane to tell us why we have Thanksgiving day. She makes the startling assertion that the Pilgrim's "grub gave out." Lillian forgets, and Alfred breaks into tears. But as a whole our program was quite a success and we at least had the benefit of a good laugh

HESPER KIRKPATRICK, '05.

Literature History

HERBERT HARR

THE CAPTURE OF GARETA.

By Irma Ray, '06.

Gareta Waldon, a maid of seventeen, lived with her grandparents in an old colonial mansion, two miles from Yorktown, Virginia. The Revolution had been in progress over five years and although Mr. Stuart, her grandfather, was a stout Tory, very pronounced in his political views, Gareta sympathized deeply with the Continentals. They had never been near the thick of the fighting, and were glad to escape the hardships of war.

Gareta was sitting, cuddled up in a big chair in front of the fireplace, evidently very much interested in a letter she was reading. A few minutes before, while searching through her grandfather's desk, she had found an old letter from her father, begging that she might be sent to him. "Well, I'm glad grandfather didn't give me to him, and if all he says is true, I don't care if I never see him. But this must have been written shortly before we moved from Philadelphia. I expect that grandfather has never heard from him since." So Gareta from her infancy had been taught to dislike her father. She had been told that he was a worthless fellow, who neglected her mother and had failed to provide for her. Mrs. Waldon had died at twenty-four, leaving Gareta a baby, two years old. She was described as being very beautiful but as having foolishly wasted herself on Joe Waldon.

Her mother's marriage had always seemed mysterious to Gareta, who had been curious to know, "just what mother wore, who were at the wedding, and what presents she received." Grandmother would always reply "that she wasn't there and had forgotten the details of the affair", and upon further questioning would say: "There, there, that's enough for one so young to bother with, wait until you are older, and you shall hear the whole story." So Gareta was put off from time to time until she had forgotten to make further inquiry.

It was some time after finding her father's old letter that Gareta was in the attic, rummaging through an old chest containing her mother's personal belongings; only a few times had she been permitted to inspect these mementoes of her mother's life. She was holding up a silk dress, marveling at its beauty, when suddenly, grasping a paper from a concealed pocket, she exclaimed: "Where did this come from? It's addressed to Gareta Waldron, I wonder why I never found it before?" And she read:

"Philadelphia, June 21, 17—

To my little daughter:

Some day you will read this, years after I am gone. The chest is to be given to you when you are sixteen. If you should ever carry a prejudice against your father, this is to dispel it.

When I was eighteen, because of my attachment for Joe Waldon, father wished me to marry a young man who had a very bright future. And on the evening that we were to decide matters for the wedding, I left home and married Joe. Our home was very humble and very happy. We were finally forgiven and were urged to come home to live, but Joe was too independent to consider such an arrangement. When you were eighteen months old, I was attacked with lung trouble and was taken home to receive proper nursing. Immediately, Joe was called to England to look after property left him by an uncle. He is coming home soon but I shall never see him again as my days are numbered. Possibly you will be reared with a dislike for your father, but when you read this you will understand."

"And so to keep me in their own possession, they moved out here so father couldn't find us. What an injustice I have done him all these years!" The mails were irregular and there was too much danger impending for Garetta to make any attempt to locate her father. This she determined to do as soon as she could do so with safety to herself and her plans.

There had been great excitement from the moment Cornwallis had taken up his position at Yorktown. The inhabitants were very indignant with the exception

of a few Tories who knew it meant protection for them. Early on an October morning, when General Washington was gathering his forces to make the attack upon Cornwallis, Garetta watched on the highway for the approach of the troops, whom she heard were coming that way. Suddenly she saw a detachment appear in the distance and as this was her first view of the Continentals, her face was aflame with excitement and joy.

The advance guards halted at the old house and calling to Mr. Stuart asked if he were for Liberty or the King. "Long live the King," shouted the daring farmer; the captain immediately gave orders for his arrest. They were making a prisoner of him, when the colonel and his orderlies rode up, and were attracted by the distress of the household and the evident unwillingness of the prisoner to leave his family unprotected save for a few old servants. Years had not changed the lines of rigidity and determination in the face of Mr. Stuart, a swift glance of recognition passed between the colonel and the old man, who was now at the mercy of one, of whom he could at least ask a favor. But looking at Garetta, who was the replica of her mother, he read a plea for pardon in her eyes, then moving swiftly to her side, Colonel Waldon exclaimed, "Father, your life and your property are safe and my daughter is my own at last."

ROBERT'S PREDICAMENT.

By *Woodson S. Thornton, '08.*

Robert Gruel was a freshman at Yale of the class of '98. He was madly in love with a Miss Alice Campbell, a beautiful flower of maidenhood who returned his affections quite readily. Although not the only one affected by

Miss Campbell in this manner he was easily the winner of her affections. She was "liked and loved" by everyone who met her.

Robert had become so infatuated with Miss Campbell that he had been of late

neglecting his studies, a fact that was noticed by all his teachers, especially his Latin professor, who had informed him that he would have to take a special examination to go on with his class. Now it happened that the O. O. A. was to give a dance on the evening set for Robert's examination, and by no means could he persuade his professor to postpone the examination until the morrow. He had been prompt with his invitation to offer himself as an escort for Miss Campbell, having asked and received her permission some six or seven weeks beforehand.

When Robert found how firm his Latin professor was in his resolve to give him his examination on the night of the dance he became angry and declared that he would go to the dance and take the consequences. When Robert told this to Ralph Cobb and Vee-nan Holmes, who both had suffered their hearts to become broken over the loss of Miss Campbell's affections through Robert, they immediately put their heads together and formed a plan for their revenge upon Robert. They were to kidnap and convey him to his Latin professor's room in full-dress, ready for the dance, and there leave him to be found and given his examination by the professor.

The evening came for the dance, and at dusk Ralph and Vee-nan were leaving their rooms for the purpose of carrying out their plan. Robert, in ignorance of the plot that was being carried out against him, was doing all in his power to make himself look well for the dance. He was in the act of turning off the light when he was commanded to "throw up yer paws in a hurry". At this sudden interruption he turned and beheld a sight that would have made an ordinary young man's hair assume a perpendicular position. He

was confronted by two villainous looking characters; one held a large ugly revolver while the other had a coil of rope. Robert did not want to get his clothes soiled but he was not a coward, and without a word he made a dash at the foremost villain, but he tripped upon a shirt that had by chance found its way to the floor, and fell at the feet of his captors who bound, gagged him and lifted him upon their shoulders. They carried him to the professor's room.

The professor's bed was of an old-fashioned style, having side curtains that hung to the floor, and here they deposited him, drawing the curtains together. Robert lay in this position about half an hour when the Professor came in. Robert saw him come in through an opening between the two curtains, take his seat at his desk and commence writing. He soon finished and then sat in silence seemingly for some one he was expecting. As no one came he began preparing for the night. A surprise was in store for Robert that he never dreamed of. The professor was very strict with boys that smoked and every one that was caught smoking by him was given all that was due him. Aside from all this, "smoke" is what Robert saw the Professor do. After pulling down the shades, locking the door and putting a towel over the transome, he placed a chair under the opening in the wall that was intended for the stovepipe. He got upon the chair and removing the piece of tin forming the cap over this opening, took out a tin box. He also removed a folding pipe which he fitted to the opening, and when ready for use could be lowered to a position directly in front of the mouth when in a sitting posture. Out of the box he took a pipe and tobacco. Then, after lighting the pipe, he took particular pains to let the smoke es-

cape up the pipe provided for the purpose. In this manner he smoked some two or three pipes of tobacco, after which he returned to their place the folding pipe and smoking materials. He then prepared to go to bed.

The Professor saw Robert lying upon the bed and demanded an explanation, but seeing that he was bound and gagged, he talked in another tone. Receiving all the information that he wanted he asked Robert if he saw him before he parted the curtains, to which Robert replied that he had. At the request of the Professor, Robert was to

keep still and say nothing of what he saw if he was permitted to go to the dance, if it was not too late, and take his examination on the morrow. To this Robert readily replied and was soon on his way to the dance. He was a few dances late but he danced some forty or more out of the forty-eight. Miss Campbell readily forgave him for being late, never once suspecting the real cause, until he told her all about it, a few months later. But Ralph and Veenan will to their dying days, be puzzled as to how Robert ever obtained leave of the Professor to go to the dance.

THE LAST CLASS

(French Translation) By Aileen Leavitt.

On that particular morning I was very late to school and I was afraid of being scolded, the more so because Mr. Hamel had said that he was going to question us on participles, and I did not know the first word. Once I thought of playing truant, and taking my way across the fields.

The weather was so warm, so clear!

One could hear the blackbirds singing at the edge of the woods, and in the Rippert meadow, behind the saw-mill, the Prussians were drilling. All that attracted me much more than the rule for participles; but I had the strength to resist, and I ran quickly towards the school.

In passing the mayor's office, I saw that several people had stopped near the little bulletin-board. For the last two years it was from there that we had received all the bad news, the lost battles, the taxes, the orders from headquarters; and I thought without stopping:

"What calamity is on us now?"

Then, as I ran past the place, Wachter, the blacksmith, who was there with

his apprentice, busily reading the bulletin, cried out to me!

"Do not hurry so, little one; you will always get to your school soon enough now!"

I thought that he was laughing at me, and I, quite breathless entered Mr. Hamel's little yard.

Ordinarily, at the beginning of the class, there was a great deal of noise, that one could hear even in the street, the desks opening and closing, the lessons that they recited together in a very loud voice, stopping up their ears in order to learn better, and the master's large ruler, that tapped on the table!

"A little silence!"

I counted on all this noise to enable me to gain my bench without being seen. But on that particular day all was quiet as a Sunday morning. Through the open windows I saw my comrades already seated in their places, and Mr. Hamel, who passed and re-passed with the terrible iron ruler under his arm. It was necessary to open the door and enter in the midst of this

great silence. You may imagine how red I was, and how afraid!

But my fears were groundless. Mr. Hamel regarded me without anger, and said very softly:

"Go quickly to your place, my little Frank; we were just about to commence without you."

I straddled my bench and seated myself immediately at my desk. Then, being somewhat relieved from fright, I noticed that our teacher had on his beautiful green coat, his fine, plaited frills, and his embroidered black silk skull-cap, that he wore only on inspection days, and when the prizes were distributed. Moreover there was something extraordinary and solemn about the entire class. But what surprised me the most was to see at the back of the room, on the benches that usually remained vacant, the village people seated as silent as we. Old Hauser with his three-cornered hat; the old mayor; the letter-carrier and several others. Everyone seemed sad; and Hauser had brought an old spelling book, gnawed at the edges, which he held wide open on his knees, with his large spectacles laid across the pages.

While I was recovering from my astonishment, Mr. Hamel mounted his chair, and, in the same soft and grave voice with which he had received me, he said to us:

"My children, this is the last time that I shall instruct the class. The order has come from Berlin to teach only German in the schools of Alsace and Lorraine. The new teacher arrives tomorrow. To-day is your last French lesson. Please be very attentive."

These few words agitated me. Ah! the wretches, that is what they had posted at the mayor's office.

It was in honor of that last class that he had put on his Sunday clothes, and

now I understood why the old people of the village had seated themselves at the end of the room. It seemed as if they regretted not having been seen at the school oftener. It was also a way of thanking our teacher for the forty years of good service, and of doing their duty towards their fatherland that was just ceasing to be.

I had reached this point in my reflections, when I heard my name called. It was my turn to recite. What would I not have given to have been able to recite at length, very loud, very clear, and without a fault, that famous rule for participles; but I became confused at the first words, and, with swelling heart, I remained standing, balancing myself against my bench, not daring to lift my head. I heard Mr. Hamel say to me:

"I am not going to scold you, my little Frank, for you must already be sufficiently punished. That is the way it always is. Every day, one says to oneself: 'Bah! I have plenty of time. I shall learn tomorrow.' And then you see what happens. Ah! it has been the great misfortune of our Alsace to always put off instructions until tomorrow. Now these people have a right to say to us: 'What! you pretend to be French, and yet you do not know how to write or speak your language!' For all that my poor Frank you are not the one to be blamed the most. We all have a part of the reproaches to bear.

Your parents have not insisted upon your being educated. They preferred that you work in the fields, or at the spinning mills, in order to have a few cents more. Have I nothing to reproach myself with? Didn't I often make you sprinkle my garden instead of letting you get your lessons? And when I wished to go trout fishing, have I hesitated about giving you a holiday?"

Then, among other things, Mr. Hamel spoke of the French language, saying that it was the most beautiful, the clearest, and the solidest language in the world, and that we must preserve it among ourselves, and never forget it, for when a people fall into slavery, as long as they keep their language it is as if they held the key to their prison. Then he took up a grammar, and we read our lesson. I was astonished to see how well I understood. All that he said seemed easy to me. I also believe that I had never listened so well, and that he had never been so patient with his explanations. One would have said that as he had to go away the poor man wished to give us all that he knew and to make us understand it in one lesson.

That lesson finished, they passed to the writing. For that day Mr. Hamel had prepared some new copies, on which were written in a beautiful round hand: France, Alsace, France, Alsace. They looked like little flags that floated all around the class, hanging to the rods of our desks. The pupils applied themselves closely and a profound silence reigned. One could hear only the scratching of the pens on the paper. Once a May-bug entered; but no one paid any attention to it, not even the very small children, who set themselves to tracing their curves with a heart and a conscience as if that too were French. On the roof of the school some pigeons were softly cooing, and I said to myself as I listened to them: "Are they also going to be forced to sing in German?"

From time to time, when I raised my eyes from my page, I saw Mr. Hamel motionless in his chair, staring at the objects around him, as if he wished to carry away in his memory a picture of the little schoolhouse. Think! for forty years he had been there in the same place, with his yard in front of him,

and his class always before him. Only the benches and the desks were polished, worn by usage; the walnut trees in the yard had grown, and the hop vine that he had planted himself, wreathed the windows to the top. What a heart-break it must have been for this poor man to leave all these things, and to hear his sister going and coming in the room above, in the act of packing their trunks, for they must leave the next day, and go away from the country forever.

Nevertheless, he had the courage to lead the class to the end. After the writing we had the history lesson; then the little ones recited the alphabet. Yonder, in the back of the room, old Hauser had put on his spectacles, and holding his spelling book in both hands, he spelled the letters with them. One could see that he also applied himself; his voice trembled with emotion, and it sounded so droll, that we wanted to laugh and cry, too. Ah! I shall always remember that last class.

All at once the church clock sounded the noon hour, then the Angelus bell rang out. At the same time, the trumpets of the Prussians, who were returning from their military drill, burst forth under our windows. Mr. Hamel, very pale, arose in his chair. He had never seemed so tall to me.

"My friends," he said, "my friends, I—I—"

But something choked him. He was not able to finish his sentence. Then he turned towards the blackboard, took a piece of crayon and, bearing on it with all his strength, he wrote as large as he could:

"Long live France!"

Then he remained there, his head resting against the wall, and, without speaking, with his hands he motioned to us:

"It is finished—go."

GERTRUDE

By *Tressa Herzog*

It was on a rainy afternoon some years ago and I was staying at the home of a country friend. It was a beautiful home that had been built years and years ago, when the states were still colonies. The surrounding country afforded many beautiful views and we all regretted that the rain should keep us within doors. But we managed to spend a pleasant afternoon in the picture gallery.

The place had, of course, been repaired, but it was left as nearly as possible as it was at first. The picture room or gallery was the best preserved of any room in the house. I had been there many times before and had grown familiar with nearly all of the pictures and tired of many of them. There was one, however, which I never grew tired of and today I stood gazing at it so long, that Mary, the daughter of our host, claimed that she would be quite jealous of her entertaining powers, if I did not listen to some plans they were making for the next day. I listened for a few moments and turned back to the picture. It was that of a beautiful young girl dressed in colonial fashion. She wore no ornaments; nothing but a pure white rose in her beautiful black hair, which fell in soft little curls on her high white forehead. Her eyes were dark gray and when you looked at them they smiled back at you. Yes, they smiled, but back of that smile there was such a sad sweet look which the old housekeeper said belongs to those who died young. It was a smiling beautiful face, and yet one could tell that this girl must have been both strong and constant.

"Shall I tell you about her," asked Mrs. Bird, our hostess, who had come up so softly that I had not heard her.

"Why can you, will you," I asked eagerly.

"Certainly, every one in our family know about her," and then she began.

"Her name was Gertrude. She was born here and lived here all of her short life. She was only seventeen when that picture was painted, and she died soon after. Her father, John Bird, they have always been Johns you know, was an Englishman who came to the Colonies before the war. But when the war did break out, he went over to the rebel side. The English hated him for it and would have given much for his capture. Then, too, if they captured him, the house and grounds would be theirs. The captain of the English regiment which was located in these parts had distributed all his spare men within two miles of the house in every direction but one and he had no extra men to put there. It was along the bank of the small treacherous river, or rather stream, which runs through the estate for nearly three miles and along this he put no watch; but one night he had the only road bridge and the small foot bridge torn down and so thought that everything was safe.

"But the next evening Gertrude found out that the place was guarded and would soon be attacked and so warned her father. Mr. Bird gave the servants such directions as he thought were needed, and told them that he would be back with help before the Redcoats would think of his being gone, for it was only twenty miles to the place



where the nearest rebel regiment was located. When night came he went to the stables and led out Blackie, Gertrude's horse, the gentlest and surest one they possessed, and started across the fields to the stream. Gertrude was with him, for go as far as the stream she would. When they reached it they found that the bridge was gone and there was no way to cross but to wade right through. It is not very deep, you know, but so very treacherous, and the late rains had made it even wider than before. And what was worse Blackie would not go on with Mr. Bird on his back or even when he tried to lead him. Gertrude alone could manage him and then she must lead him through that stream. It was quite dark but they did not dare to carry a lantern for fear of being seen. They started. At first Blackie stamped and snorted and refused to move, but at the sound of Gertrude's coaxing voice, he went. It was hard work. Mr. Bird threw his arm about his daughter and helped as much as he could, but the stream was swift and it took a long time to cross it. At last after much stumbling and falling they reached the bank thoroughly drenched.

Mr. Bird put his foot in the stirrup and then suddenly turned to his daughter, "I must take you back first child." "No, no, father," she answered, "it is already very late and the British may come at any moment. I will go up to the foot bridge and cross all right." Mr. Bird, with many misgivings, mounted

and rode away. Gertrude went to where the foot bridge had been. When she reached there it was gone, too, and nothing could be done but wade across again. It was worse there than at any other part, but it was nearer the house, and she knew that they would be waiting for her so she started. It was much harder, the stream was swifter and many rocks stopped her progress. She was wet through and through and shivering with the cold, but still she kept on. She had nearly reached the bank, when she must have stumbled over a rock and in falling struck her head against the sharp edge of another. When her father, who had returned with help, and the servant searched for her they found her lying face downward in the water with a deep red mark on her brow."

She stopped speaking, and I covered my face with my hands to shut out the sight of that pure, sweet, smiling face lying dead with a deep red scar on her brow. Mrs. Bird left the room as the others had done some time before to prepare for dinner and bade me follow. I sat still for some moments and also arose to leave. When I reached the door I turned and looked back. It had ceased raining and the sun had come out again, was just setting and threw a red glow into the room, falling brightest on the picture of Gertrude, who looked at me with those smiling lips and laughing eyes in such a way that it seemed impossible, in spite of the old housekeeper's words, to think that such as she could ever die.



BILLY

By Ruth E. Hunt

No one except William himself realized to what an age William Arlington was getting. Four years old and growing more aged every day! He reflected that if he kept getting older and older, after a while he would be as old as "Muthuslum" or some such person he had heard of at Sunday school; however, this idea was somewhat vague, for William's knowledge of Biblical history was not extensive, so he turned to more familiar possibilities. Maybe he would live as long as old grey Doc, the horse who was thirty-two when he died. But the name of "Muthuslum" had taken his fancy; he tried to remember a clue to some course that the gentleman might have taken in physical culture (which he heard his uncle continually talking about) that would bring about longevity, or the name of some breakfast food other than "Foree" or "Cream of Wheat." For William, alias Billy, indirectly reasoned that the same cause would produce the same effect; and, for the first time in his life, he regretted his misspent hours in Sunday school. He did so want to be old.

Failing to find any of Methuselah's actions in his memory, he turned hopefully to the case of old Doc. Here, again he was almost foiled until a happy thought struck him; the horse used to balk. This he philosophically reasoned saved strength and might be reasonably supposed to prolong life; besides, balking was easier than eating hay and oats, as he had almost resolved to do, so he determined to put the idea into practice at his first chance. The opportunity came almost immediately. "Billy," called his mother, "Ok, Billy, I want you to go to the bakery, dear."

Some ten minutes later, Effie, Billy's older sister, started in some wrath to find her brother. "He's playing with Barton White, I'm sure, and has forgot all about the bread you told him to get," she remarked in a disgusted tone. But she was mistaken; half-way down the block stood Billy, shifting uncomfortably from one foot to the other, his little face red and perspiring from the heat of the noon sun. "Why, Billy Arlington, whatever possesses you to stand there in the sun? You look ready to drop; come right along now."

The infant Methuselah made no objection and bore Effie's scolding more patiently than he might otherwise have taken it; for he distinctly remembered what awful things his father used to say when Doc balked—he thought his sister was coming perilously near to using similar language. All the rest of the day he remembered to balk, stopping suddenly on a trip upstairs or pausing before turning a somersault; he was quite overjoyed at the ease with which he could balk, and gave a mysterious little smile which quite often puzzled his too-attentive relatives.

But after supper when he went with the boys to ride up and down the steep hill, he almost forgot his duty. He remembered, however, just as he finished a trip down the hill, so he jumped off his little red wagon and stood stock still on the pavement. "Look out, there! Get out of the way!" came a shout from behind him; but it was too late. Billy's little red head struck the curbing. When he opened his eyes, he was in his own bed, the light turned low, and his mother was bending over him.

"Mother's own poor baby, poor little

Billy," she murmured and Billy noticed how red her eyes were. It was with difficulty that he guided his hand to his forehead, which felt as if it were bumping gayly against the ceiling and walls;

there was something tied around it. Then he understood.

"I don't want to be old Doc or Mu-Mu-Muthuslem," he muttered and went to sleep.

A TRIP TO THE ORIENT

By Charles T. Jobs, '06

In San Francisco on July 7, I joined Secretary Taft's party, which was to make the trip to the Orient, and the next day we sailed for Honolulu on the Pacific Mail Company's big liner, "Manchuria."

The party consisted of the Secretary of War, Mr. Taft; Miss Roosevelt, seven United States Senators, thirty representatives, army officers and others—eighty-six in all. After six days of delightful travel we reached Honolulu. We were greeted by an Hawaiian orchestra and singers, who came aboard about 7 o'clock, and an hour later we landed and passed between two lines of soldiers.

We took the awaiting carriages and were driven through the beautiful city of Honolulu, where mansions and cottages alike were surrounded by great palms, beautiful ferns and heavy tropical foliage. We rode six miles up the valley to a point overlooking the ocean on one side, and on the other Honolulu, apparently beneath us, washed by the ocean, which extended far out of sight.

When we were returning to the city, we witnessed what the natives call "liquid sunshine;" the sun was shining brightly, and, although there was not a cloud in the sky, there was a heavy downpour of rain. This is one of the peculiar features of the Hawaiian climate.

In the afternoon we were taken by a special train to the harbor where the

proposed naval station is to be located; and after leaving there, we visited an Hawaiian sugar plantation—the chief industry of the Islands.

We returned to the city and went aboard at five-thirty; the "Manchuria" was to sail at six o'clock. Miss Roosevelt and a few others were not on time and we left Honolulu without them. However they boarded a small transport, which overtook us and came alongside a few miles out at sea.

Twelve days later we entered Tokyo Bay and landed in Yokohama, Japan. Near the dock a train was waiting which took us to Tokyo. We remained in the Japanese capital a week; we left Tokyo on two trains for Kyoto, the manufacturing city of the Empire. At every stop, all along the railroad, school children formed a line on the platform, each child had an American flag in one hand and a Japanese flag in the other.

After two days in Kyoto we left for Kobe, a city at the head of the Inland Sea of Japan, where we again went aboard the "Manchuria." This trip to Kobe was merely a continuation of the trip to Kyoto, for at each station we were greeted in the same manner.

The Inland Sea of Japan is reputed to be the most beautiful body of water on the globe; in many places the land is so near on all sides that it appears as a lake, and a person wonders how an ocean liner could get out, but several

sharp turns brought us out into an apparently open sea which narrows and finally forms what appears to be another lake, and so on down to Nagasaki, at the foot of the Inland Sea.

At Nagasaki the vessel coaled. Coal barges were brought to the sides of the vessel and fourteen hundred Japanese, women many of whom carried babies on their backs, labored from early morning until after midnight, without stopping, passing coal for three and one-half cents. These wages keep an ordinary family of the peasant class very comfortably. Two thousand tons of coal were taken aboard and the next evening we left Japan for Manila, where we spent a week, and then went aboard the army transport "Logan."

One month was devoted to visiting the important cities and some of the provinces in the Islands. We had an excellent opportunity to study the habits and customs of the natives.

At Jolo, in the Sultan of Sulu's "domain" we were entertained by native dancers and sword fighters. The Sultan himself was present, in the afternoon he wore American clothes, but in the evening he was attired in his elegant native costume. The city of Jolo is the smallest walled city in the world.

We returned to Manila and after spending a week we again boarded the "Logan" for Hong Kong. This is a British port, and, although ninety-five per cent of the inhabitants are Chinese, it cannot be called a Chinese city on account of the modern buildings and improvements. Here the party divided, Miss Roosevelt with fifteen or twenty others remained on the "Logan" and were taken to Peking; the majority of the party went aboard the "Korea," which sailed three days later.

While we were waiting for the "Korea" to sail, a few of us took pas-

sage on a Chinese river boat and went up the river to Canton—"the London of the Orient." This is the most interesting city in the far East. One should never say that he has been to the Orient without adding he has visited Canton.

We took our meals with us from the steamer, engaged a guide who obtained for us chairs carried on the shoulders of Coolies. We visited the interesting places of the city, passing through the narrow, dirty little streets; one could stand in the middle of one of them and touch the buildings and shops on both sides. As we passed along the streets, our Coolies would shout to groups of people and these people would move into the shop doors in order for us to have sufficient room to pass. We ate our lunch on the top floor of a Chinese "pagoda" or temple seven stories high, which was located near the wall surrounding the city. This pagoda was on a high hill overlooking the city of Canton on the inside of the wall, while on the outside of the wall was seen the "city of the dead."

The city is excellently fortified by nature, but the fortifications erected by man are as far behind the modern method as nearly all things in the Celestial Empire are.

We returned to Hong Kong, and after visiting Amoy and Shanghai, we sailed for Japan. We again passed through the "land of the Rising Sun;" went aboard the "Korea" at Yokohama and returned to San Francisco by the Northern route, not touching at Honolulu on our return, and having established the record time for a voyage across the Pacific, of ten days and two hours.

The party came east on a special train, but I spent a pleasant week in California visiting the Leland Stanford, Jr., University before I returned to Kansas City.

THE RABBIT AND THE TAR BABY

By Eldridge W. Bartley

With apologies to Joel Chandler Harris

De Fox and de Rabbit, dey couldn't get
along,

Dey alluz was a fightin' as shoze you is
bawn;

Brer Fox he didn't love Brer Rabbit,

Nudder did he love Brer B'ar,

So in order to git eben, he got a lump
ob tar.

From dis, he made a tar baby and sot
it in de road;

Den he ups and hides in de bushes
Alongside ole Brer Toad.

He didn't have ter wait ver' long,

For a comin' down the road

He spied his foe, Brer Rabbit,

A totin' a big load.

When Brer Rabbit seed the Tar Baby

A squattin' in the pike,

He fotehed up on his hin' legs

En looked 'stonished like.

Brer Rabbit ups and hails 'im,

"Mawnin, nice wedder," sezee.

But de Baby don't say nothin'

En Brer Fox he laugh, "he, he,"

Brer Rabbit ups and speaks again,

But Brer Fox he winks his eye,

Kaze he knowed de Baby couldn't talk

Even ef he was ter try.

"You's stuck up," says Brer Rabbit,

"I'll hit you in de eye,

En make you say "Good mawnin'"

Er know de reason why;

En ef you don't take off dat hat

En tell me "howdy" in dis way,

I's gwinter pound you up and down

Until de close ob day."

Brer Rabbit up and takes his fist

En bats de Baby's head;

En when Brer Rabbit kain't git loose

He madder gits, en said:

"Ef you don't turn me loose right now

I'll bat your head again;"

Den he struck out wid de udder fist

En dat one stuck de same.

At dis Brer Rabbit madder got,

En shouted: "Turn me loose!"

Right dis minute, too," sezee,

Er I'll knock your teeth all loose."

He kick out wid his right hin' foot,

He kick out wid de udder,

En dar on de Baby's ribs dey stuck,

De last one like de udder.

Brer Rabbit butt him wid his head,

En right dar his head it stuck,

And if you'll only stop to think,

You'll see how Brer Rabbit's luck

Had completely deserted him that day,

And left him in a sorry plight;

And his chances for getting loose right

quick,

Were suhtinly not very bright.

Brer Fox he laft en laft

'Twell he couldn't laff no mo':

For in all his life he'd never seen

Brer Rabbit in a trap befo'.

En with one mo' laff he lit out

For his home in a neighborin' wood,

En left poor stuck up Brer Rabbit

To get loose the best he could.



SCIENCE

PRICKLY PEAR, AN ECONOMIC PLANT

The economic value of prickly pears has long been known, for they were in cultivation by the natives of America at the time of its discovery, but not until recently, it seems, has their full value been realized. The plants have several uses; they constitute the food of the cochineal insect; the joints of the plant, when split lengthwise, make excellent poultices for bruises of all kinds and are much used by Mexicans and frontiersmen; and the fruit is eaten by people in some countries. In some places in Mexico, it is placed on the market, the natives arranging the pears in piles and on the ground, under a canvas or other rude shelter and squatting about them, waiting for a sale. In Sicily, the pears constitute the chief food of the natives from July to November. They are sometimes prepared for eating by boiling them in salt water and then cutting them up into a hash and mixing with eggs or chile. Prepared in such a way, it is said to make quite a savory dish.

But its most common use in the United States is as a food for stock. Its value for this purpose is great, it either being eaten by stock from its place of

growth or cut and fed by the ranchmen. The only part of the United States where it is eaten by stock to any extent is Southern Texas, and during certain portions of the year, the stock industry in this region is almost entirely dependent upon prickly pear. At times, during a drought, these plants furnish almost the only water to be had and undoubtedly they have saved many cattle from death by thirst. Sheep can go for an indefinite period without water, if fed upon prickly pear. Besides, the large amount of water, the plants contain about fourteen per cent sugar and nearly two per cent fat.

At times cattle eat from the living plants, but in such cases, the spines are very troublesome and may cause serious injury. Even considering the pain occasioned by the spines, cattle have been seen to eat the prickly pear when there was an abundance of good grass at hand. However, the plants are usually prepared before feeding, this being done in several manners. A man may go about the plants and singe the spines off with a plumber's torch, the cattle following him and eating from the singed

plants, or the spines may be steamed off, or the plants chopped up by hand. Probably the best method, however, is the chopping of the plants by machinery made for the purpose. The plants are first cut by hand and are then hauled to the cutter, where they are dumped into a chute carrying them down to some revolving knives which chop the plants so fine that the spines do not do much

damage and are but little noticed by cattle. When chopped in this manner, they must be fed within a day, as they ferment very quickly, and they are nearly always fed in connection with some other more concentrated food—generally cotton-seed meal.

It is stated that the destruction of the prickly pear in parts of Texas would be a serious injury to the stock industry.

THE BRACE BIT GAUGE

By Fred W. Hammil, '08

Any one who has ever tried to bore a hole to a certain depth knows what a bother it is to withdraw the bit every now and then in order to measure the hole. These people will appreciate a recent invention by a New Yorker. This contrivance is so simple that it is a wonder it has not been thought of before. Now that it has been invented every one will be saved the bother of measuring the hole. It is so inexpensive in construction that nobody will be forced to do without it because of the cost.

This invention is called the "Brace-Bit Gauge." It consists of a clamp and a small bar to be fastened to the clamp. The clamp, which is composed of two hinged pieces of iron, fastens onto the shank of the bit. When it has been put in place, the two members are locked together by means of a pin and catch. The two sections now being unable to come apart and thus fall from the bit, are firmly fastened to the shank of the bit by a thumbscrew. The clamp must be set on the shank, so that the zero

mark on the bar comes even with the top of the clamp and the foot of the bar comes even with the end of the bit, that is, even with the end of the bit proper, where the small point is attached. This must be done carefully, because, as one can easily see, the bar and clamp must be properly and accurately placed in order to measure accurately the depth of the hole.

The bar is a graduated scale, having the inches marked on it in various fractions and the metric system as well. The bars can be made to fit any size bit in length.

Suppose one wants to bore a hole an inch and three-quarters deep. He loosens the thumbscrew that binds the bar to the clamp, pushes the bar up till the inch and three-quarters mark just shows above the clamp, tightens the thumbscrew, and the brace and bit is ready. When the hole has been bored deep enough the foot of the bar will strike the wood in which the hole is being bored.

SCIENCE BREVITIES

STREETS OF GLASS.

In France there is a concern manufacturing paving bricks from glass. Several French cities have pieces of pavement laid with these glass bricks, and

the manufacturers are confident of the ultimate success of the industry. Where uniformity of texture and color is not required in this artificial stone, as in paving bricks, old glass, such as broken

bottles and window panes, is the material used in its manufacture. Ornamental forms and tiles for bath-rooms, operating rooms, etc., are molded from glass made of sand, carbonate of lime, sulphate of soda and potash. The cost of production averages 96.5 cents per 10.76 square feet.

This stone resists the action of chemical products, is impermeable to moisture and is so hard that it cannot be easily cut or drilled—the last characteristic being a drawback.

The paving bricks are 7.87 in. long, 3.74 in. wide and 1.78 in. thick. They are laid with mortar in a concrete foundation with a wooden template between them. These pavements, while not giving bad results, have not worn as well as those made of natural stone.

In tests the glass product, which is called "Garchey Stone," stood a pressure of 28,744 lbs. per square inch, while granite stood a pressure of only 9,245 lbs. After being subjected to a temperature of 20 degrees below zero C., it resisted a crushing pressure of 28,845 lbs. per square inch. Held against an emery wheel at a constant pressure of $3\frac{1}{2}$ lbs. per square inch, the wheel

revolving at the rate of 1,777 ft. per minute, Garchey stone ranked No. 15 among 27 other materials.

WIRE ROPE MADE BY THE ROMANS 1,800 YEARS AGO.

Nearly 2,000 years ago the Romans knew how to manufacture wire rope which closely resembled the wire rope in use at the present day. This astonishing fact was brought to light by the recent discovery of a coil of wire rope in the ruins of Pompeii. The rope is about fifteen feet long and one inch in circumference. It is made of bronze wire and consists of three strands of spirally connected wire, each strand being made of fifteen wires twisted together. A most interesting fact is that the rope is stranded in accordance with long lay, which is in general use to-day.

It is believed that the rope was used as a crane rope, for pieces of cranes were found also. These cranes, it is believed, were worked by slaves who were placed inside a large drum, which was turned in a tread-mill fashion and thus worked the small drum around which the rope was found. The coil of rope is now in the Musio Barbonico at Naples.

IT HAPPENED IN THE "SHACK"

By Royal Fillmore, '08.

I had always been inclined to "fool" with chemistry. Even as a small child I had melted different greases together, and when I poured water on them they flew up and "soaked" me.

On my fifteenth birthday, I found myself in possession of four dollars and ninety-nine cents, including a plugged nickel and a Canadian quarter. I felt rich and wondered how I could spend this vast fortune with the least danger to myself, and decided to buy some chemical apparatus and supplies. I carried my purchases home in two mar-

ket baskets and went down to the "shack," a little house in the back yard, measuring 5x10x5, (I have to stoop to go in) and, having procured an experiment book, I prepared to investigate the wonders of chemical phenomena.

The book said, "Put a small quantity of potassium chlorate and a little sulphur in a mortar and mix." I did as directions stated, using ten gm. of the first and five gms. of the second. They mixed all right, and so violently that my pestle hit the ceiling, the pieces of the mortar hit the floor and the fire hit

my hand. I bewailed the loss of my mortar, thirty-five cents, but consoled myself that, although I had burned my hands, I had learned what happened, when these two were mixed intimately.

The next experiment in the book told me to put some manganese di-oxide and sodium chloride together and then add dilute sulphuric acid and heat gently. After going to the drug store and buying a dime's worth of sodium chloride, imagine my chagrin when I discovered that sodium chloride was common salt and that the druggist had given me one cent's worth of it and charged me nine cents for the name. I mixed the manganese di-oxide and the salt and then began to prepare my dilute sulphuric acid. I gently placed one ounce of concentrated sulphuric acid in a beaker and added four ounces of water, but the nasty thing jumped right out of the beaker and spit in my face, breaking the beaker as it did so. I was scared for I thought I was getting more than my money's worth, because the experiment did not provide for this phenomenon.

I thought of the old quotation: "Just look in the book and see" and doing so discovered that I must put the sulphuric acid in the water and let the mixture cool. I had learned another thing.

While waiting for this to cool, I decided to see what sodium would do if I put a little water on it. I placed a little piece about the size of a peanut on some wet filter paper and it burned up the whole pack. I was sorry that I had lost my filter paper but again consoled myself that my eranium now contained some new information concerning the deep mysteries of that ancient science, chemistry.

The book said, "Put a crystal or two of potassium chlorate in a test tube and add concentrated sulphuric acid." I carefully placed three nice large crystals

in a six-inch test tube and poured in plenty of sulphuric acid. When I recovered I held a broken test-tube in my hand and the sulphuric acid smiled down at me from the ceiling. The room was so full of suffocating greenish gas that I beat a hasty retreat.

By the time I had gotten these irritating fumes out, my dilute sulphuric acid was cool. I placed the manganese di-oxide and salt in a one ounce flask and poured on the sulphuric acid and, after preparing to collect the chlorine, I heated it. The mixture frothed and boiled until it blew out the cork and filled the room with chlorine. I grabbed the flask and carried it out of the door and then sat down to think while the chlorine sneaked out of the window like a large green snake gliding after its victim.

After giving this disagreeable gas time to escape I went back and finding nothing broken, decided to try some more experiments. The book said: "Put some granular zinc in a flask and pour on dilute sulphuric acid. Wash this gas through sulphuric acid. Let generate for some time and light." I put some granular zinc in a flask and did as directions stated, using a thirty-two ounce flask filled with dilute sulphuric acid, thinking this was as good as the concentrated for washing, because it contained water, and that was what I washed in. I connected up my apparatus and then added some acid to the zinc and waited for the gas to generate. When it began to bubble furiously I touched a match to the end of the wash bottle.—All I remember is, hearing a deafening roar, seeing a flash and feeling myself drenched with acid. I quickly ran to the house and ate some "baking soda", for I had kept my mouth open, as usual, and being the largest part of me in sight, it had received a good share of the dilute acid.

I did not think of my clothes in the effort to get the acid off from my skin and so the next day when I went to put on my shirt and trousers they fell to pieces as if by magic.

The day's experimenting had cost me

about three dollars in apparatus, a good shirt, a pair of trousers, and a ton of regrets, but what of that, "experience, though the dearest teacher, is the best."

Dear beginner, do not be rash, maybe you will not escape as cheaply as I did.

HAS ALASKA PAID FOR ITSELF?

In 1867 the United States bought Alaska for \$7,200,000. Last year \$9,000,000 worth of gold was shipped from Alaska to the United States, and in one season over \$7,000,000 worth of salmon have been taken from Alaskan waters. The fisheries of Alaska are among the richest in the world, the sea near the coast and the rivers swarming with fish. Over one-half of the entire salmon output of the United States comes from Alaska, nearly 1,000,000 cases being put up in one year. There are sixty salmon canneries in Alaska and about 15,000 people are employed in the fisheries. In one year, \$30,000 worth of sea otter skins have been taken from the Alaskan coast and the cod banks are expected to rival those of Newfoundland.

As to its mineral wealth other than gold,—silver, copper, tin and petroleum have been found. Considerable deposits of tin have been discovered and they give promise of becoming of some importance, while 10,000 tons of coal have already been taken out, much of it being of a very high quality.

Oats, rye and barley are now grown in Alaska and the government experiment stations have grown as good vegetables as can be grown in the United States.

Alaska is *not* a land of snow and ice. For four months of the year one may travel the entire length of the Yukon in Alaska and see no snow. And as to whether it has paid for itself or not, the country itself has shown.

MEASURING THE SUN

By Martha Betz, '06

When we consider the size of the sun, and its distance from the earth, it hardly seems possible that it can really be measured and weighed. The distance of the earth from the sun is generally taken as a unit in celestial measurements, and this unit has been found to be 93,000,000 miles. In such great distances, it is, of course, impossible to get measurements absolutely correct, yet they have been obtained with astonishing accuracy. A rather difficult process is necessary to show that 93 million miles is our distance from the sun. At a time when Venus, the planet closest the earth, passes exactly between the

sun and the earth, its projection upon the sun is viewed from two places, widely separate on the earth's surface, thereby finding the angle of the sun's parallax—8".8. By means of this and the earth's radius, the sun's distance may be found with the help of trigonometry.

If you should take silver half-dollars, one for ever mile of distance from the earth to the sun, the money would fill three freight cars. If you should lay them in a straight line, edge to edge, this line would reach from Boston to Denver. Again, if George Washington, at the time of his birth had boarded a train, running at a rate of sixty miles

an hour and had travelled continually, his train would reach the sun in 1907.

It is much easier to get the sun's diameter. Any one can do it without **any** apparatus whatever. In a room where the sun shines in at a south window at noon, darken all the windows so that no light can enter. Make a pin-hole in the window-shade. Then, at some convenient place in the room, set a sheet of white paper so that the ray of light will fall perpendicularly upon it. It is important that the measurement be taken at noon, as that is the only time when the image on the paper will be a circle. By measuring the diameter of the image on the paper and its distance from the pinhole, knowing the distance from the earth to the sun to be 93 million miles, it is easy to compute the diameter of the sun. For instance if the diameter of the image is 1.175 inches, and its distance from the hole 125.4 inches, the resulting proportion would be:

$$125.4 : 1.175 :: 93,000,000 : x,$$

x being the sun's diameter. This would be about 871,000 miles, or about 110 times the diameter of the earth, which is 8,000 miles.

Then, since the volumes of spheres vary as the cubes of their diameters, the sun would be about 1,331,000 times as large as the earth. It is very hard to get a definite idea of how large the sun really is; but suppose, if possible, all the planets of the solar system, most of

which are a great deal larger than the earth, molded into one ball, then the volume of that ball would be only 1-750 of the sun's size.

To weigh the sun, we must take gravity into consideration. At the earth's surface, bodies fall 16.1 feet in the first second. The sun at the distance of 93,000,000 miles attracts the earth .0099 feet in one second; in other words, the earth's path deviates .0099 feet per second from the tangent on which it tends to fly off into space. This is at a distance of 93,000,000 miles. Let us suppose, now, that the sun's mass were concentrated into a globe the size of the earth, and that the earth were only 4,000 miles from the sun's center, 23,250 times nearer than it really is. To find how far the earth would fall in the first second, we must now take into consideration the law that attraction varies inversely as the square of the distance. We would then have $.0099 \times (23,250)^2$ or 5,351,570, the distance the earth would fall the first second. Since the earth's mass causes bodies to fall 16.1 feet the first second, the sun's mass must be 332,000 times greater than the earth.

We have these measurements of the sun in figures, but no one can really comprehend them. For who can appreciate a distance of 93,000,000 miles? Who can comprehend the weight of a mass 332,000 times greater than that of our globe?

THE TRISECTION OF AN ANGLE

Second of a Series on "The Three Great Problems of Mathematics"

By Harry L. Hawkinson, '06

The bisection of an angle is one of the easiest problems in plane geometry. Any one who has any knowledge at all of geometry can perform that opera-

tion and prove his result. But the trisection of an angle presents great and unexpected difficulties. This is one of the celebrated geometrical problems of

antiquity and is almost as old as geometry itself.

The Pythagoreans readily divided a right angle into three equal parts, but the general problem, though easy in appearance, baffled the powers of the ablest geometricians of that early date. It is no wonder that the early mathematicians were forced to bow down before this problem for modern analysis proves that the trisection of any angle is an insoluble problem so long as we are limited to the use of circles and straight lines, that is, Euclidean Geometry.

This problem of trisecting an angle first received a thorough investigation at the hands of the Sophists, a school of mathematicians that existed about 400 B. C. Hippias of Elis, of this school, invented a curve, now called the quadratrix, by means of which he was enabled to trisect an angle. This curve was originally intended for the solving of the trisection problem alone, but has been applied to many other problems as well, and with equal success. In the works of Archimedes (290-215 B. C.) is preserved a method by which an angle may be trisected. The problem was also solved by a curve called the "conchoid" which was invented by Nicomedes in 180 B. C. Pappus, a Grecian mathematician who lived and taught at Alexandria about the end of the third century, has given us a simple but convincing solution of the problem. Viète, in 1591, showed its relation to the solution of cubic equations. Analytic geometry and trigonometry both give proofs which show that the equations of the trisection problem cannot be constructed by means of circles and straight lines, hence the trisection of an arbitrary angle cannot be affected by Euclidean geometry.

To show how easy it is to trisect an

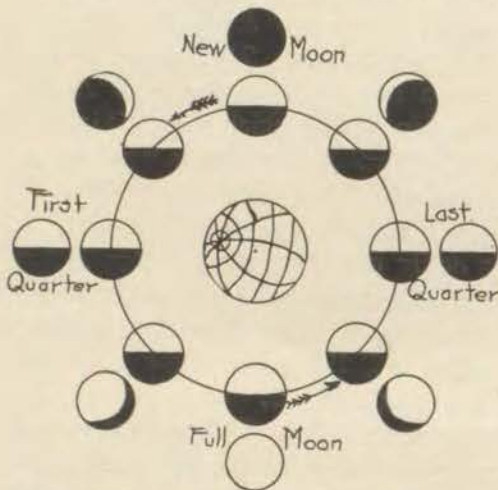
angle when we depart from Euclidean geometry, the solution of Pappus is submitted. Pappus says since we can trisect a right angle, it follows that the trisection of any angle may be affected, if we can trisect an acute angle. Let ABC be the given acute angle which it is required to trisect. Then from A , a point in BA , one leg of the angle, let a perpendicular be drawn to the other leg. Let that perpendicular be AC . Then complete the parallelogram or rather rectangle, $ACBD$. Produce DA indefinitely. Then from B draw such a line which intersects DA produced in E , and which cuts AC in Z , so that $ZE=2AB$. This is done by the curve called the "conchoid." Then bisect EZ in H and draw line AH . It is easily seen then that $EH=HA=AB$; the triangles ABH and AHE are isosceles. Therefore the exterior angle AHB =twice angle AEH =twice angle HBC , and angle ABZ =twice angle ZBC . The problem is then reduced to finding the point E , and here Euclidean geometry stops, for by means of circles and straight lines that point cannot be located, but the above method shows, however, how simple it is to trisect an angle.

In conclusion I want to call your attention to Hippias of Elis, who lived about 420 B. C. This distinguished mathematician invented a curve called the "transcendental" curve by means of which he could not only trisect an angle, but divide it into any number of equal parts. His solution of the trisection problem is nearly as simple as that of Pappus, but for lack of space I have omitted it. This curve cannot be constructed by means of circles and straight lines, and then Hippias devised an instrument by means of which he could construct the curve mechanically.

SOMETHING ABOUT THE MOON

By J. W. Rodman, '06

The moon being the most conspicuous object in the night sky, it naturally receives the greatest attention from us. Yet in spite of the curiosity it creates in our minds as what are its physical characteristics, and the causes of its regular revolutions and its "quarters", we find very few persons who can give us any information about these things, and



this situation perhaps only serves to make us wonder about them the more.

As the moon's shining is due entirely to light reflected from the sun, we can see only that part of her surface which is illuminated and at the time turned towards the earth. When we have a new moon, she is between the sun and ourselves. The first time she is visible in the course of a lunation, she is seen as a thin crescent in the west just after sunset. Often while in this position the whole of her disc may be seen, the part not illuminated being of a dark ashy color. This is due to earth-shine or the reflection of the sun's rays from the earth to the moon. A week after the new moon or the end of the first quarter, half of her illuminated hemisphere may be seen. This we call the half-moon, and is seen again one week after

the full moon. The crescent phase of the moon is seen between the first and last quarters. During the second and third quarters or between the half moon and full, more than half, or what is called the gibbons appearance, is seen. In the figure the sun is shining from a point far above the orbit of the moon. The inner figures show the way the sun rays strike the moon in its different positions. The outer figures the way it appears to us while in these positions.

There has been much discussion as to whether the moon has an atmosphere or not. Evidence seems to point to the contrary for these reasons: (1. There is no haze, all of the shadows being perfectly black. (2) There is nothing to indicate any atmospheric activity, such as clouds and storms. (3) Whenever the moon occults some star, that is, comes between the earth and some object more distant than it, there is no refraction, diminution or change of color of the light of the object before it is entirely obscured, as there would be if there were a lunar atmosphere. The theory generally accepted as to what has become of the moon's atmosphere is, that it has been absorbed by inner lunar rocks while these were cooling.

The surface of the moon offers some features similar to those upon the earth. It has mountains of the same contour, together with the plateaus, valleys and deep depressions

The seemingly quietness, the silent splendor of the moon, seem to have a bewitching effect upon the senses. Her strange beauty, together with the regularity of her changing forms has always commanded the admiration of man in all the states of his society, and has called forth some of the best of poetic description.



'Tis past—the echoes of the gridiron
 are mute,
 E'en to the student's voice or tin horn's
 toot;
 To toils of sport, the charms of nature
 yield,
 And silence now triumphant rides the
 dear old field.

At last spring is virtually here and with it visions of basket ball, baseball and track team heroes loom up before the athletic boy. These visions or ideals, as they are sometimes called, are very dear to the Manual boy's heart; so much are they in evidence that the charms of nature lack interest when compared with them.

Now that the football season has closed, perhaps forevermore, we look forward for better success in basket ball, baseball and the field events of the spring. And as it is universally known that the Crimson eleven has closed its season with such creditable success, it remains for the boys who will take part in the athletic contests of the spring to retain the prestige won by the football team and also to further the glory of our school by carrying the crimson colors to victory.

It has been often said that, "It is easier to tear down than to build up." This proverb may be applied to the athletic standing of our school. Nevertheless, our opponents who try to trample

our athletic record will have the hardest proposition that they ever had. Manual thus far has a record to be proud of, and for the first time since 1901 she has shown that long sought for spirit of do or die. At all the football games that were played this season, this spirit was shown, not only by the Manual contestants but by the students at large also. Furthermore, Manual has a number of well developed athletes from last year that have won their "M" and a host of coming athletes that are bound to develop into veterans when put to the test. Therefore, without a doubt, there is no reason why Manual, with her worthy spirit and ready material, should not win every one of the athletic contests that she enters this spring.

 To the Students of the Manual Training High School:

To inform the high school students of the improved condition of our school-mate, Homer Gibson, is a pleasure which words fail to express. Ever since the unfortunate day of November 18, a feeling of anxiety has prevailed in the school because of the critical condition of one of its members, but now, along with the beginning of the New Year, a more restful and hopeful spirit seems to manifest itself. The reason of this is the sure recovery of our unfortunate friend. For some time he was not even allowed

to see any of his friends, but now there is no limit to receiving them. So rapid has his improvement been lately that his attending physicians thought him strong enough to venture on a trip downtown. And

now, as there seems to be no doubt of his recovery, we sincerely hope that the students of 1906 will have the pleasure of welcoming Manual's esteemed football player, Homer Gibson, back again this year.

A CHRISTMAS GREETING.

"By their deeds you shall know them."

It gives me great pleasure to inform the students of the Manual Training High School of the friendship of Mr. C. J. Schmelzer for the members of our victorious eleven. His friendship had not had the chance to assert itself heretofore, but this year the opportunity has made this possible. Consequently the members of the football eleven are the recipients of a most hearty greeting from Mr. C. J. Schmelzer of the J. S. Schmelzer & Sons Arms Company. We have only a glimpse of the real spirit of the giver in the letter that accompanied the gift. And this letter will no doubt prove interesting to the readers of the Nautilus because of its sincerity. It was dated December 20, 1905:

To the Members of the Manual Football Team of 1905:

It gives us unusual pleasure to extend to you the compliments of the season.

We desire to emphasize our appreciation, at this time, for the manly and generous support you have extended to one of your unfortunate members.

Your earnest and conscientious work, in behalf of your school, has won you many additional friends. We do not believe that it is generally known that you have denied yourselves the usual recognition given to a member of the football team at the end of the season and, as we are fully acquainted with the facts

surrounding your noble sacrifice, we wish each member to accept, with our best wishes, a sweater bearing the monogram of the school you so ably represented.

Trusting you will enjoy a very merry Christmas and wishing you continued success, we remain. Sincerely yours,

C. J. SCHMELZER.

On behalf of the members of the football team, I wish to state that we unanimously second our worthy principal's expression of thanks, which he extended to Mr. C. J. Schmelzer in a letter dated December 21, 1905.

Our Generous Friend: I hasten personally and officially to tell you how overwhelmed I am at learning from our good Prof. Peters of your big-hearted act of courtesy in offering to present to each of our football team boys a valuable article, that, to every boy, is a consummation delightfully to be wished, a fine sweater bearing our school's symbolic "M."

In the name, then, of our football boys, their manager, the faculty, and students in general, please accept our sincerest thanks for your generous Christmas gift and accept also our most ardent wish that you and the other members of your firm may have a restful Christmas and a most prosperous New Year. Very gratefully, your solicitous friend,

E. D. PHILLIPS,

Principa!

FOOT BALL VICTORIES.

On November 11, Manual met and decisively defeated the Kansas City, Kas., high school team by the score of 33 to 0. This much may be said in behalf of the Jayhawkers: At first they played a hard and fierce game and it looked as though they would score a touchdown. But it only took the Manual boys about five minutes to get warmed up, and then matters began to look different. Touchdown after touchdown followed in rapid succession. Many spectacular end runs were made by Manual, and so numerous were they that the game virtually proved to be a landslide for the Crimson.

Following this game, Manual's second team played the first team of the Leavenworth high school. The game did not prove to be a success because of the superiority of the Leavenworth eleven. It had made a wonderful improvement since its game with Manual's first team. Much surprise was expressed by every one at the unexpected size of the Leavenworth players. When the teams were lined up their relative size was likened to that of a Russian and Japanese soldier. One youth gained the laughter of the crowd by saying: "No wonder the team looks old, for several have been secured from the Old Soldiers' Home at Fort Leavenworth." Nevertheless, the members of the second team are to be complimented for playing a good game. They showed the right spirit that is bound to lead them to victory in the future. The score of the game was Leavenworth, 28; Manual, 0.

LINCOLN, 22; MANUAL, 5.

On November 17th the Manual football eleven, accompanied by a score of substitutes, journeyed to Lincoln, Neb., to play for the high school champion-

ship of the Middle West. The wearers of the crimson arrived at Lincoln Friday morning, none the worse for their trip. Every means was taken to keep the boys in the best of condition, consequently they were kept in their rooms at the hotel most of the time. But yet they were allowed to accept the kind invitation of the Lincoln High School to attend their Friday morning chapel. It was really a reception in honor of the Manual boys. Short speeches were made by some of the football players of the Lincoln High School and Mr. Bainter and Captain Keeler of the Manual. School yells and songs were also in order, and the result was a very enthusiastic meeting. The Crimson eleven made many friends, in fact they made more friends among the Lincoln students than any other high school ever had. Thus the Manual boys were having a pleasant time and were in the best of spirits for the game Saturday afternoon.

Although decidedly outweighed and throughout the game had the score against them, the Crimson eleven put up the pluckiest and fastest game of football ever seen on the Lincoln gridiron. The Manual boys had expected a hard game and they knew that the Lincoln team would outweigh them, but their expectations were far surpassed. The Lincoln eleven was composed of players of unusual heft and ability. They had six men on the line that made Captain Keeler look comparatively small. And as for Pauley and "Bob" Gibson they looked very much out of place. The spectators expressed much surprise when these two boys easily made up for what they lacked in "beef" by their ability to carry the ball. It remained for the

Manual eleven to be the first to cross the Lincoln goal line by straight, hard football in two years.

The second half of the game witnessed the wearers of the crimson at their best. Four times they carried the ball by quarterback runs and line plunges to Lincoln's ten-yard line, to lose it and have it punted back. But the spirit of do or die possessed the Manual boys and they pluckily came back again, and this time R. Gibson went over for the long fought for touchdown. After this neither side scored, but the ball was constantly kept in Lincoln territory.

It was in this game that Manual's esteemed halfback, Homer Gibson, while falling on the ball, was accidentally struck on the forehead. The injury

although critical has been well taken care of and the boy is recovering.

The lineup of the game was as follows:

Lincoln.	Positions.	Manual.
Smith	L. E...	Arnold, Coffey
Ewing	L. T.....	Septon
Summerholder ...	L. G.....	Anderson
Collins	C.....	Blacker
Bowers	R. G....	Dixon, Talbot
Harrison, capt. .	R. T....	Keeler, capt.
Proudfit	R. E.....	Hinsen
Minor	Q.....	Pauley
Rathbone	L. H.....	R. Gibson
Gebhart	R. H.....	H. Gibson
		Palmer, Harnden
Bronson, Uhl	F. B.....	Edwards

GIRLS' BASKET BALL.

On the first of December the Girls' Athletic Association met in their gymnasium and several basket ball games were arranged to be played during the holidays. The first game was with a team made up of the Alumnae girls. The result of the score was 29 to 11, favor the Manual girls. Much can be said in favor of the Alumnae team; their team work was especially good. Dottie and Nellie Hewitt, from the Missouri University, did the best playing. Nevertheless, the Manual girls outplayed their opponents, as is shown by the score. Both Leontine Bower and Hazel Gross played exceptionally well for the Manual five. The lineup was as follows:

Manual.	Positions.	Alumnae.
Hazel Gross...	Forward.	Nellie Hewitt
Leontine Bower,	Forward,	Dottie Hewitt
Anna Muehlebach,	Center,	Miss Hoernig
Fern McIntyre,	Center,	Annie Wynne
Sidney Smith,	Guard,	Mabel Trumbo
Gladys McAllister,	Guard,	Ella Canny

On Tuesday, December 26, the girls' Alumnae team again played the school team. By this time the Alumnae team was considerably strengthened and the score was only 21 to 11, favor the school team.

Several of the interclass basket ball games have been played. On December 15 the Sophomores defeated the Freshman team by the score of 42 to 4 and the Seniors the Juniors by the score of 22 to 12. The next week two more games were played, in which the Juniors won over the Freshmen by the score of 36 to 2, and the Sophomores defeated the Seniors by the score of 18 to 16. The remaining games will be played as soon as possible after the holidays, to determine which class has the championship team. At present the Sophomores have the strongest team.

MARTHA BETZ, '06.

BASEBALL.

In the month of January

Ball players polish up their bats,
Curse the weathers' wild vagary,
Dream of lucky plays and cracks.

Present conditions at Manual seem to point to a most successful year in athletics. The football team, by hard, gritty playing, proved itself to be one of the best in the history of the school, and now it looks as though the baseball team will continue the glorious example set by the football eleven.

The prospects for a good baseball team were never so bright; in fact, it hardly seems possible that a school could boast of so many old players from whom to choose a team. At the present time there are nine of the eleven players who composed our championship team of 1905 attending school. This does not mean that the team of 1906 shall present no new faces when the boys march onto the field next spring, as every position will be contested for. It would not be surprising if some of the old players were dethroned by aspiring "young-

sters." The policy outlined for this year will be much the same as last; our motto will be, "No individual stars, but plenty of spirit and team work."

The battery work will probably be done by Bramble, Wells, and Robbins, the former two pitching and the latter catching. In the infield we have as the most promising candidates, Hewitt, first base; Captain Blacker at third and Brain at shortstop, as he seems to be the most likely candidate to fill the place vacated by Captain Brooks. This leaves second base to be guarded by a young player. The outfielders who will again try for positions on the team are Frank, Lott and Kruse, all good, reliable players.

With such good prospects and a championship to defend, Manual will no doubt have a good schedule, thus making it worth while for any candidate to try for the team. Some out of town games will be arranged, but at present it has not been definitely settled.

MORRIS BLACKER, Capt.

BOYS' BASKET BALL.

This year a great deal of interest has been manifested in basket ball; consequently Prof. Hall, as manager of the team, has been arranging a good and also hard schedule. The schedule has not yet been fully completed and the dates for only a few games have been settled. They are as follows:

Manual vs. Independence high school,
Jan. 4.

Manual vs. Leavenworth high school,
at Leavenworth, January 12.

Manual vs. Wyandotte Athletic Club,
January 17.

Manual vs. Leavenworth high school
at Kansas City, February 2.

Games will probably be arranged with Topeka, Lawrence, Central and St. Joseph high schools and with the Ottawa University.

Thus far Manual has played but one game. The Western University Osteopaths were the opponents. The game proved to be an easy victory for the Manual five, the score being 44 to 17.



THE PROGRESS OF MANUAL TRAINING IN THE AMERICAN SCHOOLS.

A. F. S., '06.

The growth of manual training in our American schools has been truly marvelous. Up to the year 1878 we had no schools of this kind; while now, not only our high schools, but a great many of our grammar schools as well, are equipped with this system.

Sweden is the country which contributed the most towards the early development of manual training, and from which has come the greatest influence in its progress. The school in which this art was taught (the Lloyd Seminarium at Naas) was established in 1874, and it has not only been an active and stimulating force in the development of that work in Sweden but it has exercised a far-reaching influence upon the practice of manual training in other countries. In the study of tools and methods this school has served a very useful purpose in the way of suggestions.

Although many books were written on manual training and the subject was widely discussed, little of purely educational character appeared in the field of practice in the United States until the year 1878. In that year the Ethical Culture Society of New York founded the Workingmen's School, which comprised a kindergarten and an elementary school, in which manual training

formed a vital and important element in the educational scheme. However, manual training took its beginning, as has been the case with a great many educational movements, at the top instead of at the bottom of the school system. The St. Louis Manual Training School was opened in connection with the Washington University in the year 1881. The work of this school was watched with great interest and its success led the speedy organization of similar institutions in the large cities.

This progress was not made without strong opposition. It was said by some that tools and shops would lower the educational tone, degrade the high purpose of the school, and introduce confusion into the otherwise orderly conduct of the secondary school. It was asserted that time spent in manual training would be an intellectual loss.

But this, as has been proven, is not the case; manual training develops the intellect as well as the hand. It is indeed a culture study; the object of the school is not to make mechanics of the pupils, but to train them physically and aesthetically as well as mentally. Manual training adds pleasure and variety to the school work, and teaches the pupil not only to observe, but to create.

FUDGE THAT DIDN'T COOL.

By Ethel Irene McDonald.

One rainy November Sunday afternoon I wandered aimlessly from room to room in search of some amusement. The books were not interesting; the papers contained no information, and the piano seemed out of tune.

After a while I decided I would like to have something to eat. I went to the pantry but could find nothing I wanted. My eyes wandered from shelf to shelf, and finally to the spice chest in the corner of the lower one. I took a step nearer and opened the door.

On the lower shelf of this chest stood three cocoa cans. Cocoa; why—that suggested fudge, for I use cocoa instead of chocolate. I opened the first can, but it contained mustard; the second contained cayenne pepper; and the third, cocoa. Well, I put the sugar, milk, butter, and cocoa in a pan and started it cooking. After it had boiled awhile, it looked so light that I thought I would add more cocoa. So I ran to the pantry,

grabbed a square can, and went back to the stove. I didn't take time to measure the cocoa because the fudge was nearly done, so I took off the top and turned the can almost up side down. After several testings, I found that the fudge was done. I beat it and poured it out upon the platter when cooled, I marked it into squares and took it into the family.

When my father tasted my fudge he said, "Why didn't you let this candy cool before you passed it to me?" My sister, Georgia, said almost the same thing, but when I tasted it, I knew that the gas fire could never make the candy as hot as it tasted.

I put the dish down and went to the kitchen. In my haste I had neglected to put the last can that I had used back into the chest. I went to the table picked up the can, walked to the window, and I gasped aloud in my astonishment. The can contained cayenne pepper.

A SAW-MILL CAMP.

By Ray L. Bartlett.

In the southern part of Arkansas the trees are almost entirely yellow pine and grow to be quite a size. They range, the useful ones, all the way from two to four feet in diameter and are about one hundred fifty feet tall. I have seen them ten feet in diameter; but these usually are hollow and are also too large for convenience in the saw-mill.

A temporary railway conveys the logs to the mill. It is constantly extended as the trees are cut down. The choppers task is one that must be learned by experience and is governed by the laws which govern gravitation. By means

of two saw cuts at certain angles with each other and one a certain distance above or below the other and on opposite sides of the tree, they are able to cause the tree to fall in which ever direction they please. No tackle of any kind is used, only wedges to prevent the pinching of the saw.

Ox power wagons are used to convey the logs to the train.

The cars are stacked high with logs then conveyed to the mill. Usually the train makes only one trip each day. Inclined log racks situated conveniently

near the mill receive the logs from the train.

A chain with sharp hooks every little distance pulls the logs up an inclined trough to the mill. The chain is operated by friction wheels. When the log is finally in the right place it is rolled onto the carriage by a "nigger". A nigger is a peculiar machine. Above the floor all that is seen are two mighty steel beams about eight feet apart and having blunt cogs on the front surface. One man by certain movements of one small lever can cause these beams to act, always parallel, in any direction. Below the floor is revealed the intricate levers of all description and gears worked by a number of pistons in cylinders and operated by steam—as the piston in the steam engine.

The carriage is a long, low, narrow car operated backward and forward by the action of steam on a forty-foot piston. With a quick motion of the lever the operator causes the nigger to move slowly backward, then leap suddenly forward with great force. The great log does not seem to impede its strength. The men on the carriage clamp it solid to two upright posts on the carriage. This done, the nigger falls back into its resting place.

A slight movement of a lever is all that is necessary to cause the log to move forward and backward over the saw, which cuts off the first plank.

The first plank, which has bark on one side, is used for fuel.

This action is repeated on the opposite side and the remainder is sawed into planks.

These are run through an "edger," a machine having several small circle saws on the same shaft. The distance between the saws can be varied at will by

a lever which separates or brings them together to suit the plank. These rough planks are placed in kilns which dry the sap. This operation is called "seasoning". They are then passed through a planer.

There are several different kinds of saws used. Some mills have the band saw, others have the single circle saw, and still others employ the double circle saw, one operating above the other, but in the same cut. The band saw is a steel "belt" passing over two power pulleys and has teeth on one edge. The single circle saw is a circle with teeth on its edge. To be able to cut logs with large diameter it necessarily has to have a large radius. With the double circle saw the saws can be much smaller for the same size logs; consequently reducing the power necessary to run them as compared with the single circle saw.

The homes surrounding these mills are in most cases limited in number and extremely rude. They contain only the employees. There is always at least one "commissary" in a sawmill camp. They are small sized "department" stores controlled by the "firm" (the owners of the mill.) In these camps there are perhaps thirteen houses, a commissary—which is at the same time the postoffice—and a boarding house. There is no silver. The common aluminum chips being used for coin. The "firm" performs that important function, banker. The camps have the reputation of being an easy place to get into but a hard place to get out of. It is peculiar but the commissary and certain drinks, which always will be procured in some manner, make short work of all the available cash.

In conclusion I feel that my visit to a saw mill camp was a pleasant and profitable experience.

THE POWER OF TOOLS

By *Joseph A. Oskamp, Jr.*, '06

Did you ever stop to think what great service tools have rendered to the human race? To comprehend their potency the only requisite is to contrast the two stages of man—the one without tools, the other with them. In the first stage he has barely the means of keeping body and soul together. Our American Indians are perhaps a fair representation of this class of mankind. They had made some progress toward civilization for they fashioned weapons and implements, rude though they were. As all people at one time or another, have passed through about the same state of civilization as the Indians possessed, it might not be amiss to notice the place they called home. The eastern tribes constructed dwellings, with rudely framed sides, and roofs of elm bark. These structures were about twenty feet wide, by a hundred feet or so long. At each end was a door. Along each side were ten or twelve stalls, occupied by as many families. Down the middle aisle, at intervals, were fire pits where the food was cooked, the smoke escaping through holes in the roof, as best it could. What a contrast to this is the place that civilized man calls home!

A most wonderful change has the influence of tools exercised upon civilization. It is through their use that man has made himself supreme among animal creation. As his stock of tools increases his savagery decreases. The wide expanse of usefulness between the savage and the civilized man is due to the presence of the seven hand tools—the axe, the file, the hammer, the saw, the square, the chisel, and the plane. These tools have made the mechanic arts possible; the modern machine shop in an aggregate of them rendered automatic.

Moreover, the improvement in tools represents the steps in human progress—in architecture from the rude hut to the modern mansion, in husbandry from the pointed stick used to tear the turf to the hundreds of ingenious farm implements, in ship building from the row-boat to the gigantic ocean steamer, in transportation from the little pack mule to the latest invention of the day—an electrical locomotive. And so we could name on, finding that every art, which contributes to the comfort and well-being of man, has been accomplished by tools in the hands of workmen; workmen indeed!

JANE'S HAT.

By *Alma Betz*, '06.

"Why, Jane dear, what is the matter?" said Dott as she burst into her friend's room one day to find that small person lying on the sofa with her head buried in the cushion.

Jane started and lifted her tear-stained face. As she beheld Dott, a gleam of hope came into her eyes. "O, Dott, do help me," she cried. "I've been thinking and planning about it all after-

noon, but just can't make it do."

Dott looked at her friend bewildered, and she glanced about her. The room indeed looked as much wrought up as Jane herself. On the floor lay a miserable heap of ribbon, old silk, and bits of lace; on a chair stood an old hat box, and in one corner of the room, as if cast aside for all further use, lay Jane's best winter hat of last year. Dott immedi-

ately imagined what the trouble was, but said nothing.

"Now Jane," she said sitting down beside her friend and putting her arm lovingly about her, "Don't get excited, but tell me what the trouble is, what you have been thinking about and what you can't do."

The two girls were very great friends. Jane was somewhat delicate, and it had been thought best to send her to a private school, but strong healthy Dott had had a thorough education at Manual. Jane, though the older, found daily need of little Dott's ever-ready advice and comfort. Today, too, in her trouble Dott's sudden appearance seemed to cheer her.

"You see," she said somewhat hesitatingly, "It's that hat that has caused all the trouble. The ribbon is dirty and the feather soiled. I just can't wear it and mother says I can't get a new one till next month, and there's that party tomorrow night, too."

Poor Jane, her voice choked as she told her woe to her friend. But busy, cheerful little Dott always found a way out of trouble. She went to the corner of the room and picked up the poor hat and began to examine it.

"It isn't so bad after all," she said cheerfully. "It is such a lovely rich gray, and you know gray always was so becoming to you."

"Yes, I know, but it is soiled, Dott, and you surely don't want me to wear it like that."

"No, of course not, but with a little cleaning and freshening it will be just like new."

It really did seem to poor Jane as if a stream of sunshine had come into the room when Dott came. She began to wonder why she had been so foolish as to cry, and began to see that the situation was not so very bad after all. But

how Dott was going to clean and freshen the hat was still a puzzle to her.

"You see," said Dott, "I went to Manual and learned all about it there."

Poor Jane was obliged to hear this phrase quite often, as it was Dott's peculiar way of apologizing to her friend for knowing more than she in these domestic troubles. In her heart Jane had wished many a time that she, too, might have gone to Manual.

Dott had already taken all the trimming off of the hat and had disappeared through the door. "I'll be back in a minute," she called back. Jane remained behind and began putting the lace and ribbon, which she had dumped on the floor in her despair, back into the box, and then sat down to wait for Dott. After what seemed to her a very long time, Dott returned.

"Doesn't that look better?" she cried holding up the hat. The hat had indeed undergone a change; the crown was no longer crushed in and the hat was fresh and clean.

"I steamed it," said Dott, "and cleaned the ribbon and feather. Now I am ready to trim it again."

Jane watched Dott's skillful fingers and sighed to think how helpless her own would be in work like this. Dott worked on, Jane knew not how, but before the afternoon had passed the hat was finished.

"There, it's finished. How well you look in it now," said Dott. "You can wear it tomorrow night and no one will know that it isn't new."

Jane looked into the glass. "O, you dear, dear Dott! How good you are to me, and how stupid I am. What would I ever do without you?" she said, as she caught Dott in her arms and gave her a friendly little squeeze.

"I went to Manual," said Dott, con-

solingly, "and you, poor dear, didn't, so how could you know about these things! But it's six o'clock. I must go." And away she rushed. "Good-by," she called from the door.

Jane heard her run lightly down the stairs, and heard the front door shut be-

hind her. Jane was left alone, but about her still rested the sunshine which Dott had brought, and in her heart was one resolve. She would go to Manual, or at least acquire some domestic knowledge so as not always to be dependent on little Dott.

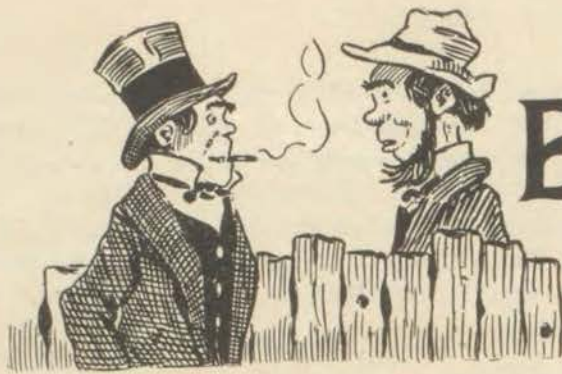
THE VALUE OF A STUDY OF MATHEMATICS.

As a training for the mind, nothing surpasses a study of mathematics. It teaches accuracy, demonstrates the importance of details, however small they may seem, and insures logical reasoning. If it fails in these, or in even one of these, it is the fault of the student. It is evident that ten minutes application per day to geometry or algebra is not likely to make any change in one's knowledge or character; but a serious, consistent study of the subject is of great importance. It is alike helpful to the scientist and the mechanic; it gives the lawyer logic, the merchant method,

the engineer a keen and understanding mind. Upon it astronomy depends, and without it physics and chemistry would be unsolved mysteries, and even the calendar would be impossible. To deal more with particulars; but for mathematics there could be no subway, no level roadbeds for the trains, and very likely no locomotives either; and as for the building of sky-scrapers, that would end much as did the Tower of Babel.

It is not enough to know that certain things are great truths, the educated person desires to know the why, and mathematics is one of the gates to a fuller knowledge.





EXCHANGES

Olive M. Thomas

The exchange editors of the Nautilus regret very much that an unusually great demand for the first issue of the magazine prevented them from sending a copy to many schools with whom they wish to exchange papers. We promise to do better in the future.

The following papers deserve much credit for the neat way in which they are gotten up. The stories are interesting and the covers are artistic. Ye Tattler (Lebanon, N. H.); The Haka-winn (Pendleton, Oregon); The Purple and White (Pittsburg, Kas.), The Review (Washington, D. C.); The Oak (Visalia, Cal.); The M. C. I. Exponent (Marionville, Mo.); The University High School Weekly (Chicago, Ill.); The Review (Webb City, Mo.); The Nautilus (Jacksonville, Ill.); The Messenger (Wichita, Kas.); and The Lever (Colorado Springs).

The paper published by the pupils of the Franklin Institute gives us a good idea of the life at that institution, and the good it is doing for the needy.

Among the new papers sent us is the Carnation, published by the Wm. McKinley High School of St. Louis. We wish to congratulate the editors, for the thoroughly artistic paper they have gotten up.

Archive, your exchange column is excellent.

We are glad to see the Midland has had the color of its cover changed. The contents of this paper is commendable, but remember, Midland, a first impression is a lasting one.

The Jayhawker is the best paper of its size that we receive, we always look forward to it, as it contains some very interesting stories.

Editors of Donny-brook Fair, your paper is quite good but what is the meaning of your over-crowded cover design?

Janus, why don't you get some good jokes and exchanges for your paper?

The St. Joseph High School Forum is one of our best exchanges, and we have enjoyed its contents very much.

The Herald (Atlantic City, N. J.) is an excellent paper. The stories and exchanges cannot be beaten.

The Windmill seems to devote their entire paper to athletics and jokes, where are your stories?

The cover of the W. T. M. A. Bugle Notes lacks only two essential elements, unity of design, and excellence of workmanship.

The cover and the contents of the Radius are very artistically gotten up. We enjoy the paper very much.

The High School Herald is an interesting paper to persons enjoying all stories and no locals.

Six-year-old Fanny just returned from Sunday school, seemed to have something on her mind. "Mother", she said, after a while, "they must have had very large beds in Bible times."

"Why?" asked her mother.

"Well, our teacher told us to-day, that Abraham slept with his four fathers."—Ex.

A bark canoe and just us two
Our lips in rapture met,
Perhaps they would have met again
But the gosh darn boat upset.—Ex.

"How do you like this weather?"

"Most disagreeable."

"And how's your wife?"

"Just the same, thanks."—Ex.

EVERYBODY DIETS BUT FATHER.

Brother's on the football team,

Got a lot of vim,

At the training table eats,

Keeps himself in trim.

Sister has a diet, too,

Eats with greatest care,

Keeps her working to retain

Her complexion fair.

Mother has another list,

Simple cause for that,

Anyone can see it plain,

Getting awful fat.

Father at the quick lunch bolts,

Standing on his feet,

Hustling to support the rest,

Leaves no time to eat.—Ex.

"Are you Hungary?"

Yes Siam.

Well I'll Fiji.

—Exchange.

I thought I knew, I knew it all,

But now I must confess

The more I know, I know I know

I know, I know the less.—Ex.

Every exchange editor is an invention of the devil. Whenever he sees a good thing he carefully "cuts it out." Ex.

The sofa soft held the twain,
Miranda and her love-sick swain,
Headshe.

But hark! a step upon the stair,
And papa finds them sitting there,
He and she.

—Ex.

Take a little laughter,
Add a tear or two,
Then, a little rosemary
Intermixed with rue.
Just a tiny bit of peace,
Mix the whole with strife.
This you'll find an excellent
Recipe for Life.—Ex.

Father (meaningly)—"Who is the laziest boy in school, Tommy?"

Tommy—"I don't know, pa."

Father—"I should think you would know. When all others are industriously studying or writing their lessons, who is it that sits idly by in his seat and watches the rest instead of working himself?"

Tommy—"The teacher."—Ex.

HEARD IN THE CLASSES.

"Russia was standing with one foot in the Baltic and one foot in the Caspian."

Let us hope she had her rubbers on.
—Ex.

GENEROUS.

"Now that our engagement is off, Mr. Jones, here's your ring."

"You may keep it on one condition, Miss Smith."

"What's that?"

"That you keep up the payments on it."—Ex.

From teacher's lips
 Since summer's slipped
 Drop wisdom's sweetest posies;
 But we, forlorn,
 Find mingled thorns
 Among those wreaths of roses.—Ex.

Mistress—Nora, hadn't you better
 put more nuts in the cake?

Nora—Begorra, Oi'll crack no more
 nuts! Me jaw aches now!—Ex.

They had never met be-4
 But what had she 2-care
 She loved him 10-derly
 For he was a \$100,000,000-aire.—Ex.

“What makes such a bad smell about
 the post office?” asked one gentleman
 of another.

“I know pa,” interrupted little
 Johnny.

“What, my son?”

“Why, it's the dead letters.”—Ex.

Questioner—“Norma, are you having
 your voice cultivated?”

Norma—“No, I haven't even had it
 plowed yet.”—Ex.

“Oh, may I help you to alight?”

A youth it was who spoke.

The lady on the carriage step

Said: “Sir, I do not smoke.”—Ex.

Teacher—“What are the three words
 most generally used in the school?”

Prep—“I don't know.”

Teacher—“Correct.”—Ex.

“Willie,” said his mother, “I wish
 you would run over and see how old
 Mrs. Brown is today.”

A few minutes later Willie returned
 saying: “Mrs. Brown said its none of
 your business how old she is.”—Ex.

“Got a talking machine at home?”

“Yes.”

“What did you pay for it?”

“Nothing, married it.”—Ex.

I do not need an auto

To speed me on my course;—

To carry me through High school

I only need a horse.—Ex.

THE OLD FRIENDS THAT HAD HAD THREE DAYS TOGETHER.

“You have a pretty place here, John,”
 said the guest of the morning of his
 departure, “but it looks a bit bare yet.”

“Oh, that is because the trees are so
 young,” said the host, comfortably, “I
 hope they'll have grown to a good size
 before you come again. Then you'll see
 how much improved the place will look.”

And they shook hands with mutual
 affection and good will.—Ex.

“Grandma, papa costs me an awful
 lot.”

“How, sonny?”

“Why, grandma, when I'm good all
 day he gives me a penny, an' when I'm
 bad I have to give him a penny.”—Ex.

ONE HORSE POWER.

Professor—“How much power is one
 horse power?”

Physics Pupil—“Well, it depends a
 good deal on the horse.”—Ex.

Teacher—“What is memory?”

Bright Boy—“Memory is what we
 forgit wid.”—Ex.

An Irishman and a Frenchman were
 parting at the steamer.

The Irishman, standing at the wharf,
 waved his hands at his friend and
 shouted: “Oh, reservoir!”

The Frenchman politely saluting, re-
 plied, “Tanks.”—Ex.



Of every sad and gloomy trade
 With which men earn their living
 bare,

There's one receives the smallest aid
 And breeds the very worst of care;
 That saddest lot, say what you can,
 Is working as a funny man.

-Ibid—Op. 3, Canto X.

Teacher—Johnny, how did you cut
 your mouth?

Freshman—Oh, Ma sharpened the
 knives yesterday.

Miss Stoller—I want to sing a solo to
 Mr. Phillips.

Miss Oldham—You would better sing
 it so low he can't hear it.

Mr. Keenan—Leave these books alone,
 Baltus; they don't belong to anybody;
 they are mine.

Helen Crandall: "An epitaph is a
 monument on a tombstone."

We read the awfulest story the other
 day about a boy who wore a celluloid
 collar, and it caught fire, and his neck
 was all burned. So, Freshmen, don't
 wear celluloid collars.

Speaking of Freshmen, we got this
 effusion the other day:

Oh, the leanness of a Senior when he's
 lean,

And the meanness of a Junior when he's
 mean;

But the leanness of the lean

And the meanness of the mean

Aren't in it with

The greenness of the Freshman when
 he's green.

Our brilliant Mr. Fillmore met Pope's
 lines concerning vice being a monster.
 Struck by an inspiration, he leaped from
 the tub, shouting "Eureka!" and
 dashed off the following:

"For F's are monsters of such hideous
 mein

That to be hated need but to be seen;

But seeing oft, with too familiar face,

We're first endured, then pitied, then
 disgraced."

Manual girl, entering dry goods store:
 "Please, sir, have you any apple-cake
 lace?"

Broaddus: "He didn't mean me; he
 meant the other lobster."

Gamble: "My hands are awfully cold."

Miss Simms (bashfully): "It's too light, or I'd offer my services." Ahem!

Helen C.: "Homer Gibson is open to able his eyes."

Miss Steele: "Tell the cause of the Hundred Years' War."

Kendall Minor: "The French didn't believe the throne should go to feminine ladies."

Mr. Kizer (to pupil scanning): "I can't see where your feet end."

When Mr. Woods was asked why he kept Room 10 so cold he explained that he was always affected by hot air.

Mr. Stigall: "Ocean water reflects light." A little ocean water is needed on some of these jokes.

Mr. Morse: "You should be as sure of factoring as you are of your house, but I wasn't sure of mine the other night at 11 o'clock." Never mind, Mr. Morse, we won't tell.

Mr. Kent: "What are the levers seen on the front end of a steamship boiler?"

Mr. Hawkinson: "Sandbox and air-brake levers."

Miss Hopkins (under the mistletoe): "I don't like you boys a bit; you aren't a bit game!"

Mr. Kizer: "Labor so that when the Master calls on us we may be able to answer 'plus.'"

Mr. Keenan: "What are you doing, Farnham?"

Farnham (distractedly roaming around the room): "Looking for that drop of ink I spilled yesterday."

Mrs. Elston: "Bell, define a chair."

Bell: "A chair is an article of furniture intended for one person."

Miss Van Meter: "How many of the class wish the lesson to be oral?"

All hands raised.

"Very well, the lesson will be written."

If you hear a noise like thunder, don't be alarmed. It is merely the French class rolling their "R's."

If the piano is a little out of tune next assembly, be it remembered that a hammer, a chisel and the head janitor were seen wandering in close proximity to it.

From Miss Von Unworth: "If a man in a balloon, why is a potato? Because no matter how hard he tries, an elephant can never sit on his trunk." Ain't it?

Helen: "I wonder what makes all those holes in that fence?"

Clara: "Why, those are *knot*-holes."

Helen: "Well, if those are *not* holes, what are they?"

Mr. Page, on being asked what name they intended giving the little lady at his house, said: "Well, yesterday we thought we would call her Isabella because she bellowed so much, but today we think we shall name her Maud."

Theo said because she couldn't see through a certain joke she put it in the exchanges to make other people feel foolish also.

We will have to put Teddie Shawn in the list of the youthful and devoted lovers. The number is getting very large. Time for some to drop out.

It is said that if the amount of work used by the pupils in going up and down stairs was saved, there would be enough force to run the engines in the school. Why not save that energy and use it to run a few elevators for the pupils?

Miss Gilday: "Pursuit of happiness is all of life."

Elizabeth Nofsinger: "I've found it."

What can this mean?????

The Science Club has started again this year. We hope it will pull through this time.

One of the O'ita girls has been trying a new kind of blueing. The result is that instead of a formerly white cat she has one of a charmingly sky blue color.

This is most peculiar, especially so as it came from an O'ita: "I think boys are the meanest things I ever saw." Who would believe that?

Miss Heyl (several months ago showing a drawing of P. O. P. float): "This is Maud" (pointing to Si's wife) "and this is the mule" (pointing to Maud).

Mr. Cowan said: "The party walked all through Scotland on their feet."

It seemed quite natural to hear George Green again, making a noise in the hall.

WHY NOT?

(Ask after every statement.)

Ted Shawn loves his teacher.

Would Miss Gilday make a good Jap?

Clyde is still in love.

The girls in cooking are usually very popular.

Everyone thinks Mr. Dodd is a dear man.

People think physics is a hard study.

Wanda said she liked sour pickles.

Dorothy wonders who will be next.

Willard said he did not think that "It was better to have loved and lost than never to have loved at all."

The O'itas declare they are going to be more economical.

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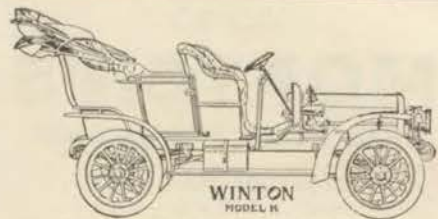
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Assistants
Lena M. Lindsay
Emma Humfeld
Miss Ferguson

DOMESTIC SCIENCE

Cooking
Bertha H. Bachellor

INSTRUCTORS

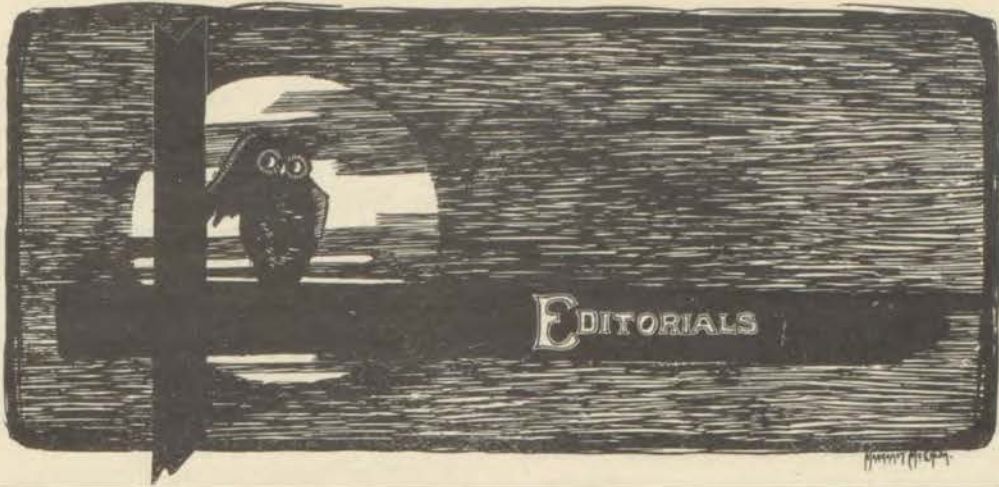
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Belle Stewart
Assistants
Della Kahn
Regina Lamb

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W. B. Claffin
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Eva J. Sullivan
Bookkeeping and Typewriting
Leonora Rackerby
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Mrs. A. C. Lavine
Matron
Mary Canny
Chief Clerk
Ethel Pickett
Assistant Clerk and Substitute
Wm. Raney
Head Janitor



The Chambered Nautilus.

“Build the more stately mansions,
 O, my soul.
 As the swift seasons roll!
 Leave thy low vaulted past!
 Let each new temple, nobler than the last,
 Shut thee from heaven with a dome more vast,
 Till thou, at length, art free,
 Leaving thine outgrown shell by life’s unresting sea.”
 —*Oliver W. Holmes.*

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NOTICE.

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Contributions are requested from all members of the school. Address all communications to

The Nautilus,
 Manual Training High School,
 Kansas City, Mo.

“Watch Us Grow.”

The many students of Manual may not be aware of the fact that they are helping to build up one of the largest and best high school papers of any school of equal size and enrollment in the country. Our magazine has been very highly complimented, and we wish to thank the pupils of the school for their hearty co-operation and sympathy in furthering this good work. It is to them that we are indebted for an increased circulation in our first issue of one hundred and fifty copies; it is to them that we are indebted for the sale of *one thousand* copies of our second issue, with an additional eight pages to what has been the usual number; it is to their credit that on this third issue, we have again ordered the one thousand copies, with the extra eight pages; and it will be to their credit, when, in issuing our Annual in the spring, we sell a larger number than has ever before been disposed of—an extraordinary large circulation,

plenty of good, instructive reading matter, a generous patronizing of advertisers—that is our motto, which we intend to follow. Will you help us?

“Manual’s Honor Roll.”

Miss Murphy, of our Art Department, recently received notice of her election as a member of the Western Artists’ Association, the largest and most notable institution in the West. In the series of exhibitions which they gave, two of Miss Murphy’s salon pictures occupy prominent places, and they have attracted so much attention that she had been offered a very large sum for one of them. We are daily hearing of some new compliment to Manual, and we hope that the good work may be kept up, both by teachers and pupils. Success to “Manual’s Honor Roll.”

Thus far only eight candidates have reported for entrance into the inter high school elocutionary and oratorical contest, to be held at Columbia. Miss Theo Nettleton, Miss Ethel MacDonald, Atha Moore intend to represent the girls, while Charles Curry, Colin K. Lee, Arthur Brink and Jno. Bodman are the boys who will try. Manual has a great deal more material suitable to this work—why doesn’t she use it?

In a few weeks the members of the staff will be ready to receive orders for your extra Annuals. In order to know just how many copies we may order from the printer, we are following the usual custom of issuing slips, on which you are to write the number of extra copies you will take. As we are making quite a strong effort to increase the circulation of this year’s Annual over that of last, we feel sure that you will help us, by signing up for at least three or four extra copies.

Miss Schreiber’s Success.

Almost every Manual student witnessed the entertainment given the school by the A. L. S. Society a few weeks ago. Those who saw the program were sincere and hearty in their praise of the entire piece—a short, amusing drama, well written, well staged, and well acted. The work of Miss Gladys Miller in the title role of “Virginia,” may be commended especially. She gave the play life, color and interest.

Another feature of the entertainment was the fact that the play was written by one of the members of the society, now a graduate from Manual. Since the sketch has been presented, she has received several letters from different schools over the country, asking for a copy of her manuscript, and offering to pay for the permission to present it at their own schools. Miss Lillian Schreiber, the author, intends to spend some time on this one act sketch, and expand it into a three act drama. The entire A. L. S. Society, with Miss Schreiber and Miss Miller deserving especial praise, are credited with presenting Manual with one of the best “open sessions” ever given. This society has proved, in act and deed as well as words, that it is truly a “literary” society.

Through the courtesy of two Kansas City business men, Mr. R. A. Long, President of the Long-Bell Lumber Company, and Mr. Robert Keith, President of the Robert Keith Furniture Company, the School Physiology Journal has been placed in each of Kansas City’s fifty-eight schools. It is a monthly magazine of sixteen pages, devoted to school children of all ages. Mr. Long and Mr. Keith deserve mention for this kind and helpful deed.

First Honorable Mention.

Especial credit and praise is due Miss Elizabeth Nofsinger for carrying off another honor for Manual. In the annual contest for the best essay from all of the accredited high schools of Missouri, conducted under the auspices of the Sons of the Revolution, she has won first honorable mention. The subject was the "True Greatness of Washington." It seems that Miss Nofsinger has done a great deal for Manual; in the contest of last year she also received the first honorable mention. If the modesty of the author permits, we intend to publish the essay in our next issue, the Annual.

Assembly Hall Programs.

On January 31, Mr. Rudolf King, assisted by Mrs. Stella Morse and Miss Elva Fuller, rendered a very entertaining musical program to the pupils of the school. Such treats are rare, but their scarcity makes them all the more enjoyable.

Two prominent university men have also been our guests recently. Professor M. G. Prumbaugh, head of the Department of education of the University of Pennsylvania, gave us a talk on his work in educating the inhabitants of Porto Rica, which will long be remembered, and Dr. J. C. Jones, Acting President of M. S. U., talked on the "Fascination of Difficulties," a lecture of interest and instruction.

Arrival of World's Fair Medals.

Manual has as last received its handsome gold medals as awards for its educational exhibit at the Louisiana Purchase Exposition. One of them is displayed with its accompanying certificate, in our World's Fair exhibit on the lower floor. The other one is at the home of the Principal, to whom it was awarded as collaborator of the exhibit.

The O'ita Society Entertainment.

One of the best Assembly Hall programs given this year was rendered by the "O. I. T. A." Society on March 14. The young ladies gave an artistic pantomimic rendition of Longfellow's Indian epic, "Hiawatha." The O'itas, with their bronzed complexions, and bedecked in thin, rich Indian attire, resembled a genuine "Pow-wow" of real Indian princes.

While each one played her part with true Indian spirit, too much cannot be said of the splendid bearing, in word and in action, of Miss Dorothy Hopkin's Hiawatha, for she looked every inch of her the heroic warrior and "Big Injin" of his tribe.

The appropriate stage settings, rich and elaborate Indian costumes and Indian implements, gave the scenes a realistic appearance. Much praise is due Miss Julia Simms for her clear, distinct and effective reading of the passages that interpreted the interesting living pictures. The young ladies, their Chaperon, Miss Jennie Sublette, and Prof. Cowan are to be congratulated on their performance. The following is the program:

"HIAWATHA"

Presented by members of the O'ita Society,
March 14, 1906.

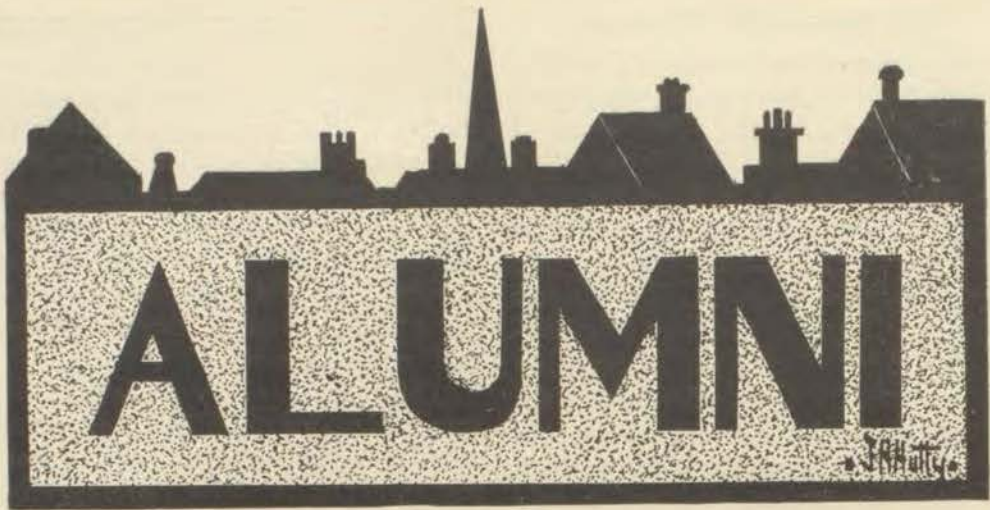
Dramatis Personae

Reader	Julia Simms
Minnehaha	Margaret Elston
Hiawatha	Dorothy Hopkins
Arrow Maker	Helen Filley
	(Father of Minnehaha)
Nokomis	Huldah Simms
	(Grandmother of Hiawatha)

Synopsis of Scenes

- SCENE I—Infancy of Hiawatha
- SCENE II—Manhood of Hiawatha
- SCENE III—Wooing of Hiawatha
- SCENE IV—Wedding Feast

Director, Prof. J. A. Cowan
Sponsor, Miss Jennie Sublette



ALUMNI

Pratt Institute.

Pratt Institute is the largest school of its kind, having about three thousand pupils among its varied courses. It is given to each student to know of one department in every detail, while of the others we have only a general idea.

In the Domestic Science our major subjects of the first year—chemistry, cookery, physiology and psychology are very closely correlated in preparation and application. If one word could describe the entire department it would be correlation. There is perfect harmony in the subject matter and among the teachers, which makes a spirit of great earnestness and enthusiasm to work in. This spirit which the newcomer so soon realizes is established and reflected from the head of the department, Miss Greer, whose ideals of the significance and dignity of our work help us to a fuller appreciation of it.

Our hours are long and work is quite constant in comparison to former school work, but we do have time to play, and for recreation we have New York. There is some social life at school, but most of us enjoy trips to N. Y. more. There are no restrictions on our outside life and we go with each other and

friends here, but for those who have no other opportunity, is always the pleasure of going to the opera with some of the teachers, something we realize only N. Y. can give. In addition to the opera are the fine concerts, lectures and wonderful churches, all of which make our leisure hours seem short but profitable.

With wishes of success to Manual and all her friends and mine,

JEAN MORRISON, '04.

Culver Military Academy.

When I am awakened each morning at "Reveille" (6:10 a. m.), have to dress in ten minutes and fall in line with some three hundred other shivering cadets, I think of Kansas City and Manual.

From "Reveille" on through the day, it is a continual round of drills, classes, inspections and formations, until 9:10 p. m., when "Taps" sounds. I learned the bugle calls for "Mess" and "Taps" the first of all. The Academic classes average fourteen pupils and it covers a large amount of work. The Calvary class has progressed to the point where it can "mount and dismount" at a gallop (no saddles), and ride, standing up, at a trot.

DONALD STEPHLET, '06.

Literature and History



HERBERT HARR

Pete: A Story of a Coal Camp.

BY LEO R. R. CONWELL.

Pete was a stranger in the camp. No one knew whence he had come. Not one of his own countrymen even knew aught of him. He was on the pay roll as "Pietro Dellassega—Sinkers—Thirty-five and one-quarter cents per hour." That was the extent of the company's acquaintance with him, other than that he "drew" for every shift that he worked as soon as he could get to the superintendent's office. The postmaster, a garrulous fellow, said that "he never give him no mail," 'sposed "his folks, if he had any one, couldn't write nothin' but Dago." What did he do with his money? He did not frequent the resorts where the other miners could be found in all their leisure moments; and he was never seen spending a cent for anything but tobacco. Why, then, was he so anxious for his pay every day, as if he feared that the company would go into bankruptcy? Nobody knew. In fact, Pete's position in the village for some time was like "X" in an equation.

In Pete's most sacred thoughts were the answers to all these speculations. 'Twas not that he was afraid of the company that led him to the teller's window every day, but would not the pleasant sensation of seeing a pair of sparkling black eyes smiling a "well done" up at him lead an ordinary man to wear a smooth path from the door to that teller's window? But as this was to Pete, next to his crucifix, the most sacred of

all things, the villagers were none the wiser.

Even his appearance upon the scene was made in a round about way. One day a man was seen coming—walking, mind you—up the railroad track towards the new shaft, with a bundle tied up in a bright red handkerchief, swinging lightly on the end of a stick across his shoulder. Nothing, from the engine to the mules running loose around the shaft, escaped his critical eye. Things seemed to please him.

"Where da boss?" he demanded of the universe.

"Down the shaft," the top-man replied, "w'ach'er want."

"Job."

The boss hired him, but he had been deceived so often of late that he went along down with him to see what kind of machine the man was. He came up soon afterward rubbing his hands in satisfaction. Evidently he was pleased.

"With a few more like him we would make two feet a shift easily. That fellow works," he said.

Thus was Pete introduced to the American Fuel Development Company. He took to the work readily and was soon as necessary to the company as grass to a good pasture. He would fain have remained as unnoticed, but it was not to be. His countrymen, after having in vain endeavored to draw him out, began to suspect him of being a "Black

Hand," sent there to spy upon them, and they began to look askance at each other, wondering who of them would wake up some morning to find the dread symbol of death tacked to his door. The girls of the village romantically whispered to each other that he was an Italian prince studying American labor conditions, and thereupon the village milliner was taxed to the uttermost to supply hats and fresh ribbons. Perfectly natural, was it not, for what American girl does not cherish the fond dream that she will some time captivate a "real live noble?" The boys, resurrecting Don Quixote, gave him that character. The men "pooh-hooed" at these conjectures, but all of them took to carrying lanterns and their hip pockets bulged suspiciously. The housewives of the town—well, they simply confessed that they could not understand him, for anyone who could hold his tongue was utterly beyond their comprehension. The object of all these absurd speculations was totally unaware of what was going on about him.

"Faith, an' he jists tinds to his own bizness all o' the oime an' nivver aven thinks o' the bizness o' ithers aven part o' the toime," vouchsafed his lady lady. "Shure an' he's the ownly wan of thim bohunks what don't trate me boording house like he was livin' in a boxcar."

None of these things disturbed Pete in the least. He had struck his gait and stuck to it. The long mile to the camp was as nothing to him. For was not this the first "steady job" he had had in a long, long time, and was he not on the way to work, and was he not working for her? What did he care for the opinions of others?

Slowly the boss began to work his way into the good graces of this strange man. Perhaps it was because the boss could "churn a hole" quicker than he could; perhaps, because Pete now needed

a friend; more than likely it was the regard of strength for strength that drew these two men together. This regard soon ripened into friendship. One day Pete rode to town with the boss. Neither had said a word for a good half mile.

"I send for her tonight," Pete suddenly said.

"Who are you going to send for, Pete?" the boss asked in a kindly way.

"My wife," Pete replied.

Then he went on to tell how he had been driven from his own country by the scarcity of work and had come to America to seek his fortune; how he had left his wife and a little black-haired boy to struggle along as best they could on the meagre supply of money—all he had—until he could send for them. She said at the parting, smiling bravely lest she should cry out the anguish that was in her heart, that she knew that he would get rich and send for her; and that she would "get along all right;" and that above all things else he should not work too hard.

"I tell it most braka me here," said Pete, placing his hand on his heart, "for she to say me not worka too har' w'en maybe she now scrub, da lit' mon' now gone. Da pay is draw eacha day, an' as I dropa it in da lit' box, da ocean he shrinka so much."

So he talked on and on of his hopes and disappointments since he had come to this country. He had now saved enough money to pay their passage over—not as steerage cattle, but in a comfortable way. The horse had, from force of habit, stopped at the spring and both men were sitting like statues when Pete finished his story. Tears—'twas no shame to them—were in the eyes of both as they silently shook hands.

That night the boss told Pete's story to his wife. Now, she was a good woman and wept at right places, but she had a tongue. Five words cost

Zacharias forty weeks of silence. Apply this same sentence to the boss' wife and she is doomed to spend the remainder of her life in meditation. So by noon the next day she had told some of her "intimate" friends and, of course, these friends told it to others, who put two and two together and made five until by evening everyone knew that Pete had sent for his wife, his five children and his mother. Pete would rather not have his family affairs so publicly aired, but as "it is an ill wind that blows nobody good" some good finally came of all this talk. The air castles of the girls suddenly faded away; the boys sadly returned to their "Deadwood Dick" and their "Handsome Harry's;" the men said that they knew that Pete was just a "common" man and blew out their lanterns and laid aside their guns; the women said, "I told you so. I knew he could not hold his tongue." However, all were agreed that Pete needed their sympathy. Consequently he was greeted on all sides by friendly smiles.

One night, for Pete was on the "night shift" now, he came to work in rather bad humor. The night was not such a one as would inspire a person, for it had been raining all day in torrents and the roads were ankle deep in sticky mud. It was still drizzling. Pete was not alone in his fit of despondency, for all the men were sullen and uncommunicative. Even the mules were in a nasty temper. They stood kicking and squealing behind the shack, quarreling among themselves. These things in themselves did not mean anything, but, just as Pete was stepping into the cage, he seemed to hear in the choky voice of the engine the words—"be-care-ful—" "Be-care-ful-care"—"be-care-care-ful." He shivered, but resolutely shut his jaws and gave the signal for the descent. Where was his guardian angel?

Once down the hole where all was still but the chugging of the drills as they bit into the soapstone, a thousand things seemed to reiterate the words of the engine. There was a warning note in the trickling of the water; the drills persistently stuck; and the men were all nervous. For the first time in many months they heard the rumble of the midnight train as it shrieked and thundered past the shaft. Pete shuddered. What had come over him? Was the "terror of the pit" upon him? Sacramento Christo! What is that thing over there in the dark corner rubbing its hands and grinning so hideously? Pete stared like one possessed. It raised its hand and beckoned him, all the time with that awful grin on its face! Crash—a great lump of loose rock had fallen in that corner and the spectre was gone. The men looked at Pete horrified by the fearful look of terror on his face. Chug chug—chug chug, he was drilling again trying to catch up with the others. 'Twas no use, his was the last hole down.

The last man except Pete was on the car ready to ascend. He half stepped out, thinking to keep Pete company, but as he beheld the sullen, upturned face, he stepped back and shot up into the little patch of lighter darkness overhead. Pete was alone. He was ready to tamp the dynamite into the hole. Look! There was that terrible apparition again, this time sitting directly on the powder box! Hurriedly he snatched a few sticks and stooped over the drill hole. For the first time in his life his hand shook as he dropped the first stick home and seized the heavy oak tamping bar. He trembled like an aspen leaf as he crowded the charge down. As he placed another stick with the first, the thing over there chuckled fiendishly. Pete thought of her out upon the seas and unconsciously held the heavy oak bar suspended over

the hole. He heard a scream! Instantly there appeared to him a glimpse of a ship whose whole interior seemed shooting skyward in a burst of flame. Who is that white-faced woman in the water; and who that black-haired boy? Why does she hold her arms out to him? His wife! The tamper slipped from his grasp, down into the hole, and—crash. Death and the smoke were in full pos-

session of the shaft. Pete was a stranger in a New Camp.

In the papers the next day, alongside the column containing the account of the accident at the mine, was the news that "the Lavonne, Sicily to New York, with immigrants on board, had sunk in an explosion and all souls lost." No, Pete was not a total stranger in a New Camp.

A Revised Version.

BY RUTH E. HUNT.

And there were in a city High School certain of the people who were called Seniors, because of their great age and their mighty store of knowledge. And it had come to pass that the clerk in the office of the school made it known unto the teachers thereof that each of these Seniors should come to the office to seek the number of points which he had made, yea, one by one, they were all to come thither. But among these Seniors there were those whose hearts were troubled by this message, and they delayed many days. By this act the clerks in the office were waxed exceeding wroth and they proceeded thence to the rooms wherein these people were. They made a great noise, and demanded that they show themselves. And when they had come forth the messenger of the principal exclaimed against them with a loud voice and spake as follows to one: "Thou laggard, knowest thou not that

thou hast a flunk against thee in Latin! Why didst thou not hasten at once and make it up?" and to another she saith: "Woe to him who flunketh in (2¹) Math., for truly he shall not graduate." And they all were sore afraid.

As the maidens among these Seniors walked through the halls during the noon hour, lo, the janitor saith: "Get thee hence into the rest room and tarry there until the seventh hour is spent!" Yea, he is inflexible and heedeth not their lamentings. He chideth them bitterly when they partake of dill pickles and crackers in the midst of the corridor, and alloweth them not to finish them. Also, he falleth over in fits when they come out of their rooms between the times when the bells ring. But, look you at these damsels, they work not—neither do they study, yet Solomon, in all his glory, could not outbluff one of these.



The Eighth Wonder of the World.

BY ETHEL I. McDONALD.

About five miles from the little town of Everett, Washington, Professor John Foster, with his wife as his assistant, conducted a select school for girls. The pupils respected the principal, but they idolized his wife.

As they loved Mrs. Foster, so they hated the matron. She was a tall, stern looking woman, who was always in the wrong place at the wrong time. Her name was Arabella Dean, but the girls had given her a more appropriate one, Beany.

Toward Dorothy Nelson Beany had a peculiar dislike, but to her chum, Margaret Henry, she was a guardian angel. Mrs. Dean always said that Margaret was a perfect lady, but Dorothy—. The truth of the matter was, she had spent three and a half years in trying to learn how to control Dorothy Nelson, and in that she had not yet succeeded.

One rainy November day, as Margaret sat by the window of her room, she heard some one start up the steps, then a fall, a laugh, and at last a tall, dark-haired girl came limping into the room. To Margaret it seemed as though a ray of the brightest sunshine had entered the room. "Hello Madge, I tried to come up two steps at a time and I fell, but say, Madge, I just got a letter from papa and I want to laugh and cry at the same time. Which shall I do?"

"Well, Dorothy, how very ungraceful of a senior, but may I ask the cause of all this trouble?" asked her friend, quietly.

"Certainly, my dear, just read that and you will see." She handed the letter to her room-mate and went on hastily: "Auntie is going to Seattle for Thanksgiving and I can't go home, but papa is going to send us a box of no telling what. It will be here tomorrow,

and, Madge, we must be very careful or Beany will see it and make us take it to the kitchen."

Dorothy told four other girls of her secret, and the next day the excited six watched impatiently for the appearance of the express wagon. At last it came and the box was carried to Dorothy's room without the knowledge of the matron.

At dinner that evening all of the six except Dorothy seemed very excited. After the desert had been served Mr. Foster said: "Young ladies, will you please adjourn to the Chapel." Their hopes fell for they knew that the feast would have to be postponed until tomorrow.

When they reached the Chapel Dorothy could not be seen, but in a few moments Mrs. Foster came into the room, spoke to her husband, and sat down beside him. They sang a song and the principal began to read from the Bible. At the close of the third verse he stopped and smiled at them. "Young ladies," he said, "I had forgotten that this was the night before Thanksgiving. Miss Nelson has asked my wife if the evening services might not be eliminated. They may."

When the chosen five reached Dorothy's room she sat on the floor hastily pulling nails from every part of the box: The girls began to laugh, but she held the rammer up warningly. "Sh—" she said, in a stage whisper, "Beany has been through the hall twice during the last five minutes." When the box was opened many were the "ohs," and "ah's." The table was fixed at last. The turkey was in the center with the sandwiches, the fruit, cake, and the candy

around it. Dorothy surveyed the small stand table with a dissatisfied air. "Girls," she said, "an artist would say that that table was very inartistically arranged, but we are not to think of that to-night. Oh, I have forgotten the dates, and there are no more plates. Madge, may I use your work box?" Without waiting for a reply she filled the work box with dates and raisins.

"What would you do, Dolly, if Beany or Mrs. Foster should open that door?" asked one of the girls.

An expression of dismay passed over every face, but Margaret answered with admiration: "The door is locked, but if such a thing should happen, she would do something which no one else would ever think of doing."

At that very instant the door opened and Arabella Dean stood in the doorway and for a moment it seemed as though the head of Medusa hung there. Dorothy, however, was equal to the occasion. She walked up to the matron and looked into her face with an expression of genuine disappointment. "Why, Mrs. Dean, you came too soon. We are not quite ready. Where is Mrs. Foster? I hope she will have a surprise."

"Miss Nelson, do you mean to say that you expected Mrs. Foster and me to partake of a supper secretly prepared by you young ladies!" she asked in an icy tone.

"Most assuredly I did," replied Dorothy.

"Well, Miss Nelson, I think it will be necessary for me to report you to Professor Foster," and she turned to leave the room.

"Mrs. Dean," called Dorothy, "won't you please take this box of candy? Papa said for me to give it to some one who didn't have any, and since you are going to the office, will you please ask Mrs. Foster to come to our room?"

Mrs. Dean took the box, glanced about the room, shut the door, and in another instant the girls heard her steps as she retreated down the hall.

"Dorothy, I thought that door was locked," said Margaret calmly, but her face was very pale.

"So did I," answered her friend, "but we will not get into trouble. Mrs. Foster will see through it all, but she will not care."

It seemed as though the other girls could not recover from their shock, but as Mrs. Foster's steps were heard one of them threw her arms about Dorothy's neck and exclaimed: "Dorothy Nelson, you are the eighth wonder of the world."

"No I am not," said Dorothy quietly, "but I do think this whole affair might be termed wonderful."

Mrs. Foster came, did as Dorothy had said she would do, and the six were not punished.

Grandmother's Spoons.

BY VIVIEN SPEERY.

I had taken dinner with Mollie, now Mrs. Goal, and was admiring the dainty little solid spoons which came in with the coffee.

"Yes," said Mollie, "they are dainty and I prize them even more because

they were my great-great grandmother's and because there is such an interesting story connected with them."

Of course, after that, I wanted to hear the story, so Mollie began:

"It was during the Revolutionary

war, or rather it was the beginning of the war in the town where great grandma Mollie was living, and the people of the town were daily expecting the British troops. Grandmother Mollie had gone down to spend the afternoon with her chum and as she was returning she encountered a small lad evidently greatly excited.

"The British are comin,'" he called, as he came within screaming distance. 'They's right over the hills; you kin hear them in a minute,' and he was gone.

"The words gave speed to Grandma's feet and she sped along the road toward home as though pursued by a band of Indians. All the time her mind was working as rapidly as her feet were covering the ground. The soldiers were taking everything of any value as they went along. Mother was not at home and there were the silver spoons; solid silver they were, too, and spoons were then still something of a luxury. She must save the spoons. But how?

She had now reached the house and was looking wildly about for some place to conceal the spoons, six in all. Suddenly her eyes rested upon the kitchen table. There sat the crock of bread just ready to be moulded out into loaves. The very thing! Who would ever think of looking for spoons in bread dough? Surely not a crowd of soldiers.

Quick as a flash Grandma Molly had taken off her pink sunbonnet, whisked on a big checked apron and rolled the sleeves of her dress above her dimpled elbows. Then she set to work. How she did fly about! The pans were brought out, four of them, three small and one large one, and grandma's white fingers were kneading and shaping the loaves.

Now she could hear the beat of the drums and the shrill notes of the fifes as the soldiers came nearer. She must

hurry. Already one loaf had been shaped and two of the spoons were concealed, but the tramp of the men's feet could now be distinctly heard and there were still four spoons to be hidden. Now another loaf was finished and but two spoons remained. How her fingers flew! The men were entering the street and would be at the door, which she had neglected to close in her haste in a moment. At last! The third loaf covered the last two spoons.

When the soldiers appeared at the door they saw a young girl leisurely kneading a loaf of bread, while before her sat in a row three pans, each containing a smooth, white loaf. They went through the house, but found but little of value, and after each had had a cold drink of milk, they went away.

But there was one young lieutenant of the number who could not banish from his mind the picture of that fair young girl with cheeks flushed by her exercise and her arms powdered with flour, and so when the war was over he made his way back to the place where he had seen her. There, after a long and persistent wooing, he finally succeeded in overcoming her objections to Englishmen and he became my great grandfather. And not until then did he know that those white loaves of bread had each covered two dainty little coffee spoons."

"And the spoons," I asked.

"Oh, great grandma received them as a wedding gift and she in turn gave them to grandmother on her wedding day, and grandmother gave them to mother, who gave them to me when I married King."

"Oh, I do not wonder you prize them," I said, and I hope some day you will have the pleasure and privilege of giving them to another Mollie," and she did.

The Trials of Men.

BY FLOYD GAMBLE, '06.

I.

Lucille Dale was sitting in an easy chair on the lawn in front of the old Virginia mansion. She was trying to read a magazine, but an observer could have seen that her mind was not on her reading. Julius Dale, her father, known to all the neighbors as old "Julius Ceasar," had been having financial reverses and was in great danger of losing the old home as a result. That was what was worrying Lucille. But she was also thinking of "Jimmy," known in public life as James E. Wilson, attorney-at-law. By Lucille's earnest request, and promise of pay later on, Jimmy had been trying for two months to straighten out the tangles of old "Ceasar's" money matters. And tangles they certainly were.

Steele and Sharp, unscrupulous lawyers, had been harassing Dale for more than three years over the affairs of a "busted" cotton mill, of which they had been the financial advisers. Dale had been one of the heaviest stockholders and had invested all available money at his command in the venture. He had even gone so far as to borrow several thousands of Jimmy's uncle, another unscrupulous fellow, so the combination Jimmy had to work against was composed of two scoundrels in law business and an uncle of the same species who was not in the profession. The help he received was the friendship of an elegant girl.

II.

Dale had started a law suit against Steele and Sharp for the "recovery of money obtained under false pretences." Jimmy was his lawyer. He was sitting

in his office working over some of the papers incidental to the case. His coat was hanging on the back of a chair and his collar and necktie were at the other end of the table. Now, whistling was not one of Jimmy's accomplishments, except when his mind was intent on some subject and he was unconscious of his surroundings. Just now Jimmy was whistling. Therefore he did not notice the entry of Steele, the lawyer. Steele had a smile, or rather, a sneer, upon his face, and the way he looked at Jimmy certainly boded that personage no good. After a few seconds of glaring he came up and tapped Jimmy on the shoulder, saying as he did so:

"Well, Wilson, have you decided to drop this affair yet?"

Jimmy did not even stop his work, but said as he pointed with his pen to the piles of paper on the table.

"Does it look like it?"

Now, Sharp had expected that his confident smile, the wicked gleams from his eyes, and, above all, his imperative tone, would frighten Jimmy into giving up the case immediately.

But Jimmy hadn't seen the smile or the eyes and he didn't seem to take much notice of the voice, so, of course, they were lost. So Steele tried another plan.

"You know, Wilson, that you will lose the case."

"No, I don't," interrupted Jimmy, "and I never will know it."

"But, couldn't we settle this thing out of court?" said Steele.

"No," said Jimmy, "that would let you off too easy."

During the conversation Steele had noticed one of the principal papers in the case lying on the table. He knew that if he could prevent that paper from reaching court he could win the case. So he slipped around and sat down beside Jimmy, but in such a position that he was between Jimmy and the papers. However, Jimmy kept his sharp eyes on him continually. While they were talking he saw Steele take one of the papers and put it into his coat pocket. After which that worthy got up and said:

"Well, Wilson, I see we can't come to any terms, so I will have to go."

"No, we can't now," said Jimmy. "I will push this thing to the bitter end. But before you go, suppose you hand over that paper you just now took."

Steele started, but said: "What do you mean? Do you mean to insult me?"

"Oh, no," said Jimmy. "That's something that can't be done. But come, Mr. Steele, or I am afraid I shall have to use force."

"Well, —— you, take them," said Steele, as he tossed the paper on the table and started for the door, "but I'll beat you yet."

As he slammed the door Jimmy said softly and with a smile, "Aw, good day, Mr. Steele."

III.

"Papa, dear," said Lucille, as she came and sat on the arm of Dale's chair. "Let's go and take a walk in the garden."

"Very well, Lucie," said Dale, "go and get something to put around you."

They walked a while in silence, Lucille stooping now and then to examine a flower. Finally she said: "Papa, don't you think that Jimmy is an awfully nice boy?"

Jimmy—Jimmy—who's Jimmy?" said Dale, as he turned to hide a smile, for

he knew very well who "Jimmy" was.

"Why, that's Mr. Wilson's first name," said Lucille.

"Eh!" said Dale. "You must know him pretty well to call him by his first name."

"Well, it's this way, papa," said Lucille, blushing, "when there is nobody around but us, he calls me Lucille, so, of course, I got to calling him Jimmy. 'Mr. Wilson' sounds so stiff, don't you think so, papa?"

"I guess so," said papa, "I guess so."

By this time they had made a circuit of the garden and had reached the wide old porch. After a pause Lucille said: "Papa, did you know that your law suit will be tried tomorrow?"

"Yes, dear," said Dale.

"Jimmy said that he was going to win it, too," added Lucille. "Do you think he will?"

"I don't know, child," said Dale, as he arose and started into the house, "but let us hope that he will. Good night, daughter."

"Good night, papa," as she sat down in the chair he had vacated, and then to herself, "I know he will."

IV.

Jimmy came out of the court house with a smile on his face. Only five days had elapsed since the case had started, but in that time he had not only defeated Steele and Sharp in the suit, but had caused so much of their "dirty work" to be brought to light that charges had been preferred against them by the prosecuting attorney on three other counts. Dale had recovered his money, and had removed the mortgage from the old mansion. Jimmy's work on the case had already attracted much attention, and for a while he was busy with reporters, but for all that, he was happy in the fact that Lucille was pleased.

V.

Jimmy is now state prosecuting attorney. One of his principal backers at the election was old Dale. He made rapid progress in politics after the famous Dale-Sharp and Steele case. Old man Dale is now dead, but, of course, Lucille is married. Her name is—oh! no! it isn't Wilson. It's Henderson. Jack Henderson is Jimmy's cousin. James Wilson Henderson is a fat little youngster three years old. He often

goes down to see Jimmy, sr., in his office in the capitol building, where he is a general pet, and certainly "monarch of all he surveys."

Sharp and Steele are each serving their terms in the state penitentiary.

Jimmy is still a bachelor, but it is said that invitations are out for his marriage to the governor's daughter, which event will come off in the near future. Provided that is true—here's to Jimmy, the new better-half-to-be——

Beth.

BY TRESSA HERZOG.

Mrs. Carson entered the large living room of the old farmhouse, where her father, for whom she kept house, was sitting. A fire was burning in the great stove, for it was February and still very cold. Mr. James turned to greet his daughter with a smile, but it died on his lips before it was scarcely formed, for Mrs. Carson's face had anything but a pleasing appearance as she stood before him, holding a letter tightly in her hand.

"What's the matter now, Jenny?"

"Matter? Well matter enotigh! Here that good-for-nothing woman that Henry married has died and she couldn't do anything else to bother us so she left us her daughter to take care of. I suppose she'll be just like her mother."

The old man arose and took the letter from his daughter's hand.

"You must not talk like that, Jenny. She is your brother's child. I recollect Henry's writing something about her afore he died, when he asked me to take care of both of 'em, and I wouldn't do it. Maybe I wouldn't be having such a hard time of it now if I had taken care of Henry's wife and child. But I'll try

and make it up by being kind to the little girl now. Who wrote you the letter?"

"Some orphan business in the city. Fred went to town this morning and he just brought the letter. They say that she'll be here to-morrow. I reckon some one will have to meet her, although I'd just as leave they'd take her on to the next station and lose her."

"Nay! Nay! Jenny! Just think if you were dead and some one talked so about Totty?"

"That u'd be different. Totty is good and then I never married when my folks didn't want me to. It appears mighty funny to me when the folks of both parties are against their getting married how they'll go along and do it anyhow. And then what good comes of it? They both die and leave their child to the man's folks to take care of because the woman's are too stuck up. What will the girl be good for anyhow?"

"Perhaps she can ring the dinner bell for you, Jenny," said the old man with a smile, that being one of Mrs. Carson's duties which she did not like, but which

she could never find anyone to do to please her.

"How old is the girl and what's her name," asked Mrs. Carson not appreciating her father's jest.

"She must be nigh thirteen or thereabout, for I remember Henry said she was three that time when he wrote and that's been nearly ten years ago. He said they had named her Elizabeth."

"Well I'll call her Lizzie."

All that evening Mrs. Carson grumbled about her troubles to her husband, her sons or to any of the few farm hands who were staying through the winter.

The next morning Mr. James drove to the village station to receive the granddaughter whom he had never seen. There was only one passenger to get off and that was Elizabeth. Some one had kindly, so they thought, perhaps, provided her with an old black dress, but it only served to remind her more of her loss.

She stood quite still after the train moved off, waiting for some one to come and get her. What a pitiful picture she made, standing there all alone in her old black dress, looking eagerly about for some friendly face among the few people who were there! She was very small and slight for her age, and she was not at all pretty. That was against her, for Mrs. Carson liked healthy, handsome children. And Elizabeth was plain, almost ugly. Her rough, brown hair which had been cut short, tried hard to curl, but could not. Her complexion was sallow and her face drawn and pinched as one who had suffered much. The only pleasant thing about her were her eyes. They were large, soft brown eyes, but her small face made them look still larger. And as she stood looking about her they had the look in them of some wounded animal appealing for help.

Mr. James, who had expected to see a big healthy girl such as country girls generally are at thirteen, was so surprised that he stood still for some minutes just

looking at her. Then he went over to where she stood, and holding out his hand, said kindly:

"I reckon I'm the person your looking for. Ain't your name Elizabeth James?"

"Yes, sir," was the shy answer as she laid her hand in the big rough one.

"Well I'm your grandfather, little one, and I'm mighty glad to see *you*. I guess we'd better hurry home for we'll be late to dinner now."

She said nothing, only when she heard that he was her grandfather her hand clung a little closer to his. The old man led her to his wagon and lifted her into it, kissing her as he did so.

"You don't look very spry, little u'n, but I reckon the farm life 'll fix ye up."

"I hope so," came the weary reply.

"So do I, Lizzie."

Tears sprang into the large eyes.

"What is it, eh?"

"Mother called me Beth," she said simply.

"Then I will, too," answered the old man kindly. "I don't care what Jenny says," he added to himself, and he kept his word.

When they reached home, dinner was over, the hands had gone back to work and Mrs. Carson was becoming more angry every minute at having to leave her table stand so long. The old man led Elizabeth forward.

"Jenny, here is your niece, Beth. Why don't ye welcome her?" The last as Mrs. Carson stood looking coldly at the girl.

She frowned. The very appearance of the child displeased her. However, she managed to hold out her hand and say rather stiffly:

"How do you do, Lizzie. I hope you'll behave yourself while you're here."

"I'll try, Mrs. Carson," answered Beth. Although Mrs. Carson was her aunt she never called her so, and her aunt did not care. She would have remonstrated

about being called Lizzie, but her grandfather warned her not to, and so Mrs. Carson always called her Lizzie.

"I guess I'll have to get ye some dinner now." This last was said crossly for Mrs. Carson was angry with the child, because the train was late.

After dinner Beth tried to make herself useful, but she did not succeed very well, for she was not used to kitchen work. Although her mother had been very poor, she had managed to shield her little Beth from hard labor by doing it herself.

One thing she did do to please Mrs. Carson and that was to ring the dinner-bell. And in time she learned to do other things very well too, but Mrs. Carson did not think so, and, therefore, never gave her any encouragement. She had never forgiven her favorite brother for not marrying the woman she had wished him to, and so she let her anger fall upon his child.

The farm hands, however, liked Beth, as did her cousins, and they were kind to her, all but Tottie, who took after her mother in everything.

As the weeks passed, Beth grew used to her home and to the treatment she received, although she was not happy and certainly her health, which was very poor when she came, did not improve.

The only person on the farm that she cared anything about, was her grandfather. She went to him whenever she was tired or very unhappy. She never complained to him, but he knew that she was neither strong nor happy; and the poor old man who had grown to love his Beth, as he called her, did all he could to take the place of both her father and mother.

One day early in April, Beth was not at home to help get the dinner and Mrs. Carson who had grown to depend on her help, was very angry. She just came in time to ring the bell. In each hand she carried a large bunch of purple vio-

lets, surrounded by their own dark leaves. They told plainly where she had been.

"So, that's the way you pass your time when you should be helping me, you ungrateful child."

Elizabeth swallowed hard to keep back the tears.

"Why mother always loved them so, and I thought you would like them, too," she replied, hiding her face in the blossoms so that her aunt might not see the tears that were now in her eyes.

"Put them down and ring the bell. Don't stand there like a dummy."

Beth did as she was told. In her anger Mrs. Carson did not notice that the girl's feet were wet from tramping around in the woods, and Beth was afraid to tell her so herself. She was kept so busy all afternoon that she did not have a chance to change her shoes or dry them. Mrs. Carson was not cruel, and had she known that anything was the matter with her niece, she would have helped her, but no one knew until it was too late.

That evening when she complained of being cold and her grandfather questioned her, she hesitatingly told him about it. He carried her up to her little hall room himself, and she carried the violets with her.

The next day and for many days thereafter, Mrs. Carson had to ring the dinner bell herself, for Beth was too ill to move.

Then the day came when the bell was not rung at all for Mr. James declared that none of his hands should work on the day that his little Beth was buried, and Mrs. Carson for once was obliged to submit.

In another thing, too, Mr. James had his way. The white stone above the little grave in a secluded corner of the village cemetery bore the one word:

BETH.

And every Sunday morning in the spring, as long as they were in bloom,

and he was able to go to pick them, the old man carried a great bunch of purple violets to the cemetery and laid them over

the place where the body of his little Beth, whom he had known and loved for but a few months, had been laid.



Is the Study of Cookery of Benefit to Students?

By ADELE STEINFELS, '06.

The question "Is the Study of Cookery of Benefit to Students?" is one frequently discussed and is of wide interest. Who would dare say, "Of what benefit is mathematics to the student?" Mathematics is inestimable as a mental discipline. Cookery involves mathematics to a degree. It also involves many other studies universally conceded to be beneficial to the student. The study inculcates a practice of accuracy and rapidity of thought, and also the art of exact reasoning. There are two distinct parts of the work, the scientific training and the manual training.

The scientific includes not only the mental discipline but also the practical application. It strives, by way of application, to give to the student a more thorough understanding of chemistry, physiology, botany and many other of the natural sciences.

The manual training involves accuracy of execution, acuteness in putting thought into action, arrangement and plan together with real skill. One may readily see that without the manual training part of cookery it would be of little use to the student, because one may be able to think rapidly and accurately without being able to execute with skill.

The practical application to life is an important phase of the study, for who does not wish to know how to direct one's domestics intelligently? To do this, one must have a thorough understanding of the study in all its phases. Cookery is the one study, besides domestic art, that institutes and stimulates an interest in home life. It relates more than any other one study to home life. It has been said that experience is the best cooking teacher. This is undoubtedly true, but is it not so with all other studies, too?

SCIENCE



Soap Bubbles.

By LEONARD McWHORTER.

I suppose there is no one who has not, at some time or other, blown a soap-bubble or seen one and admired its perfect shape and beautiful colors. But how many of you who have spent much time playing with soap bubbles, have ever thought of the physical forces which are brought into action in the making of them, and which hold them in their perfect shape and give them their brilliant colors?

If you should be asked how a soap bubble is made, you would probably say by dipping the end of a pipe or tube in soap-suds and blowing on the other end of the pipe or tube. This tells how it is made, but it does not tell why. If you have studied physics you will know and understand the term "surface-tension." You will know that the outside of a liquid acts as if it were an elastic skin, which will, as far as it is able, so mould the liquid within it, that it shall be as small as possible. Generally, the weight of liquids, especially when there is a large quantity, is too much for the feebly elastic skin, and its power may not be noticed. The disturbing effect of weight is got rid of by immersing one liquid in another with which it does not mix and which is equally heavy. An experiment which shows this well is to mix alcohol and water in such proportions that they will form a mixture of the same density as

that of oil. Then introducing some of the oil into the liquid through a tube, the oil will form a perfect spherical globule and remain suspended in the water. Since the water does not wet the oil and the weight of the oil is neutralized by the suspending liquid, the elastic skin is free to act unhindered, and the result is that the globule of oil, because the elastic skin is trying to become as small as it can, must take the form which has the smallest surface for its volume, and that form is the sphere. This tension or contracting force, called "surface-tension," is due to the fact that the molecules of liquid in or near the free surface are not acted upon by "forces of cohesion" on all sides—as are the molecules in the interior of the liquid—but only on the lower side. Thus there is this force acting on the surface.

Pure water has a higher surface-tension than any other substance, liquid at ordinary temperatures, except mercury. Therefore in a soap-bubble we have exactly the same conditions present that governed the suspended globule of oil. The film is so thin that there is practically no weight to it (the film of a soap-bubble four inches in diameter weighing only about .03 gram.) and the suspending medium is the same as the contents of the bubble. The bubble has, however, two surfaces, an outer and an inner

surface, both exposed to air. It has therefore, a certain amount of what is called "surface energy" depending on the area of these two surfaces. Since, in the case of thin films, the outer and inner surfaces are approximately equal, we shall consider the area of the film as representing either of them, and we shall use the symbol T to denote the energy of unit area of the film, both surfaces being taken together. When, by means of a tube, we blow air into the inside of a bubble, we increase its volume and, therefore, its surface, and at the same time we do work in forcing the air into it, and thus increase the energy of the bubble.

That the bubble has energy may be shown by leaving the end of the tube open. The bubble will contract, forcing the air out, and the current of air blown through the tube may be made to deflect the flame of a candle.

If the bubble is in the form of a sphere of radius r , this material surface will have an area

$$II=3.1416.$$

$$S=4IIr^2.$$

If T be the energy corresponding to unit of area of the film, the energy surface of the whole bubble will be

$$ST=4IIr^2T.$$

The increase of this energy corresponding to an increase of the radius from r to $r + dr$ is therefore

$$TdS=8IIr T dr.$$

Now this increase of energy was obtained by forcing in air at a pressure greater than the atmospheric pressure, and thus increasing the volume of the bubble.

Let P be the atmospheric pressure and $P+p$ be the pressure of the air within the bubble. The volume of the sphere is

$$V=4/3IIr^3.$$

and the increase of volume is

$$dV=4IIr^2dr.$$

Now if we suppose the quantity of air already at the pressure $P+p$, the work

done in forcing it into the bubble is $p dV$. Hence the equation of work and energy is $p r V = T dS$, or $4IIr^2 dr = 8IIr dr T$, or $p = 2Tr$.

This therefore, is the excess of the pressure of the air in the bubble over that of the external air, and it is due to the action of the inner and outer surfaces of the bubble. We may conceive this pressure to arise from the tendency which the bubble has to contract, or in other words, from the surface-tension of the bubble.

If to increase the area of the surface requires the expenditure of work, the surface must resist extension, and if the bubble in contracting can do work, the surface must tend to contract. The surface must, therefore, act like a sheet of india rubber when extended in both length and breadth, that is, it must exert surface tension. The extension of the sheet of rubber, however, depends on the extent to which it is stretched, and may be different in different directions, whereas the extension of the surface of a liquid remains the same, however much the film is extended, and the tension at any point is the same in all directions.

Let us now go back to our last equation, $p=r^2T$.

From this we can see that if the radius, r , of a bubble is increased, the pressure within the bubble is decreased; or, of two bubbles, the one with the larger radius has the less pressure of air inside. This can be easily shown by a little experiment. Blow a bubble two or three inches in diameter and then blow another the same size. Bring them together so that they touch and have part of the film in common, this common film will be plane and a circle; now blow more air into the second bubble, increasing its radius, and the common film between the bubbles will no longer be plane but it will be convex on the side of the second or larger bubble. This shows that the air in the

smaller bubble is under greater pressure than in the larger bubble.

You have probably often admired the brilliant colors in soap-bubbles. When the bubble is first formed it is practically colorless, unless the film is exceedingly thin. As the bubble increases in size, the film becomes thinner and a series of colors now passes over the bubble; green, red, light tan, purple, and dark blue just before bursting.

These colors are due to the breaking up of the light rays striking the bubble, and causing light waves of different lengths to interfere. When a ray of light strikes a film, part of the light is reflected by the outside surface of the film

and part is reflected by the inside surface of the film. The waves from the outside are met by those reflected from the inside, and if the film is of a certain thickness these waves will be out of step with each other and so destroy each other leaving the other waves in white light to produce the color. As the bubble is blown larger, the film becomes thinner and the interfering waves are shortened so that a different color appears. When the film becomes so thin that it is practically nothing, the light waves are then not reflected at all and the bubble is without color or appears black; this is the bursting point of the bubble.

The Rise of Algebra.

By VIVIEN SPERRY.

The science of algebra is one of the oldest sciences of which we have any knowledge. It was used almost as early as was geometry. About the oldest record we have of any knowledge of algebra is found in the Ahmes papyrus, written before 1700 B. C. and supposed to have been founded upon a work dating back as far as 3400 B. C. Thus the Egyptians are the first to give us any algebra. In the Ahmes papyrus we find solved equations with one unknown quantity. The unknown is called a "hau" or heap. We also find a fairly accurate approximation for the value of Pi 3.1604. Ahmes, however, had no idea of solving problems by our present method. His way was to guess at an answer, find the error and modify the guess accordingly. This method is frequently used in our own mathematics classes. The chief difficulty with the Egyptian algebra was the lack of a clear system of symbols.

The Greeks were the next people to make any progress in algebra. Their method of solving algebraic problems was by means of lines in a geometric way.

They did not consider anything higher than the cube of a number since they could not solve anything higher by the lines. Thymaridas solved simple equations, using some of our present terms as *known*, *given* and *unknown*. Euclid solved quadratics of the form $ax - x^2 = b$ and $ax + x^2 = b$. Diophantus, however, was the one who did most for Greek algebra. Little or nothing is known of his life, but during his time he solved quadratics, although he found but one root, and gave us the indeterminate equation called the Diophantine equation. The next race to advance in algebra was the Arabian. When the Arabs founded Bagdad, their capital city, scholars were called from all parts of the known world and Bagdad became the center of learning. It was here that Al-

Khwarazmi wrote the first general treatise on algebra which he called "*Ilm al-jabr wa'l muqabalah*." In the thirteenth century it appeared under the Latin title "*Laudus Algebroe Almucgrabaloque*." In the sixteenth century the science was known as "*Algiebar and Almachabel*," and finally came our modern algebra.

Of the more modern mathematicians, Vieta, a Frenchman, gave us the present system of Algebraic symbols, and in 1819 an Englishman, W. G. Horner introduced the present algebraic method of solving higher numerical equations which is now widely used although at first it was not given much attention by scientific men.

Squaring the Circle.

Last of a Series on the "Three Great Problems of Mathematics."

By HARRY L. HAWKINSON.

The origin of this problem is so vague that the time and reason of its appearance is but a matter of opinion. The problem is, to construct a square whose area shall be equal to the area of a given circle, or in more general terms, to construct any rectilinear figure equal in area to that of the given width. The earliest circle squarer that I have been able to find happens to be a Greek; hence we infer that the problem must have originated with the Greeks sometime between 560 B. C. and A. D. If the circle can be squared then we can find the exact value of π , the ratio between the circumference and the diameter, therefore we infer that if we can find the exact value of π , we can square the circle. Our discussion will then largely consist about the determination of π , which is 3.141192653589793238462, and so on in an endless fraction.

The circle-squarer to whom I referred in the first paragraph was Antiphon (430 B. C.). His argument is as follows: Having drawn a circle, he inscribed in it a regular polygon, a square for instance. Then he bisected the arcs, and joined the mid-points thus determined, to the vertices of the square, and continued the operation until he concluded that the sides of the polygon would become so infinite-

ly small that they would coincide with the circumference. But we can substitute for any polygon a square of equal surface; therefore, we can, since the surface coincides with the circle, construct a square equal to the circle. But the fallacy in his argument is too great to escape being unnoticed. It is a well established principle that a straight line cannot coincide with a circumference, for one without meets the circle at only one point, one within in two points, and not more, and the meeting takes place in single points. Since this is true we conclude that Antiphon's solution is incorrect.

Calculations for the value of π go farther back into antiquity than Greece. We find that the ancient Egyptians had a value for π which no doubt was largely empirical. The two recognized methods for obtaining the numerical value of π follow. The first method consists in inscribing and circumscribing polygons in and about the circle, including the number of sides indefinitely and then calculating the perimeters of each, and finally assuming that the circumference is a mean between them; the second method and modern method rests on the determination of a converging infinite series for π . By the first method though geo-

metrical, the values obtained are so nearly correct that they may be used with as close a degree of accuracy as is desired in most of our calculations.

We will now take a look backward and view the approximations for pi that have been laid down by the early mathematician. The value which the ancient Egyptians used was $256/81$, which is equal to 3.1418, but for rougher calculations 3 was used by the Babylonians and the Jews. (5000 B. C. to 300 B. C.), and the Egyptians also.

We come next to the long roll of Greek mathematicians who attacked the problem. Whether the researches of the Pythagoreans, Tonians or those of Anaxagoras, Hippias and Byrso led to numerical results is doubtful. It is probable that Euclid was aware that pi was between 3 and 4, but did not state it explicitly. The mathematical treatment of the subject began with Archimedes, who proved that pi was between $3\frac{1}{7}$ and $3\frac{10}{71}$, that is between 3.1428 and 3.1408. Hero of Alexandria gave the value as 3, but quoted it $22/7$, the former being for rough calculation only. The last but not least of the approximations by the Greeks is that given by Ptolemy, who asserted that pi was equal to $3^{\circ} 8' 30''$, which is equivalent to $3 + 8/60 + 30/3600 = 3\frac{17}{120} = 3.1416$. It is quite a mystery how he conceived of it in this form.

The Roman surveyors seemed to have used 3 for rough calculations. For closer work they introduced $3\frac{1}{8}$ instead of $3\frac{1}{7}$, because the fractions then involved were easier to solve, but $3\frac{1}{7}$ however, was recommended.

Of the Indian and Eastern workers a few will be mentioned. Baudhayana took $49/16$ as the value for pi, equal to 3.0625, Abeya Bhatco (530 A. D.) gave $628\frac{32}{20000} = 3.1416$. Bramagupta (A. D. 650) gave $\sqrt{10}$, which is equal to 3.1622. He is said to have obtained this by inscribing in a circle of unit diameter regular polygons of 12, 24, 48, and 96 sides, and then

calculating the perimeters of each which he found to be $\sqrt{9.65}$, $\sqrt{9.81}$, $\sqrt{9.86}$ and $\sqrt{9.87}$ respectively. He then assumed that if the sides be indefinitely increased, the perimeter would approach $\sqrt{10}$ as a limit. Blaskara (1150) gave two approximations, $3927/1250$ and $754/240$ both being equal to 3.1416. Among the Arabs $22/7$, $\sqrt{10}$, and $62832/20,000$ were given by Alkarism (830 A. D.) and these no doubt were copied from the Indians. He describes the first as an approximate value, the second for geometers, the third for astronomers. In Chinese works the values 3, $22/7$ and $157/50$ appear.

We come at last to the European mathematicians. We have the following successive approximations for the value of pi. Most of those prior to the eighteenth century had been calculated originally with the view of demonstrating the incorrectness of some alleged *quadrature*. Leonardo of Pisa in the thirteenth century gave $1440 \div 458\frac{1}{3} = 3.1418$ as the correct value. Cusa believed it to be $1440/458$ (three-fourths of the sum of the square root of 3 and the square root of 6) $= 3.1423$; Viète in 1579 showed that pi was greater than 3.1415926535 10 and less than 3.1415926537. The father of Adrian Metius, in 1585 gave $355 \div 113$, which equals 3.14159292. This was a curious and a lucky guess, for all that he had proved was that pi was intermediate between $377/120$ and $333/106$, whereupon he jumped to the conclusion that he would obtain the true fraction by taking the mean of the numerators and denominators. From this time on calculators vied with each other to see who could carry the value to the most number of places in decimals, and in 1873 Shanks had carried it out to 707 places.

The investigations previous to the last 200 years had been fruitful in the discovery of allied theorems, but in more recent times it has been by those who are able to realize what is required. One author

says that the mathematical acquirements of the nineteenth century circle-squarer does not extend beyond long division. That this problem was not capable of solution was early suspected, but now has been proven, and demonstrated. The earliest analytical proof of it was given by Lambert in 1761. In 1803 Legendre

continued the proof of Lambert who proved that π was incommensurable, and proved that πr^2 was incommensurable. Recently, Lindeman proved that π could not be the root of an algebraic equation, hence the problem of squaring the circles cannot be constructed according to eucdeidean geometry.

Weeds.

By HOWARD PARET.

One of the greatest of natural pests, a pest concerning the farmer more than anyone else, but, through him, concerning us all, is that of weeds. The damage done by these and the expense they cause is enormous, amounting, probably, to several million dollars annually. They may bring loss to the farmer by either or both of two ways; first, by a reduction of the yield, and second, by the expense of destroying the weeds. Both ways are important. An example of harm by the first way is found in the hemp crop of some of the central states, the roots of the plants being preyed upon by a parasite called broom rape, sometimes to the extent of causing an almost complete loss of the crop. An example of the second way may be found in the cultivation of crops for the destruction of weeds, causing, of course, an extra expense. In the cultivation of sugar beets, weeding is a very expensive operation as it must be done by hand. Taking a general example, the damage the Russian thistle has caused in the northwest in one year has been estimated at \$2,000,000.

As among all things in nature, weeds have their enemies, and of their enemies other than man, birds are undoubtedly the greatest. Information on this subject, given by reliable authorities, is appalling; the consumption of weed seed by birds reaches an extreme figure. The tree sparrow lives entirely upon weed seeds during winter and each bird probably consumes a quarter of an ounce daily. Quail eat the seed of fully sixty different species of weeds, and in the stomach of one bird, 10,000 seeds of pigweed alone have been found. It is computed by the Department of Agriculture that the amount of weed seed consumed in Virginia alone by quail in eight months is 573 tons and the amount consumed in one season in Iowa by tree sparrows alone is 875 tons.

Game laws may at times be carried out to a degree that results in harm by protecting birds until their numbers become so great as to damage crops, but such a case is very exceptional and the protection of birds by game laws is undoubtedly of great benefit to the people.

The Pearly Nautilus.

By HELEN D. CRANDALL.

The Pearly Nautilus is the only living representative of shelled cephalopods of the subclass, Tetrabranchiata. As it travels back and forth in the water, how few realize that so small a creature could be so wonderful.

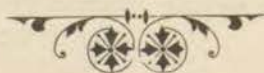
When a mere baby, there appears on its back a shell in which it lives—being fastened to it by means of two oval muscles. But year after year, the animal slips forward in its shell as it grows and inhabits a new chamber which is cylindrical in form. The shell is coiled in one plane and divided into chambers by partitions or septa, the outer being called the living cell as the animal lives in it. The shell is composed of two layers, the outer resembling porcelain and the inner pearly—whence it gets its name "pearly" nautilus.

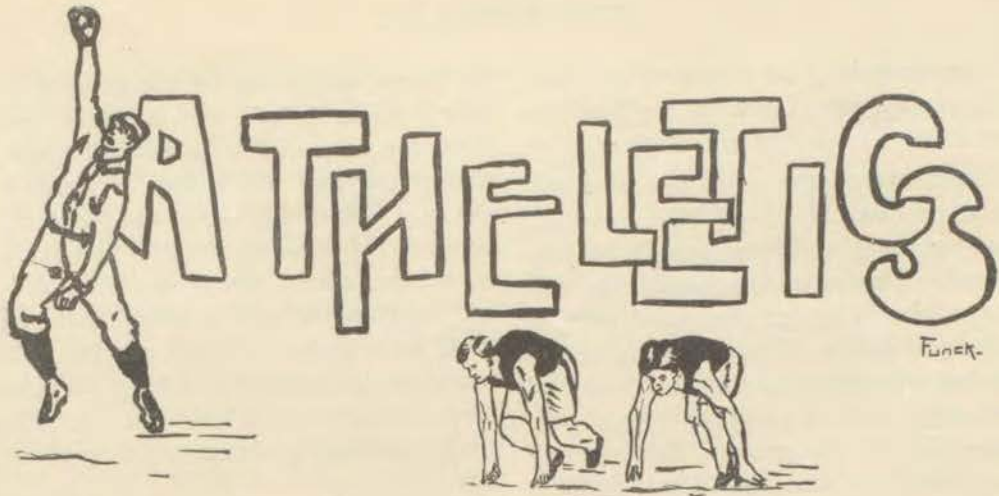
Instead of throwing off the deserted chambers, they are accumulated behind the living cell. One will ask, "How can such a little animal carry so large a shell? The answer is even of more interest. Each deserted chamber contains a gas much like the atmosphere only a larger proportion of nitrogen and this gas lessens the specific gravity of the whole organism. Another peculiarity of the shell is that the seams of chambers are traversed from the top of the visceral hump to the smallest and first formed chamber of the series by a canal connecting all the chambers. After a certain stage in the growth of the animal, no new chambers

are formed. But let us stop a minute and see the curious little animal who rules over this wonderful house.

The body is short and thick and is composed of a rounded sac-like trunk and a large obtusely conical head bearing eyes, tentacles, and ears. The pair of tentacles on the dorsal side are fused so as to form a hoodlike lobe by which the aperture of the shell is closed when the animal is withdrawn into the living chamber. Beneath is a funnel which is used as a locomotive organ through which water is ejected with sufficient force to drive the animal backward. If it wishes to go forward, the animal swims by means of the tentacles which are extended radially from the head. The mouth which is in the center of the tentacles is armed with a tongue and a pair of remarkably powerful horny jaws. These jaws are tipped with carbonate of lime and are capable of inflicting severe wounds. The foot, which is divided into two parts has the head merged into it and grows upon each side right and left, so as to surround the mouth. It is drawn into four or five pairs of lobes, each carrying peculiar sheathed tentacles.

So we see that though this little animal is burdened with a house much larger than itself, it is well provided with means to protect itself and it is there and its beautiful house that for years and years have been a source of wonder and admiration to all mankind.





How the Initial Game Stirred Up a Country Town.

BASKETBALL STORY.

By RUTH PHILLIPS, '07.

Rose was walking down a beautiful shaded avenue that ran in front of the High School of Belleview, poring studiously over the dryest of English lessons, but, like most girls, her interest could not be held long by rhetorical definitions and explanations, and her thoughts often wandered to her school-days of a year ago. At that time she had been a student in a High School of a large city, where she had found many friends, and had participated in many of the wholesome rivalries of the school, and in which she had often been victorious. She had won many of the school honors, and was anticipating success in numerous other undertakings, when her father's business called him suddenly to Belleview. So she had been forced to leave the city, to leave her friends and the school, the center of her ambitions, and begin in sleepy Belleview a new record, which she had decided to make as good as the old one.

But in spite of her enthusiasm for study, her interest would sometimes lag,

when she thought of the contests, the debates and athletic games of her old school. She was feeling especially blue today because of the monotony of her new life, and the lack of variety in the daily routine of the village High School. Suddenly an idea came to her, and instead of going to the woods, as she had intended, she turned and went back to the school. There were still a few girls lingering in the cloak room, and Rose ran up to them excitedly. "Do you girls know what a basket-ball team is?" "Yes," ventured one, "I've heard of such a thing, but there has never been one anywhere in this part of the country." "Is there any one here at school who knows anything about it?" persisted Rose. Alice looked astounded. "I should think not! I doubt that they would all know what you were talking about!" "But I do believe I've heard Minnie speak about it," said the first girl. "Well, we will tell them about it if they don't know. We'll form a team and surprise everybody. I'm tired of

doing everything in the same old way, day in, day out. Come on, we'll go and see if Mr. Cox is still in his office."

Sure enough the good man was still bending over his desk. He gave his ready consent, and Rose went home contented. The next few weeks she was happy, for, although the chief part of the work fell to Rose, she delighted in having something to do, and spent all her spare time in teaching the girls the principles of the game. This was no easy task, for none but Minnie had the slightest idea of how the game was played. But, thanks to Rose's directions, and the cheerful industry of the girls, they developed into a team of strong and well-trained players.

Back at the school from which Rose came a passerby would have been attracted one day by talking and laughter, and would have noticed a group of students engaged in an excited conversation. They were discussing the news from Rose. "She has organized a basket-ball team," announced Edith, as she produced the last letter. "And, O, my! they've challenged the Greenville High School to a game on Saturday, a week from tomorrow." "Nonsense," said Mary, as she snatched the letter to read for herself the astonishing news. "Well, it's true," she said, after finishing the sheet. "But I'm afraid they'll be beaten." "Let's go down and cheer them any way," proposed one of the boys. "Good idea!" exclaimed Edith. "We can start on Friday night, and reach there Saturday morning, and we won't let Rose know a thing about it."

The country girls at Belleview thought at first that Rose would stand aloof from them, but the spirit and enthusiasm that she displayed during practice, convinced them that she was only a girl like themselves. There was great excitement, not only among the girls, but among the inhabitants of

Belleview, as the day for the game drew near. Never before, had the little town been the scene of a basket-ball game, and young and old looked forward to the day. Rose felt more and more the necessity of winning, for she had started the movement, and if she were beaten, everyone would consider that the fault lay with her. So she and the girls practiced industriously during the last week, and they could have been found in the gymnasium at almost any time of the day.

By the time the eventful Saturday had come, the news had spread to the neighboring towns, and many strangers might have been seen early Saturday morning in the Belleview station, feeling as enthusiastic as the residents of the town itself. In direct contrast to the curious country people collected at the depot, one might have seen a group of ominously quiet High School students, who had just come from a large city. "I hope we won't see Rose," whispered Edith, as they went cautiously from the station. But they reached the nearest hotel in safety, and were not seen again until it was time for the game.

The largest hall in town had been chosen for the game, and decorated with the school colors. No one doubted that it would be filled to overflowing, which indeed it was. Not a seat was left when the appointed hour arrived. The Greenville visitors sat on the left side of the hall, trying their best to drown out the supporters of the Belleview High School, who sat on the right. Now then, one might have seen a stranger gaze with curiosity at the old rafters that had held up the roof for nearly twenty-five years, at the well-washed windows decorated with bunting, and then again, at the excited faces in the audience, and the innumerable banners, that seemed never to be still, accompanying, as they were, the yells of the enthusiastic students. But back by the wall was a

group of students who did not join in the common hilarity, and who, at first sight, did not seem to have any banners, but if one were to look again, he would see at their feet, a bunch of pennants, different from those that were being waved about them.

But now the game began, and everyone grew quiet, as if by common consent, to watch the game that was new to almost everyone there. Both teams were well trained, and each seemed so intent on the work at hand, that it would have been hard to prophesy which would be the winner. For quite a while after the game began, the scores were a tie. But when the Greenville team finally succeeded in adding one to their score, their side of the hall broke forth in tumultuous yelling, that rather discouraged Rose, for she had already found that the other team played a little swifter than their own. And then too, there was not much time left to play. But as these disagreeable thoughts came to Rose, everyone was attracted by a strange yell, coming from the rear of the hall. Rose paused, all became silent to listen, and the yell, start-

ing feebly, gained in volume as the enthusiasm grew. "I yell, you yell, all yell, Man-u-a-l." It was the yell of her old school! She glanced in that direction, and was greeted by a cheer, and a flourish of crimson banners. It gave her courage, and she began the game with renewed vigor, which communicated itself to the other girls. She was spurred on by the thoughts that her friends were there to see her win, and she determined not to disappoint them. There were only five minutes more to play. The girls immediately won two points, and a victorious shout arose from the Belleview side of the hall. The game was theirs. "If they were boys, we might carry them home on our shoulders," exclaimed one of the boys, but as it is—"We might have a feast at the best restaurant," suggested Edith as they passed out to see Rose. After the cordial greetings, Rose sat down to get her breath. "Oh!" she said, "I'm sure we would not have won the day if I had not been surprised by the familiar yell from old Manual. It will cheer a person up, no matter how near the losing point he is."

Basketball Victories.

By DONALD WHEELOCK, '07.

This year Manual has been more than successful in basketball, and by virtue of her many victories can easily claim the championship of the Missouri Valley. Is this not a title of which we should all feel very proud? Manual has yet to be defeated by any accredited High School in the Missouri Valley.

Last year the "championship" was conceded to Topeka High School. This year we met them and took them into camp at the tune of 45 to 21. This large

score shows that they cannot hope for the championship honors this year.

The three big games which the team and school wanted most of all, were the games played in Convention Hall, February 15, 16 and 17, against our old and worthy rival, Central High. We not only defeated them, but did it by such a good score that it showed plainly that the trophies deservedly went to us.

On February 2 Manual journeyed to St. Joseph, where we defeated the High

School team of that city, by a score of 34 to 18. The friendship and hospitality shown us at St. Joseph will not soon be forgotten by those who made the trip. On February 24 St. Joseph came to Kansas City, and the result of the game was a score of 52 to 31 in favor of Manual.

The team this year is composed of only two of last year's men, Captains Dousman and Reed. The work of Captain Dousman as guard is such that it is impossible to make any comment on it except praise. His ability to handle his men and keep his team together at the same time, is exceedingly commendable.

Reed, the tallest one of the five, has made more points for Manual than any other man on the team. His work at center has been above reproach. In every game he gets the ball on the toss up, and by his accuracy in hitting the basket, has won more than one game for Manual.

Bartley stands next to Reed in the number of points made for his school. He plays with all his might, and he makes one of the best forwards Manual has ever developed.

Two new men are in the team's lineup, one Young and the other Mayberry. Young's position is at guard, and we can say that he is a very conscientious player.

Mayberry, who plays the other forward, is a Lawrence High School boy. He plays a good, steady game, and always helps in the scoring.

The work of Dr. Hall, our manager and coach, has been such that all of the boys feel that they are greatly indebted to him for his unceasing efforts to make our team the best.

The score of the various games played are as follows:

Manual, 47; Central College of Osteopathy, 17.

Manual, 59; Wyandotte Athletic Club, 9.

Manual, 32; Independence Athletic Club, 34.

Manual, 34; Lee Summit Athletic Club, 36.

Manual, 23; K. C. Athletic Club, (seconds), 15.

Manual, 45; Topeka High School, 21.
Manual, 34; St. Joseph High School, 18.

Manual, 25; K. C. A. C. (seconds), 31.

Manual, 24; Central High School, 23.

Manual, 20; Central High School, 18.

Manual, 32; Central High School, 14.

Manual, 52; St. Joseph High School, 31.

Manual, 40; Topeka High School, 16.

Thus closes the most successful basketball season Manual has ever had.

Track Team Announcement.

This year, on account of Manual's athletic standing and good management, she has the best track team schedule that could possibly be arranged. The schedule, as it stands adopted, is as follows:

March 16. Missouri-Kansas meet in Convention Hall.

April 20. Meet at Lawrence under auspices of Kansas University.

May 5. Meet at Columbia under auspices of Missouri University.

May 12. The M. V. I. A. A. meet at St. Joseph.

May 19. Manual vs. Central.

June 9. Meet at Chicago.

These meets are all important contests and ones in which Manual will have for competitors the best accredited High

Schools in this section of the country

On March 16, Manual's opponent in the Missouri-Kansas meet will be Central High school. The two schools will probably compete in a relay race, and the fifty-yard dash.

On April 20, in the meet held at Lawrence, all the accredited High Schools of Kansas and Kansas City will be represented, and the winning of the meet will be considered quite an achievement. The day will be virtually turned into a reception day at the University for the benefit of the High School pupils.

On May 5, the meet held at Columbia will be the same kind as the one held at Lawrence, with the exception that only Missouri High schools will be represented. No doubt Missouri will try to outdo her old rival and show the High School pupils even a more enjoyable time than Kansas.

On May 12 the annual track and field meet of the Missouri Valley Interschol-

astic Athletic Association will be held at St. Joseph. This meet is considered a little more important to the High Schools that enter, because this decides the Missouri Valley Interscholastic supremacy.

And as for the *Manual-Central* meet, from the friendly spirit of rivalry that exists in the schools, the events will be strenuously contested.

At the Chicago meet, Manual will be represented by her winners of first places in the M. V. I. A. A. meet. At this meet Manual will compete with Eastern High Schools, and it will be interesting to note, by these events, how much the Eastern High Schools are superior to our Manual, if at all.

How successful Manual will be in all of the meets is a matter of the greatest interest at present in the school. But with a good record, a good manager, a good gymnasium, a good coach, good material, and the good loyal "Manual spirit" prevailing, there is every reason to predict success to our track team.

Girl's Basket Ball.

The Manual girl's basket ball team won a great victory in the Central Manual game, which was played at the Central High school on February 9. The Central team was defeated by a score of 34-27. All of the girls played excellently, and we are especially proud of their success, as this is the first game of basket ball Manual has ever won in Central's gymnasium. The second game with Central has not yet been arranged, but it

will probably take place in a few weeks.

Our girls have a strong team this year and expect to win more victories before the close of the season.

In the twelve interclass games that have been played this winter, the senior team has won five, and the sophomore, five. The championship will be decided by a game between these two classes which will be played soon. A silver cup has been offered for the champion class team.

Baseball.

On February 9th the first baseball meeting of the season was called to order by Mr. Bainter for the purpose of dis-

cussing the plans and the prospects of baseball for the coming season. During the meeting many talks of the heated

variety were made, as everyone seemed to be bubbling over with enthusiasm. Manager Small assured the players of dates for several games with accredited High Schools outside of Kansas City, but as yet no definite dates have been arranged.

On February 14th the first league meeting was held at Central High School. The old officers were re-elected—namely: President, Mr. Bigney of Westport, and secretary-treasurer, Mr. Bonnifield of Central. The only other business discussed was concerning who should represent Kansas City at Columbia May 5th against a St. Louis High school, for the state championship. Several plans were presented, but, as all the schools seemed to want the game, nothing definite could be agreed upon.

Two weeks later a second meeting was held at Central and the following schedule adopted:

April 7. Manual vs. Westport—K. C. K. vs. Central.

April 14. Manual vs. K. C. K.—Westport vs. Central.

April 21. Manual vs. Central—Westport vs. K. C. K.

April 28. Manual vs. Westport—Central vs. K. C. K.

May 5. Manual vs. K. C. K.—Central vs. Westport.

May 12. Manual vs. Central—K. C. K. vs. Westport.

Already the "Manual Spirit" has begun to manifest itself with the usual enthusiasm among the baseball followers. The "Old Exposition Park" has been the scene of no little amount of activity the past month, as a number of the boys have taken advantage of the warm weather and have been doing some light practicing. The gymnasium has also been used when the weather has been disagreeable, for a place to exercise the players' arms. This year the outlook for a good team is exceedingly bright, as Manual has eight of last year's players as a nucleus for a team, besides about twenty or thirty other candidates who are working hard to secure positions. There is no doubt that there will be a good team, and with the proper support from the students and the faculty Manual will have another trophy to add to her already numerous collection by again winning the High School championship.

MORRIS BLACKER.

Owed to the Team

By E. W. BARTLEY, '07.

Our boys who play the basket-ball,
Have practiced since the early fall;
They've suffered bruises, knocks and pain
The good will of the school to gain,
Alas! t'was useless as you see;
We're minus in our treasury.

Now what's the reason for this lacking?
Answer is, "we have no backing,"
The students consider it a sin
If by chance we do not win;
But when they're asked to buy a ticket,
They're as elusive as a cricket.

They put up for their weak defense,
"I can't, I'm shy just fifteen cents;"
So they their honest duty shirk
While the teams for Manual work,
And when the hard-fought game is o'er
We find we owe ten dollars more.

One night we journeyed to St. Joe,
We found that there, they were not slow;
For they had many a ticket sold
And had their cash in yellow gold,
And though their colors we did smear,
They urged them on with many a cheer.

Again we journeyed toward the west,
Topeka's courage we did test,
Fifteen hundred saw us clash,
The game was ours in a flash;
And although we won the game,
The High School boys cheered just the same.



The Battleship vs. the Torpedo Boat.

By WOODSON STANLEY THORNTON, '08.

Shall the nation build battleships or torpedo boats to protect herself in the future? This is the question that is puzzling the minds of the greatest naval engineers of the world to-day. The past, including the Japanese-Russian war, has contributed little towards solving it. Many find it difficult to yield their trust in the noble battleship; while on the other hand there are a million voices demanding that the progress of the nation in warfare shall come in the shape of torpedo boats. Hudson Maxim, a firm believer in the torpedo boat, declares that fifty torpedo boats can be built at the cost of one battleship, and all manned with fewer men than one battleship would require, and therefore, if fifty torpedo boats would be destroyed in destroying one battleship, the loss would be equal on both sides. It is estimated that not more than an average of ten torpedo boats would be destroyed to a battleship.

The torpedo boat is a frail little craft, crowded with big engines that can acquire a speed of thirty-five miles an hour. She has no protection such as a battleship, but her success or failure depends upon getting within fighting range of her prey without being discovered. There are two things that threaten her constantly with betrayal; the powerful

searchlights of her foe and the glow from her own funnels that are emitting smoke from her big engines. If the little craft gets within two thousand yards of the enemy without being discovered, and drawing that terrible rain of shot and shell from her enemy's large guns, the doom of the battleship is sealed—one effective shot is sufficient to sink her; and the wonderful workings of the torpedo is certain to be effective if fired by the proper hands.

Nearly every one is acquainted with the Whitehead torpedo. Its charge of gun-cotton at the head, its tank of highly compressed air furnishes the power for propulsion, its balance-chamber, its spinning propellers and the gyroscope which keeps it true to its course, are the essential parts of the torpedo. Their cost is from \$1,500 to \$3,000 apiece, so a miss is an expensive error. Their diameter never exceeds eighteen inches, and they are built in lengths of twelve and seventeen feet. Their shape could be readily compared with that of a cigar.

The cost of a torpedo boat is from \$50,000 to \$250,000, while our finest battleships cost upwards of \$7,500,000. A battleship has no safe-guard against the torpedo, which can tear a hole through the heaviest steel plating. If

the battleship could be rendered torpedo-proof, then it would be the master of the sea. Experiments have been performed without success, but there is one great obstacle that renders this impossible,

that is that no nation is willing to sacrifice an expensive battleship for such tests. Thus the construction of battleships goes on, and the question as to superiority remains unsettled.

How I Made a Hexagonal Bolt; Being Merely a Dream.

BY LEO R. R. CONWELL, '07.

Room 7! Hark ye and tremble! "Misery loves company." Therefore, I hope I am not the only person in this school—not that I wish anyone bad luck—who feels the full dread significance of those two words. They form but the number of a room in this building—a room, the walls of which, like those of the tower of London, were they but able to speak, could tell of hopes bouyed up until they attained the lightness of bubbles, but which, in a quick turn of the wheel of fortune, were as heavy as lead millstones round the neck. For the last two weeks I had seen that the pendulum of my fate was swinging in an ever-increasing sweep, nearer and nearer to an "F" and it behooved me to hustle a bit. So I brought my luncheon one day and hied me to the "dungeon" to beard the lion in his den, and have done with visions of "F's" once for all. I put in six hours of good, hard, energy sapping work that day, and when I quit, I found that I was farther behind than when I started. No more overtime for me! You may say that I am a numskull. Perhaps I am.

I was presented with a piece of wrought iron, five-eighths of an inch square, and about a foot long from which I was bidden to make a hexagonal bolt, that is a bolt the head of which was to be of six sides. I had missed the demonstration. How was I to proceed? I had neither seen nor heard of a hex-

agonal bolt before, and here I had to make one. It was very evident that I, like Isaac Watts, had made a discovery, but 'twas only that I was exceedingly ignorant.

My first step, "according to Hoyle," was to work this stock down until it was round and nine-sixteenths of an inch in diameter, by means of an automatic hammer. I must needs practice awhile with this bunch of machinery. Bang! Down came the hammer with a terrific blow. Smash! Up flew the other end of the iron with a sickening thud full against my chest as if it was angry with me because I had not put it in straight, and it was resolved to wreak vengeance upon me, who so little deserved this maltreatment. I was more careful next time, and things progressed delightfully for a while.

When the iron was the required size, I cut it into two pieces, leaving sufficient stock for the head of the bolt. This part I proceeded to "stove up." By the powers that be, I was instructed "to leave the iron in the fire until it was at a welding heat." (Another technical term! Really I surprise myself)—that is until sparks, like little stars began to fly from it, and then hammer it out flatter. This seemed to me to be very simple, but "pride goeth before a fall." When I hit that sizzling piece of iron, and a whole firmanent of singing little stars flew from it, I dropped it like people generally drop hot iron, jumped upon the

anvil and called for help. Finally I mustered up enough courage to proceed and "stoved it up" beautifully.

Eureka! It must only be made round again and it was ready to take on the shape of a hexagon. Easy to say. Was I to be equal to the task? I trembled in my excitement and fear of failure. Here it was either "to be or not to be." With me it was "or not to be," for I hammered

the iron too cold and split it. I had failed! Edward II carried the ashes of his father with him at Bannockburn to frighten the Scots. I carry the bones of that ill-fated hexagonal bolt with me always as a remainder that I took forging; hardly necessary, however, when every time I close my hand I am made aware of the fact that hot iron burns.

Passed or "Flunked?"

It was the end of the school year, and one of those hot sultry days in June. The boys came into the training room with an air of forced activity. Many were hopelessly behind in their work; some on the verge of despair. I was one of the latter. I opened my locker and there lay the half finished goblet, the finishing of which meant "pass" or "fail" to me. I put it on the face plate and turned on the lathe, which seemed to know my predicament and sprung forward like a horse in a race. I took up my gouge with fear and trembling lest one false move would dash all my hopes of "pass" to earth. At last I was at work, the chips flew down my neck and the dust in my eyes, but still I kept on working like a Turk. I hardly noticed anything.

Visitors came in, but I did not glance up from my work; like Peter the Great, I forgot my very existence in my anxiety to complete my task. The ten minute bell rang, but it sounded like the far-off tinkle of sheep bells at night. Still I worked on. My eyes smarting and my face burning. Another bell rang and I

knew I had only forty minutes in which to varnish and cut out my piece. The teacher came around to see how I was progressing, and as I glanced at him I thought I saw a faint shadow of a smile pass over his face. I took this much as a drowning man takes a straw, and after that I worked with more hopes of success. Another bell rang and I knew I had but ten minutes in which to varnish the goblet. I went to the varnish jug: The brush was gone, so somewhat like the boy who carried water to the sheep in his hat, I carried varnish to the lathe in my handkerchief. At last it was varnished, and as I had it half cut off from the block, the bell rang, the teacher came back to shut off the motor. I begged for one more minute; he gave it to me, and just as the wheels of the lathe stopped, the goblet dropped from the block completed. Next, it was to be inspected. I took it to the desk and as I stood waiting, I turned hot and cold by turns. At last, he came out with my card, but I had correctly foretold what I had made, by the smile on his gruff but kindly face. I grabbed the card, and at a glance, joyfully saw that I had made a "P."

Fondant.

By EDWIN M. SHAWN, '07.

Although it is a woman's duty to stay at home, to cook, and to keep house, all women do not do their duty. Some have fads: Phsyiological research, mother's clubs, and theater going. For fear I should draw, in the lottery of matrimony, one of the aforesaid blanks, I put in the remaining space of my program cookery 3¹. And that is the beginning of my trouble.

Beside burning my fingers, eating queer concoctions (the queerness being all my own fault) and feeling the effects afterward, my experiences were not so disastrous as one might expect from a boy, and then I made (I shudder when I say the word), "fondant."

At Christmas time the cooking classes make candy, as a great many know by the discomfort it has caused in the lower regions, and I was possessed of the demon of desire to make a large amount.

So, with the permission of my good teacher, five cups of sugar, five-eighths of a cup of glucose and three cups of water, went into the basin and onto the stove. It soon was boiling, as I then thought, merrily, now as I look back, demonically. Every few seconds I tested it with my fork, and with drawn and haggard face, I watched for the thread which floated not. Oh! there is one, only one inch long. Again and again, longer and

longer flew the silver hairs, until the crowning one spelt success as it floated the required seven inches.

I put it out to cool and then moulded it in my hands until soft. Then wrapped in waxed paper, and put it for night in a bowl. Then I went home to a cold supper, and, fortunately, a dreamless sleep.

Early the next morning, I gathered my forces in the shape of candied cherries, nuts and raisins, about me and sallied forth to renew the battle. The coloring began; red for the blood of my fallen victims, green for the grass which was their death bed, purple for the clouds which shaded the battlefield from the orange sun, and blue for the sky above. The rest was left uncolored, white as the smoke cleared away, finding me victor by a narrow escape.

I put my prisoners in rows, really pats of fondant, and gave them each a gun, called in common language, nuts. Then sent them forth among my comrades although I assure you they had done nothing to me to deserve such punishment.

There are still times when I have to dodge down a side street for fear of the awful revenge that some people hold in store for me on account of that fondant of mine.





We are pleased to see the marked improvement in the cover design of "The W. T. M. A. Bugle Notes."

Westport, the exchange department of the mid-year "Herald" is so fine we regret there is to be but one more issue of the magazine this year.

"The Record," issued by the students of the Sioux City High School, is a very commendable school paper. However, the excellence of the cover-design does not equal that of the contents.

"The Carnation" is certainly an excellent magazine.

"M. C. I. Exponent," your sample is very good, but where is your magazine?

It is a pleasure for an editor to welcome, among the new exchanges, such a paper as "The Reveille," published by the cadets of the Western Military Academy. The cover and contents are very artistic.

"Midland," why do you persist in depreciating an excellent paper by making use of such an inartistic cover.

"The University High School Weekly" is such a good little paper that we are anxious to see the "Correlator."

We enjoy very much "The Inlander," issued by the University of Michigan.

"The Cricket," of Belmont, California, is an artistic magazine. However, a few jokes would improve the exchange department.

Since our last issue we have received quite a number of new exchanges. We thank them for remembering us, and know that they are "better late than never." They are: The Aegis (Bloomington, Ill.); The Record (Sioux City, Iowa); The Luminary (Central); The Messenger (Wichita, Kas.); Red and White (Chicago); The Cricket; The Reveille; The Herald (Westport); The Polaris (Freeport, Ill.); The Review (Webb City, Mo.); The Thomas Normal Training School Chronicle; Drury Academy (North Adams, Mass.)

The Luminary is a very well gotten up paper in every department. We enjoy it very much.

The jokes in the February number of the Janus are very poor, but otherwise the paper is commendable.

Our exchanges all remind us,

We can make our pages shine;
And departing leave behind us
Something doing in our line.—*Ex.*

The Forum is an excellent paper. It shows what a high school is capable of doing.

The Donnybrook Fair has a number of nice clippings in its December number.

The Purple and White ought to know that they have more advertising than reading matter. It is all advertisements.

The January Lever has a very short Exchange Column; entirely too short for a paper like the Lever. We also think it would be much better not to mingle the advertisements with the reading matter.

The ones who think our jokes are poor,
Would straightway change their views,
Could they compare the jokes we print,
To those that we refuse.—*Ex.*

Owen Moore left town today
Owen Moore than he could pay.
Owen Moore came back today,
Owen Moore.—*Ex.*

She—"How kind of you to bring me these beautiful flowers. They are nice and fresh. I think there is some dew on them yet."

He—"Y-e-s, there is a little bit—but I'll pay that tomorrow."—*Ex.*

Sing a song of street cars;
Seats are full mit chaps.
Four and twenty ladies
Hanging by der straps.
Ven der door vas opened,
Der men begin to read
All der advertisements
About her breakfast feed.
All der vimmen smilin'
Hopped from feet to feets,
But der mucilage brothers
Stuck fast to der seats.—*Ex.*

Here's to the world,
The funny old world,
To the days that are happy or blue.
And here's to the future
Be what it may,
And here's to the best—that's you.
—*Ex.*

Freshman (to Sophomore)—"Say, will you work this problem for me?"

Soph.—"Ah! give it here. That's my Prince Albert."

Freshman—"Your what?"

Soph.—"My long suit."—*Ex.*

He who inside his watch lid wears
His sweetheart's pretty face,
Is sure to have a time, for there's
A woman in the case.—*Ex.*

Physiology Teacher—"What would you find if you cut open a dog's lungs?"

Bright Gentleman—"The seat of his pants."—*Ex.*

Rock-a-bye, Senior, on a tree top,

As long as you study, the cradle with
rock;

But if you stop digging, the cradle will
fall,

And down will come Senior, diploma,
and all.—*Ex.*

She—"I heard that you said I reminded you of the north pole. Don't try to deny it."

He—"Of course I did! You are so sought after, you know."—*Ex.*

Tell me not in mournful numbers,

Cats are harmless things;

For the man is dead that slumbers

When a cat at midnight sings.—*Ex.*

"What do you think now, Johnie?" asked his mother as she boxed his ears.

"I don't think. My train of thought has been delayed by a hot box."—*Ex.*

A law in Physics—The deportment of the pupil varies inversely as the square of the distance from the teacher's desk.—*Ex.*

"I have noticed, Clara," said the fond father, "that young Meanboy has spent a good deal of time with you lately."

His daughter sighed. "You are right, Dad," she answered, "but that is about all he has spent."—*Ex.*

Judge (to policeman)—“What is the prisoner charged with?”

Policeman (with limp prisoner)—“Dunno, yer honor, but 'tain't sody-water!”—*Ex.*

Senior—It's all over school.

Freshman (excitedly)—What is?

Senior (calmly)—The roof, little one.—*Ex.*

Si—Do you know why they didn't play cards on the ark?

Bill—No.

Si—Noah sat on the deck.—*Ex.*

Jack and Jill, resisting a breeze,
Ascended a hill of sixty degrees
To procure H₂O several liters;
But e'er they had gone more than one or
two meters,

The forces in equilibrium,
Which held our Jack the rock upon,
Acted to cause a swift rotation
With a very high acceleration;
And Jill, with a sisterly devotion,
Followed with a similar motion.—*Ex.*

“I'll make you dance,” chided the irate mother pursuing her son with a slipper in hand.

“Then,” remarked the juvenile, “we shall have a bawl.”—*Ex.*

A gentleman walking along a country road was greatly surprised to see an Irishman perched on the top of a sign post which bore this inscription: “This will take you to Sunville.”

“Why, what are you doing up there?” he asked.

“Faith and Oi've been here two hours already waiting for this thing to start.”—*Ex.*

“I fear,” said the postage stamp on the student's letter to his father, “that I am not sticking to facts.”—*Ex.*

“I have a great love for old hymns,” said a pretty girl. “I am much fonder of young hers,” retorted he.—*Ex.*

Teacher: “What makes a poem classical?”

Pupil: “When it makes a class sick.”—*Ex.*

The Juniors are like kerosene lamps;
They aren't especially bright;
They are often turned down, seldom
trimmed,
And frequently go out at night.—*Ex.*

Little drops of water
In the morning's milk,
Make the milkman's daughter
Come out in finest silk.—*Ex.*

He (in street car)—“Have my seat, lady.”

She—“Oh, no! I have just been skating and am tired of sitting down.”—*Ex.*

There are meters of accent
There are meters of tone,
But the best of all meter
Is to meter alone.

There are letters of accent
There are letters of tone,
But the best of all letters
Is to letter alone.—*Ex.*

Son (studying Caesar—“Say, pa, Caesar was a great fellow; he sent a message to Rome mit tree words—‘Veni, Vidi, Vici.’”

Father—“Oh, Isaac, vot crazy, he could uv had safen more words for a quarter.”—*Ex.*

Said the fly to the paper,
Which held him like glue,
You're very bewitching,
I'm stuck on you.—*Ex.*

She—“But papa, he says he can't live without me.”

Father—“Give us a new one. I told that same story to your mother.”—*Ex.*

“His feet are large,
His head is small;
He really has no brains at all;
But he gets there all the same,
For he's a Freshman.”—*Ex.*

Johnny stole a penny
And so to jail was sent;
The jury said "not guilty"
And he was in-a-cent.—*Ex.*

He—Will you meet me by the moon-
light?

She—There isn't any moon tonight.
He—Then how will it do by gas light?
She—Sir, I'm not a gas meter.—*Ex.*

Teacher (in Chemistry class)—"What
do patients do upon recovering from the
effect of laughing gas?"

Pupil—"They give the dentist the Ha!
Ha!"—*Ex.*

"Well!" he muttered, butting his head
on a landing as he fell down the elevator
shaft, "as Mr. Kipling would say, 'This
is another story.'"—*Ex.*

I wish I had a little key
To lock my little mind;
For when the teacher calls on me,
No answer there I find.

At night I fill the spaces up
With every sort of thing;
Without a lock, what is the use?
They always take to wing.

But if I had a little key
To fit my little mind,
The teacher would be charmed to hear
Such answers I should find!—*Ex.*

Why is a ragged boy like a minister
near the end of his sermon?

Because he's tired his close.—*Ex.*

Touching Incident.—The Lady: "I
have only five cents to give away this
morning. To which of you shall I give
it?"

The Hobo: "Give it to Panhandle
Pete, mum. He's bought dis route o' me,
an' I'm jest takin' him over de ground."
—*Ex.*

Sweet little Emily Rose
Was tired and about to repose
But her brother named Clare
Put a tack in her chair—and
Sweet little Emily Rose.—*Ex.*

To shave your face and brush your hair,
And then your Sunday clothes to wear—
That's Preparation.

And then upon a car to ride—
A mile or two to walk beside—
That's Transportation.

And then before the door to smile,
And think you'll stay a good long while
That's Expectation.

And then to find her not at home—
That's Thunderation.—*Ex.*

A fishy old fisher named Fisher
Fished a fish from the edge of a fissure.
A cod with a grin
Pulled the fisherman in.

Now they are fishing the fissure for
Fisher.—*Ex.*

She meant to kill him with a look,
Such had been her plan.
It happened though, she was cross-eyed,
And hit another man.—*Ex.*

The exchange editor may scratch a pen,
Till the ends of his fingers are sore,
When someone's sure to remark, with a
jest.

"Rats, how stale! I've heard that be-
fore."—*Ex.*

Waiter—"Will you hab pie?"

Guest—"Is it compulsory?"

Waiter—"No, sah, it am razberry."—
Ex.

Johnny ate a tablet
The family doctor gave.
Now he's got a big one
On his little grave.—*Ex.*

"Did you ever notice this,
When a fellow takes a kiss
From a righteous little maiden calm
and meek,

How her scriptural learning shows,
In not turning up her nose,
But in simply turning 'round the other
cheek."—*Ex.*

"Where are those eggs?"

"Mislaïd, I guess."—*Ex.*



Eve and the Apple Again.

Mr. Samuel Edwards, one of our most respected citizens, astonished all onlookers the other day by attempting to snatch an apple from the hand of Miss Clara Morris. The indignant young lady immediately declared that if she had known Mr. Edwards' feelings, she would have held an apple in her hand all the time. There is great excitement over the occurrence in local circles.

Miss Drake says that laziness is the worst sin she has to contend with.

Woodson Thornton was telling of the youth and virility of the mid-year Freshman. Suddenly a look of pain crossed his face, he clapped his hand to his head and emitted the following, viz., i. e., that is to say, which we append.

A blissful freshman asked,

"Where's thirty-two? I pray,"

I turned and pushed him through the door
Not quite two feet away.

Ruth Hunt (in the chair): "As long as the program committee thought we would not have time for a program we did not prepare one, and we will have the rest of the time for our proposals."

Why did Mr. Small's hourth hour algebra class look so small after the first term?

Dr. Rambeau (before test): "You must use no book, notebook or notepaper, just use your pencils and (e) rasers." That's getting pretty bad, isn't it?

Miss Tudlope (in sewing): "Where is the best wool obtained?"

Pearl F.—"Doesn't it grow in the fertile soil of California."

Brother Junior: "Anatomy is a figure of speech."

Boy in English: "Emerson was born in Boston at the early age of seven."

The other day our attention was caught by a highly attractive sign downtown, "Sewing done in the rear."

Marie: "Isn't it queer that we often run across people without running over them?"

It is a wise son who knows when to ask his father for money.

Mr. Dodd (taking roll call Friday after Washington's birthday, and finding seven absent)—"Those absent people have made a mistake, I said the examination was to come Monday."

Miss Kahn—"That fish should be cooking: what kind is it?"

Miss Stewart—"Sliced cat."

Miss W. (to Freshman mixing a cake): "Don't stir that cake the wrong way."

Freshman: "Why not?"

Miss W.: "Why, it will all unmix."

Freshman: "Will it really?"

Teacher: "Now, children, I will give you three words—boys, bees and bear, and I want you to construct a sentence which will include all three words"

Precocious Small Boy: "I have it."

Teacher: "Very well, you may give your sentence."

P. S. B.: "Boys bees bare when they go in swimmin'!"

Miss Fisher: "Paul, you and Colin come up here; now, class, *these* are the imperfect endings."

Miss Van Unwerth to pupils in German: "Will you please translate till the sun shines and he has enough to eat?"

There is undoubtedly talent in school.

Wanda Egbert says her prey is everyone between one and twenty.

Miss Gilday to Mr. Curry: "Don't look at me with those beautiful brown eyes." Three cheers for those beautiful brown eyes! All together, now, fellows, Rah! Rah! Rah! Beautiful brown eyes!

"I swear by those tall elms in yonder park," he commenced, but she interrupted him. "Swear not by them," she said, imploringly. "For why," said he. "Because they are slippery elms," she said, sadly.

In giving instructions to her cooking class Miss Bachelor said that while making "kisses" two should work together.

The Girl (as her father enters)—"Well, papa, what is it?"

Her Father—"Here's an umbrella I've brought for George. It looks as if it would rain before morning."

Deafening silence by the young man.

Miss Van Meter—"Mr. Parks, you are poor——"

Mr. P. (desperately)—"Yes, I know it. I only have three cents, but pay day comes tomorrow."

A kiss is the only really agreeable two-faced action under the sun, or the moon either.

Speaking of kisses, we have been trying to get up a list of "cases for publication, but our range of observation is very small. There must be several hundred of Cupid's darts scattered around in Manual, so if you meet any victims just send in their names. Possibly some of those mentioned will not appreciate the honor of having their name in print—they're bigger than we are, too. Never mind, here goes:

Reeve Parks—Miss Helen Harrison.

Robert Allen—Miss Dorothy Hopkins—Miss Lola Towers.

Willard Hankins—Miss Helen Crandall.

Charles Jobs—Miss Harriet Klunk.

Miller—Miss Sadie King.

Miss Gilday—"And Solomon went out and ate grass like an ox."

Woodson Dixon—"I bet you a dollar and a half——" Woodson must have just gotten his remittance.

Heard in Room 19:

Mr. Dodd (to enthusiastic gymnast—"Give me a definition of a trapezium.

E. G.—"A trapezium is a broomhandle suspended by two ropes from a beam which we act on."

Miss Lyons—"I have heard that young men, when they do not get their lessons well, sometimes are in love. Now, Mr. Forsythe, I had a better opinion of you than that."

Wife—"You have never taken me to the cemetery."

Hubby—"No, my dear that is a pleasure I have yet in anticipation."

Miss Hopkins has plainly announced that she wants a boy. Don't all rush in.

Dr. Rambeau: "What does this literal translation mean, 'They held their flight?'"

Dorothy (loudly): "Why, they *fleed*."

Mr. Cowan (calling the roll): "Theo Nettleton—Theo—Hell-o."

Prof. Phillips (in speaking of a former Manual pupil): "He is now a full-fledged citizen, he is *married*."

Dr. Rambeau (explaining in Virgil): "In those days they had an idea that the air was light. They knew nothing about physics then."

A Physics Pupil (sighing): "How happy they must have been."

Mr. Jones—"Do they use sulphur in manufacturing eggs?"

Mr. Gustafson—"I did not know that anyone was engaged in that industry except the hens."

Nannie Beatly (preparing for "Hiawatha")—Girls, have any of you got my complexion?" Mr. Jerome J. Jerome says you can get one of any description for a small sum.

Helen said that she was sure that *Cæsar* ought to be put behind the semicolon.

Pupils in Elocution—"I'm ist a little cripple boy."

Mr. Cowan—"I'm awfully hoarse today."

Have you all noticed how happy Mr. Morse looks lately? Let us hope the happiness will continue.

One of our coming poets

There was music in the air,

That would raise a bald man's hair.

President of the O'ita Society (all in one breath): "Now, girls, do you all know your parts? Georgia, don't you forget to give me my pocket-book."

We come before the footlights to bow and express our gratefulness to the school, first, for the way locals have been coming in, and second, for the confectionery that some one kindly left in our box.

Mrs. McLaughlin in the library 3rd hour: "Now, girls, take care of Mr. Roe and make him comfortable till I return."

An Alumni—"I have been in five Metropolitan suit cases within three months."

In a class of astronomy the question was asked, "if a football player had time for that subject." An answer came from the back of the room that they saw enough stars without taking that subject.

Helen—"Do you smell that paint?"

Georgia—"I thought it was parsnips; it smells just like those I cooked."

Mr. Cowan—"Here, girls, you will have to get closer to me or read louder. I advise you to read louder."

On a recent cross-country run, Mr. Elmer amused himself by making rabbit tracks in the snow. One of the boys suggested that the jumps between the tracks were very small for a rabbit, to which Mr. Elmer replied: "That was a very small rabbit that made those tracks, you know." A reward will be paid to any one finding the point to this joke and handing it in at the office in good condition.

Willard Hankins (on being asked who his mathematics teacher was): "Oh, I haven't got any—I flunked."

1st Senior—"That measly Freshman insulted me."

2d Senior—"How,"

1st Senior—"When I showed him my English exam. paper he asked me if it was my German."

Miss Casey—"I see I have quite a number of geoses in this class."

Will Curry said he didn't think the Glee Club could carry a tune in a basket.

Allen to Dixon—"Why did Bethine change her English to second hour?"

Dixon to Allen—"Because I wouldn't change to her class."

Brilliant Freshie—"The longest way around is not always the shortest way home."

Witty Senior—"That depends on your company."

Mr. Small—"Brown is the same age as Smith and Jones is the same age as Smith. What relation is Brown's age to Jones' age."

Peyscke—"They're twins."

Mamie Stoller—"Yes, sir, I'm going to be a heathern."

General Chorus of Boys—"I'm going to be a missionary."

Miss Simms had just been reading.

Mr. Cowan—"The ring is lacking, but that will come in time."

Miss Nofsinger—"Oh, boys, just inspire me!"

Mr. Gustafson—"What is the kindling temperature?"

Mr. Oskampf (suddenly waking)—"2.49 degrees."

The startling statement is made in elocution that a dog has a conscience which can be seen.

Freshman in Ancient History—"Theseus was fed to the miniature."

Miss Elston (of the conspirators in Julius Caesar)—"They pressed the suit on him."

Whisper in Back Row—"Gosh, it must have been hot! I press mine on a board."

One of our graduates who went down to Columbia had been carefully reared in courtesy. His parents, who were afraid of the typhoid fever scare, instructed him to telegraph home "yes," if everything was satisfactory. He did so. The father, who had forgotten the arrangement, telegraphed back "Yes, what?" The answer came back "yes, sir!"

Mrs. Case—"Where did Cooper go after his marriage?"

(Sotto voice, back seat)—"He went 'back to the woods.'"

Inscription found on an old board fence—"Notis! If eny man's or wom-an's cow gets into these oats, his or her tail will be cut off, as the case may be."

Mr. Talbot (in describing Cassius)—"He flew all to pieces, just like a wom-an does."

History states that the Greeks had no inns. Evidently their pitchers had to get along with outs and drops.

Pupil in Elocution (speaking of a body of troops)—"It was so bull-headed what done it. When they got started fighting they couldn't make 'em stop."

We were quite startled the other day. Miss Nofsinger was rocking back and forth distractedly. To our frantic inquiries she only moaned, "My bone! My bone!" We were much relieved to find that she had merely bumped her funny bone.

Wanda Egbert, Jeff Dunlap and Irene Verner walked down the hall the other day. "And," the teacher added, "it looked just like a giraffe between a pair of lambs!"

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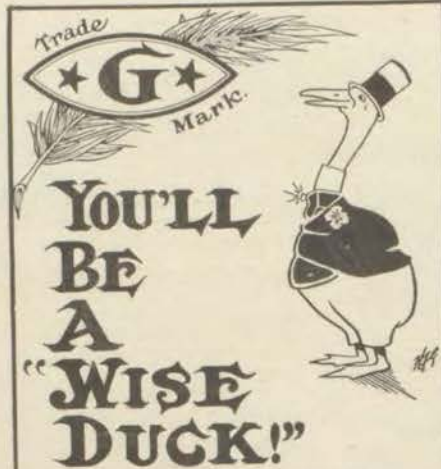


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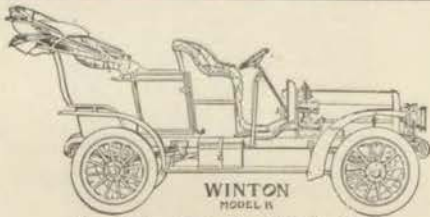
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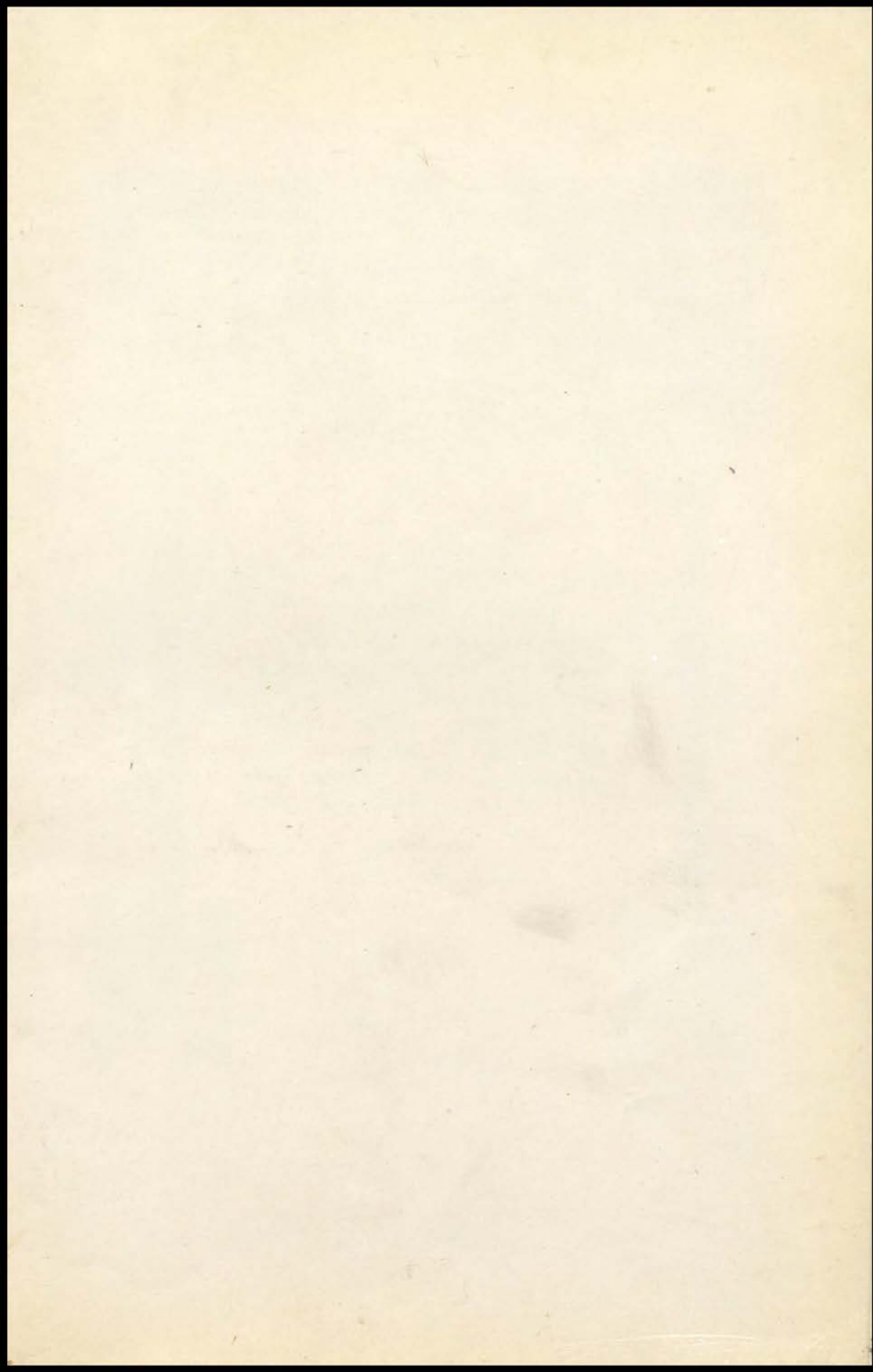
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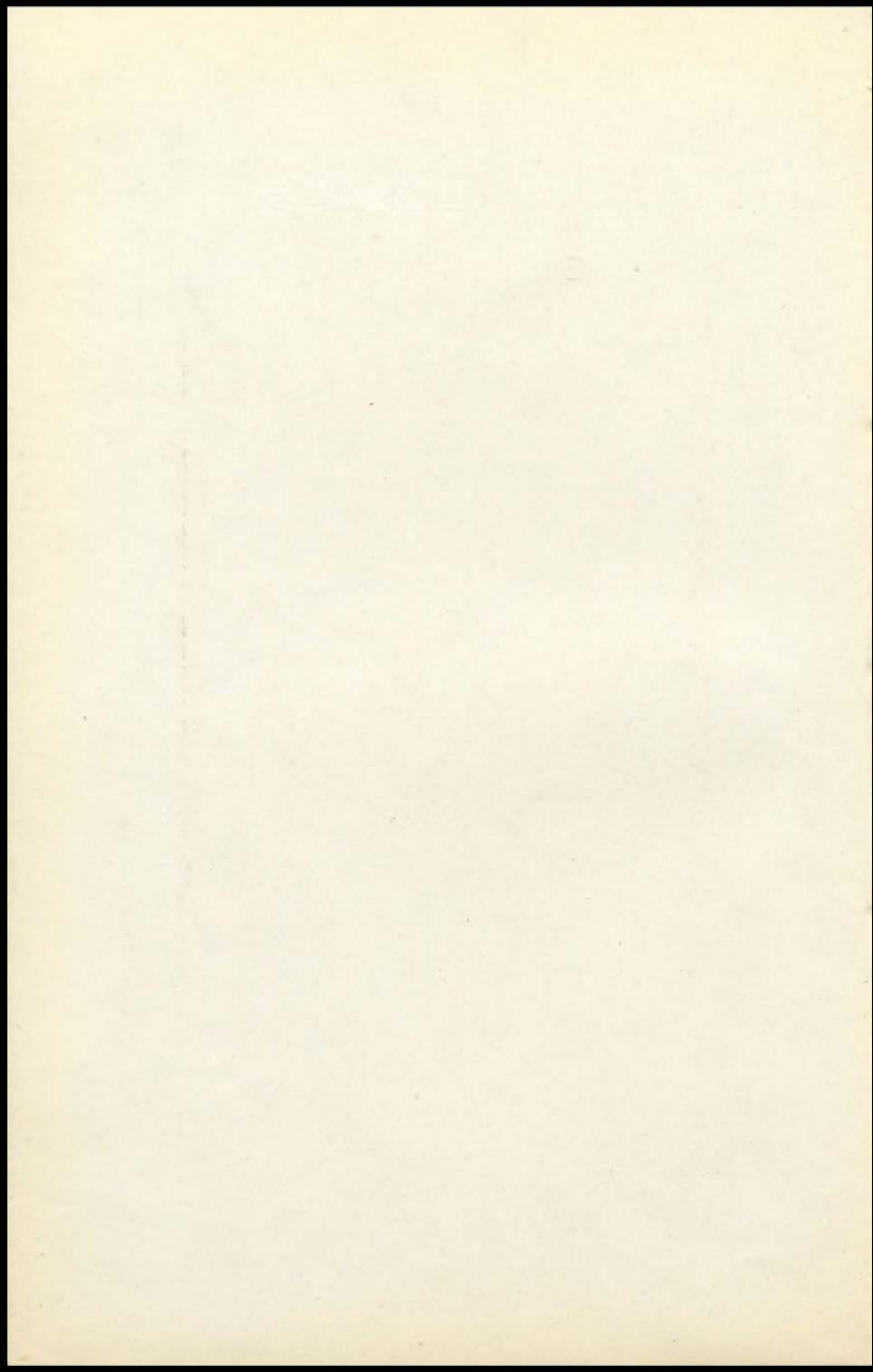
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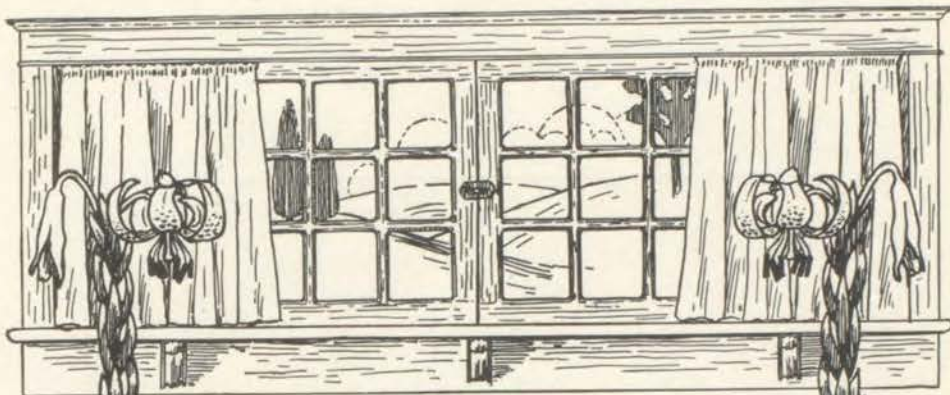
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Dedication.

This, the *Annual*, the Nautilus Staff dedicates with best wishes to the Senior Class of '06. We sincerely hope that the future of it's members may be bright and happy, but that, also, they may look back on the days spent at *Manual* as the brightest and happiest of all their life.



S. ROBERT HARR.



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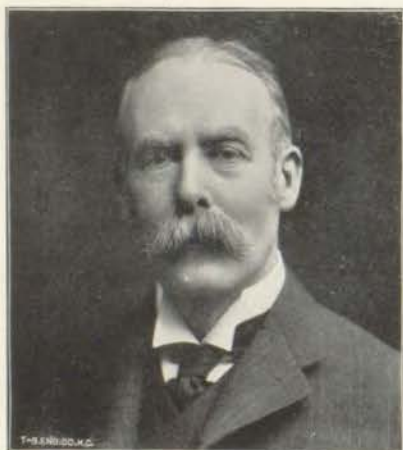
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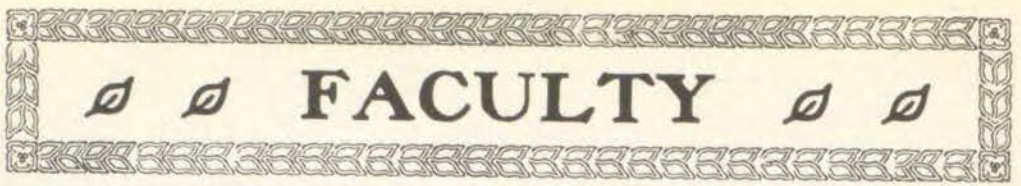
J. S. HARRISON



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SALUTATION

Les éditeurs du NAUTILUS dé-
dient avec les meilleurs souhaits cet
annuaire à la classe supérieure de
1906. Nous espérons sincèrement
non seulement que l'avenir de ses
membres soit éclatante et joyeuse,
mais encore qu'ils regardent les
jours, passés à MANUAL, comme
les plus heureux et brillants de toute
leur vie.

THE NAUTILUS



Build the more stately mansions,
O, my soul!
As the swift seasons roll;
Leave thy low vaulted past,
Let each new temple, nobler than
the last,
Shut thee from Heaven with a dome
more vast,
Till thou, at length, art free,
Leaving thy outgrown shell by life's
unresting sea.

—*Oliver W. Holmes.*



JOHN A. EWINS
Editor-in-Chief



ELIZABETH NOFSINGER
Associate Editor

A New Branch of Work.

A new and interesting branch of study has recently been started by Mr. Peters, of our business department. A class in commercial geography, which is closely connected with political economy and physical geography, has been opened, and the study of the "economy of the distribution of crops" promises to be both interesting

and instructive. A study is made of the uses of various products, and their "by-products," such as cocoanuts, cocoa bean, coffee bean, floss and flax, and rubber, and many firms engaged in the manufacture of articles made from these products, have forwarded exhibits, which show all the stages of manufacturing, from the raw product to the finished article.

Two of Manual's Graduates Honored.

Manual should be proud to learn of honors conferred through personal merit upon any of her worthy children, who have gone forth into the world to test their abilities to use their talents and their knowledge.

Miss Florence Pretz was chosen to make the designs for the interior decorations of the new Shubert Opera house. Her work has received the highest commendations of practical business men and artists.

Miss Sara Birchell has published a dainty little volume of poems, entitled "Singing Winds."

The verses evince the lover of nature and are written in that optimistic spirit which characterizes our Celtic ancestry. Miss Birchell's poems have received some favorable criticisms from reliable literary critics, and THE NAUTILUS congratulates her on her success.

Manual's Second Elocutionary and Oratorical Contest.

On the evening of April 27th occurred our second annual Medal Contest in oratory and declamation. The new feature of this contest was the representation of the school at large, which naturally creates a greater interest among the pupils in general, and arouses a livelier school spirit.

The stage and entire east end of the hall was beautifully decorated with society armorials, the society and school colors tastily displayed upon the contestants' chairs, the school and national banners, and a wealth of palms and ferns. Too much credit cannot be given the decorating committee for its successful efforts to give the contestants a beautiful setting.

In spite of the storm, which threatened to keep the people from attending, a large and appreciative audience assembled to witness the interesting program and to stimulate the well prepared and enthusiastic contestants to battle for the two handsome twenty-five dollar gold medals; and when the beautiful grand march of the contestants and their graceful escorts was made the full length of

the hall to the stage, the audience broke forth with a perfect storm of welcoming applause, that was sufficient to arouse the best fighting spirit for any heroic and worthy cause.

Vim, variety and harmony were contributed to the occasion by the charming songs of Manual's Girls' and Boys' Glee Clubs.

Flowers were as abundant as at a commencement, for not only the contestants were florally bedecked by their friends and admirers, but the chairman of the evening was presented with a large and elegant cluster of white roses.

The judges awarded the medal for best recitation to Miss Helen Crandall from the school at large, and for best oration to Mr. John Ewins of the "Manual Society of Debate."

The following is the program in full:
Chairman of Evening—Hon. J. V. C. Karnes.

- Song by the M. T. H. School Girls' Glee Club—"The Stars Beyond the Clouds".....
.....Mr. Glenn H. Woods, Director
Original Oration—"Prevalence of Graft".....Mr. Floyd Gamble—ION
Recitation—"Romaunt of a Page"
(Mrs. Browning).....
.....Miss Edna Kunzman—A. L. S.
Original Oration—"The American Indian".....
Mr. Robt. Thornton—School at Large
Recitation—"Lookin' fer Marse Willie".....Miss Elsa Ripley—Oita
Original Oration—"George Washington".....
...Mr. Chas. Curry—School at Large
Recitation—"Ichery Ann".....
Miss Helen Crandall—School at Large
Original Oration—"Count Leo Tolstoi".....Mr. John Ewins—Debaters
Recitation—"The Psyche of the Mountains".....
Miss Jennie Eliott—School at Large
Recitation—"Guinevere." (Lord Alfred Tennyson) ..Miss Elizabeth Nofsinger
—School at Large
Song by the M. T. H. School Boys' Glee Club—"Mrs. Winslow's Soothing Syrup".....
.....Mr. Glenn H. Woods, Director.
Awarding the Medals by the Chairman.
Judges in Oration—Principal J. M.

Stevenson, Mr. Henry Faxon, Mr. D. L. James.

Judges in Recitation—Miss Margaret DeWitt, Mr. Everett Elliot, Mr. Marshall A. Pursley.

Through the kindness and skill of Mr. Ivan Hayes we are able to reproduce the medals, so that all may see what unique and beautiful works of art they are. The competition for the honor of designing

them was confined to our own pupils, and from the ten designs handed in a committee of artists outside of the school chose the designs made by Mr. Walter Bacon of the A. L. S.

Verily the Inter-Society and School at Large Contest has taken rank next to Commencement as a popular and valuable school function.



The Nautilus Cover Design Contest.

We congratulate the art department over the results of the contest for the Wm. Smith prizes for the two best cover designs for the Commencement issue of the NAUTILUS. Twenty-nine interesting designs were submitted, and the able committee of judges was effusive in its praise of the good work of the art department. The judges complimented the pupils on their originality and artistic skill. They especially commend the color schemes, but urge the pupils to give more attention to *lettering*. Sometimes a very attractive design is marred by indifferent lettering.

The judges were: Mr. Geo. V. Millet, Kansas City's well known and successful oil painter; Mr. Roger Cunning-

ham, the accomplished and practical engraver, and Mr. Harry Wood, the popular artist illustrator of the Kansas City Star, who awarded the \$20.00 prize to Miss Irene McCalvy, and the \$5.00 prize to Miss Nellie Battin.

Honorable mention is made of Herbert Hare, Miss Susie Shaefer and Miss Ida Edlund.

The conditions underlying this contest are, simplicity, originality, appropriateness for commencement, good use of the Nautilus shell, and ease of reproduction in the hands of the engraver. The school is grateful to Mr. Smith for the stimulus that his prizes give to Manual's young artists.

Contest at Missouri University.

One of the most interesting contests of the year was held at the Missouri State University May 5, in competition for the two \$125 scholarships. Miss Theo Nettleton and Mr. Arthur Brink, Manual's representatives, were chosen from a large number of contestants to be on the finals. This in itself is quite an honor, for the contestants came from High Schools from

over all the states. Although neither of our representatives won a scholarship, nevertheless they both deserve much credit and praise. Miss Nettleton's work was splendid. All her points were brought out by incidents which she herself had witnessed. She will read her essay on Commencement. Mr. Brink's argument was characterized for its clearness and conciseness.

Temperance Essay Contest.

In the Temperance essay contest at Manual for the year the committee was highly pleased with all of the sixteen essays handed in. The contest was so close between the two highest that the committee was unable to decide which of

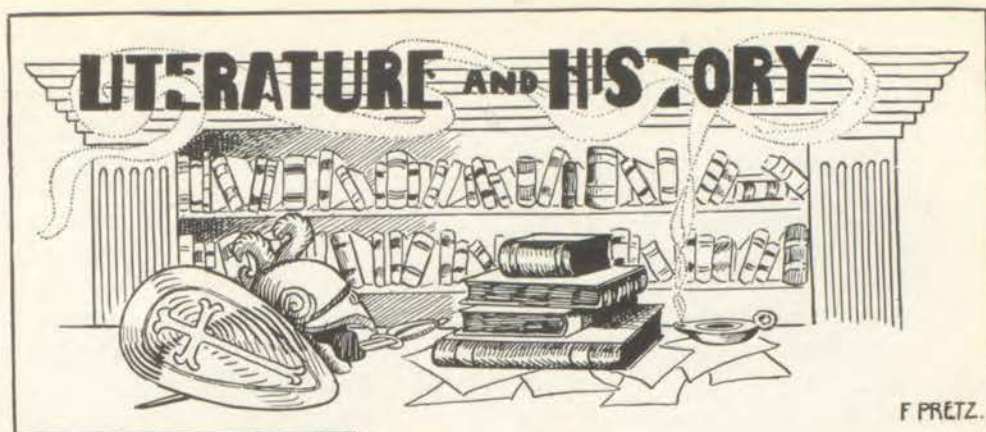
them was the better. So it was decided to divide the ten dollars equally between Miss Marie Hedrick and Miss Ruth McGurk.

Four young ladies received honorable mention: Lelia Bray, Beth Van Dorsen, Aileen Leavitt and Leonora Johnson.



The accompanying illustrations are half tones of the World's Fair diploma and gold medal, which were conferred upon the Manual Training High School by the Louisiana Purchase Exposition for Manual's fine school exhibit.





CHAS. CURRY



DOROTHY HOPKINS

Modern Journalism.

BY GEORGE FREDERICK PATTON.

The most potent force today in the rendition of the world's events as subjects of consideration, interest and comment is that exercised by journalism. The great profession of journalism has covered the earth with a vast network of wire, through the agency of which the newspapers of a commonwealth afford the masses an immediate inspection of not only municipal and domestic affairs, but of the passing events of the most remote center of the globe. The newspapers, together with the Associated Press, are the chief factors in the assimilation and distribution of news. The

United States is supplied with nearly thirteen thousand newspapers, to whose utterances the people look in order that they may keep in touch with every phase of the world's progress, political, social and industrial. The metropolitan daily conveys for the most part intelligence of current events, one of its special aims being to report the transactions of public bodies and officials. Incidentally it contains editorial comments on public questions, items of interest in the various fields of human activity, announcements, advertisements, market reports, communications from public and private

persons, and in many cases short works of fiction.

The primary element of success with a newspaper is that it stands for something; social and political conditions everywhere demand it. If it stands for business alone, the world will know it; if its editor enunciates those sentiments which tend to unite mankind rather than divide them; if his editorials effect the promotion of honesty and integrity to upright principles or emphasize some point of advantage to men, his publication is a success; and the world applauds success. Concerning yellow journalism, a question much agitated in late years, it may be said that newspapers following the course of "yellowism" are not always fiascos. "Yellowism" means sensationalism; sensationalism means the obtrusion of melodramatic, trashy literature upon the newspaper market; and there is always an element that admires this sort of thing, and is ready to have its imaginative ideas forged to enormous proportions. Still, "yellowism" has been an influence for the better with reference to the more conservative newspapers of the day. As Norman Hapgood said recently, while speaking before the League for Political Education, in New York City:

"Yellow journalism has its faults, but it was the first to shake the newspapers out of the old rut and give them new vigor. Before the advent of this class of journals there was no organ among the conservative press to speak down to the people. It was the consequence of a growing democracy and had for its purpose the establishment of a press wherein the laboring classes would have expression."

It may be interesting, in connection with newspapers, to note their mechanism. The metropolitan daily's chief executive is its editor-in-chief, whose duty it is to see that the utterances of his sheet conform to the general policy ac-

cepted by the proprietor of the paper, and also to see that proper persons are employed to carry out these instructions. Next in order of importance is the managing editor, who, in truth, is the main-spring to the workings of his newspaper. It is upon the managing editor that the main labor of getting out a newspaper devolves. He is the man who sets at his desk deep in the turmoil of a newspaper office, and who passes his orders here, there, and everywhere for their immediate execution.

The city editor has charge of the local and city staff, which is composed of reporters who gather the news which accumulates from day to day in the city. Reporters receive definite orders from the city editor every morning.

The telegraph editor has charge of all the news which is telegraphed to the paper, whether by press associations or by special correspondents. In cases of much importance, such as great fires, cyclones, national conventions, or times of war, special correspondents are detailed to other cities for the purpose of facilitating the rapidity of getting the news to his paper.

The news editor has charge of the out of town correspondents, and also clips from contemporary sheets articles of interest. The exchange editor's duties, while similar to those of the news editor's, is more general. On the metropolitan daily there are also a great many specialists who attend to the special columns, such as baseball, the drama, household affairs, market reports, etc.

Some of the foremost newspapers of the United States are the New York Herald, Times, World, Tribune, Mail and Express, Washington Post, Chicago Herald, St. Paul Globe, San Francisco Chronicle, Seattle Post-Intelligencer, Portland Oregonian, and the Louisville Courier-Journal.

Probably the greatest newspaper in the

world to-day is the London Times. The most widely circulated paper in the world is a product of French journalism, *Le Petit Journal*, which often prints over 1,000,000 copies per day, sold at five centimes. The *Daily Graphic* of New York is believed to have been the first illustrated newspaper in the world. Its system, however, proved too expensive, and it led a precarious existence, finally dying in 1888. It is interesting to note that the periodical collection and publication of the news of the day began in Europe with the weekly issue of *Das Frankfurter Journal*, by Egenolf Emmel, at Frankfort, Germany, in 1615, 163 years, by the way, after the discovery of printing from metal types.

In regard to the names of newspapers, the *London Outlook*, in a recent issue,

declared that while the author of a book has even a larger choice than the parent of a child, with a newspaper the names are strangely few. When the great success of the *Daily Mail* stimulated the production of another rival in London, it was confidently wagered that the new paper must have *Express* in it; and the organizers were actually forced by the laws of naming into the final title of *Daily Express*. The article quotes the notion of journalism expressed by Stevenson, who said that every journalist thinks it necessary either to be in a hurry or to seem in a hurry. The *Daily Telegraph*, *Mail*, *Express*, *News*, and many *Posts*, even in a more dignified and historic way, the *Times*, suggest something of "the heat and labor of a Fleet Street that is roofed, though few notice it, with a network of wires."

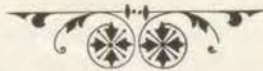
The Last of School.

(Parody upon Cardinal Wolsey's Soliloquy.)

Farewell, a long farewell to all my school-mates!
 This is the end of school; today they put forth
 For mountains and oceans, the summer blossoms
 And bears its crushing loneliness upon me;
 And then comes autumn, another year
 To then be fought. Quite hard and deep
 the studies are,
 As were the ones completed. P, C. F.—
 And these are the mighty wands which tell
 our fate
 P received and we can say, "Well done"
 C upon our cards says, "Try harder."
 F—We say, "It can conquer once, but twice—
 never."

And then comes class day, and many days
 beside
 Which leave us weary from pomp and of display,
 From a rude stream forever flowing,
 The stream of graduation, the stream that
 parts
 Old friends from dear old Manual. O how
 wretched
 Is that pupil who hangs on ragged edges!
 Not knowing whether he can graduate,
 Because of one small C or F. And these
 More pangs than wars or women, bring;
 Half happy, half sad, and full of parting—
 These last days of school.

—EDWIN SHAWEN, '07.



Billy Arlington.

BY RUTH E. HUNT.

Billy Arlington had turned five years old; and in honor of the event, had gone with his mother on his birthday to Miss Benson's, around the corner. Miss Benson kept a private kindergarten, from where every day about a dozen little boys and girls came trooping home, all carrying those wonderful paper chains which had been Billy's envy each time he saw them. So now, when Billy found himself in a little red chair with colored paper near at hand, and all the other children in red chairs just like the one in which he sat, a great wave of com-



placency swept over him and he smiled contentedly at the little girl across the table. Such a pretty little girl she was, too! With long, dark-brown curls and blue eyes that twinkled every time she saw the newcomer looking at her.

But in a moment he forgot everything in listening to Miss Benson who began to say the morning prayer. Billy was puzzled as he listened. That wasn't the

prayer he said at night, and it didn't sound at all like it. It sounded more like the blessing his father asked at the table, only Miss Benson did not say it fast enough. He wondered if she knew how to say it faster; maybe it was a slow prayer, or maybe it was hard to pronounce, just like "Peter Piper picked a peck of pickled peppers." But he did not have time to decide, for just then the prayer ended, and Miss Benson began to sing "There was a merry dew-drop," and all the children joined in with her. Now if they sang together why didn't they pray together—that was another question. But Billy would not be left out in the singing, so he stood like the rest and started in on his favorite song, "Onward, Christian Soldiers," with all the volume of his lusty little voice. The other children finished long before he did, but he went on, his face red with the exertion, until he reached the end. Then for the first time, he noticed the amused look on the teacher's face and the open enjoyment expressed by the others. His face flamed redder and he sat down so hurriedly that he missed the little chair, and came down in an ignominious heap on the floor. Shouts of laughter went up and even Miss Benson smiled as she hastened to help him up. But Billy did not need assistance; he rose quickly, his eyes full of tears, and glared at the group of highly appreciative children, every one of them laughing—except, the little girl across the table. Her face was sober, and she looked *so* sorry for him; now Billy thought he had never seen anyone quite so pretty before in all his life; he would marry her when he got big. By this time, he had taken out the new handkerchief which was one of his birthday presents, and Miss Benson had kindly

wiped off his face with it, comforting him meanwhile just as his mother would have done; he loved Miss Benson already and was going to give her a sled for Christmas.

The rest of the morning went off well and the mystery of paper chains was revealed, together with many other useful facts of knowledge. Then they all stood and sang another song; that is, all except Billy, despite Miss Benson's coaxing, who remained motionless in his chair. After this they went upstairs to put on their wraps; and when the little girl across the table came down in a bright red coat and a bright red cap, she looked "awful sweet," as Mrs. Arlington was afterward informed by her enthusiastic son. "Say, which way do you go home?" he asked bashfully, sidling up to her. "Down Olive to Twenty-ninth, and two houses around the corner," she explained readily; and he noticed that the red bow on her hair was almost the same color as her cheeks. "Well, I'll go with you some of the way—but I don't go as far as you do," he added regretfully, seizing her hand. "Have you had a nice morning, William?" queried Miss Benson, smiling at the two, as she opened the door to let them out. Billy nodded his head proudly and closed his mouth so tight that there was a deep dimple at each end.

They walked along, hand in hand, both too shy to say a word. Finally, when the silence had become unendurable Billy inquired his companion's name. Marianne Pitt—what a pretty name! It sounded just like the splash when you throw a stone into the water, he told her; and after she gave that clear, ripply little laugh, it was easy to talk to her. He told her about his birthday presents and she told him about her black kitten, Moses, that was so afraid of dogs. When they reached Billy's house, Billy urged her to come eat din-

ner with him, or to run home and ask her mother to let her come stay all afternoon; and Marianne promised to ask, but she did not come. Mrs. Arlington was regaled for the rest of the day with incidents from the kindergarten, and with what Miss Benson said or with what Marianne's cat did; until she wondered why she had never sent him before, since he got so much pleasure out of going.

The next morning he was up early, anxious for school time to come; and while he was dressing, he startled his mother by asking why his sister's name was not Marianne instead of Effie—"it's so much prettier," he remarked, and then wondered why she laughed and called him a little goose. When he arrived at Miss Benson's, Marianne was already there, talking brightly to a pale little boy, with yellow hair and green eyes. Billy instinctively clenched his fists and scowled menacingly at him. He resolved to catch him at noon and fight him; fight him hard, down on the ground, and get his white face all dirty and black. How Marianne could like this boy better than she did him, he could not understand. However, as the morning wore on, the pale boy was neglected and friendly smiles were shot across the table with alarming frequency. But Billy's design was not altered. Deserting the little girl at noon at the door with a hasty good-bye, he rushed after the pale boy, who, evidently having seen trouble coming, was running with all his might. It was no use; Billy bore down upon him and without a word commenced to batter him unmercifully; and meeting no great resistance, kept it up until he was satisfied. "Now, then, I say, you get out!" he advised, glowering at his poor little victim; who, as if he had really done something wrong, did get out. Billy was exultant; it was his first fight; and, not considering the

febleness of his antagonist, he had undoubtedly been victorious. He praised himself highly, and remembered with much vanity that he was now five years old and this was sort of a celebration. He wanted to go home and tell his mother how he had fought, never doubting that she would be as pleased as he was.

But as he turned the corner, he ran into Marianne, whom he had entirely

hear?" Billy was stubborn, still holding Marianne's cat, he tried to break through the circle which had closed around him, but the seven-year-old caught the lashing tail of poor little Moses, and then began a tug-of-war. Torn by conflicting emotions, the cat howled and squirmed; and there is no telling what its fate would have been, with a sturdy youngster tugging at each end, had not Ma-



forgotten in the glory of his battle; she was crying and calling at the top of her voice, "Oh, Moses, Moses, Moses." On ahead, Billy saw a black kitten almost surrounded by boys, who were pelting it with gravel. "Is that your kitty?" he asked breathlessly, anxious for more worlds to conquer. "Oh, yes, it's my Moses," she wailed. He needed no bidding, but dashed with all the speed his chubby legs would allow, into the circle. "You let that kitty go!" he roared and seized the ruffled kitten by one leg. "You let that cat be," threatened one of the boys, about seven years old, who was not ready for the fun to stop. "D'ye

rienne arrived at the crucial moment and snatched its quivering little body away from both tormenters.

Abashed by her determination, the crowd soon dispersed; and Billy coaxed Marianne, who was crying softly in the black fur of the kitten, to sit down on his steps. Just how he comforted her is unknown, but soon the two were smiling contentedly, their arms around each other, in blissful unconsciousness of the mirth they were exciting in the Arlington's house. And thus Marianne's mother espied her, as she hurried distractedly up the street in search of her lost daughter.

The True Greatness of Washington.

BY ELIZABETH NOFSINGER.

Essay Awarded First Honorable Mention in Sons of the Revolution
Contest Throughout the State.

A life to be truly great must be in harmony with life's true purpose, which is to make the world better, to make it more nearly a reflection of the ideal. God has given to every man a spiritual nature which should ever strive to attain the Ideal. He has also endowed some with genius and understanding, but such qualities are valuable only in proportion to the development of the spiritual nature, or as it may be called conscience.

American history can boast of at least one man of genius and understanding whose true greatness consisted in his adherence to the right. George Washington, the man, the soldier and the statesman, strove to attain the Ideal. A great historian has said:

"Whatever record leap to light,
He shall never be ashamed."

This distinctive trait stands forth as strongly in the fictitious story of the cherry tree so familiar to every boy and girl, as in the most authentic biography.

A psychologist has said that during the first twelve years of a boy's life his character is moulded, and from that time on until his eighteenth year it is only hardened. George Washington's character was cast into the right mould by his mother, an intensely religious woman whose sole aim was to raise her children to be noble men and women. A story is told of Mrs. Washington which reveals the key-note of her success. M. Rochambeau, after the surrender at Yorktown, hurried to tell Mrs. Washington the news. He begged to know how she had trained her child to be such a great man and such a wonderful commander. "How did you do it?" M. Rochambeau impetuously questioned.

"Sir," she said simply, "I taught my son to obey."

A book, entitled *The Young Man's Companion*, was found recently in Virginia. It bore on the fly leaf in a clear, boyish hand the name George Washington, and the date, 1742. It contained rules for behavior. There is something strangely prophetic about these little aphorisms, for the essence of them is found standing forth in Washington's life. This one, especially "Labor to keep alive in your breast that little spark of celestial fire called conscience," shows that the boy was father to the man.

Even when a boy Washington's manner inspired confidence. The most incorrigible slaves on his mother's plantation were influenced by him. He had a quick, terrible temper, but he early learned to control it. In later years, during trials and disappointments, this self-control solved many problems. His educational advantages were poor, but his association with such highly cultured and refined men as Captain Vernon and Lord Fairfax, who were friends of his brother, Lawrence, benefited him. When but fifteen years old, Washington, through the influence of Captain Vernon, secured a midshipman's warrant. On the eve of his departure when he went to bid his mother good-bye, she refused to give her consent. His strong sense of duty overcame the great desire for a sea-faring life, and he returned to the home of his brother and began to study surveying. Well indeed that he mastered the principles of this science, for in a short time he was appointed a public surveyor for the wilds of Western Virginia. So accurately did he do this work that it stands to-day, almost a cen-

tury and a half since, as the most perfect survey ever made of that region.

In the year 1752, the French were settling on what the English claimed as their territory. Governor Dinwiddie of Virginia felt that he must warn the French. The task was a difficult one. There seemed but one person, however, in the colonies able to undertake it. This was George Washington, then only a youth. Nevertheless, he set forth boldly on this dangerous journey. He made good friends of the Indians and their guidance was of great advantage to him. To this very day they hold the following tradition of him: "Alone of all white men," they say, "he has been admitted to the Indian heaven, because of his justice to the Red man. He lives in a great palace built like a fort. All the Indians as they go to heaven pass by, and he in his uniform, a sword at his side is walking to and fro. They bow reverently with great humility. He returns the salute, but says nothing." Such is the reward of his justice to the Red man. Although his first mission to the French was unsuccessful, he made a second effort, leading against them a small army. This event was a failure also, but it taught Washington the first rudiments of military discipline. On his return to Virginia he resigned from the army, but was reinstated on the personal staff of Braddock, who was advancing to make another attack on the French. At the crisis of events, Braddock was killed, leaving Washington in command. His thoughtfulness and calmness saved the remnant of Braddock's army, although the men were sick and wounded, the women and children half starved and miserable. And Washington displayed his true manliness when he wrote back to Virginia begging for reinforcements: "The supplicating tears of the women and the moving petitions of the men melt me into such deadly sorrow that I

solemnly declare, if I knew my own mind, I could offer myself as a willing sacrifice to the butchering enemy, provided it would contribute to the people's ease."

At the close of the French and Indian war, he returned to Mount Vernon to enjoy what was the most peaceful period of his life. There he lived as a country gentleman. He attended the Assembly of the House of Burgesses at Fredericksburg and as a member his influence was great.

At the beginning of the trouble with England, Washington, familiar with the horrors of war, wished to try peaceful measures first. He represented Virginia in the First and Second Continental Congresses at Philadelphia. But when Congress organized the national resistance, Washington, being the only American soldier of national reputation, was chosen commander-in-chief of the American forces. At his election he said, "Let it be remembered by every gentleman in this room that I declare with the utmost sincerity, I do not consider myself equal to the task I am honored with." And yet when he stood beneath that historic elm in Cambridge taking command surrounded by the raw undisciplined colonial forces, he looked equal to any task. "His noble figure drew all eyes to him; that mien as if he were a prince; that cordial manner as if of a man who felt himself a brother to his friend." There was something about Washington that inspired the people with trust and yet awed them so that the cheers that came from them were a sort of voice of worship.

At first the commander-in-chief did not understand his men nor they him. But soon with his wonderful powers he brought order out of confusion. Not long afterwards, one of the officers said, "Our army loves our general very much, but they have one thing against him

which is the little care he takes of himself in any action." Washington endured all dangers and trials with his men, and his sympathy was the thing that held them together. His loud clear voice lent the only spark of encouragement when the cloud of war hung blackest over the colonies. Steuben visiting the army at Valley Forge during that terrible winter said that no commander in Europe could exercise the influence that Washington was exercising with his men. When Washington heard of the treacherous act of Arnold the traitor, his great heart was almost broken. During one whole night he paced the floor of his quarters in anguish and grief.

Washington occasionally lost his temper, yet there is possibly no man who ever tried harder and succeeded better in living up to the scriptural saying, "He that is slow to anger is better than the mighty, and he that ruleth his spirit than he that taketh a city." In 1775 at Cambridge, Washington sent Colonel Glover to Marblehead to get a supply of powder which was said to be there. When the colonel returned late in the evening, Washington was impatiently pacing up and down in front of his headquarters. Glover saluted. The general, without returning his salute, asked roughly, "Have you got the powder?" "No, sir." Washington swore a terrible Anglo-Saxon oath. "Why did you come back without it?" "Sir, there is not a grain of powder in Marblehead." Washington walked up and down for a few seconds and then said, "Colonel Glover, here is my hand if you will take it and forgive me. The greatness of our danger made me forget what is due to you and to myself." At the close of the Revolutionary war when Washington was bidding good-bye to his officers was one of the few times when he was unable to control his emotions. With tears

streaming down his cheeks, he drew General Knox to him, and impulsively kissed him, and there was not a man among them who went out without receiving an embrace from this man, the Saviour of the Cause of the Revolution.

With the end of the war came the temptation which comes to the successful commander of civil wars. The army wanted to make him ruler, the monarch of dynasty. But Washington had fought the war for the rights of his fellow countrymen, not for his own glory. He stoutly refused. He wished, however, to organize a democratic government. For this purpose, a convention of delegates from the twelve states met at Philadelphia. They formulated the present constitution, and they chose George Washington the chief magistrate or president. To this new life, he brought the same honesty of purpose, the same dignity that had contributed so much to the success of the Revolution. The selection of his cabinet was made with the noble idea; the best must be chosen. And although Thomas Jefferson and Alexander Hamilton were leaders of two entirely different parties, yet Washington chose them as members of his cabinet. When the French appealed to the United States in their Revolution, Washington, although the matter was a most delicate one as they had aided the colonists in their struggle, refused in such a way that the French were not offended.

The first president sacrificed all for his people during his two terms of office. He even refused a salary for his services. A third time the people begged him to be their leader, but he declined and went to live quietly at his much-beloved Mount Vernon. His last days were uneventful. Although not active in public life, his advice was widely sought. Once in a time of great distress, President Adams wrote, "We must

have your name if you will permit us to use it, there is more efficiency in it than in many an army." At another time Jefferson wrote, "The confidence of the whole nation is in you."

The last duties were done, the last trials met with the same trust that even the gathering mists of the Shadow of Death were unable to dim. Washington

died as he had lived, simply and bravely, without parade and without affectation. He had faced life with high victorious spirit and he met death likewise. Such was the record of the great-hearted, the true-hearted President, George Washington, the lode-star of United States history.

"JOHN QUINCY ADAMS."
(Nom de Plume.)

Chinatown.

BY LEWIS A. BUXTON

One who has visited Rome without going to see the Vatican, or Pisa without seeing the leaning tower, or one who has gone to London without seeing the British Museum, has lost one of the chief attractions to tourists, but no more so than he who has visited San Francisco without "doing" Chinatown. And now that Chinatown is no more, is all the more reason for regret if it was not seen, for never again will such a settlement be allowed in the heart of a great city.

When we left our hotel, escorted by a professional guide, we did not have far to go before we entered a narrow street with stores of beautiful embroideries, carvings and fancy goods, restaurants serving strange viands and dainties appreciated only by the Orientals. The fronts of the stores were hung with lanterns, but as we went farther into the foreign quarters, the streets became narrower and darker; Chinamen seemed to be swarming in every quarter. Finally we stopped before a house several stories above ground and several below. Our guide tapped upon a closed shutter, a door sprung open, and we entered single file into a very dark and narrow passageway. Following our guide we de-

scended a stairway and passed many little rooms, all containing from two to a dozen Chinamen, either around a gaming table or smoking opium in their bunks.

The first room which we entered was dark except for a little light which one of the opium smokers had and which was heavy with sickening fumes. The room was only large enough for six bunks, arranged in tiers on the sides, and for a chair or two in front of them. One old yellow-faced Mongolian was inhaling the opium fumes over his little lamp, while the other bunks contained men in the stupor of the deadly drug. The one, who had just begun his smoke, was cunning and alert enough to offer his trinkets for sale; as we had already been warned by the guide to buy in order to please them so that we would be allowed to go farther, we purchased curious locks and dainty little shoes. When we left the dark, filthy, foul habitation, we were glad to get a breath of fresh air and a glimpse at the blue sky as we went around the corner and up a flight of stairs to the Joss House.

This, the temple of their heathen god, is richly and gaudily decorated with gilded carvings and costly draperies. The

god was fearfully and wonderfully made, being constructed of metal and jewels, adorned with tinsel robes and bristling with black hair. Several baked chickens and bowls of rice were at its feet, the offering of some worshiper. The attendant struck a gong to inform the god that we were there—ready for business. A worshiper prostrated himself before the altar, but we contented ourselves with having our fortunes told. The attendant threw into the air a small, round paper rolled up like a paper wad; if it fell on one side of the god it meant good fortune; on the other side bad fortune. Another one wanted to tell our fates by the joss sticks, but buying a package of incense, we were glad to bid them adieu.

We did not visit their theater, but were attracted, in passing, by its orchestra (?). Such a banging and hammering, such a squealing of stringed instruments, the noise was trying to one with nerves, yet this music, we were told, is based upon a scientific theory.

It seems like irony to read to-day in a book telling of California "as a good

place to live in, of little danger of earthquakes." Possibly the architects have authority for believing that "even Vulcan is superannuated and in his second childhood is appeased with a rattle." Or from Kipling, "Great is the wisdom of the Chinaman. In time of trouble the house could be raised to the ground and yet hide all its inhabitants in brick-walled and modern-beamed subterranean galleries, strengthened too, with iron-framed doors and windows."

When the earthquake wrecked San Francisco, these Chinamen came out of their underground burrows like rats, wild-eyed and terror stricken, they ran through the streets like mad men. There came out of these underground places people unknown to any white man, people who had always lived in these holes and those, who had never seen the light of day. To-day these very people are camped in parks waiting to build a new home—a new Chinatown on our Western shore. Our nation will help to re-establish them, but it will never be the old Chinatown.

The Fairy Queen.

BY HELEN FILLEY.

Down in the modest violet's heart
A fairy queen resides;
Her crown is gold, her robe is green
And many tints besides.

She sits upon a tiny throne,
All brightest gold and green,
And at her back a violet's leaf
Forms a most lovely screen.

As modest as this lovely flower's
Be thou, too, O my heart,
That to thy room may come a queen,
And never more depart.

For greatest virtues always lodge
In modest hearts and true,
Those that through life's vicissitudes
Keep ever fresh and new.

The Track Meet.

BY DOROTHY D. OLDHAM.

There was to be a track meet of all the High Schools of the State at the State University, and the enthusiasm of the pupils of a certain High School of one of the most promising cities in the State was growing daily as they felt their team stood a good chance of carrying off a large portion of the honors, and a large party of youthful rooters intended accompanying the team to the field of action, to cheer them on.

"I'll tell you," exclaimed one of the enthusiasts, to a very much besweated contestant, "I'm in hard luck. To begin with, I promised Marion Sawyer I would take her guest to the Junior reception, and now after that piece of generosity she tells me she isn't very pretty and she doesn't even know whether she dances well or not, but, oh! she is such a dear, and just too sweet for anything."

"Well —"

"But that isn't enough old man. Mother insists that on the way back from the meet I must stop off at X., call on an old college friend of her's—who has never seen me, and who has three daughters who have likewise never seen me, and what's more don't care if they never do. But mother said, 'I have told Sarah about you and she was so sorry not to have seen you when she visited here last fall. She is such a dear good woman and I want you to know her and her daughters—and the girls are really quite pretty.' Then she teased so prettily that I promised and now she is holding me to it. So there I am, and there is no way for me, but to go down with you fellows, stay for the meet, etc., and miss the last reception, make a two-forty dash for the six o'clock train for X., pay my respects to Mrs. Warnell and the girls and be jolly glad to be picked up by

your train as you pass through X. at five the next morning.

* * * * *



The Sorrowful One awoke in X. the morning after the meet with first the feeling that he was very hoarse and stiff, and second that it was very late and then gave a start as he glanced at his watch. "Four-fifteen—where's that porter—he hasn't called me," and with that he was at the door and calling excitedly out into the quiet country hotel. A sleepy porter crawled up the steps and appeared at the door with, "Cap'ain, I clean forgot you."

"Here you—get a carriage for me and no foolishness or I'll"—and the awful threat was lost in the banging of the door as he disappeared within his room

and a couple of men with suit cases dashed madly down the hall.

A few moments later and the thoroughly wide-awake porter was handing the dim outline of a suit case to the driver on the box. "Here you are, Cap'ain, twenty minutes—you can make it—there you are—careful of the ladies, sir," and our hero felt himself given a quick push and the door banged behind him.

"Oh, damn," he ejaculated, having caught his feet in some woman's skirts and fell headlong into the front seat. It was lucky for him as the carriage swung around the corner a street light showed him that the other seat was occupied by two ladies, one elderly and the other very young—and smiling, due apologies were made, for suddenly he felt very much ashamed of himself and felt his face reddening when the elderly lady beamed benignly on him and kept saying "yes—yes?"

From the conversation he couldn't help but overhear, the older woman proved to be the mother of the young girl.

As the carriage swung up alongside the station platform, surrounding a long low building through whose windows lights shown dimly out, there burst forth a long howl from the victorious High School boys as the returning train was slowly pulling in. As he stepped out of the carriage he was greeted with "Hello, old man; you would give us the slip, wouldn't you—how were the girls," and "We didn't look for you on this train."

As he waved his hand to them and turned to help the two ladies out, took their suit case and his own from the driver and started towards the train, the questions came to an abrupt end, though more faces appeared and reappeared at the windows and there was something suppressed and swallowed settled down over the full to overflowing coach. One

boy paused suddenly in the execution of a war dance in the middle of the aisle, and as the new arrivals appeared in the doorway they fell into their seats, looking like children caught in some mischief.

On helping the ladies out he had asked, "You are taking this train, aren't you?" and the younger one had answered, "Yes, we are going into the city. How fortunate we didn't miss it."

"Then you must let me help you with your luggage," and he proceeded to suit the action to the words.

The three stood helplessly in the aisle until three or four boys jumped to their feet and one whispered, "Here, can't you fellows double up and make room for one more?" There is always room for one more and even three when one is the best man in the track team and one a pretty girl.

Two seats turned together were vacated in a second and he placed their suit cases and wraps in the rack and took the seat opposite mother and daughter, there being no other vacant seat in the car.

The mother beamed pleasantly upon him and smiled and nodded her head several times as though in assent to some question of his while the girl looked out the window, smiling demurely. He took some crumpled programs out of his pocket and pretended to read them though he could feel every boyish pair of eyes glued on the back of his small blue cap. He glared at the programs and was thoroughly disgusted and ashamed of the fellows—they made so much noise.

"Of course, we'll get even with him," one of the boys was saying; "give us the slip like that and let us scour the whole town for him and then get on, up the road half way home and dangle a pretty girl in our faces and not even introduce one of us." A great shout arose from

a crowd of boys as Joe Minor made his sixth trip to the water tank and smiled meaningly as he passed his friend absorbed in the passing scenery.

It was seven o'clock when they reached the city and after having handed the ladies' grips to a porter and received

As he and the boy who was to take Marion were on the way to her house that evening he remembered that on leaving Mrs. Warnell's he had wished he had let his mother invite the oldest girl for the party. She was a brunette and he had thought her very pretty. As



their many thanks he took the car, home. He was wholly out of tune with the fellows' hilarity and could see nothing funny in what they did, though he had laughed at those same things the day before.

He stopped up town and ordered several dozen roses sent out to Marion and her guest and then took himself home. Early that afternoon he called up Marion. "Hello, that you? Afraid I wouldn't get back? We got in this morning. Yes, we came out ahead in the meet. Ready for to-night—well I guess I am. Did your friend come? I'm awfully sorry, Marion, but there is to be a meeting of the track team this afternoon, so I can't come out to meet your guest, but I'll be on time this evening. Yes, I have partly made out her program."

the carriage passed a street lamp and it flared in he thought of the girl in the carriage that morning. Her hair was red. He had never noticed red hair before but it seemed to him he had always liked it. Now, if he had been asked to take that girl—but just there his train of thought was interrupted by the carriage coming to an abrupt stop. He and the other boy stepped out of the carriage and went quickly up to the house. The girls were both ready and as Marion shook hands with him and introduced her friend he scarcely noticed the name for the girl who was holding out her hand and smiling was the girl of the morning.

As they were going down the walk he tried for a second time to apologize for his rudeness of the morning, but he was cut short with a low laugh and, "Oh, forget it. I have and mother's rather deaf, she didn't hear.

Kansas City's Rapid Transit.

BY HAROLD C. MILLER.

Looking back over the early history of Kansas City, we see it grow from an insignificant river landing, hardly worthy of the name, to the greatest metropolis of the West, second only to Chicago as a commercial center, and second to none for business, activity and push. And we are inclined to wonder why this wonderful growth in Kansas City, when towns that were greater forty years ago and were as well situated, and had a far better topography, have fell by the wayside. One might think it a tale from the "Arabian Nights," that the city just happened by the rub of Alladin's lamp, but if we look farther we can attribute to a greater reason, to the energy and push of this city's early citizens, who left not a stone unturned to boom the town. But there is no royal road to success and the old settlers found no violation to the rule. Probably the greatest obstacle that for years retarded the growth of this city were the rather mountainous topography and consequently lack of rapid transit. But the early pioneers were not to be baffled by the so said seven hundred and seventy-seven hills, and in the spring of 1871 a company was organized, under the directorship of Mr. Holmes to build the first car line.

Many of us are familiar with the route of that first car line. Beginning at the market square it went south on Walnut to Twelfth, east on Twelfth to Grand, and south on Grand to Nineteenth. Later it was extended to Westport Landing. Three small cars were ordered from St. Louis and when they arrived, the entire town turned out, and then mid the blowing of whistles and the cheers of the vast multitude, Kansas City's first car line went into operation.

How dear to the hearts of the old settlers of this city, as they look upon these modern twentieth century electric cars, are the recollections of the first attempts at rapid transit in this town. How clearly they must remember those wintry nights, how they would wait for an hour or more, never grumbling, for one of those old razor-back, cannon ball cars to take them home. Those old cars with the dinky old stove in one corner throwing forth its wintry radiance from the small spoonful of coal that it contained, giving the unfortunate occupants the strange sensation of being on a Polar exploration with Perry! Lighted by the sickly lamp on the shelf at one end. No reading for the dimness of the light and the bouncing of the car. The stillness of the night was only interrupted by the music of the epithets hurled at the half-starved mule. No conductor to call out "Eighteenth street, or step up in front, please;" only the small box at the front end of the car where the honest placed their contributions.

And the mule car was not alone in the business of rapid transit, but had a rival in the form of a rickety old omnibus that also ran between Westport Landing and the levee, and many a race has been pulled off in Kansas City before Elm Ridge was ever thought of. And many a time in the excitement of the race has the car jumped the track. Then the passengers would placidly alight and pick the car gently up and place it back again and with important advice to the driver as how to drive a mule, would remount and continue their journey.

Business was not very brisk on Kansas City's first car line. Three passengers were considered a good load on ordinary days, and only on circus days and

Sundays were the cars even comfortably filled. And hard times came on, and when the panic of 1873 swept over the country, the street railway system came near being lost in the shuffle. Feed soared high and of funds, the driver would be forced to stop the car at a feed store and buy twenty-five or fifty cents worth of feed, amount depending on the number of passengers in the car.

But the street railway system was here to stay. The Westport line survived and was soon followed by the Fifth and Ninth street lines. The old citizens thought the horse, or rather mule car, was about the greatest thing that ever happened, but it did not prove a success and when the newly invented cable car came out, the Ninth street line was converted to the new power. And at the success of the cable on the Ninth street line, new lines were built and the old lines were converted to cable. The street railway system began to spread out and as the street railway system expanded so did the town. As new lines were built out into new territory, the people followed and built homes. But not only did it benefit the traveling public, but it gave employment to hundreds of people, until to-day there are over three thousand people upon the Metropolitan's pay role.

In 1886, the lines consolidated into what was known as the Kansas City Cable Car Company. It was about this time the Ninth street incline was built, which was considered at that time to be one of the greatest feats of engineering in the world. But when it was completed the man could not be found who wanted to risk a ride over it. And to cap the climax the second car took a notion to go with McGinty to the bottom of the sea, landing in a hopeless wreck at the bottom. For months the incline was abandoned, but eventually a "Hob-

son" was found who piloted a car to safety, proving the incline practical.

The cable system gradually grew until it became known as the greatest system of its kind in the United States. But evolution means revolution, and the cable became inefficient to handle the masses of the fast growing city at the mouth of the Kaw, and when a Kansas City man invented the trolley pole that made electric cars practical, the Fifth street line was converted to electricity; and the Fifth street line holds the distinction of being the first practical electric car line in the world, and now to-day we have the finished product of years of evolution. The Kansas City Cable Car Company has gone to keep company with the mastodon, the wang-doodle and other prehistoric things of the past. The last remnants of the cable system only survive as short order chop houses for the midnight pedestrian, or some other equally degrading position. No more will we experience the sensation of the "sway back" railway. No more the thrill of the "rather strenuous," as the man said who whittled a stick of dynamite, drop down the Ninth street incline.

When Benjamin Franklin tied a kite string to that historic fence rail, and discovered the great agent electricity, little did he think that in less than a century it would transform the entire world. Little did he think that that mysterious power contained light, heat and energy enough to run a sixty-foot street car. But to-day electricity illuminates the world and has thrown all other inventions and discoveries far into the back ground. Steam is fastly going, cable has already gone and electricity stands out supreme as the greatest factor in modern rapid transit.

The Kansas City electric car system is considered by such high authority as Mr. Foster, manager of Massachusetts Electric Car Company, to be the finest

system of its kind in the country. Go to the city of St. Louis, where is located the largest car factory in the world and there you will find a street railway system that is far behind that of Kansas City. Although Chicago has a greater system, Kansas City is far superior in equipment and efficiency. Even New York, with her miles of subways and elevateds, that have done wonders toward solving the great problem of the city of to-day, of the transportation of the masses, they have yet to get a system as up-to-date as that of Kansas City, Mo.

And the Metropolitan has not stopped yet. Thousands of dollars have been poured into improvements in the past year and thousands more are contemplated for the coming year. The Metropolitan has shown itself progressive in keeping with the town from which it lives, and ready to co-operate with the city to

make Kansas City a greater city and a better place to live in, and when in years to come Kansas City shall be third in the ranks of great American cities, when her air shall be congested with elevateds, and her ground honeycombed with subways, when her hills shall be overcome with moving roadways and across whose mountains will ply the airship, when her name shall ring far and wide over the globe, the Metropolitan shall stand out supreme as the greatest factor that made Kansas City what she is, or will be. And even going farther into the obscure future when, like the ancient Roman empire, she shall be reduced to crumbling ruins, archeologists shall stand on the ruins of this once great Western city, and they shall discover a trolley pole and then know that those ruins are those of Kansas City.

Reminiscences of a Senior.

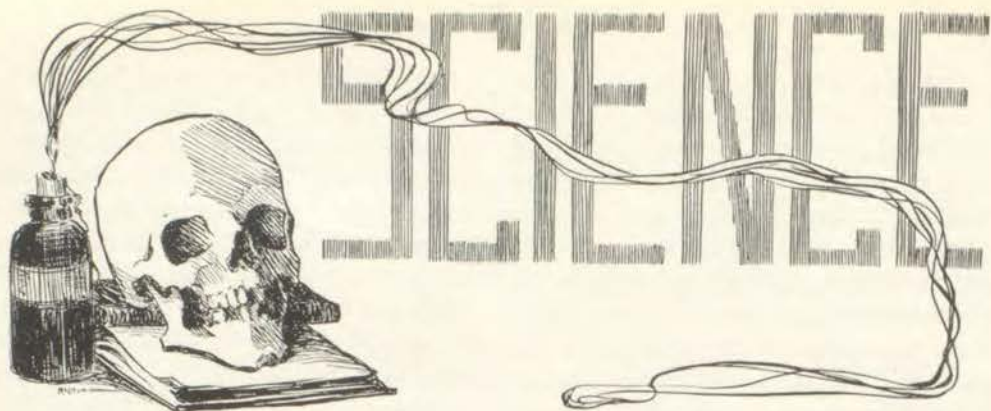
BY E. BARTLEY, '07.

Oh, well do I remember
The day I first enrolled;
When I entered dear "Old Manual,"
And through her halls I strolled.
When first I learned the numbers
Of the lockers, rooms and shops,
And learned the names of teachers
Who made things hum like tops;
When first I cut my finger
With a chisel, gouge, or plane,
Or set myself near crazy
Finding out some maiden's name.
'Twas then I learned as "Freshie"
How to anxiously await
The coming of report cards,
On which was signed my fate.

I next became a Sophomore,
And the way I strutted. My!
It was enough to fade "Doc Brown,"
I held my head so high;
Because I studied Caesar
And was reading lines from Poe;
I nightly dreamed of Ravens,
And of conquering many a foe.
I learned to turn out goblets
From a knotty piece of stock;
I learned to solve quadratics
That were tough as rubble rock.

But with all this wondrous knowledge,
Which to my brain did spring,
I found myself a Junior,
Without knowing a blessed thing.
All my feelings were as bitter
As any a doctor's pill,
For I now was studying rhetoric,
Learning rules of "shall" and "will."
I was hardening up my muscles,
Making bolts and hooks and rings;
And in my mathematics
I was learning numerous things
About the trials of a Junior,
As he lives through weary hours;
And looks up to the Senior,
Who a year above him towers.
But all these bitter moments
Were soon to pass away;
For I now became a Senior,
Hallelujah! what a day.

But that day has dimly faded,
And the year is nearly o'er;
But my love for dear "Old Manual"
Is increasing more and more;
And although my "P's" are many,
And for "F" I have no fear;
I have come to the conclusion
That I'll stay another year.



HARVEY GOODJOHN



HELEN FILLEY

A History of Some Buckeye Twigs.

BY HENRY C. ACKERMAN.

Each twig of every tree has a particular history of its own, which may be read by interpreting the scars, markings, and developments found on the twig. This history is comparatively easy to read by any one who examines the twig carefully and thoughtfully. I have selected a few twigs of the buckeye tree to illustrate some of these points.

The buckeye tree grows mainly in the Mississippi valley, especially in the more rocky portions, and on the bluffs of the Missouri and Mississippi rivers. The tree is not very important commercially, but is cultivated principally as a shade tree. It is a shapely tree, having a

symmetrical bowl-shaped crown with gracefully drooping leaves and is one of the most attractive trees to be found in our lawns.

A great deal more can be learned about the tree by a study of the twigs. The twigs all have certain features in common. The buds and leaves have the same arrangement. The leaves of the twig are placed oppositely and as the normal position of a bud is at the axil of a leaf *i. e.*, where the leaf-stem joins the twig, the buds will naturally grow on opposite sides of the twig. The leaves in dropping off in the fall leave scars (L. S.) on the twig, hence buds

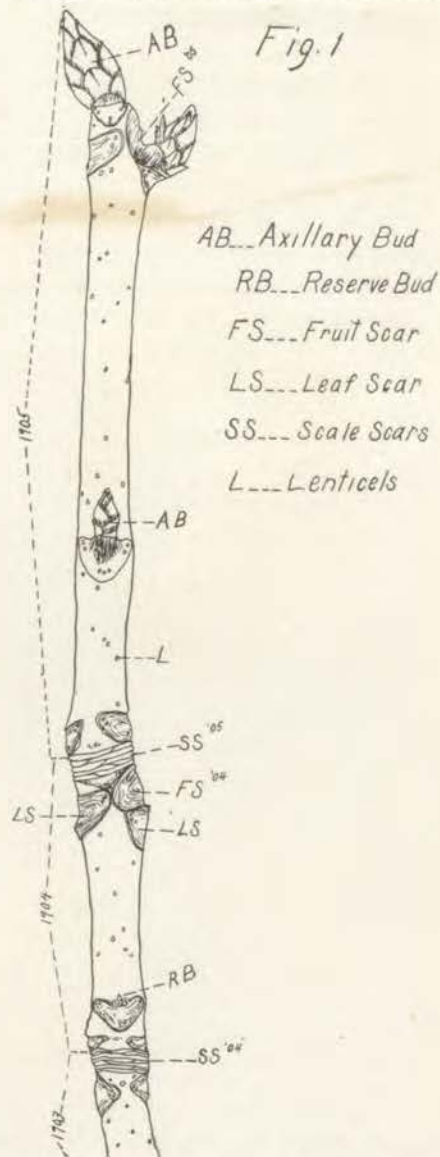
are always found just above these scars. Buds are formed early in the summer and mature just before the leaves drop off. Buds are usually provided with scales or modified leaves, and a fuzzy growth around the inside parts of the bud. These scales furnish a means of protection to the bud during the winter. There are a number of things that a bud needs protection against, such as sudden changes in the temperature, contact with outside objects, and to prevent the buds from drying out. The scales usually drop off in the spring when the bud begins to develop, although some trees retain them some little time as foliage. The scales in dropping leave a band of scars (SS) around the twig. These scars will show just how much of the twig grows each year. A year's growth includes all of the growth between two bands of scale scars, and thus by counting these bands we can tell how many years it has taken the twig to grow.

There is often great variation in the size of buds. The larger buds on the twig are flower and leaf buds. Those on the side of the twig are termed axillary buds (AB); these more commonly contain leaves only. Those buds on the end of the twig are called terminal buds. Then there are the smaller buds, which are sometimes almost indistinguishable because they are so small. These are reserve buds and have been placed on the twig as emergency buds in case any accident happens to the larger buds above them. In that case these reserve buds will be developed and continue the growth of the twig.

To one observing a twig closely certain small spots will be visible on the bark. These spots are called lenticels and serve as a means of communication between the air and the inner parts of the stem.

We will now notice the twig shown in Fig. I, and read its history by interpret-

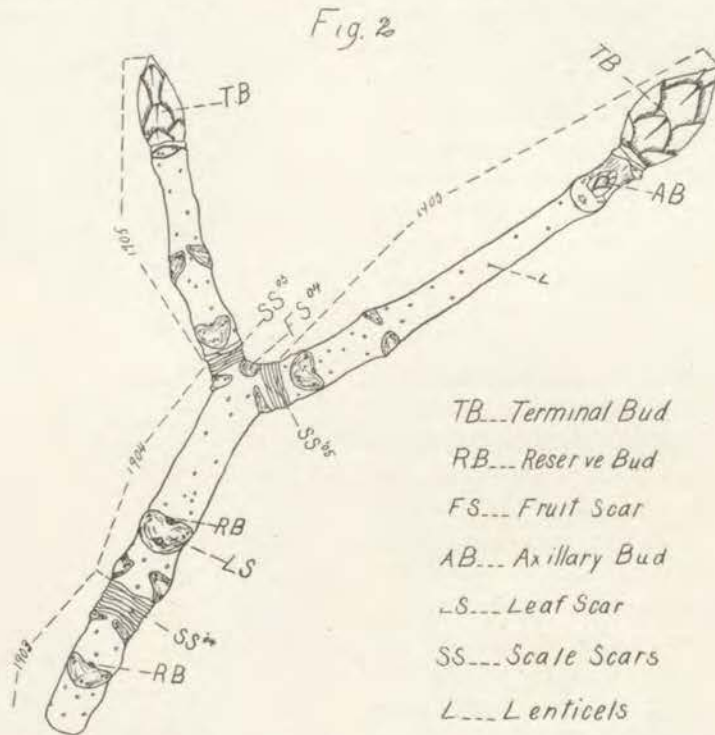
ing these various signs. The age of this twig as shown by its bud scale scars (SS '04) and (SS '05), is three years. This portion marked 1903, which extends up to (SS '09), grew in 1903 and



in that summer a flower bud was formed at (SS '04). This bud was then at the very end of the twig and was a terminal bud. This fruit bud developed, in the spring of 1904, and grew during the summer of 1904 to (SS '05); leaving the scale scars (SS '04). We know that this bud bore flowers because of the

large scar (FS '04), which was left when the flower of 1904 dropped off. The position of this scar is due to the fact that the bud continued the growth of the stem a considerable distance before the flower matured. When the flower did mature and drop off, it left a scar at the end of the twig. But the scar now appears at one side of the twig. This may be explained by the fact that when the flower dropped off it stopped the growth of the twig at that point. An axillary or side bud, however, developed near the end and by its growth pushed the scar far to one side and continued the growth of the

buds were formed. The flowers, dropping off, prevented the continuation of the growth of the stem at that point and one of the axillary buds is seen to be pushing its way forward pressing to one side of the fruit scar. But the other axillary bud is also a strong bud and will doubtless make considerable growth next year, so that we are safe in concluding that the twig will fork at this place. There were seven leaves on this portion of the twig as shown by the scars, one being opposite the axillary bud on the side of the stem. This growth of 1905 is comparatively rapid. Everything must have been favorable for its growth



twig in nearly a straight line. Seven leaf scars were left on the twig in the fall of 1904, and two reserve buds were formed. Only one reserve bud can be seen on the twig, the other one being on the opposite side. In the spring of 1905, the bud at (SS '05) developed, leaving the scale scars (SS '05) and grew to the end of the twig. Here two axillary

for we see it not only bore a flower, but produced a considerable length of stem, and developed three good strong buds as well. This is a much better growth than that of 1904. The reserve bud in the growth of 1904 is still dormant, there having been no occasion for its development.

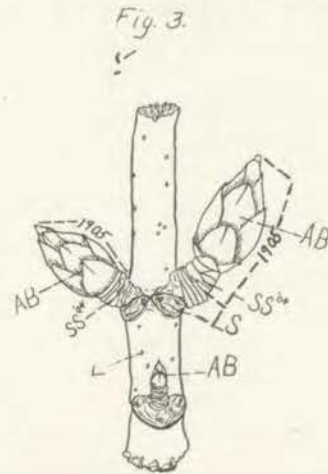
In Fig. 2 we see a different twig from

that of Fig. 1. In 1903 a terminal bud and a reserve bud were formed. The twig did not flower that year and the growth continued from what was then the end of the twig at (SS '04). In the spring of 1904, the terminal bud at (SS '04) developed and, during the summer, drew to (SS '05) where two axillary buds formed. The bud making this growth being a flower bud dropped it's flower at (FS '04). Two reserve buds also formed during this season. The leaf scars show that there were six leaves. The spring of 1905 developed the axillary buds at (SS '05), neither of which happened to be flower buds. The buds continued the growth, giving rise to two branches which bore two reserve buds, six leaves, and a terminal bud. Axillary buds formed on one branch only and this branch seems to have grown the faster in the last year. It is probably destined to become the main branch of the twig. Probably it is more favorably placed with reference to the light. The large bud at the end of the twig is probably a leaf and flower bud, judging from its size.

Fig. 3 shows us an example of the reserve buds having been brought into action because of the accident which happened to the buds farther up the twig. This twig grew in 1904, but was partly broken off in the summer of 1904. There were reserve buds at (SS '04) when the twig was broken, which developed during 1905 into the two short branches with a terminal bud at the end of each one. The growth was but little; possibly the injury to the stem retarded their growth somewhat or the injury may have happened after the growing season was well advanced. These buds will continue the growth of the twig the next year, making a forked branch.

Fig. 4 shows a leaf and flower bud from which the scales have been removed. The small knobs each contain

a perfect flower in embryo, and when the bud develops each will grow on a separate stem. The leaves shown in the drawing have been pulled away



AB... Axillary Bud
 SS... Scale Scars
 LS... Leaf Scar
 L... Lenticels

from the flower. Before the scales were removed the leaves lay close to the flower. This shows that both flowers and leaves are prepared a season in advance, lying protected in the bud dur-

Fig. 4.



F... Flower
 L... Leaf.

ing the winter and all ready to grow when spring comes.

Thus we see how nature has made provisions for the continuation of life through almost all conditions which may exist.

Nature's Tiny Palaces.

By F. M. ACTON, '08.

Among the many curious and wonderful facts brought to light in the beautiful study of Botany, there are none more interesting than the little abodes found on many familiar trees and shrubs, which we will call nature's tiny palaces, but which naturalists have named galls. Space will not permit a description of all the different varieties of galls, so we will dwell only on the most common and familiar. All kinds are formed through almost the same process, the only difference being in the appearance due to the plant and insect concerned.

A common gall on oak trees is very much the shape and size of a crab-apple, composed of a core and an outer hard wall having the space between the hard wall and the tiny kernel within where the insect is imprisoned filled with a porous mass of silky threads, thus suggesting the name of spongy apple galls. The galls on dwarf wild rose bushes are the spring rose galls, covered with long soft spines. In summer they are just greenish, fuzzy swellings; later they turn red or yellowish and the spines show more plainly; by autumn they have turned brown and become quite hard. Blackberry galls are large pithy masses, sometimes three inches in length, and one and one-half in diameter. Galls on heart leaved willow trees are one of the most common and conspicuous kinds. They are the Pine-cone Willow galls, formed at the tips of the twigs. In this case the sting of the insect injures the twig and it grows no more in length, but the leaves continue to develop and the result is the cone-like gall. The common stem gall which grows on the stalks of golden rod, is almost perfectly round and grows high up on the stalk, making it very conspicuous, even when

the leaves are on. The smallest of galls appear to be tiny dots on the surfaces of the leaves of golden-rod and other plants. These are so extremely small that they can hardly be seen and yet the insect goes through the same stages as the one in the largest of galls. Perhaps one of the most common forms of galls is the one that grows on wood grass and has very much the appearance of a bud with its scales.

Stranger than the forms and appearances of these tiny palaces are the way they are formed and their tenants. In spring when all trees are sending out new tender twigs and plants are growing rapidly, an insect slips in and deposits one or more eggs in the angle above a leaf or in a tender bud and thus the site for a grand palace is located. When these eggs hatch small worm-like larvae slip out and begin feeding. This irritates and injures the plant and as a result it produces an unusual growth about the young flies or larvae and shuts them in. Here they remain, protected from their enemies, sheltered from cold and bad weather and surrounded with all the food they need.

In spring when the swellings are first formed they will most likely be unnoticed, but in mid-summer they could be found by hunting, for by this time they are large enough to be distinguished. The gall grows most rapidly during the summer, and by winter it has become quite hard and firm. And generally by winter the tenant is no longer a worm-like creature without head nor feet, but has changed to a pupa with a head and large eyes and a pair of antennae folded down its sides, with long legs and tiny wings pressed tightly against the body. The pupa is sometimes naked, sometimes in a frail co-

coon and sometimes wrapped in the dry skin of the larva. The pupa differs from larva in that it is very inert while the larva was active. The pupa needs no food while the larva did nothing but feed. This inactive period lasts till spring and then if a dry gall be found it will have a tiny opening where the perfect gall fly has gnawed out and escaped.

The adult flies are seldom seen for they are extremely sly. They are delicate and slender, the head and body being covered with fine hairs, easily rubbed off. The antenna are very long. The legs are long and frail and the wings are thin.

All gall flies go through practically the same stages before coming out of the gall as a mature fly, although there are many kinds of insects that lay the eggs that form the galls. Sometimes the eggs are layed by a gnat or mite or saw-fly, all being very different from the true gall fly. Besides the differences in the insects and appearance of the gall they differ in other ways. Some palaces

are for one tenant while others are divided into separate little appartments, one for each larva. This is the plan of the wood grass gall, there being a larva beneath each inner scale. As many as thirty-one larva have been found in one gall from wood grass. In spring they can easily slip out from under the scale while the single fly in the apple gall must gnaw through the wall of the kernel, then through the spongy mass to the outside and finally through the hard wall. Most gall flies remain in their own gall until they are in the stage of maturity, but in some the larva finds some other place to become a pupa. In others the larva goes into the ground to hatch and some into an empty gall of some other insect.

But however they differ and what ever their customs the galls are all tiny palaces only with different architectural plans. These differences in structure, appearance and plans only make the study more interesting and the facts more wonderful.

Trigonometry.

BY HARRY S. HARKINSON.

Trigonometry as generally understood is the science which deals with the relations of sides and angles of triangles, also of the relation between trigonometric functions of arcs or angles. Trigonometry of to-day forms one of the most interesting and practical divisions of the mathematical science. Elementary trigonometry has many useful applications, such as the measurement of areas, heights and distances. It is indispensable for astronomy, physical sciences and the various branches of engineering.

Trigonometry is divided into three principal divisions—plane, spherical and analytic. Plane trigonometry treats of the relations existing between the sides and angles of plane triangles. The principal object of plane trigonometry is to show the methods of solving plane triangles, that is to find the remaining elements of a triangle when three are given, one being a side. (The elements of a triangle are its three angles and three sides). Spherical trigonometry treats of the relations existing between the angles and sides of a spherical tri-

angle, that is, a triangle on a sphere whose sides are arcs of great circles. The solving of spherical triangles may be accomplished when any three elements are given. Analytical trigonometry consists of the pure theory of trigonometric functions apart from their application to problems of measurement. Elementary trigonometry still concerns itself with the calculation of straight and circular lines, angles and areas in the plane or on the surface of sphere. The primary concepts are based on a knowledge of Euclidean geometry, and the elements of arithmetic and algebra.

The development of trigonometry begins with the ancients. As conceived by them trigonometry was limited to the expression of the relations between the sides and functions of the angles of plane and spherical triangles and the calculation of tables of these functions was nothing more nor less than an extension of geometry to meet the requirements of navigation, land surveying and particularly astronomy. In the last named science they gained remarkable proficiency. While the measurement of triangles caused the primary development of trigonometry, this has become but one of the applications of the theory of the trigonometric functions, which constitutes the subject matter of modern trigonometry. This in turn has come to be regarded as a special case of the general theory of functions.

The oldest mathematical work, "The Rhind Papyrus," accredited to Ahmes, an Egyptian priest (3,400 B. C.), contains certain trigonometric deductions that appear to have found application in the building of pyramids, including a rule for finding the area of a circle. The earliest development is properly accredited to the Egyptian, Hindo and Semitic races. The most celebrated astronomer of antiquity, Hipparchus of Nacoea (160-120 B. C.), is said to have founded

it as a science and as an aid to his work the principles of spherical trigonometry were naturally the first to be developed. Hero of Alexandria (155-100 B. C.), probably a native Egyptian, made several applications of trigonometry in the interest of engineering and surveying. Ptolmey, another Egyptian mathematician, aided the advancement of trigonometry.

While this discussion was not intended to assume a biographical nature, yet we cannot afford to pass by these men by merely saying a few words about them. Hipparchus was one of the greatest geniuses of antiquity, the observer and thinker, upon whose work the whole system of Greek astronomy was founded. It was he who determined (very nearly, but not with absolute accuracy), the precession of equinoxes, the inequality of the sun, the mean motion of the moon, the equation of the center of the moon and the indination of its orbit. He had both a plane and spherical trigonometry. He knew how to calculate the eclipses of the moon and use them for the improvement of his tables. He invented the method of describing the position of places by reference to latitude and longitude. What he wanted was better instruments, yet in some of his problems, such as the indination of the moon's orbit, he erred only by a few minutes. The sexagesimal division of the circle was known to the Babylonians, but Hipparchus was the first to calculate a table of chords. Hero of Alexandria had a considerable knowledge of trigonometry, but his fame rested largely upon his mechanical inventions. In one of his writings he treats of the mode of drawing a plan of an irregular field, and of restoring, from the plan, the boundary of the field in which only a few landmarks remain. His method similar to Hipparchus' method of latitude and longitude. Ptolmey (127-151 A. D.),

extended the work of Hipparchus and wrote a treatise styled "Syntax Mathematica." The almagest of the Arabs was regarded as sacred for thirteen hundred years, until Copernicus and Galileo established that the planets moved around the sun.

Very little was contributed to the science in the next thousand years, and what was accomplished must be accredited to Hindo and Arabian writers. The Arabian writers received their inspiration from the Hindo and Greek sources, and were largely instrumental in transmitting the same through the middle ages until the revival of learning in the Renaissance. Their most famous scholars were Al Battani of Syria (930 A.

D.), who introduced the term "sine." Abu'l Wafa of Persia (940 A. D.), first employed the "tangent" and calculated a table of tangents.

John Napier (1550-1627) A. D.), discovered the primary relations in spherical trigonometry called, "Napier's Analogies," and paved the way for further progress by the invention of logarithms. The first tables of logarithmic sines and tangents were prepared by Edmund Gunter (1581-1626) who introduced the terms, cosine, cotangent and cosecant. Modern analytical trigonometry is primarily indebted to De Moivre (1667-1754) a French Tuguenot, and particularly to Erclar (1707-83) who was born in Switzerland.

The Evolution of the Telephone.

BY RAY L. BARTLETT, '06.

I take it for granted that we all know what a telephone is and are perfectly familiar with the means used to operate one. But how many of us, some who use it hundreds of times every day, are acquainted with the operation of the delicate and intricate mechanism that acts when we remove the receiver and then speak into the funnel-shaped tube, called the transmitter? I grant that there are not many of us who know this—but since my subject deals with its evolution and not operation, I must leave the uninformed ones to learn it by themselves.

It was Page who started the "stone to rolling." In 1837 he learned that if a bar of iron be magnetized and then demagnetized at short intervals it would emit sounds. This was all he could do in this direction, but it was enough to induce Philip Reis, born in 1834, to construct his first telephone. Like Edison,

he had to work for a living when yet young, but unlike Edison he received a good elementary education. At the age of sixteen he devoted all of his leisure time to the study of mathematics, chemistry, physics and attending scientific lectures, given in a certain institute in Frankfort. His first telephone, then considered a wonderful instrument, consisted of a beer barrel in the bung-hole of which was a funnel, covered at its smaller end with a thin membrane to which a small piece of platinum was fastened by means of sealing-wax. This was the transmitter. The receiver was a violin upon which a knitting-needle, having a coil of small copper wire around it, was fastened. But this receiver was not entirely successful so was replaced by a block of wood in which was a depression exactly fitting the human ear. In the proper place was a thin membrane with the platinum fast-

ened on with sealing wax. When the membrane vibrated in the beer barrel the platinum beats against a lip of metal. Each different impulse in the sound producing the vibration caused a better or worse contact between the platinum and the metal. These varying contacts produced a varied rapid magnetization and demagnetization of the knitting needle, having the same frequency, and therefore the same pitch as the note sung into the transmitter. The wooden ear was made to act in the same way by means of a small electro-magnet back of the diaphragm. As to whether this jumble of rusty nails and screws, kindling wood and junk was a success or not may be gleaned from this extract in one of his enthusiastic letters to a friend: "The apparatus gives whole melodies in any part of the scale between C and C' well, and I assure you, if you come and see me here, I will show you that words can be made out." Mr. Reis showed this instrument to the Physical Society of Frankfort in 1861. As to the importance of his invention Reis was well aware, but it was only treated as a toy in his day. He remarked to a friend "that he had shown to the world the road to a great discovery, but left it to others to follow it up."

Follow it up the world certainly did and of course the Reis telephone had to undergo many modifications before it could be utilized for practical purposes. I will not attempt to numerate all those who made these modifications. Among the score or so who did so was Graham Bell. Mr. Bell came to Boston in 1868 as a teacher of the deaf and dumb. The deaf and the dumb are not, as a rule, unable to speak because their organs of speech are defective, but because, in consequence of their deafness, they cannot hear the spoken word, and therefore cannot imitate it; it is, therefore, usual to teach them through other agents than

the ear. For a further development of this method Mr. Bell and his father studied the mechanism of the voice. They produced vowels artificially by means of tuning forks and saw immediately the plausibility of constructing a telephone on this plan. He fastened a number of harmonica staves of different tone into the ends of a wide horseshoe magnet and between the staves he placed a coil of wire wound around a soft iron core. The principle is this: When one staff is struck it will approach to and recede from the electro-magnet, thus producing a strengthened and weakened induced magnetism in a distant similar instrument, exactly resembling the strengthened and weakened magnetism produced by the vibrating staff that was struck. As a consequence only the one prong will be caused to vibrate that has the same tune, i. e., the same number of vibrations per second—as the one struck. Therefore, if a tune be played upon the prongs of the first instrument the same tune will be heard upon the second. The expense of this idea prevented Bell from perfecting it. Perhaps it was too complicated, anyway. However, he investigated the different kinds of vibration obtained through different kinds of interrupted current; the intermittent, the pulsating, and the undulating currents. The first was used in Reis's case and the second in Bells's. Neither was able to reproduce the spoken word thoroughly. Then Mr. Bell found that speech can be produced only when *exactly* the same vibrations are obtained at the place where the reproduction is to take place. For this purpose Bell used the undulating current, the characteristic of which is they do not increase or diminish abruptly but gradually. Thus, undulating currents are capable of copying the human voice, as they excite short and quick, as well as long and slow vibrations or waves. His apparatus consisted of a

gold leaf for the diaphragm, a modification of which he secured a patent in 1876.

Although satisfactory results were obtained with this instrument it had the drawback that it could be only used as a receiver and not as a sender at the same time. So, before the telephone could be brought to the commercial importance it now has, something else that had to be done—something that could transmit the undulations of the voice—and which was solved by the invention of the microphone. Hughes was the inventor who gave it its name and the one who gave as its essential feature, a device for varying an electric current by means of a variable resistance in the circuit. He also built a microphone of great sensibility. A pencil of carbon sharpened at both ends was secured loosely in an upright position by two carbon blocks fastened to a sounding board. Variation of sound when carried to the points of contact, whether directly through the air or through the sounding board, altered the resistance at these points and so strengthened and weakened the current alternately for every pulse. These changes of current effect the magnetic action in the distant telephone and so produces a vibration. The instrument was so sensitive that a fly walking on the platform in front of the

board could be heard easily. Words spoken eight and ten meters from the instrument could be heard distinctly. Hughes has said that it was due to Bell's receiver that he was able to follow up his investigations of the microphone. Yet even this had to undergo many modifications until at present we have a transmitter ingeniously compact in an exceedingly small case. I will not enumerate more of the microphones. There are many modifications, but all simply attain the same purpose.

The value of the telephone in the business and social world today is well known to all of us. The telephone has nearly become an absolute necessity. And we have all marveled at its simplicity as to operation; a very small child can operate it almost by imitation alone—but then monkeys have done this. As we look at one we wonder why it took 45 years to accomplish what today is very simple to many of us. The reason is that until lately electricity has been put to very little practical use. Many men are still living who have done much to its advancement. And the end is not yet come. Each day sees some improvement, some advancement. If this continues will we also have wireless telephones as well as telegraphs? Time only can tell.



MANUAL TRAINING



S. HERBERT HARR.



FLOYD GAMBLE



HELEN GRANDALL

The Value of Manual Training.

BY MARTHA BETZ, '06.

We Manual pupils have been told so often that we are enjoying extraordinary advantages of education that we no longer think much about it. But really we can hardly imagine what such a school as Manual is would have meant to girls and boys fifty years ago. Then the girls and boys went to school and learned their lessons much as we do, but only too often the art of housekeeping was neglected. When it was taught, the hardworking mother had to give the instructions, and even then there was too little time left over from school work to do it properly. How glad would those mothers have been, could they have sent their girls to such a school as Manual! We spend forty minutes a day on such

work, and it is a pleasure and a relief from our harder studies. And the work is presented to us by our teachers in such an interesting and pleasing way that it does not seem like real work. The little that we learn day by day, does not seem much to us, but at the end of the term we are surprised to see how much information we have acquired.

We girls will appreciate the value of our training much more when we are older, and put our knowledge to a practical test. But now it is as much as we can do, to listen, and remember what we are told, and give the necessary attention and practise—by and by we will be glad that we have done so.

To the boys, Manual Training means

almost more. Half a century ago, boys who wanted to learn engineering, were sent to eastern schools at a great expense, and those who could not afford this, had great trouble in learning their trade. Now a boy just takes a course at Manual and he gets the training and the required knowledge, along with the higher intellectual work. He learns by the practical method. He is not only taught how to do it, he actually does it.

He learns to handle the machines, and is at home in the work shop. Later he may go to a higher institution to complete his course, if he wishes, but many a boy has become skilled in his trade without attending any other school than Manual.

So I think we should be more grateful than most of us are, for the advantages given us in that line, and cease to think that the teachers are here only to make us do extra work for their pleasure.

Gretchen's Trials.

BY ELSA KATZMAIER, '06.

Gretchen was a little girl with black hair and blue eyes, and a tremendous will of her own. Now, Gretchen had just a few faults, and one of these was that she was very obstinate. The summer after Gretchen was graduated from ward school she had a long, continuous dispute with her mother. It was this way: Gretchen's mother insisted that her daughter should go to Manual; but Violetta was going to Central, and Violetta was Gretchen's very own especial chum. Now, pray, what would high school be without your chum, especially if she were Violetta? Gretchen produced deep, learned arguments, and some very poor and even comical ones, but her mother was not convinced. Her father was strangely silent over the matter, and brother Bob sided with his mother. Then it was that Gretchen and Violetta brought forth their final scheme. Gretchen was to prove, actually *prove* to her obdurate family that she could learn to cook and sew without Manual's aid.

Gretchen's first attempt was a dress, white with pink rosebuds. Poor little Gretchen, how hard she worked, how many lovely afternoons were sacrificed to domestic art, and, oh, the number of

pin and needle pricks she endured silently, because she simply could not use a thimble. Gretchen's mother only smiled when her daughter refused to overcast the seams or use a thimble, and sometimes she would say: "At Manual, Gretchen, you will *have* to do everything right, so I shall not worry." At last the dress was finished, and, thanks to mother's willing help, Gretchen appeared in a new frock. But she did not attempt another; she told her mother it was really too warm to sew; she thought she would try cooking instead and sew in the winter.

So Gretchen began to spend her spare time in the kitchen. Violetta was often with her, and now there began to appear wonderful dishes, fudge, cake, ice cream, chicken salad—there was no end to them. Bob said he *thought* he could live through it, he would try at least, for Gretchen's sake, and Violetta's. On the thirtieth of August Gretchen announced that the next day she would prepare and serve dinner promptly at six. Bob groaned, her mother smiled, her father patted her head, and the cook actually hugged her, for the holiday. All afternoon Gretchen stayed in the kitchen and

dining room, while her mother sat on the veranda and read. Gretchen was preparing a wonderful dinner. When she announced dinner, her face was flushed and her hair disheveled. She had left the sink full of all sorts of dreadful pans and dishes, but the table was beautiful. It would be treating Gretchen mean to dwell on the dinner. The meat was, well not *burnt*, exactly but then—and the baked potatoes were hard. The cucumbers and berries were good, but, alas! Gretchen had made a cake; and the cake fell in the middle, and Gretchen filled it with frosting, and the frosting didn't get hard. Bob talked continually, and the dinner went off fairly well. Gretchen hadn't time to eat for she was always bobbing up for the butter knife, the pepper, or more ice water. It is really difficult to set a table and remember everything.

After it was all over even to the squeeze Bob had given the very hand she burnt so, Gretchen piled all the dishes in the sink. She thought it would be cooler in the morning, and she could get up early to wash them. Then she went up stairs to her own room. She squatted on the floor, Indian fashion, by a window to think it all over. Outside she could see the sky full of little stars,

and the breeze blew in on her burning forehead. Suddenly a queer wagon came up. It was a cake, sunken in the center, and had baked potatoes for wheels. A butter knife and a berry spoon put Gretchen in the wagon before she could say a word. It seemed to be an automobile, and away it rattled down the street, the potato wheels were hard and it was rough riding. Poor Gretchen was jostled around in the sunken cake, and the butter knife forced her to drink thin frosting out of a thimble and threatened to prick her fingers with a large needle if she refused. She was very miserable. The automobile was nearing a large yellow brick building and Gretchen knew it was Manual. Her chagrin was complete for there in a row stood her father and mother and Bob smiling triumphantly, and across the street stood Violetta, her eyes full of reproach. Gretchen was just about to hit the butter knife with her burnt angry little fist, when she felt something cool and soft on her forehead, and she looked up to see her mother bending over her. She was in her own room. The strange automobile had vanished. Gretchen sighed and said in a meek, tired, little voice, "Mother dear, I think myself, I had better go to Manual, even without Violetta."

Sarah Interferes.

BY PAUL GREER, '06.

"My dear, what delicious biscuit! Your servant must be a very jewel, and the consomme; that was perfection itself."

Mrs. Starling had run across Mrs. Lovitt—in quite the literal sense of the term, for she had stepped on her toes and bumped informally into her at the rather exciting finish of a Saturday shopping orgy—and, after much friend-

ly persuasion, had repaired to Mrs. Lovitt's home for luncheon.

"Patty does quite well," replied the hostess, in gentle depreciation, "but my daughter, Sarah, can do much better than she."

"Oh, to be sure, she goes to that Manual school where they teach the girls everything but foot-ball and forgery," responded her friend. "My Amelia Jane

attends 'Miss Marlow's Select School for Young Ladies.' They do learn to dance divinely there," mused she, half to herself, half to Sarah, who had admitted that she could not schottish. "And Amelia Jane knows all the latest classics, from 'Pig Ankles' to 'Dill Pickles,' and 'Why Don't You Try,'" she continued amiably. "She always has said that she can learn to cook and to sew at home, but, do you know, the poor child really has not had the time to spare yet, but some day when she is not feeling well and is at home, I intend to start in and teach her everything. I wish that I had taught her sooner, for our servant has been gone for almost a week now and we are leading a rather precarious sort of cheese and crackers existence."

"What a pity," said Mrs. Lovitt. "We would miss Patty so much if she should leave, she is such a help about the house."

"And such a matchless cook!" added the visitor; but her remark was seemingly unnoticed and she at last made her departure.

Although she was gone, the memory of her still lingered and at the dinner table the family discussed her many airs with appreciative enjoyment. The meal was hardly eaten when the telephone bell rang, and Sarah, expecting it to be one of her friends, answered it. Instead of the voice she expected came the tones well remembered from luncheon, requesting to speak with Patty. As Patty came in answer to it, Sarah could not but hear the half of the conversation at the near end of the wire. It ran thus:

"Hello—Who? Yes.—I'm very well satisfied.—I get five dollars.—Six? (Pause).—I'll have to ask Mrs. Lovitt.—Six and a half! (Gasp and hysterical giggle.)—Well, I won't mention it.—My week is up Thursday.—Yes, you may expect me. Good-bye."

Patty did not mention her telephone

conversation to Mrs. Lovitt, but as the days passed, she seemed to grow more and more careless. Never the best or neatest of servants, now she was insufferable. Her mistress declared to the family that she was in love, but, questioned about it, Patty only said, "That grocer boy's hair is curly. I told him seventeen and six."

But Thursday came at last, and quickly passing took with it Patty and her pudgy, bulging carpet bag. Not at all sorry or surprised Mrs. Lovitt saw her depart, and, strangely enough, none of the Lovitts seemed to notice the change; the biscuits were delicious as usual, the cake was even better, and the meat was always done to a turn.

In the meantime Patty had proceeded to Mrs. Starling's, where she was enthusiastically received. After things had quieted down, Mrs. Starling led the way into the kitchen and set the new acquisition about her duties. She noted a certain awkwardness, but she reasoned that it was merely the effect of the strange surroundings and would soon vanish. But the lack of skill became more and more evident, and when the new mistress ordered a consomme, such as she had at Mrs. Lovitt's, Patty declared that she could not do it.

"Why," demanded Mrs. Starling, "you did it then, why can't you now? What can you do?"

"Everything but the cooking," sobbed Patty, thoroughly alarmed.

"What do you mean?"

Then in reply Patty told Mrs. Starling how Sarah Lovitt always prepared the breakfast and dinner for the family, and how she was teaching her to cook the simpler things, but she had been working only for a short time and so knew practically nothing as yet.

As the sun rose Sunday morning, he must have been much surprised to see a sorrowful looking servant girl making

her way along the walk to the Lovitt's, and he must have winked his aged eye that morning as he looked through the kitchen window and beheld Patty, glowing and happy in her work, as she sang a merry song.

Mrs. Lovitt braced herself to speak to Mrs. Starling at church that morning,

but she had no need, for the latter *seemed* at least not to see her, and carried her head high. The two would probably have been fast friends still, if Patty had not seemed to be such a perfect jewel of a cook. But Sarah interfered.

Cooking as a Fine Art.

BY LAVINIA WELSH, '07.

Just as we have artists in music, sculpture and painting, so we also have them in cooking. It may seem out of place to put cooking beside things so beautiful, and yet this art is even more necessary than the others, and certainly can be made very attractive. The artist in cooking, though she cannot model perfect figures, or paint life-like pictures, can prepare a dainty, tempting, and refreshing meal. Of course there are many who are cooks in the general sense of the word, but all are not artistic cooks.

In this great art of cooking there are three laws or principles which must be considered. First, there is the principle of health. Everyone knows how necessary this is, for one must have well cooked, digestible food in order to be healthy and strong. Second, there is the principle of economy. An over abundance of food is as bad as too little of it. It ruins the effect of the table to have it loaded down. Besides, it spoils one's appetite to have too much of some dish, no matter how well one may like it. Last, but not by any means least, is the principle of beauty, that quality which appeals to the aesthetic tastes. This love of the beautiful which is so pronounced in the present century has produced a marked effect in the simple little things we eat.

In primitive times man, being in an almost savage state, did not care for the

appearance of things just so he had clothing and food. As he became more civilized, however, he began to take more care of his hut, his clothing, his food. His sense of the artistic was slowly awakened. He made little clay pots and trays on which to cook and serve his meals. Later he decorated these. As he slowly but surely developed architecture, sculpture and painting, he also developed the art of cooking; so that now the days of serving meals just any way, merely for the nourishment they give one, is past. It is the day of beauty, daintiness and refinement.

It is a woman's duty to make her home attractive for her husband and children. This cannot be done simply by furnishing the home prettily and comfortably. She must also have wholesome, tempting meals. If they are served in this way, home will be a joy to the husband, for everyone knows that eatables appeal to men. A good dinner is a sure cure for a bad temper.

Sometimes when the dinner bell rings one will go to the dining room from mere habit, but with no desire to eat. If, however, he finds a nice artistically served meal, his appetite is at once stimulated. If, on the other hand, he finds a poorly cooked, poorly served dinner awaiting him, he will probably eat very little, if anything.

Nowadays, when a dinner or luncheon

is given there is usually a color scheme carried out through the courses. This color scheme adds much to the meal and makes it very artistic. At Xmas time red, corresponding to holly, is often prettily used, especially in the cakes and ices.

A meal should be healthful and economical and still dainty and enticing. It only takes a little more time and very little if any more expense. Take, for instance, some cold roast beef which has been left over and is so broken up that it would be impossible to slice it nicely. If it is chopped, seasoned well and made into hash, then put on a pretty platter and garnished with parsley it will make a very tempting dish, and certainly an inexpensive one.

In just this way many other attractive dishes can be prepared. Gelatine and ices can be molded into the form of hearts, flowers, figures, and colored accordingly. Some things, however, if they are perfectly cooked need no adornment. Take, for instance, a loaf of bread, just out of the oven, round, smooth, perfect in form, a light brown all over. Can anything be more beautiful?

How interesting cooking becomes when one really tries to make it beautiful! It is a joy to see the pleasure a dainty meal gives to others. Then why is it that more of us are not artists in cooking? It is laziness, perhaps, since it only takes a little time and patience.

The Conversion of Jack.

BY VERNESE LINK, '08.

On a lonely hill, in a suburb of Kansas City, two small houses stand, facing the morning sun. There is something about their appearance which attracts the attention of two young men who are passing by. They both stop and look at the houses and then at each other. There is a "For Rent" sign on each house.

Now these young men, Charles Graham and Jack Moore, have been dear friends from childhood and have recently married sisters, which brings them closer together. They have spent many days searching for houses where they could live near each other and this is the first place they have found.

The cottages are very neat, the scenery picturesque, and the rent is found to be very reasonable, and they hasten back to tell their wives about them.

In the course of a few days they had moved into their new places, Charles and Alice in the green cottage, while Jack

and Gertrude preferred the gray one. Now, both families were as poor as church mice and possessed but little furniture and the spirits of the girls flagged when they realized there was no pantry nor closets in their houses. Both had more or less bric-a-brac which had been wedding presents and there was not even a shelf to put it on and no money to buy cabinets.

There was so much to be done that they decided not to visit each other for two weeks and each one exerted himself and accomplished as much as possible in his house.

Charles Graham had graduated two years before from Manual, so he immediately put into practice what heretofore had been pleasure or theory. It was surprising to see the change in their cottage at the end of the two weeks. A neat cabinet for bric-a-brac stood in the parlor; a row of shelves between two win-

dows made a convenient place for books; a magazine rack hung on the wall; a plate rail was up on the dining room wall; the door between the dining room and kitchen swung either way; a cabinet had been made to hold the dishes in the kitchen; another held pans and cooking utensils. Numerous devices known only to housekeepers or helpers were found in this house. Boxes, nicely covered, and with nice hinges, made places for clothing and were also an ornament. With boards and paint his Manual training outfit, and the knowledge he had gained at Manual, Charles made an ideal home, even though he was not as rich as Rockefeller.

But, oh, what a difference! Jack had been as patient as Job and worked like a slave and yet his rooms looked as bare as a barn. He had made numerous attempts at putting up shelves, but had made them slant like a toboggan slide, and the dishes on them seemed to be chasing each other down hill.

At the end of the two weeks each inspected the house of the other. The first feeling of resentment Jack had ever felt

for Charles rose in his heart when he saw what changes had been made, and he remembered how he had scoffed and laughed at Charles for going to "that old school and learning to saw wood." It came home to him with force now. He saw Gertrude look wistfully at the decorations and it made his heart ache. He had had the same opportunity that Charles had, but had refused it, for he thought Manual Training could never help one any, but now he realized his mistake. But the natural good in his heart triumphed and he grasped Charles' hand and congratulated him heartily on his accomplishments, and asked his pardon for all he had said against Manual.

"That is a great barrier removed, Jack," said Charles, "for Manual has made me what I am, and I am glad you are converted and appreciate the work they do."

A few weeks later Jack's house bore a different aspect, for Charles played the part of the good Samaritan and helped remodel it.

"And they lived happily ever after."

The Life of a Goblet.

BY ROBT. MANN, '08.

One day, as I was sitting in my room, reading and dozing alternately, I heard a slight commotion in the direction of the dresser. Quietly opening my eyes, I saw a wonderful sight, for my wooden goblet was mounted upon a small box, and before it, seated in regular rows, was everything else on the dresser. As I looked a drawer popped open and all my handkerchiefs and collars jumped up on top with the others. The goblet seemed about to make a speech.

"Ladies and gentlemen," it said.

Here the hammer, who was well known as a knocker, interrupted: "You mustn't say that, because we are not people."

"Very well," said the goblet, "I hope you will excuse me for calling you a gentleman. It was merely a slip of the tongue." "As I was about to say," he resumed, "if you will observe closely, you will notice that I am made of two kinds of wood, light and dark. The trees from which I was made grew close together, and the two parts of me early

formed an intimate friendship with each other. One day some men cut us down and we were taken to a sawmill and cut up. Later we were sawed up still smaller and sent to a room where we were given to that boy over there," and he nodded at me. Then he went on, "I was greatly pleased when he glued us together so that we should never be parted any more. Then he sawed off my ends and sandpapered them until they shone. I was very proud of my beautiful ends, and thought that I would be placed in a conspicuous position, where all could see and admire me. But I was thrust into a small hole with several others like me, and, after staying there a long time, I was taken upstairs and found myself in

charge of the boy again. He screwed me onto a contrivance which suddenly started to whirl me about rapidly. This made me so seasick that when he held a chisel up to me and began cutting off my corners, I threw up a lot of shavings. Some of them went up about two feet. The boy cut a large hole in my free end, rounding it out until it fitted a piece of wood which he called a templet. After polishing this hole, he cut down the outside of the bowl and polished that. Then he gave me a large base to stand on and" Here I moved a little bit and he stopped talking. And, strange to say, when I looked again, everything on the dresser was as I had left it.

What Some of Our Manual Students Are Doing.

BY F. C.

Mr. F. Boyd Johnson, Manual '04 was, last year, appointed instructor in Mechanical Drawing and Manual Training in the Crete, Neb., High School. Mr. Johnson installed the equipment and has taught wood-work and mechanical drawing this year with marked success. It is understood that Mr. Johnson has been offered a better position for next year with an increase in salary, and his place will be filled next fall by another of our graduates, Mr. W. D. Beatty, '05.

J. Conrad Smith, '05, has gone into the machine business, and is, we understand, getting on very well as an instrument maker.

James A. Fitzpatrick, '05, is in the Kansas City Southern machine shop at Pittsburg, Kansas, and sends back word that his work at Manual has been worth as much as two years of his apprenticeship.

From Ann Arbor, Edwin Pierce, '05,

has notified us that he has received full advanced credit for his mechanics arts work, and that Manual has as good a course in Machine Tool Work as is given the Engineering students at the University of Michigan.

We have several representatives at Boston Tech., some of whom will graduate this year.

Harley Wheeler, '05, is with the Olds Gas Engine Company this year, and is enrolled at Armour Institute of Technology, for next year.

Marshall Myles, '01, is now an inspector and superintendent for a building company.

Wesley Elmer, '02 and Frank Berry, '03, are both teaching wood-working here at Manual.

We are glad to see the good effects of our Mechanics Arts course and are sure that they will grow and become more noticeable as time rolls on.

FINE ART



S HERBERT HARE



HERBERT HARE



MARGARET McGRUM

“Without Art man is imperfect, his life is incomplete; without Art his happiness is limited.” He longs for something not knowing what it is and this something is the satisfaction of his sense of beauty and loving beauty he seeks by Art to gratify that love. Go anywhere and you will find wherever man dwells or has left us some record that he has dwelt he has left us some attempt at Art. In Brittany, Andalusia, Venice, Germany, London—all is the same, all are more or less striving for this beauty. All that was needed was a shelter from rain or snow, cyclones or dust, but they have striven to add beauty to utility and across the centuries their artistic souls speak to us through something they have expressed in line or color, beauty of weapon or tool, vase or hut, arch or campanile, statue or mural painting, winged victory or Houses of Parliament.

One of the best things ever done for the cause of education was to put the subject of Art in the school course, for there is no one subject that will tend to make one a good citizen any more than the study of Art, and there is no one subject which correlates with so many other subjects in a course, Science especially, Botany, Zoology, Physics, History, Mathematics, Wood Work, Forging, Domestic Art and Domestic Science. Corot once said: “I work with my foreground a long way off,” and that is what is being done in Art. We are working for the future, getting ready to be architects and builders, artists and draftsmen, business men and home women, learning at least to appreciate what is being done, forming good taste and there are two ways of doing this, by actually working out the problems under wise direction and by studying the decision that masters have made in the past.

Charcoal Scrapings.

How did Venus lose her arm?
Susie—By buttoning her dress in the
back.

Read the interesting story, "The Mal-
lets' Masterpiece," in the March Munsey
and have another version of it.



TWO MANUAL BOYS
SKETCHED BY
MARGARET McLELLAN

Art is doing. Literature is talking
about it.

Study people to see where outlines
come and to see where there are none.

Art is not only inspiration, but perspiration as well. We are fast finding out in Room 26.

"The loveliest of lovely things
A butterfly with orange wings."

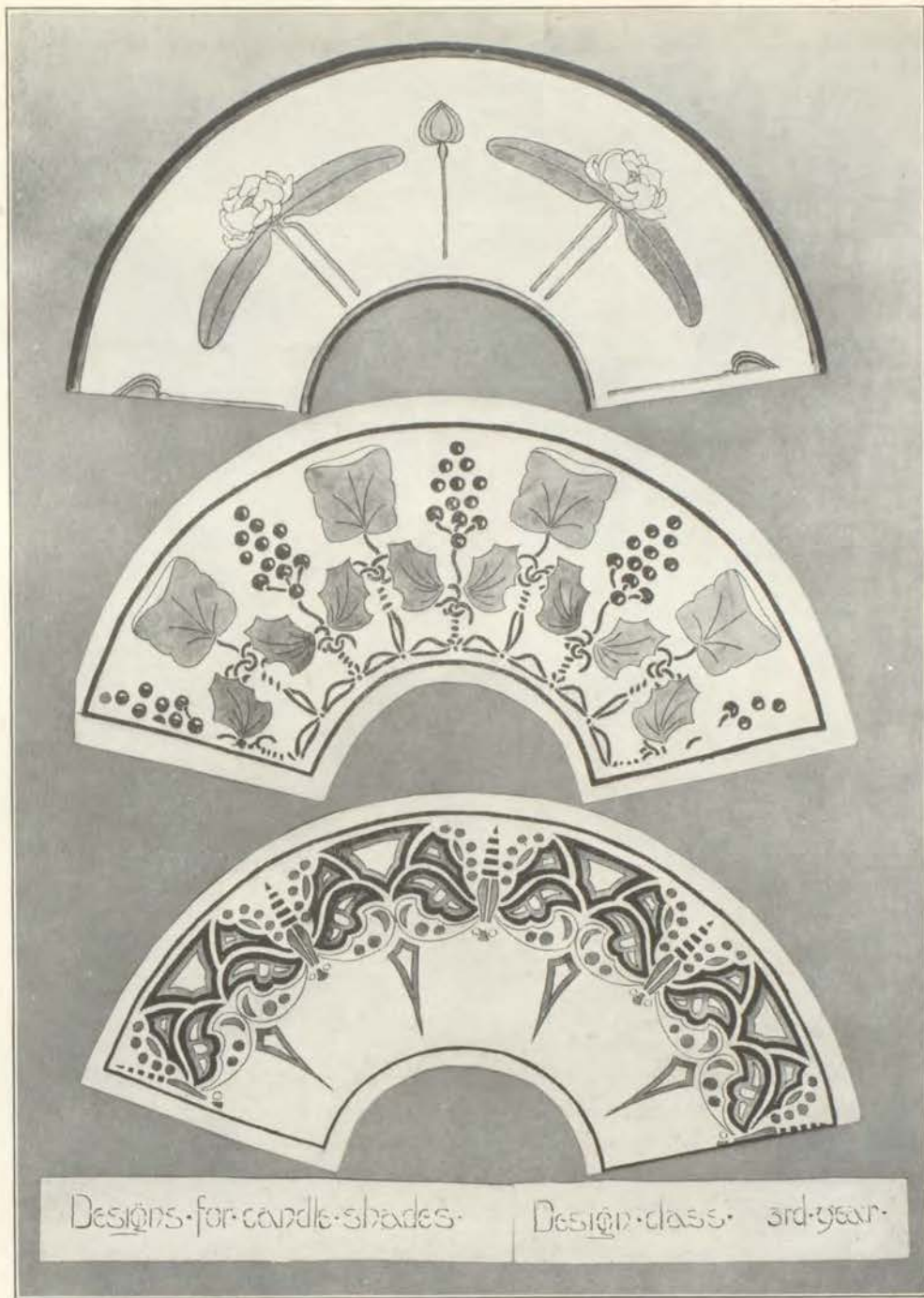
Everything is interesting if you will make a study of it. Fifteen minutes done at white heat is better than all day's working "at" anything.



A raw potato is an excellent thing to clean an oil painting; use it with water as you would use a sponge, then dry it with a piece of damp chamois leather. The chamois is good because it leaves no lint.

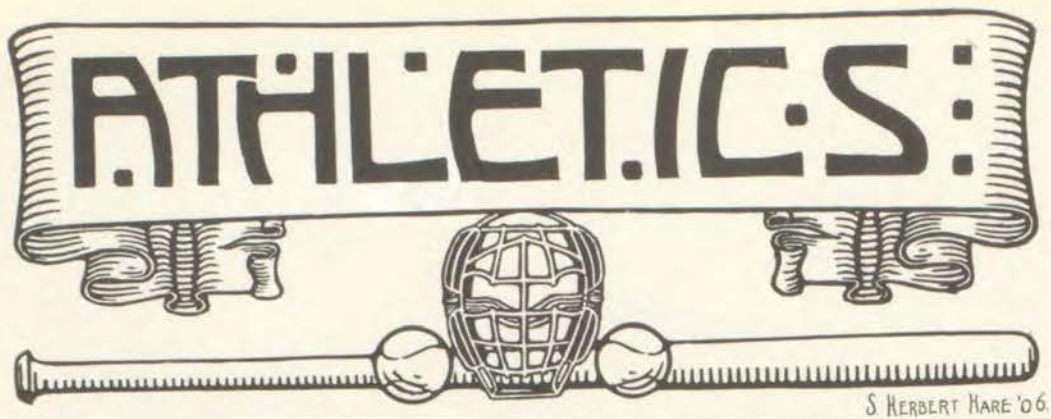
How far shall I carry this face? As far as you like.

Hundreds of people can talk for one who can think, and thousands can think for one who can see.



The Design classes are doing some interesting things these days. Some of them are now making artistic designs for lamps and candle shades, while others are making designs for fans, which some of the fair graduates will carry the evening on which they are to receive their sheep skins. Herbert is seen in a corner of the Drawing room busily

at work on one. Now, will Herbert carry this fan the night he is to be graduated? and why has he a moon in his design, this designing lad? He has made a bell push for his front door, a screen for his hall, a pillow for his sofa, portiers for his doors and if you will call at Room 26 you shall see the remainder of his household goods. Boys, get busy.



PATE KRUSE



MARGARET ELSTON

How Malin's Ambition Was Realized.

BY GEORGE H. BOWLES, '08.

The school year at St. Jerome's Academy was very near at its end and the great duel track-meet between the school and Levington's Academy was drawing near. The prospect was not very bright for St. Jerome, as reports from the rival school of the wonderful enthusiasm and confidence shown there were numerous. And they had reason for their confidence. Weller, the pole-vaulter, had broken the inter-scholastic record of the state and Cummings had shown great form in practice by running the mile in the remarkable time of 4:49. And in all other events they were also comparatively strong.

There was not a lack of interest at St. Jerome, but what they needed most was a good mile runner, one who could defeat Cummings. St. Jerome had it "doped out" that they could win by two points if they could develop the needed runner. But now, with the meet only one week ahead, the prospect indeed looked gloomy. Sears and Brown were the best material for the mile, but the best time these two could make was 5:00 and 5:01 respectively, and that would never win the race. If only some unexpected wonder would only turn up and present St. Jerome with the needed athlete!

Malin Rucker had been acquainted

with the school's dilemma for a long time. "They must win," he had said over and over again. But how? was the question. He nor anyone else could see the way clear.

Two years ago, when at a public ward school, he himself had been considered a good distance runner, but since his entrance to St. Jerome he had had little time for athletics, as he had applied himself diligently and had seemed to care little for the sport. But now he set to thinking, wondering if he could not help his school. He could run a mile, he knew that, and in pretty good time, he thought, but it was now probably too late. He had kept himself in good condition by working in his gym class and so was not lacking in form. But he was afraid he was not equal to the emergency. And so he had said nothing to anyone that he might be able to pull his school from defeat to victory.

It was a day before the meet when it was learned that Sears had fallen hopelessly behind in his studies and was unable to enter. And, to cap the climax, Brown had sprained a tendon in his leg and, although not enough to keep him from running, still it would hinder him somewhat. This caused a gloom to fall over the school, for they hated to lose to their old rival, Levington. The other track men, though, were in good condition and St. Jerome expected to lose by only two points. All on account of the lack of a man for the mile.

The morrow was an ideal day for the event, as a light shower had fallen the night before, laying the dust and hardening the track. Levington's Academy had arrived with their rooters and the St. Jerome followers had marched out with flying colors to meet them and escort them to the grounds.

"Ready! Go!" shouted the starter as he fired his pistol, and away dashed the white-clad figures. It was the hundred

yard dash. St. Jerome secured first and second places, but the Levington rooters were confident that they would win. Quickly the events were run off until it was time for the mile, the last event. The score now stood: St. Jerome, 37; Levington Academy, 37. But the mile was virtually won by Levington, which would cause the score to stand 40 to 42 in favor of the rival school. Only Cummings and Brown were to run, and St. Jerome had little doubt that Levington would win.

Malin Rucker had watched the events and as he did so he thought more and more that he might have a chance to win the last one, the mile, if he had only tried. At last, with a firm conviction in his mind, he ran over to Mr. Frankel, the master and said: "Mr. Frankel, I've been thinking that I might have a chance to win in the mile, as I used to be a good runner and I've kept myself in good condition. Might I try? It will do no harm, even if I don't win." "You can," Mr. Frankel answered, enthusiastically. "And you may win. Go right in to the dressing room and change your clothes. The track shoes are in locker 102." But Mr. Frankel did not buoy himself with false hopes.

Malin was ready when the mile was announced and trotted out upon the field to take his place beside Cummings and Brown. These two looked up questioningly, but he did not answer their looks. He was thinking of something else. Cheers of surprise arose from the assembled students.

"Ready! Go!" The report of the pistol rang out and the crouching figures sprang forward on a steady trot. Malin had received instructions from the coach and he intended to carry them out to the dot. He was to keep by the side of Cummings, if possible, till the last lap, and then—he was to spurt for all he was worth.

At the end of the first lap Malin was at



BASKET BALL TEAM, '06

Cummings side and was running easily. But the mile was only begun. He tried to keep his strength for the final lap, but still he must keep at Cummings' side, for he was an experienced runner and knew exactly the pace to set. Two laps and the positions were as yet unchanged. Brown was directly behind, but he was not running in very good form. Two more laps. Would they never reach the last one?

A ray of hope now arose in the hearts of the St. Jerome boys and they cheered as never before.

Now they had reached the beginning of the last lap and the report of the starters' pistol sounded, announcing the final lap. A look of surprise had now come into the face of Cummings, for he had not expected such resistance as this. But now he would spurt and shake off his rival. Brown was ten yards behind and fagging fast. A few more yards and he dropped.

A look of surprise was also on Malin's face, for he hardly expected as much as this. Now it was time for him to spurt also, and, although he was tiring, he de-

termined to win. With a burst of speed he stayed by the side of Cummings, who was now showing the benefit of his training. Cummings face showed that he was worried, for he was now doing his best and was unable to draw away perceptibly from Malin.

Now the noise from the grandstand was deafening.

"Run, Malin, run!" was the cry, and Malin did run.

One hundred yards more! Malin now only a foot behind.

"Run, Malin, run," again came the cries. A victory or a defeat rested on Malin's power. Yes, he must win!

Now they were rapidly nearing the finish. One hundred yards more and they would reach the tape!

Twenty yards more and the positions were the same!

Ten! Now Malin saw that he must make a mighty effort if he was to win. Mustering his remaining strength, he threw himself forward and fell exhausted over the tape, a bare foot in advance of Cummings.

He had saved St. Jerome.

Manual's Record.

In the final atheletic announcements for the year of 1906 the loyal reader's attention is called to the exceedingly good record made by the wearers of the Crimson in all lines of athletics. In foot-ball, basket-ball, and base-ball games and track meets Manual has developed heroes whom she will always admire and feel proud of. Never before in the history of the school has Manual's athletes fought so strenuously with the spirit of "Never give up," and consequently time and again

the crimson colors have been carried to victory, to the joy of her faithful rooters and her faculty. The record in athletics for 1906 will ever remain a reminder to her future representatives that Manual has won against great odds and can win. And the boys who furthered her glory will ever be remembered as the good athletes of '06. Owing to the success of her boys this year, Manual possesses a collection of trophies, pennants and medals that is the envy of any High School in the Missouri Valley.



GIRLS' BASKET BALL TEAMS

Base-Ball Victories.

Manual inaugurated her base-ball season on April 7th by easily defeating the much-touted invincible team from the Westport High School. A large number of enthusiastic rooters turned out to witness the game and they had several occasions to give their patriotic yells, which often instead of encouraging the players made them more excited than ever. The game was well played with the exception of the first inning, when the Westport pitcher seemed to be a little frightened and allowed Manual to score seven runs. But as this was the first game of the season, the nervousness of the players was excusable. Both teams showed considerable ability, which at this time of the season had not reached its highest stage of development. The score was as follows:

	R.H.E.
Westport. 0 0 0 0 0 0 0 0 0—	0 3 6
Manual... 7 0 3 1 2 0 0 0 x—	13 11 2

Batteries—Dennis and Dryer; Bramble and Robbins.

On April 14th Manual met and defeated the Kansas City, Kansas, High School team. Owing to the fact that all of K. C. K.'s regular players had resigned from the team on account of fraternity troubles, Manual in reality played a team composed only of substitutes. This accounts for the exceedingly large score.

	R.H.E.
K. C. K.. 0 0 0 0 0 0 0 0 0—	0 2 30
Manual... 2 10 3 3 2 6 1 5 x—	32 16 2

Batteries—Stratton and Tryon; Wells and Robbins.

Saturday, April 21st, the Crimson team met and defeated her old rival of last year. Manual expected a very hard game, but Bramble, Manual's star pitcher, was in fine form and had the

Central batters at his mercy all the time. The game was well played and the long line drives of the Crimson batters made the game interesting, throughout the entire game. The score follows:

	R.H.E.
Central... 0 0 0 0 0 0 0 0 3—	3 7 3
Manual... 1 0 0 2 0 3 0 0 5—	11 10 2

Batteries — Gardner and Dillon; Bramble and Robbins.

On April 28th Manual played her fourth game of the season, and it proved to be her undoing. Although we got beat, it was the best inter-scholastic game played this season. The opposing pitchers were both in good form, and while Wells pitched just as good a game as Jennings, his support was poorer at times. The Westport boys had made up their minds to win and they brought out about 150 enthusiastic rooters to help them. From the first the South Side boys jumped into the game with an unusual amount of life and ginger, so much in fact that Manual's easy and indifferent style of playing was not good enough and before the Crimson team realized it the score stood 5 to 1 against them. In the eighth inning Manual rallied and with some hard batting almost succeeded in tying the score. This game tied Manual and Westport for first place in the High School League and caused an extra game to be played to decide which team should represent Kansas City at Columbia on May 5th. The score of the game:

	R.H.E.
Westport.. 0 0 3 1 1 0 0 0 x—	5 7 2
Manual... 1 0 0 0 0 0 0 3 0—	4 8 4

Batteries — Jennings and Dwyer; Wells and Robbins.



BASE-BALL TEAM

May 2nd the extra game was played to decide which team, Manual's or Westport's, would get to play the champion High School team of St. Louis at Columbia, May 5th. This game meant a great deal to the winning team and consequently all the players were more or less over-anxious. This fact showed itself in the first inning, when Manual gave Westport two runs on wild throws. With Westport in the lead, the Crimson players began to realize that their chances of going to Columbia were getting very small and they began to go to pieces and not put up their best game. Bramble pitched splendid ball for his team, but he was given miserable support, seven errors being made behind him. Jennings also pitched good ball with the exception of the eighth inning, when he gave two bases on balls, coupled with a three-base hit by Frank. This tied the score. In the last half of the ninth Westport scored the winning run by a base on balls and a single. The score:

	R.H.E.
Westport..	2 0 0 0 3 0 0 0 1—6 9 3
Manual...	0 0 0 0 1 0 2 2 0—5 9 8
Batteries — Jennings and Dryer; Bramble and Robbins.	

This game gave Westport the trip to Columbia, and they easily defeated the Yeotman High School team of St. Louis by the score of 15 to 5, thereby winning the state inter-scholastic base-ball championship.

Friday, May 11th, Manual defeated Central in a game very much marred by youthful rebellion on the part of the Central players against the umpire. The Crimson team played a good game of ball and the feature of the game was the batting of the Manual team; not a man failed to get a safe hit. The score:

	R. H. E.
Manual.....	3 0 1 2 0 4 x—14 13 4
Central.....	0 0 0 1 3 0 0—4 9 4

Batteries — Bramble and Robbins; Gardner and Dillon.

After this game was played the Manual and Central faculty teams tried their luck. Manual was the first to score, but was unable to keep ahead and when the game was called in the fifth inning the score was 5 to 4 in Central's favor.

Batteries—Graves and Bounfield; Elmer and Clafin.

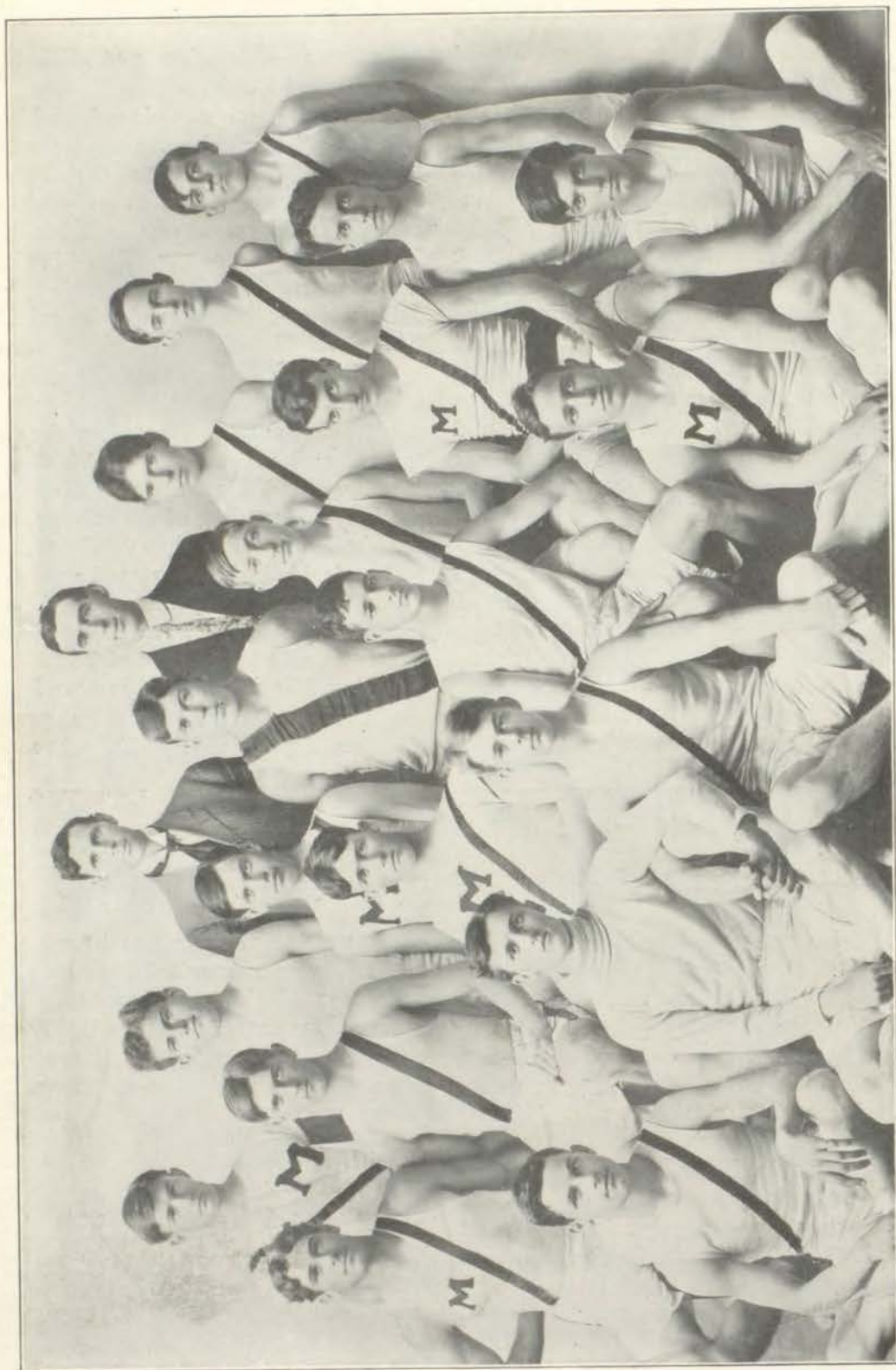
Owing to the fact that the officers of the High School League have not yet decided definitely whether the extra game played on May 2nd between Westport and Manual is to count in the League standing of the schools, the base-ball championship of Missouri is still undecided. If the game is counted Westport wins the pennant, but if not counted, the tie between Manual and Westport will have to be played off.

Giving Westport the benefit of the doubt and counting the extra game, the standing of the High School teams is thus:

	Won	Lost	Per cent
Westport.	6	1	.852
Manual.	5	2	.710
Central.	2	4	.333
K. C. K.	0	6	.000

The batting of the Manual team this season shows a marked improvement over that of the past seasons. The average per cent in batting is 300, an excellent showing for a high school team. The individual averages are as follows:

	A. B.	H.	Av.
Hewitt.	29	14	.482
Ertheton.	23	10	.435
Frank.	27	11	.411
Gibson.	29	10	.344
Bramble.	21	6	.285
Robbins.	29	8	.275
Lott.	30	8	.265
Nevil.	4	1	.250
Blacker.	29	6	.206
Brain.	32	6	.186
Wells.	6	1	.166



TRACK TEAM

Track Meets.

Victory at St. Joseph.

On April 28, Manual defeated the St. Joseph High School in a dual track meet, held at Lake Contrary. The Crimson team scored 83 points to St. Joseph's 34. The local school expected to make a better showing than this, but they succeeded in winning only two first places. This shows plainly that Manual has a fairly developed team in all events.

Track Meet at Chicago.

The University of Chicago's Inter-scholastic track meet comes too late to have the results published in this issue. Manual will probably send at least three or four of her best athletes to compete in this meet. The showing made last year was by Talbot alone, this year she has a good chance of winning first honors.

Central 66, Manual 51.

Victory at Columbia.

Manual won the third annual inter-scholastic track meet, held under the auspices of the Missouri State University. The Crimson team scored 35 points, capturing the banner given to the school scoring the greatest number of points.

Talbot, Manual's wonder, was the star of the meet again, winning three gold medals. This makes him an even dozen gold medals in his collection of prizes he has won in athletics.

Out of the eight annual records broken in this meet the Crimson team broke three. The points made by Manual were: Talbot 15, Dodd 6, Mayberry 3, Orme 5, Bodman 3 and Hull 3.

The most noticeable and impressive feature of the meet was the large crowd of High School boys and girls who accompanied their teams on the trip. Not less than 2,000 out-of-town students attended the meet, and the handling and providing of accommodations for this large number was carefully looked after by the University people. They have our sincerest thanks for the good time that they succeeded in showing us.

On May 26th, the result of the dual meet between Central and Manual was a score of 66 to 51 in favor of the former. This meet was the most successful and evenly contested track and field meet ever held in Kansas City. The usual large crowd of High School students attended the meet to cheer on their favorite contestants and in order to bring out the best efforts of every athlete all sort of rooting could be heard, from the ringing of cow bells and the blowing of horns, to the screams and yells of the boys and girls.

As expected, from the former showings of the two schools, the meet was close, and it was any bodies meet until the pole vault and high jump were pulled off. In these events the supporters of Manual hardly conceded to Central any better than a third place, but we were due to be disappointed for Orme and Boright did not nearly do their best and consequently Central took away second and third in the pole vault and first in the high jump, even surprising themselves. These two events practically decided the meet in Central's favor.

Lee Talbot, of Manual, and McConnell of Central, were the best perform-



FOOT-BALL TEAM

ers; each winning three first places for their schools. Talbot was in fine form and nearly succeeded in breaking the world's inter-scholastic records in the shot put and hammer throw. In the discus throw he broke the world inter-scholastic record by tossing the lead pie 117 feet 2 inches, one foot further than the world's record.

Manual, as expected, took nearly every thing in the field events. In the sprints Manual made an excellent showing, considering the experienced men that her youthful athletes had to cope with. In the mile, Montague ran a good race pushing Kaynor of Central pretty hard for first place. Hull and Dixon also ran very creditably in the hurdle and half mile respectively.

With the exception of the weight events, very poor records were made, but this may be accounted for, as a high wind blew in the faces of the runners continuously, and held them back considerably in the finishing of the sprints.

The meet was a money-maker for the Athletic associations of the two schools, as a crowd of 2,500 attended. Another commendable feature of the meet, was the rapidity with which the events were pulled off and the friendly rivalry which existed among the high school students, which helped considerably in making the meet the most successful ever held by these two schools.

Manual Second at St. Joseph.

In the seventh annual track and field meet of the M. V. A. A. held at Lake Contrary, St. Joseph, Manual scored 44½ points, winning second place in the meet.

In the discus throw Talbot broke the United States Inter-scholastic record by throwing the discus 121 feet 11 inches.

The records of the half mile, mile and 220 yard hurdles were also lowered considerably and the new records will be hard to beat by the coming athletes. The winners for Manual were: Hull, Montague, Dixon, Bodman, Mayberry, Orme, Talbot, Boright and Dodd.

The third annual inter-scholastic track meet held by the University of Kansas was pulled off on April 20, about twenty high schools of Kansas, besides the Kansas City schools, competing in the meet. Manual won second place by scoring 37 points out of a possible 119. The points were scored as follows: Talbot 15, Bodman 9, Mayberry 5, Orme 3, Boright 3, Craig 1, Dodd 1.

Talbot of Manual broke two K. U. inter-scholastic records in the shot-put and discus throw. The distances were 44 feet 2 inches and 108 feet 6 inches respectively.

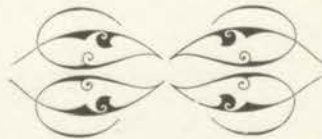
Foot-Ball Announcement.

Owing to the fact of the reform movement in athletics, which has opened the eyes of many people to the evils in foot-ball, as the game is played in some of the colleges, the popularity of the game has somewhat suffered. The rules of the game have now been

revised so as to eliminate all of the rough and dangerous formations of the game. As there is a strong interest opposing foot-ball as a High School sport, considerable discussion has been going on in different quarters on this subject, and it will not be known until next

year whether Manual will have a foot-ball team. But, as the other High Schools are working to that end, Manual is, too. At a meeting of the foot-ball team the last of the season plans and arrangements were discussed so as to give Manual a strong team for '07. James Sexton was elected Captain, as he has been on the team two years and has always been found as strong and reliable a player as Manual has ever had. He will no doubt be able to get the most out of his team-mates, as he is

well liked by all. The prospects of next year's team is very good, as a number of the old players will be back and, assisted by a few strong second team men of last year, Manual ought to have a strong team. It is not yet known whether we will have our same coach, Arthur Peters, with us again next year, but if any inducement will have effect on him, we will certainly have him, as he has proven beyond a doubt that he can coach a foot-ball team.





GILBERT JAGGARD



THEO NETTLETON

Again we wish to thank our exchanges for being so kind as to send us their papers the whole year around. We certainly enjoyed them. We like to know what other High Schools are doing, and their papers show us what they accomplish in every line. We hope that we have caused no ill feeling by our criticisms, for it is in this way we know our own faults, as we have always profited by your criticisms and hope you have by ours. The following papers have been received and placed on our exchange table: *Ye Tattler*, Lebanon, N. H.; *The Review*, Washington, D. C.; *The Ilaka-*

winn, Pendleton, Oregon; *The Industrialist*, Manhattan, Kans.; *The Purple and White*; *The Herald*, Atlantic City, N. J.; *The Jayhawker*, K. C., K.; *Dorseybrook Fair*, Tampa, Florida; *The Lever*; *The Oak*; *The University High School Weekly*; *The Messenger*; *The Inlander*; *The Forum*; *High School Herald*; *M. M. A. Eagle*; *The Choes*; *Drury Academe*; *The Cascadillian*; *The Crimson*; *Ottawa Campus*; *The Archive*; *The Advocate*; *The Windmill*; *W. T. M. A. Bugle Notes*; *The Independent*; *Daily Maroon*; *The Midland*; *M. C. I. Exponent*; *William Jewell Student*; *The*

Carantion; The Polaris; The Reveille; The Cricket; The Luminary; Franklin Institute; The Herald, Westport; The Radius; The Aegis; The Record; The Red and White; The Review; Thoms Normal Training School; The Phonograph; The Academician; The Vedette; The Lombard Review; The Westminster Monthly; The Graduate Magazine; Yeatman Life.

The February number of the *Forum* is excellent. The Exchange department is good and the stories are very interesting.

The University High School Weekly is the best weekly we receive. But you have no exchange column or locals. With the addition of these two departments your paper would be excellent.

The Academician has too many advertisements in its number. If you would just double the reading matter with the same number of advertisements your paper would be better.

The Polaris always has a good paper, with a very artistic cover design.

We enjoy very much *The Archive*.

If any paper is enjoyed by us it is *The Luminary*, the paper published by our sister High School "Central." The paper is very interesting and well gotten up. Every department is good and to improve the paper would be a task.

The Record, Sioux City, is very nice on the inside, but the cover design is too crowded.

The Vedette is a very neat paper and nicely arranged. The cover is especially appropriate.

The Midland seems to like but one color for its covers. The cover is not pretty for a High School paper. You

have no exchange column in your March number. Do you intend to leave it out forever? It improves your paper to have an exchange column.

The Nautilus, Jacksonville, Ill., contains some very interesting stories.

The Cascadillian is a nice, neat paper. The stories are especially commendable.

We are glad to add "*The Lombard Review*" to our number of exchanges. It is very neat.

The Carnation, published by the McKinley High School, is the best paper we receive. The covers are always very artistic and each department is well written. The paper is one of the best papers published by High School students.

The Souvenir number of *The High School Herald* is very neat. The pictures of the school and different rooms gives us a good idea of your new High School building.

We are glad to add *The Phonograph*, *Yeatman Life* and *The Graduate Magazine* to our exchange list.

Penmakers are usually wicked people: They make men steel pens and they say they do write.—*Ex.*

He—"Don't you think I'd make a good foot-ball player?"

She—"From what I know of you I'm afraid you would be disqualified for holding."—*Ex.*

NOTHING SERIOUS.

Hardrox—"Old Farmer Crosby takes it hard."

Gapes—"What?"

Hardrox—"Cider."

THE NATURE OF THE SOUTH.

At school little Charlie, being one of the geography class, was deeply inter-

ested in learning the points of the compass. Said the teacher: "You have in front of you the north, on the right the east, on the left the west. What have you behind you?" After a few moments' reflection Charlie explained: "A patch on my pants."—*Ex.*

A NEW RECORD.

Pat (reading)—"Here's a man who can hold his breath under water for foive minutes."

Mike—"That's nothing. Me friend, Kelly, can hold his breath under water for two hours."

Pat—"Where does yer friend Kelly live?"

Mike—"He don't live—he's buried over in th' cimitery!"—*Ex.*

A favorite toast—"Here's to our parents and teachers, may they never meet."—*Ex.*

"Who gave the bride away?"

"Her little brother. He stood up right in the middle of the ceremony and yelled, 'Hurrah, Fanny, you've got him at last!'"—*Ex.*

Young Wife—"How do you like my cooking? Don't you think I've begun well?"

Husband—"Um—yes. I've often heard that well begun is half done."—*Ex.*

HIS COLORED LADY.

Bilks—"Young Morgan goes with a colored girl."

Wilks—"Impossible!"

Bilks—"Fact; she has pink cheeks, brown hair, red lips and blue eyes."—*Ex.*

THEREFORE PAINLESS.

"But at first didn't you advertise as being a painless dentist?"

"Yes," replied the unnaturally honest operator; "but then, you know, I had had no patient."—*Ex.*

"What is algebra, Johnny?" asked the teacher of a small pupil.

"It's a white mule covered with black stripes," answered the little fellow. "I saw one at the circus last summer."—*Ex.*

Teacher—"Did you ever hear of Jesus Christ, Tommy?"

Tommy—"Yes, ma'am. Every time old Dick steps over the tug."—*Ex.*

Rock-a-bye, Senior on a tree top,

As long as you study, the cradle will rock,
But if you stop digging the cradle will fall,
And down will come Senior, diploma and all.
—*Ex.*

The Englishman who said that hugging was 'armless was wrong. It is 'armful.—*Ex.*

She—"What do you come to school for?"

He—" 'C' girls."—*Ex.*

A LONG-FELT WANT.

"Some of us," said Borem, "are organizing a new society that you should join."

"Haven't time," replied Wise. "I'm thinking of organizing a new society myself. It's the 'S. S. U. S.'"

"What's that? The 'U. S.' sounds patriotic, anyway."

"It's more than patriotic. It's the Society for the Suppression of Useless Societies."—*Ex.*

RESULTS.

The constant drop of water wears away the hardest stone.

The constant chewing of Towser masticates the toughest bone.

The constant cooing lover carries off the blushing maid,

And the constant advertiser is the man that gets the trade.

—*Ex.* (Old but always true.)

Sykes—"Why did they cut notes into halves and quarters?"

Mac—"They had to have change."—*Ex.*

Vernon to Golder—"What is the height of your ambition?"

Golder—"She is about 5 feet 10 inches."—*Ex.*

Teacher—"Why don't you speak louder when you recite?"

Pupil—"A soft answer turneth away wrath."—*Ex.*

UNAPPRECIATED AMBITION.

"My hair," remarked the middle aged man, sadly, "is the most ambitious thing about me, it seems."

"What's the answer?" queried his friend.

"It is always coming out on top," explained the party of the first part.—*Ex.*

A NEW SPEED RECORD.

Farmer Greene (reading paper)—"Maria, did you know that our sun was rushing through space at over a million miles a second?"

Mrs. Greene—"Do you mean our son Josh, in New York? Land sakes! Has he bought an automobile?"—*Ex.*

"I'll make you dance," cried the irate mother, pursuing her son with a slipper in hand.

"Then," remarked the juvenile, "we shall have a bawl."—*Ex.*

HEARD IN ROOM —

Teacher—"Do you know the meaning of contemporaries?"

Pupil—"Yes, mam."

Teacher—"Are you and I contemporaries?"

Pupil—"No."

Teacher—"Why?"

Pupil—"Because we are more than twenty-five years apart."—*Ex.*

Mr. Watch—"I'm a more reliable employee than you because I never strike."

Miss Clock—"No; you have a better method of always keeping your hands in your master's pockets."—*Ex.*

EXPENSIVE COURTSHIP.

Mr. Jones—"If you marry my daughter, would you expect me to pay your debts?"

Young Smith—"No, sir; as soon as I stop courting her I can pay them myself."—*Ex.*

A natural law applied to love—The lower the gas, the higher the pressure.—*Ex.*

ADVICE FROM HER LAWYER.

Timothy Coffin, who was prominent at the Bristol County Bar half a century ago, once secured the acquittal of an old Irish woman accused of stealing a piece of pork. As she was leaving the court room she put her hand to her mouth, and, in an audible whisper, said:

"Mr. Carfin, wha'll I do with the porruk?"

Quickly came the retort: "Eat it, you fool, the judge says you didn't steal it!"—*Ex.*

The poor old doctor had just fallen into the well. "Ha!" cried the village cut-up, "Doc. should have attended to the sick and let the well alone."—*Cornell Widow (Ex.).*

GOING SOME.

"You say he holds the long distance jumping record?"

"Yes. He jumped his bail and went clear to Australia."—*Ex.*



LOCALS



GOLIN K. LEE



LESLIE FRAME

For the last time, my beloved 'earers, we come before you with a batch of locals. Many a toilsome hour has been devoted to the pursuit of the elusive joke, and many a moon has looked down upon our midnight cares. So if they're funny, laugh; if they're not funny, laugh, anyhow, and remember, you may be local editor, some day.

Pity the editor on the "Exchange,"
 How broad his work, how narrow his range!
 He must either commend or criticize;
 He should be clever, he must be wise.
 He must observe the golden rule,
 And maintain the dignity of the school.
 Don't condemn his mistakes, but pity him;
 His work is skimpy, his salary slim.

—Exchange.

Huh! Here goes:
 Pity the man in the Local Dept.
 The greatest wonder is that he's kept
 The small sense that he has, through the

clatter and din
 Of jokes old and new (chiefly old) handed in.
 He has to sit up through the sleepless nights,
 He has to take everything anyone writes.
 For there's never enough, do what he can—
 Ah! pity and aid the poor Local man.

A Word to our Under Classmen:
 Juniors, Take Heed!

After making a thorough investigation of your past, we feel called upon, in behalf of the mighty "Class of 1906," to give you a few words of friendly warning. We discovered, with shame, the following facts:

1st. That some of your boys were known to wait for the girls on the street corner.

2nd. That the conduct of the girls in allowing the boys to walk up and down the halls and to sit in the remote corners

of the Assembly hall is almost unpardonable.

3rd. That you were seen to rob the ice-box in the Cooking-room of certain delicacies.

4th. That you tried to flirt with some of the teachers from the second-floor window.

MEMBER OF
Class of 1907. ³ Well vacation is
here, and so I must act as the
dignified Senior now



5th. That on divers occasions you were wont to make slighting remarks against the Class of 1906.

6th. You have indulged in the boyish and ungallant practice—of poking both hands in your pockets, and, in an unseemly fashion, rolling your coats up around your waists as though your hands were unwashed and your coat-tails too soiled to hang as tailors intended they should hang.

For these sad offenses—you should be punished severely, but we are in a

critical position. We feel it a neglect of duty when we do not openly accuse you, and yet we must warn you and prepare you for the future duties of a gallant and that—"None but the brave—none but the champions of good forms for the comfort of the highest type of young ladies—deserve the *Fair*."

Alas! we fear what may be the outcome of the Freshmen and Sophomores who naturally, as young children, follow the example of the Seniors. We do not wish to frighten you, but, if you conquer that false pride of yours, you MAY be able to wear the Senior cap with comeliness. Hear ye, Sophomores!

You have well earned the commendation of the "Class of 1906," for which feel justly proud. We believe you have honestly tried to follow our advice, have taken our reproofs gracefully, and altogether have tried to behave like good and obedient children. We do not intend to scold, merely offer you a few common sense "Don't's" by which you may the better earn the name of Juniors. If you obey these all will appreciate you more thoroughly:

Don't address a girl without the prefix, "*Miss*."

Don't contradict the Seniors.

Don't ever speak to a Senior girl in the halls.

Don't talk back to the janitors.

Don't ask the girls to write your essays.

Don't hang around the Cooking-room.

Don't eat candy in Assembly meeting.
Attention Freshmen!

We have given careful thought and consideration to your training, dear little Freshmen, and though at times our patience has been sorely tried with your childish ignorance and babyish ways, we



*SOPHOMORE Hee! Summer's come, an' I'm going away
to play baseball and swim all the time*

feel that the wrinkles and the few gray hairs which have come to us may be forgotten when we look upon your glad little faces and see the good that we have wrought. We feel happy to think that you have grown to be a joy to your teachers, and when the dear little folks trudge home with their cards the last day of school, we shall watch them with tearful eyes of joy in the thought that they will no more be Freshmen but Sophomores. Yes, you have learned bitter lessons, but, children, that has been an experience which had to come, so be happy-hearted and say, "I thank you."

Woodson Dixon.—"Was that girl laughing at me?"

Gilbert.—"I don't know; she often laughs at nothing."

Theo—"Charles, loan me your arm, please."

Mr. Phillips.—"Yes, we have several post-graduates this year; well, there is Miss—Miss—oh, well, that young lady who was so gracious to a coming mayor's son.

We think we know to whom he was referring.

From the depths to thee we cry—
Hear! O teachers, from on high.
Flunkers, sing the sad refrain,
Let, Oh let us pass again.

Ethel McDonald wanted to talk of Reeve, so all the girls got off the car.

Woodson said he always swore off studying during Lent. Did he ever study?

"Floyd, have you seen Dorothy?"

"No, but she is somewhere in the building—I hear her."



As Freshman

Clara.—“I think the girls are so mean to Reeve, and he really is a nice boy.”

Watch out, girls; Bower's head will be so swelled that his hat won't fit and everybody will blame you for it.



Junior Dance.

Mr. Page's imagination will carry him beyond all human assistance some day if he is not careful.

Mr. Kizer.—“There is only one class of people who scan that way—those who have two kinds of feet.”

According to a certain O'ita, “Will Curry is a dear little fellow, but so young!”

From a Debater's note-book,—

“Other lips, perchance, may claim
By sweet songs to win thee;
Dearest, mine can only frame
The single truth—‘I love thee.’”

Dolson says he admits he is good looking.

It will be noticed that the track-team boys are especially fond of doing their “high stunts” just about the time the girls are going home.

One of the Senior girls said she expected to spend her summer in Sioux City where they had a “reservoir” of Indians.

Paul Greer explains that the reason he is so wise in Math. is because he lives on Euclid avenue.

Mr. Broaddus.—“And borax is used for household purposes, too, isn't it?”

Mr. Gustafson.—“You ought to know, Mr. Broaddus.”

Dorothy gives warning that she is making a collection of hearts as souvenirs.

We always thought Allen had talent—now we know it. Listen to this. The third line is questionable, but—

Cupid, once in some queer freak
Turned his bow on me;
Ne'er before had I been smit,
I thought it could not be!

Alas! 'twas so,
And now to Chloe
I'm prisoner for fair;
To eyes of night,
And laughter light,
And waves of ebon hair.

Miss Van Meter.—“Paul, have you read Burns?”

Paul.—“Yes” (sotto voce) “got 'em in chemistry.”

Mann (on the mile run).—“Wait a minute, fellows; you're going too fast.”

Mr. Hout.—“Now, let us see if we know anything.”

A Freshman's definition of a loose sentence—“One in which you can stop reading at any point without losing sense.”

A jolly young Chemistry tough,
While mixing some compounds of stough,
Dropped a match in the vial,
And after a whial,
They found a front tooth and one cough.

During 6th hour in 21.—“I know, Charles, that it is much nicer to sit back there and talk to Florence, but—” Blush? not a bit of it.



Our Orator—Mr. Gorry—

Solicitous Friend.—“Will, you are too slow; you ought to press your suit more earnestly.”

Will (suffering from mental depression).—“Well, Hang it! I do have it done before I go out every time, but she never even looks at my clothes.”

Miller (seeing Greer in a barber shop, his face covered with lather, inserted his grin and shouted): “Hi there! aren't you old enough to wash your own face yet?” And then fled for his life.

Another choice addition to our stock of undying poesy:

Goodbye, dear Senior, farewell to you;
Everyone is sorry to see you go.
When you are roaming in lands far away,
Think one sweet thought about your “freshie” days.

In Latin.—“While these things were going on within the consul.”

We would like to publicly thank Mr. Royal Fillmore for his aid to the Local Department—he has eminent gifts in that direction.

Dr. Hall (on the Parade with the track team).—“Here, one of you cigarette fiends give me a match.”

Mr. Dixon.—“Here, sir!”

Lives of students all reminds us,
We can make our lives like their's,
And departing, leave behind us
Memories great of our own tears.

The kind Miss Nettleton likes in her lunch,—the “sam handwich.”

Said a girl to our elocution teacher after the latter had successfully imitated a cow.

“Why! I thought that was really a cow!”

“Well,” said he, “it *was* a cow—an (Cowan).”

During a lesson devoted to the scanning of verse, Mr. Kizer made this wise exposition: “Feet differ naturally in length.”

It seems that strange qualifiers may be applied to lines of poetry these days, for some Junior English students have pronounced certain lines “cataleptic” (catalectic)!!

We surmise that Miss Bacheller will not be with us next year. She has a very good reason for leaving, though.

If a telegram leaves Manila at 9 a. m. Sunday and reaches Kansas City at 2 p. m. Saturday, why doesn't the wire get tangled up in itself?

Helen.—“Floyd, please draw that coat around my shoulders.”

Floyd.—“Come in the next room and I will.”

“Angels and Ministers of Grace defend us!”—Have our boys lost all modesty of speech?



An Interesting Game.

Dorothy Hopkins.—“Do you know that I have broken two chairs at our house in the last week? One was a high-chair and—” (She didn’t get a chance to finish).

Lee Talbot said he would rather stand up, because when he sat down he had to go down so far.

A young lady in the O’itas remarked that bright lights always made her eyes sore.

Moral—Protect your eyes these Sunday evenings and turn the lights low.

Did you ever notice how patiently watchful Clyde stands every afternoon about 1:15 at the corner of the building?

Miss Van Metre.—“Irving’s wife died about four months before they were married.”

Ever noticed how everybody hopes they’ll be mentioned in the locals, and how indignant they pretend to be when they are?

SONGS OF THE IONS.

The lantern is the light for me,
The meter is my friend;
I wish that I could with them be
Until the very end.

I love to tote the flick’ring light,
The meter for to see;
To make some skips and cause re-reads,
This is the life for me.

Napoleon whipped the Prussians bold,
Cap. Kidd stole lots of booty;
But which of these men will compare
With those on lantern duty?

Ernest St. John says Fred Hammil has a shadow. Well! this must be looked after!

Botsford explained that the reason he is so tired is because he helped Dorothy up a steep hill. Oh, misery!

Friend.—“We are studying molds and mildew in Botany.”

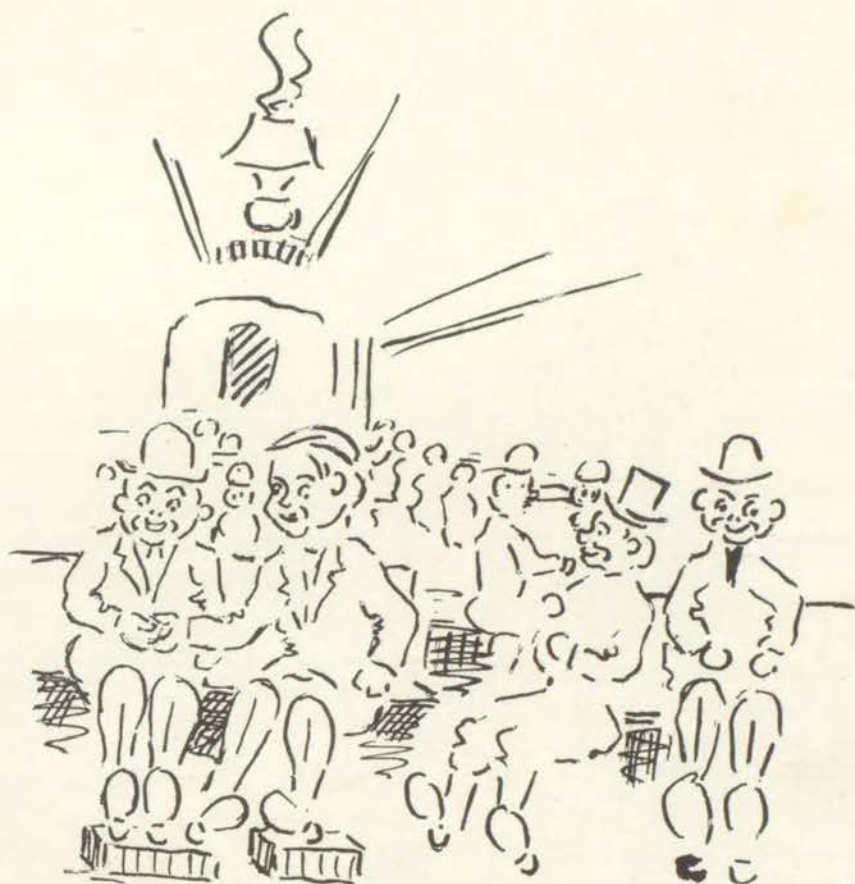
Estella.—“So are we; rotten subject, isn’t it?”



Assembly Programs.

Brilliant Senior No. 1.—“What’s the ankle for?”

B. S. No. 2.—“To keep the calves from going down into the corn, of course.”



Our

O.M.T.

Columbia Excursionists

Senior (sighing) well my school is done. What did I do what shall I do?



Miss Walker (who has just broken a beaker in chemistry), Mr. Beaker, may I have a Gustafson?"

Mr. Gustafson.—"Ah, Miss Walker, I fear you ask for the impossible."

Ethel.—"What's a dyspeptic?"

Estella.—"A dyspeptic is a man who looks yellow, feels blue and is generally in a brown study."

Senior.—"What's the matter with Miller? We must have touched on a sore point. Is it his pride?"

Sohp.—"No; it's his Sadie King."

Senior.—"Oh, well, all the same thing."

Pupil's essay.—"Washington Irving was the eleventh of eleven children and Bryant was the twelfth of eleven children."

Miss Elston (reading Commemoration Ode to a second year class).—"She sent her handmaid army back to spin! Bonnie, what does handmaid army mean?"

Bonnie.—"An army made by hand."

Theo (excitedly).—"Oh, boys, do you think I will ever be as thin as Dorothy?"

Alex Sachs says Elsa won't be an old maid school teacher if he can help it. ! ? * * , " ! ! (-) ?

Royal F. (in Chemistry, holding a hot test-tube).—"This is just like holding a girl's hand. You don't know when to let go."

Our friend Mr. Raney was heard to remark during a duet in our athletic benefit entertainment, "Why, they can't sing; one is always behind the other."

Miss Von Unwerth thinks Ben Nicolet deserves a long term in the "pun"-itentiary. One who puns should be punished.

Junior, when building a fire in Room 7.—"Just think of it, the Freshmen have learned to make shavings."

Theo has discovered a new way. "Lawrence, how do you sing 'Dearie?'"

Mr. Jones, in Algebra.—"Let eggs over X equal number of eggs in a dozen, and let X equal the time in storage."

gosh!

Mr. Phillips (as Clyde Sylvester and Miss Field come in tardy).—"Always going through life together tardy, are you?"

Jones to Broaddus.—"Are you going to steal her or have you Stoll 'er?"

People have been so shy about handing in dangerous cases that we have but a few this time.

Pate Kruse—Dorothy Oldham.
 William Curry—Dorothy Hopkins.
 Allan Hughes—Mary Sloan.
 Clyde Sylvester—Lucile Field.

And Mr. Jones has joined that extensive circle of Mamie Stoller's admirers.

Miss Case.—"Give me an illustration of a biped without feathers."

Donald Witten.—"A giraffe."

Howard J. (speaking of Mamie)—
 "Since the boys have seen my good judgment, they have flocked out there. (Evidently some one else was out there the same night.)"

Curious, isn't it? The Locals are the most trivial part of the magazine and yet everybody looks at them first—always excepting those who have articles in other departments.

"And they gave us a medal for that"



HELEN



JOHN

Mr. Hankins is fond of imagining what he would do with his beauty if he were a girl.

Miss Beatty was heard to remark that she wished people would call her *Nan* instead of *Nannie*.

Miss Hazen (to cat in Drawing).—
 "Skidoo, cat!"

Miss Lyons—"Where did you get that word; out of the book?"

Mr. Osborn—"No; out of the Dictionary."

A ha! The mystery is solved! We have always wondered why Katherine Shouse could be so impervious to the fascinations of Manual youth. His name is Sebe Wallace and he lives in Brunswick, Mo. Congratulations to the happy pair!

Up! Up! Deister, and quit your books,
Or surely you'll grow double!
Up! Up! Deister, and clear your looks,
Why all this care and trouble?
Words-(not)-worth-(much).

Miss Drake told one of her Freshman classes the other day, that she was cranky about *that*. About what?

Heard in the hall.—"I think Dolson Quier is a regular 'Woman's Exchange.'"

"Where is John?"

"There is Irene; she will know better than anyone else."

Theo (to Charles Curry in Chemistry)
—"Charles, lend me your arm."



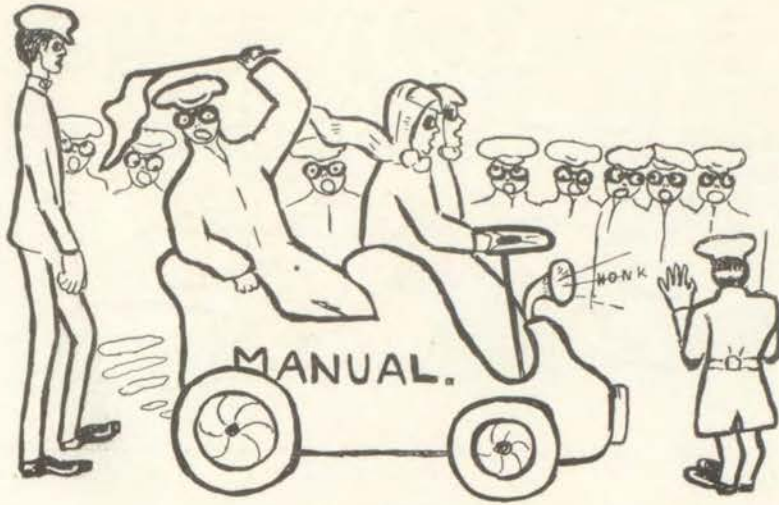
FRESHMAN Hurray. vacations
come and I'm a *Sophomore* now.

PROPOSITION.

Given—the two arms of Professor—
Required—to prove that the angle
formed by his right arm is equal to the
angle formed by his left arm.
Proof—Any method.



In Fear and Trembling Before the Mighty.



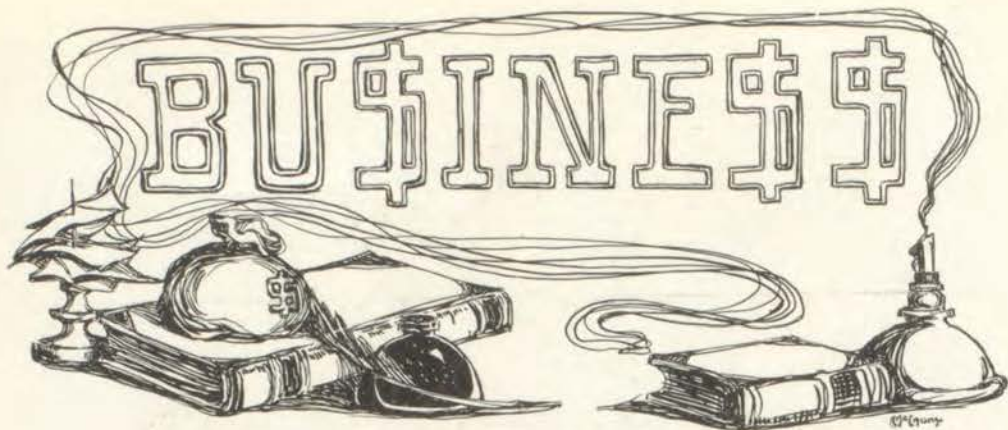
THE GLEE CLUB MAY 10 8. EDWARDS.

Willard Hankins seems to think he is so cute; but if he only knew what the girls really think about such cuteness in High School boys!

A certain youth was wont to be so interested in Huldah that he forgot to pull the curtain.



The Local Man.



WOODSON DIXON



DONALD WITTEN
Subscription Clerk



EDWARD BOTSFORD

In this, the closing number of THE NAUTILUS, the business managers beg to show their appreciation for the loyal support they have received from the pupils, as well as the business men of our city. We feel as though our success is due largely to the patriotic spirit which they have manifested.

So great has been the demand for THE NAUTILUS that we were unable to supply the demands for the November issue. But on the second and third issues we contracted for two hundred and fifty additional copies, and by so doing we have been able to supply all of our friends with at least one magazine, and

have reached the high water mark of circulation.

After running the gauntlet of our liberal advertisers, we found that in order to accommodate them all we must add eight pages to our paper. This not only increased the advertising department, but all of the other departments profited to a certain extent by this addition.

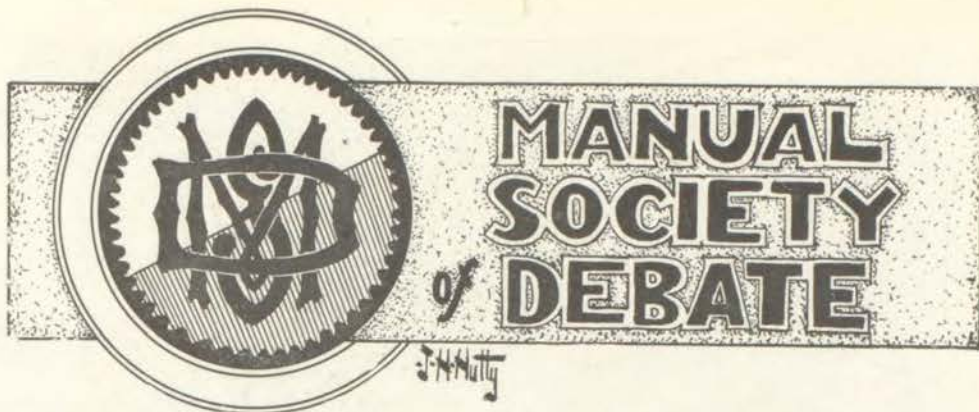
Does this record look as though things at Manual are at a standstill? Or does it show growth? We sincerely hope that in the future the pupils will continue their loyalty, so that each staff will be able to uphold the high standard which has been so nobly raised, and that each pupil will not forget our motto:

"Patronize those who patronize us."





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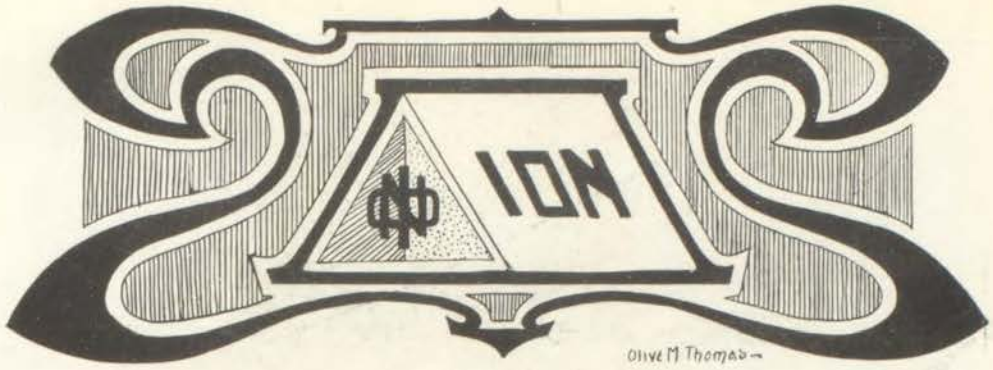
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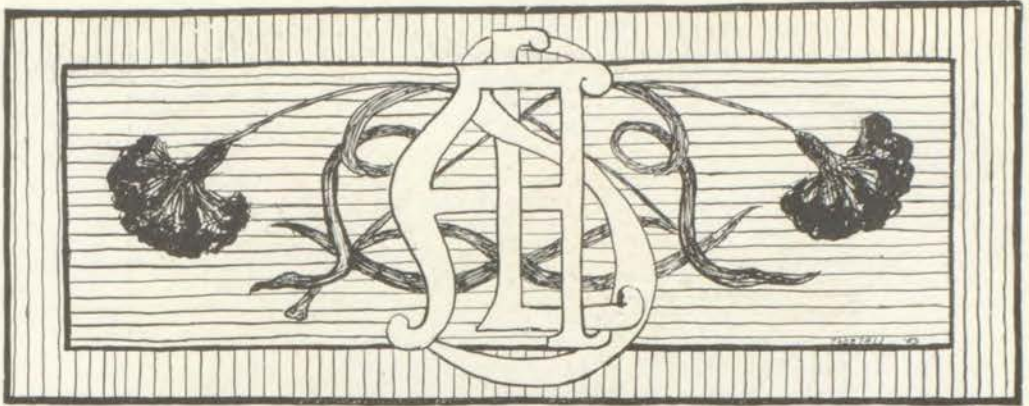
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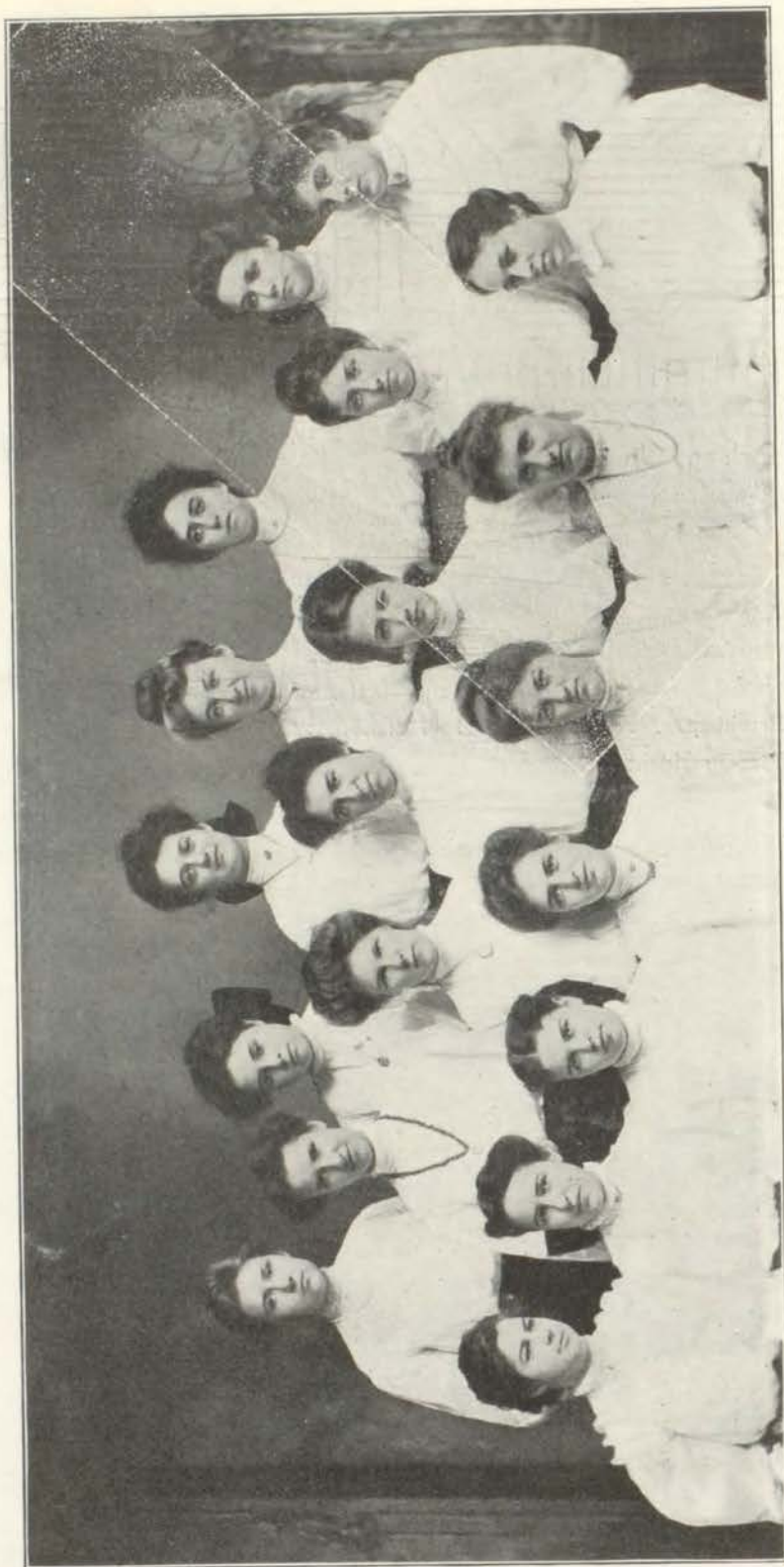
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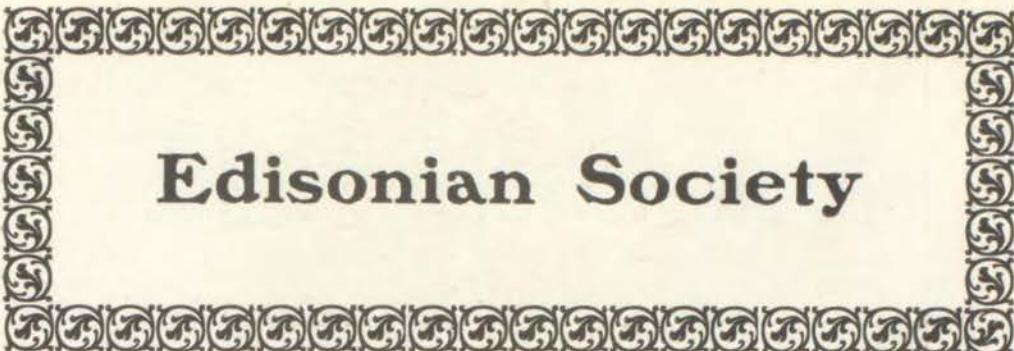
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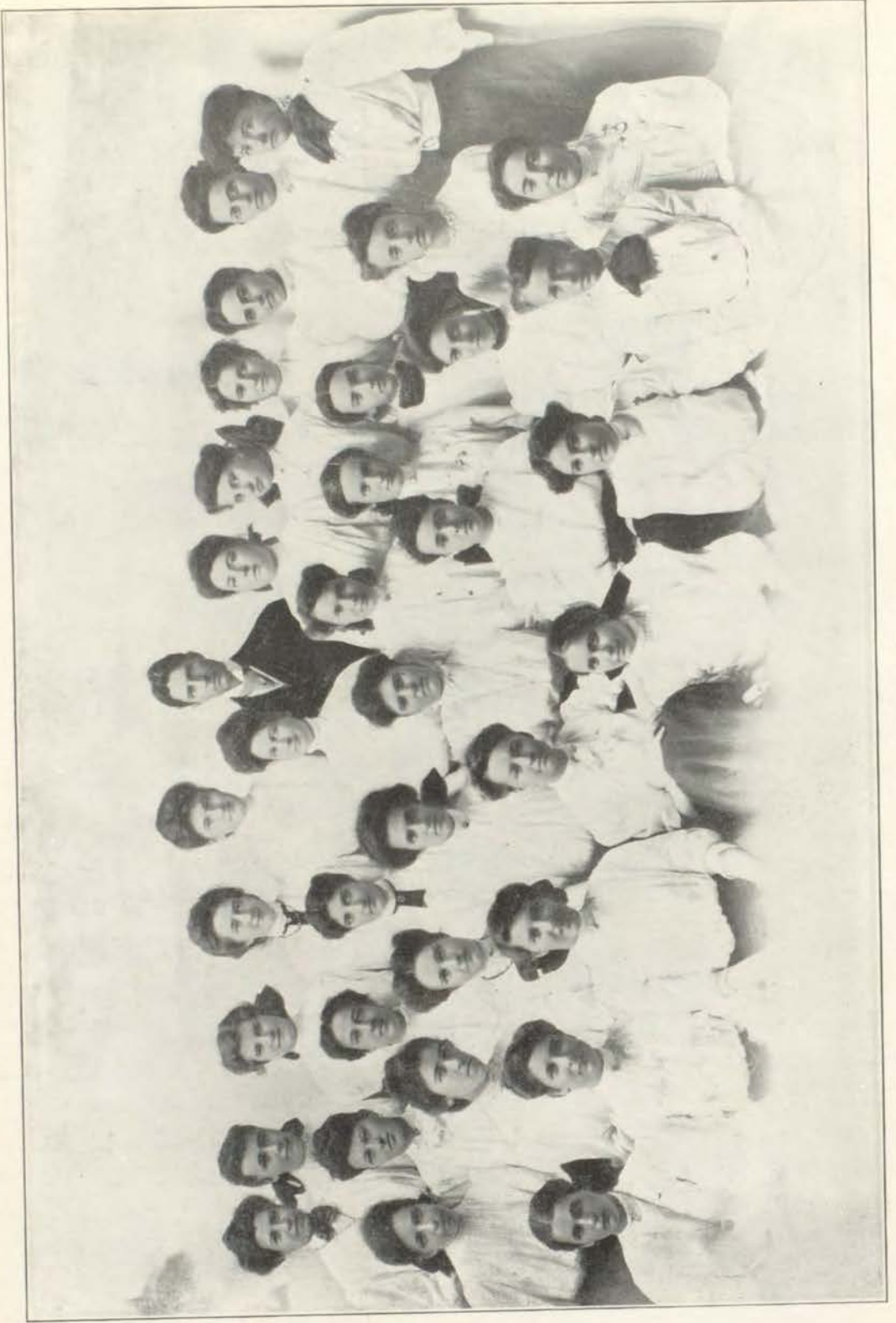
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GIRLS' GLEE CLUB



GIRLS' GLEE CLUB

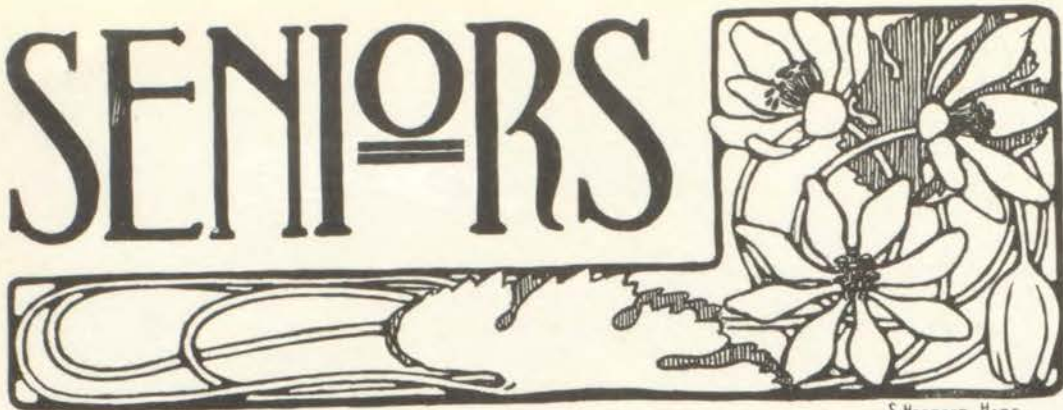
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Lena Eichenauer,	Ruby Walkem,
Lillie Farber,	Merton Wade,
Edna Kramer,	Alma Wade.

SENIORS



S. HERBERT HARE.



The Class of 1906

At 2 a. m. on September 6th, 1902, the school was dark and silent—silent save where the night-watchman's footsteps echoed through deserted halls; and dark, save where his lantern cast faint beams

upon the walls. Slowly and carefully he walked from the Tracy Avenue entrance to the one on Fifteenth Street. He reached the door, and, opening it, peered cautiously out into the night. Hark!

what was that beside the door-way? It was alive! It moved! The lantern's rays fell upon the face of a small boy.

"I want a ticket," he piped.

"A what?" asked the watchman, perplexed.

"A ticket—an enrollment ticket," was the reply.

Then the watchman remembered. It was enrollment day for Freshmen; and before him, in the person of this small boy, was the forerunner of the mighty "Class of 1906." He reverently bared his head, and, with due respect, handed the small boy a ticket numbered "1." That is the way, dear Juniors, that our class started; and the plan we have followed was: to begin early and keep at it. May you follow our example, and shine, next year, in our reflected glory!

As the morning of that day wore on, a host of future Freshmen poured in from all parts of the city. The "Class of '06" started with over six hundred members. And, of that number, one hundred and fifty have progressed

through the limits of mathematics, survived the ordeals of bursting test-tubes, conquered the English poet from Chaucer to Tennyson, and stand ready to receive the reward of their labors—the diploma.

We are all glad to be ready for graduation, because graduation marks a forward step in life; but, mixed with our gladness, there is a feeling closely akin to regret—regret at leaving the school which, in four years, has become a part of our daily life; and which, in that time, we have grown to love. Graduation is a parting of the ways, and a breaking of school friendships. It marks the threshold over which we step into a broader and more serious life, and one which we feel can be no happier than the four past years. The time has come to cross that threshold, and we do it with this thought uppermost in our minds: May God bless old Manual, its faculty and its students.

ARTHUR T. BRINK.



List of Graduates.

- Allen, Robert S.
 Bartlett, Ray L.*
 Bergman, William C.
 Bodman, John W.*
 Botsford, Edward B.*
 Brink, Arthur Theodore.*
 Broaddus, Bower.
 Carpenter, Gerald Bruce.
 Chace, Harry Valentine.
 Cole, Clifford.*
 Crimm, Roy.
 Curry, Chas. F.*
 Devin, Paul Thomas. ††
 Donnelly, Harry L.
 Ewins, John A.
 Gamble, Floyd Golbourne.*
 Goodjohn, Harvey Benner.
 Greer, Paul.*
 Grouns, William Chas.
 Hanks, Compton Edw.
 Hare, Sidney Herbert.* ††
 Hawkinson, Harry L.* ††
 Holz, Leo Louis.
 Jones, Howard Hiltz.
 King, Chester L.
 Kruse, William Pate.
 Lee, Colin Kingsley.
 Lyon, Edwin Fowler.*
 Mann, Ralph.
 Miller, Harold C.
 McKim, Bruce B.
 McWhorter, Chas. L.*
 Norton, Howard. ††
 Oskamp, Joseph A. Jr.*
 Palmer, Clarence Foster.
 Paret, Howard.
 Pauly, Howard C.
 Porth, Harry William.*
 Ross, Clarence Washburn.
 Sachs, Alex F.*
 Scott, Howard Beebe. ††
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 Wertz, Ethel A.
 Wiberg, Ella Lydia.
 Wilcox, Ella Vey.
 Williams, Mayme Edith.
 Winters, Eava.
 Wood, Winifred.

* Pupils who have not received an "F" during their four years' course.

†† Pupils who have not been tardy during the entire four years.

AT THE NINTH ANNUAL COMMENCEMENT
OF THE
Manual Training High School

JUNE 11TH, 1906

THE FOLLOWING PROGRAMME WILL BE GIVEN

1. INVOCATION—REV. PAUL B. JENKINS.
2. CHORUS—"O Sing to God" - - - - - *Gounod*
Solo by MISS VIVIAN SPERRY
MANUAL TRAINING HIGH SCHOOL GLEE CLUBS
- DEBATE—"Resolved, That the representation of the States in the United States Senate should be based upon population with a minimum ratio of one Senator for every 500,000 inhabitants; but each state should be entitled to at least one Senator."
3. AFFIRMATIVE—MR. JOHN BODMAN.
4. NEGATIVE—MR. COLIN LEE.
5. VOCAL SOLO—"Fulfillment" - - - - - *Mrs. H. A. Beach*
MISS BETHINE PLANK
6. RECITATION—"Beethoven's Moonlight Sonata" - - - - -
MISS ADELE STEINFELS
7. ESSAY—"The Lost Leader" - - - - -
MISS ETHEL McDONALD
8. VOCAL DUET—"The Venetian Boat Song" - - - - - *Blumenthal*
MISSES JESSIE HUNT AND LILLIAN SCHAEERER
9. ESSAY—"The Juvenial Offender and His Savior" - - - - -
MISS THEO NETTLETON
10. VOCAL SOLO—"Sword Song" - - - - - *H. Clough Leighter*
MR. FLOYD GAMBLE
11. RECITATION—"Inji" - - - - -
MISS MARY SLOANE
12. CLASS PRESIDENT'S ADDRESS—MR. ARTHUR BRINK
13. VOCAL SOLO—"Good Bye" - - - - - *Tosti*
MISS MARY LOUISE KASTER
14. PRESENTATION OF THE CLASS OF '06 TO BOARD OF EDUCATION
PRINCIPAL E. D. PHILLIPS
15. PRESENTATION OF DIPLOMAS TO CLASS OF 1906 - - - - -
HON. WILLIAM S. COWHERD
16. CHORUS—"The Bridal Chorus" from "The Rose Maiden" - - *F. H. Cowen*
MANUAL TRAINING HIGH SCHOOL GLEE CLUBS
- SPECIAL HONOR**—Winner of Kansas City Law Scholarship - - -
MR. P. REEVE PARK



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SENIORS



The Juniors.

It is a hard proposition for one to have to give a true account of a Class such as the famous one which will leave the Manual Training High School in the spring of '07. Our natural modesty prevents our speaking of the fact that as a Class we are absolutely unsurpassed, and that taken singly, we comprise such an aggregation of stars that even the celestial ones are dimmed by comparison. That same modesty

prohibits our mentioning the truth that all of the Seniors and Freshman taken together could not possibly make a class which could in any way be compared with the one which this year is proving to be such an honor to Manual. Of course I refer to the Juniors.

Even as our natural backwardness in singing our own praises does not allow us to describe our many shining qualities, so does our natural truthfulness

ness prevent us from manufacturing, for the sake of lessening the jealous feelings of the Seniors, faults which could not possibly exist in the glorious class of '07. The greatest fault we have to find in most High School classes is their vain habit of praising themselves to the detriment of others. Did you ever hear of a Junior Class doing such a thing? Never! We may be the brightest class that ever studied our next hour lessons in the Assembly meeting; we may be the only class which has ever reached our present mark of excellence; we may be the only Juniors who have ever been able to give much needed advice and counsel to Seniors; we grant that all these things are so, but we do not proclaim it from the Assembly Hall windows. We understand that they are plain facts, and so leave it to the common sense and judgment of others.

This quiet modesty, which is such a dominant trait of ours, has even lead us into trouble at times. In Latin and English classes Juniors have been seen to answer deliberately "unprepared," to the teacher's query as to

whether their lessons have been studied. The reason was this: there happened to be some members of other classes present who have often been without their lessons. The compassion in the Juniors' hearts was so strong that they even obtained demerits against their own names for the sake of keeping the others in a happy frame of mind. Did you ever see such a class as that? Think of it! Willing to receive poor grades in order that others' feelings might not be hurt! When you think of it you will be ready to agree with the Seniors, that any honors given to the Juniors have not been misplaced, and that nothing is too excellent, too great, too—I might almost say—sublime for the present Junior Class of '07.

Oh, if we were only not hampered by this terrible modesty! We might tell things concerning ourselves which are truly wonderful, but as it is we must content ourselves with leaving the fact of our being the incarnation of all that is held highest in classes to the judgment of the admiring public.

DONALD WITTEN, '07.





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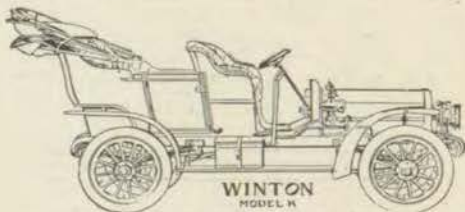
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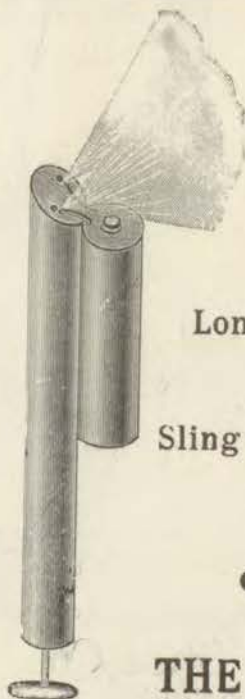
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