

NOVEMBER

NAUTILUS

1907



MANUAL TRAINING HIGH SCHOOL

VOL. II

KANSAS CITY MO.

NO. 1

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THE NAUTILUS



Build the more stately mansions,
O, my soul!
As the swift seasons roll;
Leave the 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 outgrowth shell by
life's unresting sea.
—*Oliver W. Holmes.*

VOL. XI. No. 1.

KANSAS CITY, MO.

NOVEMBER, 1907

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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.

The Faculty and pupils of Manual are grateful to the Long-Bell Lumber Company for a beautiful set of slides, which show various phases of the lumber industry from the felling of the big trees in

**A Generous
and Useful
Gift to Our
School.**

the virgin forest to the finished products of commercial art for man's use.

These slides will be of excellent and permanent value to classes in commercial geography in the business department of our school.

It is our desire to secure sets of slides for other great industries to aid the pupils in commercial and economic subjects.

In this age of sharp and extensive competition no pupil can hope to win a coveted prize without thorough preparation. The contestants should begin to prepare early and to train hard and faithfully up to the very day of the grand

**The Secret
of Prize
Winning**

finals. The better the preparation, the fiercer the contest and the more estimable the prize, the worth of which should not be based so much upon its intrinsic value as upon the intellectual and spiritual effort that the winner puts forth in his efforts to capture such marks of excellence

Through the suggestion and perseverance of our principal Manual has recently come into possession of a rare and valuable collection of archeological relics that are of interest to the history and literature classes.

Pennsylvania University's Gift To Manual.

Last year when Dr. Josiah H. Penniman, Dean of the Pennsylvania University, was a guest of the alumni of that institution, and addressed the pupils of Manual, Mr. Phillips expressed the regret that he had not secured some archeological relics from Dr. Sommerville, while that wealthy archeologist was alive, and while Mr. Phillips was engaged in a pleasant literary correspondence with that distinguished specialist in an appreciative review of one of Dr. Sommerville's book on "Glyptology." Whereupon, Dr. Penniman manifested his sympathy with our school by offering at once to present to Manual some of those valuable historical remains, and on the fourth of November last the following collection of casts of rare Babylonian antiquities were received from the Archeological Museum of the Pennsylvania University.

The gift from the university includes the following copies of Babylonian antiquities:

- Votive tablet of Ur-Engur, 2450 B. C.
- Votive tablet of Dungi, 2400 B. C.
- 18x1 multiplication table.
- Contract tablet of Marashu Sons of Nippur, with Aramaic indorsement, time of Ezra and Nehemiah.
- Seal of Persian period
- 6x1 multiplication table.
- Mathematical exercise, time of Abraham.
- Record of expenses paid to messengers, 2250 B. C.
- Contract tablet, dated in the reign of Biblical Evil-Merodach.
- Inscription of Lugalzaggisi, about 3500 B. C.
- Tablet mentioning the river Chebar of Ezekiel.
- Fragment of votive vase of Urumush, about 3400 B. C.
- Will drawn in time of Abraham.
- Brick stamp of Sargon I, about 3000 B. C.
- Seal cylinder.

Mr. Phillips has requested the Board of Education to provide a suitable case in which these perishable relics may be displayed and preserved.

Since the creation and enforcement of the new rules for better regulating the literary and science societies of our school, the societies have manifested a new life and a more enthusiastic spirit. Something was needed to prevent a society from dwindling to a handful of students, which might be a society in name only, and retain nothing but the social ear-marks of a high school club. Under our present conditions of double session and minimum length of recitation periods, the school could not afford to donate time, space, and faculty sympathy to 75 or 100 pupils merely for a social good time at the cost of the remaining 500 or 700 pupils of the afternoon session.

As stated in the "Fall Announcements" for this year, the minimum active membership of a society must be 20. If a society's active membership falls below 20, and fails to have a quorum for two successive meetings, said society is not permitted to meet again without special permission of the principal. Likewise if a member absents himself from the society for two successive meetings without sufficient excuse to society and chaperon, he is to be dropped from the roll; and if he incurs more than one "F," he shall not be counted as an active member, nor allowed to attend a meeting of the society until that delinquency is lifted.

Under such a policy as this the societies are constrained to keep their membership and maintain a legitimate and progressive schedule of work

Furthermore, under such a wise policy as this, the societies are bound to exert a wholesome, vitalizing, and beneficial influence upon the school at large in arousing a greater interest in both the intersociety and school at large contest and in the M. S. U. Interhigh School Contest for the Freshman \$125 scholarships.

It therefore behooves the ambitious competitors for elocutionary or literary honors to begin at once making careful preparations to enter the lists.

The preliminaries for the Inter-Society and School at Large Contest must be all over and the names of the contestants

**The Annual
Inter-Society and
School at Large
Contest.**

for the Inter-Society and School at Large Contest be submitted by the chaperons to the principal for approval by March 27. The Grand Finals, or final contests for the medals, will occur April 24.

Each of the four literary societies will have one or two representatives, according to the sex of its membership, and the school at large will be represented by two girls and two boys.

Owing to the fact that there will be nine contestants, the maximum length of each number will be eight minutes.

The young ladies must have choice recitations, prose or verse, from standard authors. The young men must have original orations, which must be criticised and approved by the chaperons and principal.

The school at large representatives must report to Mr. Cowan to be qualified the first week in March and their preliminary heard by March 27.

We wish to thank the Jones Dry Goods Company for the kindly interest they have shown in the Nautilus.

This contest is open to only graduates of the class of '08. The young ladies will

compete with young ladies in original compositions on any subject and in any form of composition the ladies choose to offer. The young men must write

**The M. S. U.
Inter-High
School Scholarship
Contest.**

an original oration on the affirmative or negative of the following question:

"Resolved, That a law should be enacted requiring all school districts in Missouri to furnish text-books to pupils free of charge."

Since the names of the girl contestants and their subjects must be reported to the University Committee by April 2d, the young lady contestants must send their names and subjects to the principal by March 31.

The names of both the girl and boy representatives chosen to represent Manual at Columbia must be sent to Columbia by April 22. Hence our preliminaries for that contest must be held no later than April 18.

No young man's speech must exceed eight minutes in the delivery and no girl's essay be over 1,000 words long.

Last year both scholarships were captured by Kansas City in competition with over fifteen Missouri high schools, and Miss Alice Richardson is now, to Manual's credit, enjoying one of those scholarships at Columbia.

It is certain that the other Missouri high schools will make a desperate effort next spring to keep Kansas City from winning. Therefore it is imperative that our seniors who wish to enter that contest shall begin working now and train vigorously up to the preliminaries at Columbia. Think, write, rehearse—with this slogan for your battle cry: "I will for Manual! Do it now! Now!! Now!!!"



FINE ART



Henry Ackerman

S HERBERT HARE

Agnes Meyer

The numerous wheels of Manual Training High School have once again started on their annual rotation. Everywhere pupils have gotten into their places and are beginning to think that the years' work has begun in earnest. In rooms 26 A, B, and C, this can readily be seen by the routine into which the work has already fallen. The life classes, as they always were, and very likely always will be, are struggling not to place the ear on the thick part of the skull where particle of sound could possibly penetrate. The first year classes are handing in sketches with worn and thin places instead of hands and feet. It is almost impossible for the little freshmen to draw hands and feet large enough to suit the all-too-particular art teacher. Do not blame the little freshmen, however, as it has been whispered by one of the teachers that they have a hard time drawing these objects large enough because they have only lately given up their dolls, whose tiny hands and feet have left an

imprint on their childish minds. The design classes are training conventionalized bugs to grow naturally on conventionalized flowers. Innocent bugs are turned into frightful looking creatures in these classes. If you visit one of them be sure not to ask what certain curious looking objects are. Just take for granted that it is some kind of improved bug invented by some pupil of genius. Even the water color classes are subsiding into some kind of order and, altogether, the Manual Art classes are preparing to present Kansas City with at least a dozen world renowned artists at the close of the school year.

SPECIAL.

The Nautilus regrets very much that the Free Hand Drawing list of prize winners for Manual at the "Inter-State Fair" does not appear in this issue, because the copy was lost by the printers.

The missing list of prize winners will appear in our next issue.



Societies

THE MANUAL SOCIETY DEBATE.

October 11, 1907.

Resolved, That a law should be enacted requiring all school districts in Missouri to furnish text books free of charge.

Debate open to all the society. After a warm debate the members for the next program were chosen from the best participants.

October 25.

Resolved: That a law should be enacted requiring all school districts in Missouri to furnish text books free of charge

Affirmative	Negative
Russell Dudley	Archie Zimmer
Harold Wing	Harold King

November 8.

Resolved: That the theaters should close on Sunday.

Affirmative	Negative
Paul Baker	A. M. Swanson
St Clair Mendenhall	James Schwab
Roy Hanna	Edward Murphy
Oration.....	Edgar Allan Poe
	Harold Evans

ION SOCIETY.

October 11.

1. Debate, "Resolved, Capital Punishment should be abolished."

Leaders—Affirmative, Porter Craig.
Negative, Loy Shrader.

2. Anecdotes.....Lewis Buxton
3. Current Topics.....George Sperry

October 25, 1907.

1. Essay.....Elmo Fisher
2. Recitation.....Loy Shrader
3. Reading.....Howard Richards

November 8, 1907.

1. Current Topics.....Wm. Simms
2. Debate: "Resolved, That a law should be enacted requiring all school districts in Missouri to furnish text-books to pupils free of charge."

Leaders—Affirmative, Loy Shrader.
Negative, Lewis Buxton.

O'ITA SOCIETY.

October II.

Biography..... Bret Harte
Eleanor Keith

"The Outcast of Poker Flat"....

..... Bret Harte
Leota McFarlin

Biography.....Elizabeth Stuart Phelps
Hester Lauman

"Mary Elizabeth" Elizabeth Stuart Phelps
Georgia Reilly

October 25.

"The Art of the Short Story"

Mabel Clement.

(a) Biography.....Mary E. Wilkins

(b) "The Scent of Roses" Mary E.

Wilkins..... Irene Preston

(a) Biography.....Henry Van Dyke

(b) "A Handful of Clay"....Henry

Van Dyke..... Juliet Banks

November 8.

Biography.....Richard Harding Davis
Hester Lauman

"Van Bibber as Best Man" Richard

H. Davis..... Velma Burke

(a) Biography.....John Luther Long

(b) "The Little House in the Street

Where the Sun Never Came"

John Luther Long..Aileen Leavitt

Committee

Aileen Leavitt Mary Oldham

Augusta Kleen

THE A. L. S.

October 11 '07

Debate

Myron Witters Clyde Drollinger

Declamation.....Ellen Doherty

Oration.....Bret Boright

Declamation.....Henry Ackerman

Declamation.....Winona Gibbons

October 25 '07.

Declamation.....Helen Harrison

Oration.....Bret Boright

Declamation.....Henry Ackerman

Oration.....Enid Smith

Essay.....Lucile Hutchinson

Short Story.....Vera Banks

Current Topics.....Bertie Hawes

November 8.

- Essay.....Fred Williams
 Short Story.....Ethel Brothmarkle
 Essay.....Zelma Burke
 Oration.....Winona Gibbons
 Current Topic.....Bertie Hawes
 Short Story.....Bret Boright
 Essay.....Ellen Doherty..
 Extemporaneous Speech..Gratz Shelby

DEUTSCHER SPRACH-VEREIN.

D. 11 Okt., 1907.

1. Namen beantworten mit einem Sprichwort.
2. Aufsatz—*Meine Verein*..Ethel Riley
3. Deklamation—*Der Suppenkasper*
.....Henry Lohman
4. I. Kapitel—*Eine Liebesgeschichte*
.....Pearl Zacharias
5. Lied—*Frent euch des Lebens*.....
.....Helen Pursley
6. Komischer Aufsatz—*Ich bin ein Senior*.....Richard Summers

D. 25 Okt., 1907.

1. Dialog—*Das Gewissen*..Mary Burke
Marie Munz
2. Deklamation—*Der alte Graf*.....
.....Walter Berkowitz
3. Rede—*Das Leben auf dem Lande*..
.....Marie Lampe
4. Deklamation—*Der Frosch*.....
.....Agusta Busekrus
5. II. Kapitel—*Eine Liebesgeschichte*
.....Gwynne Raymond

D. 8 Nov., 1907.

Die Deutschen vor 1150.

1. Namen beantworten mit einem historischen oder literarischen Ereignis vor 1150.....
2. Essay—*Die Sitten und Gebräuche der alten Germanen*.....
.....Lucile Kellerman
3. Recitation—*Hildebrandslied*——
.....Egmont Betz
4. Aufsatz—*Ulfilas der Bischof der Goten*.....Fred Hammil
5. Biographie—*Theodorich der Grosse*.....Richard Summers
6. Szene aus, "*Ein Kampf um Rom*." Athegus.....Marie Lampe
Rusticana.....Helen Pursley

- Camilla.....Estelle Berkowitz
 7. III. Kapitel—*Des Liebesgeschichte*.
Helen Loeffler

EDISONION SOCIETY.

October 11.

- Acetylene Gas.....Ralph Hallet
 Astronomy.....Ray Robinson

October 25.

- Carbon.....Francis Rielly
 Incadescent Lights.....Thomas Ragan

November 8.

- Spectrum Analysis.....John Garret
 Wireless Telegraphy
 Robert Denny John Ganet

"DAPHNE" SOCIETY.

October 11.

- Papers:
 Mary Scarce..William Dean Howells
 Agusta Walsh..Review of Silas Lamp-
 ham.

His Life as a Writer.

Discussion by the Club.

- County Fair, Illustrated by Mary Scarce
 Blanche Wilhelm
 Golden Ears of Corn made by.....
 Florence Hickman
 Francis Carey

October 25.

- Papers:
 Maude McLevy....Mary E. Wilkins
 Elizabeth Donahue..Review of "Pembroke."

Her Life as a Writer.

Discussion by the Club.

- Florence Hickman.....Rise of Woman
 Economically.
 Fortunes in a Nutshell as Told by the
 Black Balo..Illustrated by Lena Win-
 ters and Winifred Poindexter.

November 8.

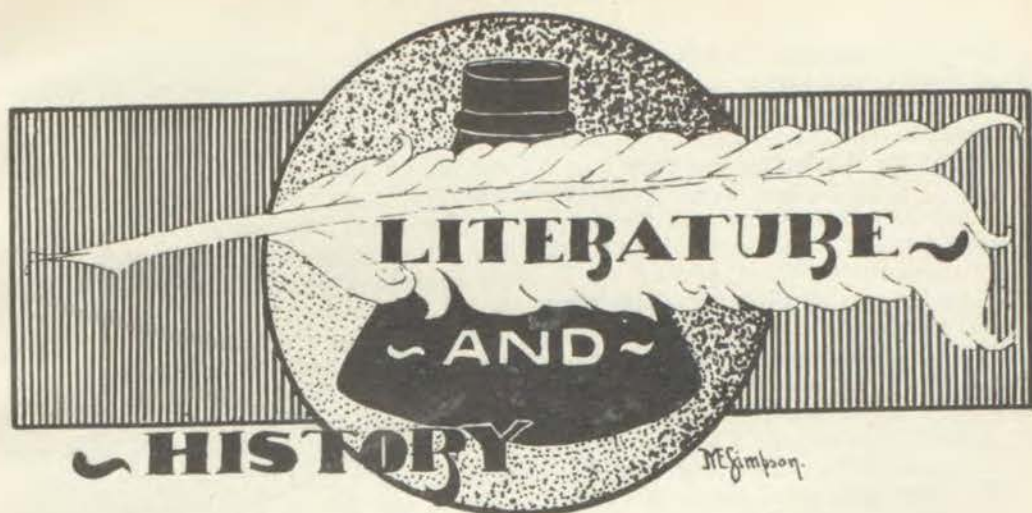
- Papers:
 Virginia Brainard..Sarah Orm Jewett
 Annette Robinson..Review of Deep-
 haven.

Her Life as a Writer.

Discussion by the Club.

- Menne.....Turkish Pipe Dream
 Illustrated by Lena Winters and Winifred
 Poindexter.
 Serving of Turkish Luncheon.





Harold King

Lucile Phillips

A Friendship That Failed

MARCY K. BROWN

Simon Acres was tilted back in an easy chair before his desk, idly pulling a cigar and gazing languidly up at the blue rings of smoke curling in the rays of sunshine that streamed in over the top of the curtain. He seemed to be thinking deeply and his thoughts were not very pleasant from the scowl that spread over his face. Suddenly a sharp clicking of the little instrument in the corner brought him to a realization of the present and he jumped up nervously grasped the tape and his face hardened and grew pale as he read.—International 114, 112, 111, then a pause, 113, 116—and then it stopped. A sigh of relief involuntarily escaped his lips as it rose again two points higher, and he sank back into his chair and finished his cigar in silence.

Simon Acres was a type of his class. He had inherited enormous wealth, acquired through no effort of his own. Like others of his class, too, he held the notion that the possession of money conferred a privilege, not a responsibility, that great wealth imposed no moral obligations towards humanity, upon its fortunate possessor, but rather more of privileged immunity to do as he pleased, regardless of its effect upon the less fortunate. His aims were self-centered. Money was his God. His ambition was not to make the world better, but to better himself financially, to pile up and increase his already enormous wealth. His methods were those of his kind; any financial method that accomplished his

ends. The honesty of his actions or the effect upon others concerned him not at all. He had already figured in two big stock swindling schemes which netted him large fortunes, while hundreds of poor victims were driven to desperation by their losses caused by his financial manipulations.

He was aroused from the reverie into which he had fallen by the entrance of a clerk bearing a card upon which was engraved the name, "Rupert Adams." "Show the gentleman up," he commanded, in an imperative tone characteristic of him. Rupert Adams was an old college friend of Acres'; they had gone through college together and had been graduated in the same class. He was now a struggling hard working doctor with a wife and four children. He was greeted cordially but college days was gone from Acres' hand. After a few minutes conversation Rupert broached the subject of the stock market.

"So I hear you've made a reputation for yourself and increased your fortune on the market old boy," said he.

"Yes," replied Simon, but the business is worse on the nerves than yours; you don't know when a sudden turn of the market will bring you face to face with ruin. But I've never lost much yet, the market seems always to go my way."

"Of course you never harm other people in making your gains remarked Adams.

"What a little idea you have of my trade. Don't you know it is like a lot of drowning men fighting for a log; the weakest have to go down, that's all. But say! why don't you try your luck; you've got some money saved up by this time; let me place it for you on some stock, then you'll learn what it is to make money so easily.

Rupert Adams studied for some time and one could see that he was thinking deeply and turning each fact over in his mind. "No," he exclaimed at last. "I might be one of the weak ones"—then he paused—"but what if I should win where would the money come from?"

"Oh, some poor devil would go under—its nothing, hundreds of cases like it happen every day."

"Then," replied Rupert, your occupation is nothing less than plain downright stealing,—less respectable, if the truth is known, than the work of a plain highwayman.

"Exactly," said Acres, only you need not put it in such a strong light, the longer the public remains in ignorance of the fact, the better for us; but listen; I know that right now you are in great need of enough money to pay off the mortgage on your home. Now put what you have on Consolidated and you'll come out 40 per cent. winner, I promise it.

Rupert forgot for the moment those who would be ruined by his winning, so completely was his head turned by the promise of sudden gain. On the spur of the moment, with the words of his supposed friend sounding in his ears, he sat down and wrote out a check for all he had in the world, the money saved through years of effort to meet the indebtedness of his mortgaged home. He handed it to the capitalist with "Do what you think best," and left the room hastily lest he should retract his action.

"Poor devil," muttered Acres; and with tish examation entirely forgot all about Rupert Adams and picking up his hat walked out into the street, jumped into the automobile waiting at the door, was whirled away to the Waldrof where he sat down to his solitary sumptuous dinner.

Now let us leave Simon Acres, while we accompany Rupert on his way home. As he walks along the crowded streets his head is downcast, a worried look is spread over his contenance and his

careworn face shows effects of sleepless night spent in ceaseless thought of how he could keep up his home with the scant returns from his business. Then a sudden thought strikes him—what would become of his wife, his children, his home, himself if he should lose. For the first time its full import dawned upon him. It would mean ruin, loss of all hope of the future, of his own honor and good name. He hesitates, almost turns back to tell Acres he has changed his mind. But the resistless demon of money has all his faculties within its grasp and he keeps his way and mutters to himself "If the worst comes,"—he stops, he can not bear to think of such a thing; he can't lose; he must win. He had worked so hard and saved so faithfully to accumulate the little sum which he now has, and if he lose, then his home will be taken away from him, for the mortgage money is due in two weeks. At last he nears his home; his children run to greet him, their little feet vieing which shall be the first to meet him; his wife greets him with a kindly smile, and as he crosses the threshold, love lifts for awhile, the load of mortgage from the little home, and childrens happy laughter chases away the gloomy foreboding from the father's mind, as he mingles with the loved ones for whom alone he lives.

For a week everything had gone well on the markets; Consolidated had risen fifteen points; at the same time International had fallen twenty points. Simon Acres was furious. It was plain to him that the large owners of Consolidated were fighting him and trying to get control of International. He had been a fool and he knew it in letting them have an opening to attack him. Monday morning he rushed into his office with a look of anxiety on his face and as he read the tape his face twitched visibly, for his stock had fallen five points with the operations of the market already that morning and now stood at 95. He immediately called his brokers together and they formed a plan to lower the price of Consolidated, which would soon make its owners rush away from International to look after their own troubles nearer home. Next day Consolidated began to fall. The Simon Acres forces had centered all their enormous capital on the buying of this stock and by

night it had fallen forty-two points. Never before was there such a panic on the stock exchange; during the day two prominent banking firms closed their doors. Fortunes were lost in an hour and hundreds of people went down to ruin; but yet Simon Acres was not satisfied, the fight went on and by the end of the next session Consolidated was down to .35.

* * *

About eleven o'clock that night a man is seen walking toward Brooklyn Bridge. When about midway of the bridge he stops, leans over the parapet and looks down into the black swirling waters beneath the great city and the silvery light of the moon reflected on its restless surface. The bridge is deserted except now and then when a car passed swiftly over. He thinks of his wife and little ones waiting for him; he thinks bitterly of one who has professed to be his friend and yet by remorseless manipulation ruined him and who does not even think of him in his hour of need. His whole life passes before him, the earliest things that he can remember, at school at college, and the

day when he was married; but all is lost to him now—everything. He jumps up with a determined, despairing air, gives one quick leap and plunges down, down to the deep pitiless waters, which close over him forever and flow on to the ocean undisturbed.

The following morning the papers were full of the reports of the panic at the exchange. But one paper bolder than the rest publicly denounced Simon Acres as the cause of it all and stamped him as the greatest thief and swindler the financial world had ever known. Below this was an article headed, "Suicide from Brooklyn Bridge." The body of an unknown man was picked up by a tug below Brooklyn Bridge this morning. In the hat which was floating near the body were written the initials R. A. The police have not the slightest clue as to his identity. From papers found on the body financial difficulties are supposed to be the cause of the deed.

That same night somewhere in a little home in the great city, four little faces pressed against the window pane, while eager, anxious eyes looked, watching and waiting and longing for a father who never came.

The Mystic Well

VERA BANKS '08

It was Hallowe'en many years ago in a little pioneer village of Indiana. Darkness was falling and the moaning of the wind in the great trees only made the little home of which we are going to speak, seem more comfortable. The fire burning brightly in the huge fireplace was lighting up every nook and cranny of the great kitchen.

Passing here and there in the glow of the firelight were two young girls, busily engaged in putting the room in order after the evening meal.

"Virginia," said one, "what is the trouble, anyway between you and John? We all know something is wrong since it looked for a long time as if matters were about settled between you."

"Oh, it was just that old trouble at the husking bee. You knew all about it at the time. But come, now, the fire has burned down to a fine bed of coals. Let's pop some corn while we talk."

"Yes, that's just what I want to do," said the little ten-year-old brother of the

girls. And suiting the action to the word he brought the popper and basket of corn.

When all was satisfactorily arranged the girls resumed their conversation.

"Why, Virginia, is that silly affair all that has kept you apart for so long?"

"Yes, that is all," replied Virginia. "At first, I thought I was right, but now it seems very foolish. Still, I don't want to be the first one to speak. Would you, now?"

"Well, I don't know that I would," said Margaret, the younger sister. "But, say, I've got an idea! You know the old well down in the pasture? Some people say that if you go there on Hallowe'en just at midnight and drop a pebble in, you may ask any question you like, and you will get a true answer. I dare you to go and find out if John will ever come back!"

"Oh, what an idea! I wonder if there really is any truth in those things? If I thought there was, I believe I'd go. Margaret, I believe I'll go."

"Oh, surely you are not in earnest," cried her sister in astonishment. You know I was only in fun. Wouldn't you be afraid? For you know the charm would be broken unless you went alone, and just think how dark it would be.

"Oh, I am not afraid, and, besides, the moon will be up. I tell you, Margaret, I'm going to go." And the note of determination in Virginia's voice silenced all the younger girl's objections.

In the meantime, little Tommy having satisfied his appetite for corn, became intensely interested in his sister's plans. All unnoticed, he slipped out of the door, and had one of the girls peeped out of the window, she might have seen by the rising moon, a little figure speeding down the street towards the home of the John of the evening's conversation.

* * *

As the old clock on the wall approached the hour of twelve, Virginia, trembling with excitement, crept stealthily from the house, and sped rapidly down the path which led to the old well. The stillness of night was broken only by the mysterious rustling of the leaves or an occasional call of some night bird.

But aside from a furtive glance backwards now and then, Virginia, like a true pioneer girl, showed no sign of fear.

At last she reached the old well. Peering into the black depths of the water, she was thinking,—dreaming of what the future might bring. So absorbed was she that she did not hear a suppressed giggle from the other side of the well, nor dream of her little brother crouching there, nearly bursting with laughter.

Leaning over that she might lose no word of the mysterious voice she hoped to hear, she dropped her pebble in the water, saying, "Oh, spirit of the well, tell me true. Will not all be well? Does not John love me as he once did?"

To her astonishment she received an answer, but the voice was not at all ghostlike, but decidedly like that of John, who, indeed, immediately appeared upon the scene.

"John, John, how—what!" cried the astonished girl. But from the other side of the well a peal of laughter that could no longer be suppressed was explanation sufficient.

"Yes, Virginia," said John, "it was Tommy who brought me here. But I have for a long time wished our foolish quarrel at an end. And now whether there be a spirit here or not, let us thank the old well for bringing us together again."

The Little Blue Bottle

ORTIS GRANT '09

Dr. Fred Graves was disappointed. He was lately graduated from college and had M. D. tacked to his name. He was ending a trip abroad and would soon return home to take up a position in his uncle's private sanitarium.

He had expected to find the slum district of Paris fairly reeking with murder and crime, but instead he found it as peaceful as Holden, his home town, hence his disappointment.

As he was walking along, musing, he was suddenly startled by a series of loud cries, "Help! Murder! Police!"

A short distance ahead he saw two tough looking characters quickly and skillfully going through the pockets of a short, fat, excited, little German—a typical German professor.

At the appearance of the young medic the footpads fled.

To say the German was excited would be putting it mildly. He jumped, raved

and swore in five different languages. Words came from his lips with the same effect as drawing a board along a picket fence.

Suddenly in the midst of his ravings he drew a small blue bottle from his pocket and instantly grew calm.

Then for the first time he saw Fred. "You have saved my life," he said. "Yes?" came stupidly from the doctor.

"Do you know who those men were?" shouted the little German angrily, "They are tools of the the government sent to rob me. But this is no place to talk. You look honest. Follow me."

Amazed by what had happened and the German's words, Fred followed. They had gone but a short distance when the German turned into an old building, Fred following.

They went up a rickety stairway and into a small room, bare of furniture, save for a single bed, a table and a chair.

The German motioned to the chair and the young doctor obediently sat down. As the professor paced to and fro he told a strange story.

He had, by much experimenting, invented a curious explosive, the formula of which was known only to himself. A paper dipped in this liquid and allowed to evaporate would upon being ignited, explode with terrific force so strong that an envelope saturated with it would demolish the strongest prison. The French government, knowing the value of such an explosive, had, at first tried to buy the formula from the professor, but as he asked such an exorbitant price, they had tried other means. "But," asked the astonished Fred "why do you confide in me?" "Merely for this reason," said the professor, "You look honest. You will help me."

"Listen," he went on without waiting for an answer, "At L.— there is a prison built of such material that no prisoner has ever escaped. Unable to buy me or to rob me they will arrest me and without trial I will be put into this prison. "Here," he said putting the blue bottle, which he had exhibited in the street, in Fred's reluctant fingers, "promise me that if I am not here tomorrow you will write me a letter, saturated with the contents of that bottle."

The old man seemed so earnest and his appeal so pathetic that the young doctor promised without further thought.

He reached his room that night in a puzzled state of mind. After much deliberation he was still as puzzled as before. One thing was certain. The little blue bottle was kept away from the fire.

Next morning when Fred visited the professor's little dingy room, he found it deserted.

His inquiries were of no avail. No one had seen the professor leave. For three days he was a constant visitor to the little room, but the professor did not appear.

Then Fred concluded that the professor had been arrested, and he must therefore perform the disagreeable task of writing the letter.

The letter he wrote was in no way one that would attract suspicion. It merely expressed regret at the professor's arrest and wished for his best welfare. Fred was careful not to sign his own name.

Two days later as Fred was preparing to sail home, he read in a paper of the wrecking of the prison of L.— in which three guards had been killed but in which no prisoners had escaped. The dispatch stated that the explosion had occurred in a stove. It was thought that some one had put dynamite in the stove to kill the guards for revenge.

As Fred read this a light dawned on him. "What a fool I am," he muttered. "The guards instead of giving the letter to the professor simply read it and threw it into the stove."

It was with a heavy heart that the young doctor sailed for home. His crime weighed heavily on his conscience. He could not sleep and the world seemed suddenly to have grown black. He cursed himself for ever listening to the little professor.

When he reached home he seemed a much different man from the gay hearted young doctor who had left home some months before. He was subject to spells of abstraction and always wished to be alone.

One day as he entered the sanitarium he found his uncle preparing to visit a patient. "Want to see him? said his uncle; curious case." When Fred entered the cell, it suddenly seemed as if he were going to faint, for there sitting in the corner and gazed abstractedly out the window was the little German professor.

When they reached the office Fred's uncle was talking. "Yes, curious case. He was brought here last week by his brother. He thinks he has invented a high explosive. Always carries a little blue bottle around with him. I've analyzed the stuff. Nothing but common wash bluing."

That evening Fred read in the paper where a criminal confessed to having put a stick of dynamite in a stove, in a prison at L.— France, the explosion of which killed three guards.



The Duties of High School Pupils

HAROLD W. WHEELLOCK.

We as pupils in so great an educational institution as the High School of America, owe a duty, not only to ourselves, but to our parents, to the school to which we belong, and also to the nation, which is responsible for the splendid system which governs our schools. We should develop ourselves to our utmost ability because of the fact that we have a certain amount of pride in us which tends to make us wish ourselves respected and honored in the esteem of men. People are not without ambition. On the contrary, they wish to achieve might and fame in the eyes of their fellow beings. To accomplish this end, a thorough understanding of the various obstacles encountered, is needed. There is only one way in which we can acquire this knowledge of things, and that method is a complete education.

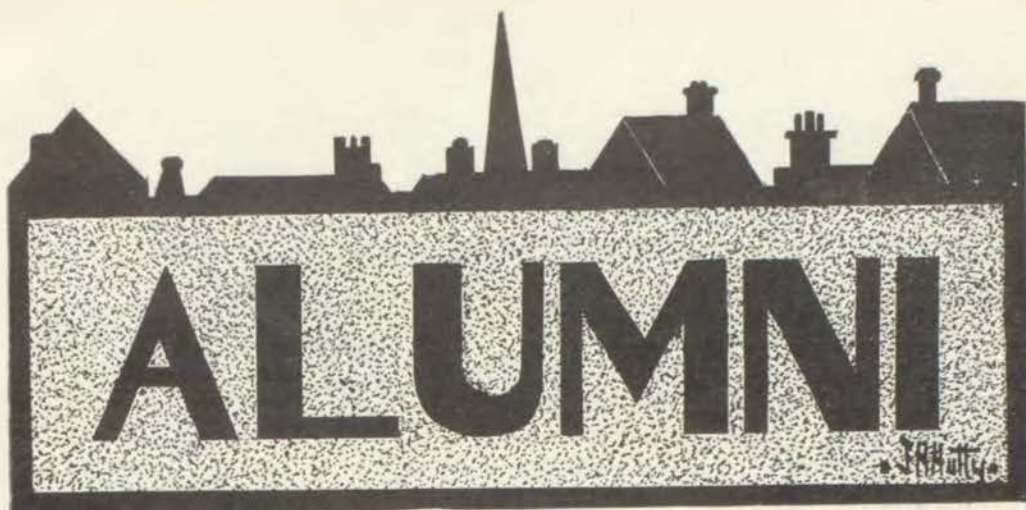
Our greatest opportunity to receive this education is afforded us by the public school, and especially the High School, where the surroundings and environments conduce to this end.

To what other living beings do we owe more than to our parents? They are the ones responsible for our welfare and who, if necessary, sacrifice in order that we may be better equipped to face the world. We therefore owe to them a duty as pupils in High School, and this duty is to study our best and get the most out of our instruction while there. Many parents, in order that they may help their children in High School, will if forced to do it, do without many real necessities of life. They, if none others, enjoy our advancements and mourn over our failures. They are the ones who pay the taxes which supply the nation with schools, and the schools with equipments. We, then, as pupils of a High School, ought to strive to do our best in order that we in some way may show our appreciation of these opportunities.

The High School's standard depends upon the spirit which exists in the school, and the school's spirit depends upon the average sentiment of the individuals comprising the school. Each student should strive to make the school to which he belongs, the best in the land.

A splendid High School is not splendid because a few of its pupils are unusually brilliant, but for the fact that everyone in the school is striving to do his or her utmost to bring the school up to a high ideal. There are several ways in which the student may improve the High School; two of which are, by being studious and conscientious in his work, and by his actions while connected with it. There are always some pupils who are considered brighter and more brilliant than others. This ability is not always born in them, but quite frequently hard and painstaking work, is the cause of this particular achievement. It is not then our personal duty to advance the interests in our school by upholding a high standard of achievement by consistent and persistent personal effort.

Every High School pupil is aware that the interests of our country will at some future time rest upon our hands. This being the case we, then, as pupils in the High Schools of the nation, ought to prepare ourselves, while in school, for those duties which are to follow. Fortune and times are constantly changing. Our parents may lose all their substance in a very unexpected way and without notice. This fact warns us to be faithful and persistent in our work at High School in order to acquire all the knowledge possible in the study while there. This is important because we have an interest and are proud of our country and wish to help improve it all we can; but to do this we must use all the opportunities within our reach. A student completing a thorough course at High School is well equipped for a broader and finer education, but if he is not persistent in his duties at High School, it will be very difficult for him to form a proper conception of things. A man is of no use to his country without a knowledge of various facts pertaining to the country. This understanding comes only with a good education. Therefore it behooves us as students of the High Schools of our country, to do our best while in High School in order that we may the better serve and do justice to the fellow citizens of our nation.



Leota McFarlin

Some Manual Pupils Who are Now in College.

Mo. State University

Bott, William
 Burge, Everette
 Canny, Elenore
 Curry, Charles
 Elston, Allan
 Eyssell, Walter
 Fairman Robert
 Gardner, Douglas
 Gerard, William
 Hobart, Norman
 Hankins, Kate
 Katzmaier, Elsa
 Latshaw, Constance
 Leake, John
 Latshaw, Ralph
 Lee, Colin
 Lee, Raymond
 Mann, Chester
 Marquis, Mabel
 Orme, Sidney
 Page, Arthur
 Pearse, Faith
 Phillips, Ruth
 Richardson, Alice
 Sachs, Alex
 Shawer, Earl
 Smith, Wilbur
 Trowbridge, Harold

Rolla School of Mines

Allen, Robert
 Jobs, Charles
 Jones, Howard
 Pierce, Colwell
 Porth, Harry

Kansas State University

Banks, Robert

Brain, Horace
 Blackr, Morris
 Coble, Ward
 Cole, Clifford
 Davis, Leland S.
 De Vasher, Roy
 Hamilton, John
 Hofmann, Arnold
 Hunt, Ruth
 Murray, Robt. G.
 Nicolet, Ben
 Norris, William
 Ollis, William
 Paret, Howard
 Porter, George
 Roos, Robert
 Teachenor, Frank
Western College Oxford
Ohio

Elston, Margaret
 Wilcox, Ella
 Wilcox Ruth

California State University

Spruill, Nannie

Roanoke, Virginia... ..

Hanks, Compton

Michigan University.....

Bontecou, Daniel
 Bowman, Charles
 Fullerton, William
 Green, George
 Overly, John
 Greer, Paul
 Patrick, Augustus
 Pierce, Edwin
 Van Brunt, John
Illinois State University..
 Beardsley, George

Reinharat, Rhoda
 Scott, Howard
 Wheeler, Harley
Washington University...
 Baer, Lawrence
 Harris, John
 Stevens, Burnell
Vanderbilt University....
 Clark, Morris
Nebraska State University
 Queal, Ralph
Wisconsin State University
 Spellman, Lloyd
 Pettibone, Ira
Minn. State University
 Confer, Marie
Boston School of Techno-
ogy

Havens, Harry
Pratt Institute
 Hayne, Myrtle
 Morrison, Jean

Ray, Irma

Columbia, New York City
 Humfeld, Emma

Philadelphia Art School

Alex Rindsstoff

Arkansas State University

Devin, Paul

Morgan Park, Chicago
 Prather, Ivan

Baker, Baldwin, Kansas
 Barnes, Elizebeth

University of Denver
 Shaw, Edwin

Laselle.
 Goldman, Irma

Monticello,
Agnew, Rhea
Cornell

Bowman, Robert
Talbot, Lee

Missouri State Normal
Georgia Milburne

Missouri State School of Rush Medical School
Osteopathy Darwin Delap
Ruckel, Carl Chicago Art Institute
Wellesley College Rick Fillmore
Moffatt, Sarah University of Virginia
Nofsinger, Elizabeth Fields, Marcia,
Kansas School of Medicine McIntire, Mable
Thornton Warren Plank, Bethine

Missouri State University,
Columbia, Mo., Nov. 2, 1907.

My Dear Manual Friends:

It gives me great pleasure to write and tell you with what high regard Manual is held by the M. S. U. faculty and students and by the citizens of Columbia. When one has come from Kansas City, and especially from Manual, great things are expected of him.

The evil things said about Columbia and the 'varsity students are grossly erroneous and in most cases are without any foundation.

Surely Missouri with its numerous departments, excellent faculty, and many other advantages should be considered seriously by all before deciding what school to attend after graduating from Manual. It must be taken for granted that one expects to work hard on his lessons. There is no use coming here if he does not.

Do not forget the scholarship offered on high school day. Remember that you will be warmly welcomed if you should come here next year, or if not any year that may follow in the many yet to come.

We are all doing our best to make Manual proud of her Alumni in M. S. U. Come, join the Manual ranks in this great 'Varsity that is becoming more popular every year.

Constance Latshaw, '07.

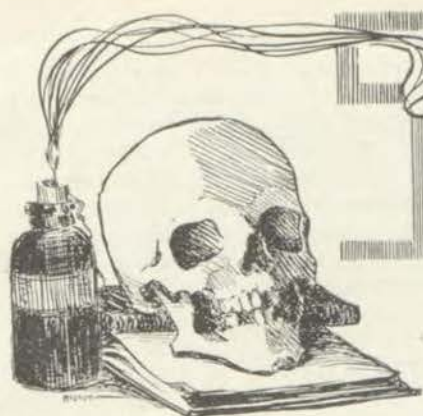
We are delighted to get a letter from Mr. Claude N. Harman, who is an instructor in woodwork and mechanical drawing in the Crete, Neb., high school where two of our graduates had taught before him. The first of Manual's boys to teach there was Mr. Boyd Johnson, who is now an assistant in the boys Manual Training Department of our school. When Manual called Mr. Johnson home to teach here, she sent Mr. Dale Beattie to Crete. Then when Mr. Beattie decided to attend college, we sent Mr. Harman who seems to be giving satisfaction.

It is gratifying to us to see our graduates succeed as young teachers abroad as well as at home. We quote from Mr. Harman's letter the following:

"The Manual Training Department in Crete High School was started by a Manual graduate 3 years ago; and now the Crete High School has such a good reputation for manual training. The larger and wealthier neighboring towns are sending representatives to get pointers with the expectation of starting manual training schools. I enjoy showing them what we are doing.

Please find enclosed the money for the Nautilus magazine which I wish you to send me."





Ross Parker

SCIENCE



Vera Banks

Brevities.

Pupils in physics will be interested in noting the difference in tides at the Atlantic and Pacific ends of the Panama Canal. The mean level is the same. But on the Atlantic side the rise and fall together do not exceed two feet; while on the Pacific side, at times it reaches twenty feet.

Great Britain has taken warning from the recent naval accidents of other nations, and will equip and cool their magazines with refrigerating machines.

The Japanese have launched their battleship "Aki" which outclasses even the huge "Dreadnaught," of the British navy. This gives the Japanese credit for having the largest battleship in the world; for the "Aki" is 402 feet long, 83 feet wide and has a displacement of 19,800 tons. Turbine engines of 25,000 horse power will give her a speed of 21 1-2 knots per hour. Her armor belt is 9 1-2 inches thick and her armament includes 4 twelve-inch, 12 ten-inch and 8 six-inch guns.

An electro chemical process by which wood and water are actually converted into the purest and sweetest sugar, is being demonstrated in a Western city. The machinery which costs only \$1,000, is composed of a water boiler, a furnace for heating steam until it turns into hydrogen and oxygen, a retort in which the charcoal is reduced to a gas and mixed with the hydrogen and oxygen, a water tank in which the combination of gases

is cooled, an air compressor, and a set of highly charged electrodes.

To operate the plant the inventor took an armful of pine wood, eucalyptus, corn cobs, a piece of an old buggy, and a barrel hoop and piled them into an oven where they were made into charcoal.

The charcoal ready, he put 32 pounds of it into the retort and started the fire under his water boiler. Twenty minutes later, when things were getting hot, he started the air compressor and a set of highly charged electrodes. The water, converted into steam passed through a heater, where it was dissociated into hydrogen and oxygen at a temperature of 3000 degrees. The mixture of gases was then compressed upon the carbon heated to a like temperature.

Then he let the compressed gas blow past the electrodes and a fine spray of powdered sugar burst from out the end of the pipe. Thirty minutes later it ceased. The entire output was about 70 pounds of sugar. It is claimed that sugar can be produced commercially at a cost of only one cent per pound.—Popular Mechanics.

The green coloring matter contained in leaves and other parts of plants and known as chlorophyl, serves as a light screen through which only certain spectral colors are able to penetrate and to affect the internal organism of the plant. A somewhat puzzling fact is that some insects, such as the green grasshopper, possess a similar coloring matter, and the recent investigations of Podiapolsky have shown that this is identical in physical properties with the chlorophyl of plants

That its chemical constitution is the same remains to be demonstrated. It is also a yet unsettled question whether "animal chlorophyl" serves, like that of plants, as a color screen to shield the inner organism of the insects, protecting it from the influence of certain colors.

Photographs of Gracobini's comet of 1905 taken at the Louvele Observatory in

Arizona show remarkable peculiarities, most striking of which was shown December 29, 1906, when the comet had two tails, one of which was made up of four distinct streamers, with nebulous matter between them, while two of the streamers were crossed in such a manner as to present a twisted appearance, although the other two streamers divulged in the usual manner.

A Trip Through Mammoth Cave.

MARCY K. BROWN, JR., '09.

In Kentucky, eighty-five miles south of Louisville, on a branch of the Louisville & Nashville railroad, is situated Mammoth Cave—the most unique natural wonder in the world. It was discovered in 1809 by a hunter while in pursuit of a wounded bear. Since that time, over one hundred and fifty miles of subterranean avenues have been explored by the adventurous. The most extensive cave region in the world is that of western Kentucky. The region belongs to the carboniferous period in geological history, and is literally honey-combed beneath with caverns, large and small. The caves have been formed, not by volcanic action, as in some regions, but by surface waters, which, entering through fissures and clefts in the rocks, found or formed underground channels and through a long series of ages slowly eroded away the soft limestone rock, thus tunneling and carving the hundreds of wonderful tunnels and caverns in which this region abounds.

Both the chemical and mechanical forces of nature have been at work through long ages, producing these results. From the air and soil the falling rain-water gathered carbonic acid (carbon dioxide), which attacked the yielding limestone rock, softening and dissolving it by chemical action. When so dissolved, it was borne away by the force of the moving waters. As the action of the waters formed new outlets at lower inlet or outlet, except through funnel-like holes, which pass downwards into subterranean passages. In certain parts of western Kentucky, a traveler may journey on horseback for days at a time, without finding a single running surface stream; all the falling rains being carried down through sink-hole depressions into cav-

erns below. In the one county alone in which Mammoth Cave is located, there are over four thousand sink-holes above them. Green river, a navigable stream, and the only important surface river in this section of the state, is literally fed from the large streams that issue from the depths of these countless caverns. The surrounding country, rough and hilly, with scanty soil and sparse population, gives no hint or suggestion of the hidden wonders beneath its surface. A short journey of ten miles by a branch line of the railroad, through a country interesting, but strangely primitive, brings the traveler to the picturesque hotel at the Mammoth Cave—a long rambling frame structure standing alone in the heart of a deep forest.

There are two main routes of travel in the Mammoth Cave—the "Short Route" or the "Route of Pits and Domes," which takes about nine hours. Other parts known as the "Chief City" and the "Mammoth Dome" routes are rarely visited, except by naturalists or geologists bent on scientific research. The chief points of interest on the Short Route are "Olives Bower," the numerous stalatites and stalagnites in "Gothic Avenue," "Martha Washington's Statue," the "Star Chamber" and the numerous pits and domes. Among the most interesting of the Long Route's wonders are "Fat Man's Misery," "Echo River," "Snowball Room," and "The Corkscrew." The fauna of the cave consists of about twenty-eight species of beetles and crickets, all of which are blind, while eyeless fish are found in the waters of the cave. There is a great difference between the various levels inside the cavern, there being over three hundred and twenty-five feet be-

tween the highest elevation and the lowermost level of the cave; the lower levels are always moist, and during several months of the year are so wet as to become impassable; while the upper galleries are always extremely dry. There is a uniform temperature through the cave of about 54 degrees during winter and summer. The air is remarkably pure, and rushes from the cave's mouth with violence, outward, in summer, and inward, in winter.

The trip through these wonderful regions is not exceedingly tiresome, even to older persons. The subterranean paths, with the exception of a few places in the Long Route, are easily traveled. The temperature throughout the year is cool and uniform, while the fresh air of the cave acts as a powerful stimulant. None are allowed to enter the cave without guides, who are all competent and experienced, mostly colored men, whose families have held positions as guides throughout successive generations, ever since the cave was first opened to visitors.

On the morning our party was to have its first insight into the marvels of this subterranean region, there was much excitement in our midst, our curiosity being stimulated by the stories of a returning party which had gone before; so we needed no second call when the morning trip of the short route was announced. We follow the guide down a cool ravine for a short distance back of the hotel, where the entrance comes in view. Our ideas are given a sudden check, for the opening is a noble arch of fully forty feet, instead of a small opening on a hillside, as is the most common conception. Following the steps down into the cave and around a little waterfall that dashes merrily over the arch, we look back on the bright sunshine, the tall trees with waving branches and nodding leaves, the delicate ferns, wafted to and fro by the breeze, the quivering vines on the gray rock wall, and above all, as a background, the clear blue sky with here and there a fleecy cloud dotting its surface. All these things are noticed as we move into the blackness of the wonderful world before us. Lighting our lanterns, we proceed forward and soon come to an iron gate barring further progress, placed there for protection against vandals, who would otherwise disfigure the

beautiful formations in some parts of the cave. A short distance beyond the gate on either side, by the dim glare of our lights, is disclosed a series of large wooden vats with long rows of wooden pipes, used by saltpetre miners a century ago. From this cave was obtained the sole supply of saltpetre, which furnished our patriot army with this necessary ingredient for gunpowder in the war of 1812. Had it not been for this supply, when the struggling republic was cut off from all other sources from abroad, that war might have had a most unfortunate ending.

Continuing, the walls suddenly widen and the "Rotunda" is announced. This is a large room with an overhead arch sixty feet high. It has two avenues leading from it, "Audubon's" and the Main Cave, which stretches away for miles. Plunging into the gloom of Audubon's Avenue, we shortly arrive at "Olive's Bower," where standing guard at its entrance appears "The Sentinel," a massive stalactite, which has grown until it meets the stalagmite beneath, forming one of the most beautiful single formations in the cave. Olive's Bower itself, is above a pit about fifty feet deep, into which drops the water from the cone-like masses above it, forming a pool, into which our lanterns gleam with a lurid glare. In the middle of the roof above the pool there is the most perfectly cone-shaped stalactite in the cave; it is fully six feet long and several feet through, while around it droop hundreds of smaller ones, all of the same dark brown color, the drops of water on their tips sparkling like diamonds in the rays of light.

Leaving the flutings and foldings of these masses of limestone we retrace our steps to the Rotunda and pass into the Main Cave, where we find more evidences of the saltpetre miners, even to the well preserved tracks of the clumsy ox carts used a century ago. Fifty yards farther on we climb a broad pair of stairs into a low and narrow passageway known as "Gothic Avenue." Passing a number of state monuments, made of loose stones piled high, and stopping to add a stone to that of our own, we reach the first of the stalactites of this avenue, "Post Oak Pillar," named from some fancied resemblance to the trunk of an old oak tree, then "Gothic Chapel," "Pillar of Hercules"—the largest group in the cave, "The Wasp's Nest," Elephant's Heads

and "Wilkin's Arm Chair," all pass in rapid succession, each fittingly named from suggestive resemblances. Next appears the "Bridal Altar," at which, thus far, twelve weddings have occurred. It is composed of three separate stalactites, which form a triangle; one of these is the officiating clergyman, and the other two are the chief actors in one of life's important dramas.

Now returning to the main cave and traversing its length for about a hundred yards, our guide seats us on some rocks and departs with an injunction to remain where we are. After a short interval, suddenly, out of the gloom and obscurity, there appears a statue as clear and distinct as ever artist cut from Parian marble. After a while it gradually grows fainter and fainter and fainter, and at last the outlines of the form slowly intermingle with the Stygian darkness that encircles us. Soon the guide returns and explains to us the cause and history of this remarkable illusion. It is formed by lights, carried by the guide, gleaming through crevices in two separate, intervening walls, and was discovered by accident only a few years ago, when two parties passed each other there. An illumination was occurring in the saltpetre vats, when a member of the other party, looking back, discovered this singular likeness to that of a beautiful Colonial dame,—hence the name "Martha Washington's Statue."

Nearby is an immense sarcophagus-shaped rock, forty-five feet long and eighteen feet high, fittingly called the "Giant's Coffin;" it has fallen and detached itself from the wall, opening to view a crevice which leads to the pits and domes. Had it not fallen, these wonders would forever have remained unknown. A short distance beyond the coffin, hemmed in by the cavern walls, there come to view two little stone cottages that form the one sad chapter of the cave. About fifty years ago an idea was conceived that even the temperature of the cave would restore consumptives to health. So accordingly a number, afflicted with the dread disease, came and erected these stone cottages within the dismal cavern walls. Here their long hours were spent,—hours that knew no changing of the seasons,—no summer, nor winter, no coming of the night nor dawning of the day, but only solemn stillness and eternal darkness. Here

their dreary time was passed in meditation and solemn thought, enlivened only by the singing of hymns and yearning, hopeful prayers. Alas, vain proved their hopes and futile their prayers. One by one drooped and died. Almost each day toward the end, the guides, who brought down their provisions from above carried back to the outside world the lifeless body of some patient sufferer, until the last of the little band were borne above and laid away to their eternal sleep in the lonely graveyard near the hotel. We look at that place with mournful thoughts for the helpless sufferers who spent the last dreary hours of their brief span in this gloomy labyrinth, shut up from the genial warmth of living nature in the outside world above. What stories these cold and silent walls could tell, were they but given tongues to speak. Stories of trusting confidence, of anxious expectancy, of eager, yearning hope,—all to be shattered by the remorseless fate that drew them into the gloomy, dismal den of silence and eternal night.

Breathing a prayer that science may some day wring from nature its remedy for this dread disease, and leaving our melancholy thoughts behind with the mournful cottages, we journey on to the crowning glory of the short route. The guide informs us that we are in the "Star Chamber." Seating us on some rude benches, our guide proceeds to gather up and extinguish all our lights, and after telling us to look up at the cavern roof, disappears through a crevice in the walls. As the last retreating rays of the lanterns fade away and leave us for the first time, in the cave in total blackness, a feeling of awe and absolute helplessness steals over us. It is so dark that it seems as if we could almost reach out and grasp it. It is so still we hear distinctly our own heart-beats,—a thing impossible above ground. Even the most frivolous of the party are awe-struck and silent;—the silence and pitchy darkness become oppressive, then appalling, until nervous women often shriek out in terror. Then from behind some distant recess in the cavern walls, we hear faintly the voice of the guide, again telling us to look upward.

The formation of gypsum crystals on the cave-ceiling, which pierce through the heavy coating of manganese dioxide, reflecting the shifting lights from the

guide's lanterns, produces the wonderful illusion which follows. As our eyes become accustomed to the darkness, we gaze up at the chamber's ceiling, which slowly lightens, and one by one the stars appear; here and there a larger and more conspicuous one comes forth, which seems to twinkle and shed a strange light over its neighbors. Soon the whole milky way reveals its splendor in one long bright cluster, as if the canopy of Heaven was revealed to us through the massive stones. Now and then a dark cloud passes over the seeming Heavens foreboding a storm; faint peals of thunder are heard in the distance. Soon the whole firmament is over-cast, the clouds roll by in endless succession, then again the starry host peep out, one by one, from behind their blanket of mist until the white galaxy of heavenly bodies is discernable. But now a concert of familiar pastoral sounds reach our ears; the faint and long draw out crowing of a cock comes creeping over the darkness, the barking of the house dog, intermingling with sounds of feline brawl, the soft lowing of cattle and the doleful bleating of sheep, give way to a thumping sound, as if some one were cutting the morning firewood. As these strains die away, the storm clouds reappear and shut off the soft silvery glow of the stars, and all is darkness.

Our ventriloquist guide now joins us, arousing us from the wonderment into which the illusion has thrown us, and we return to the Giant's Coffin. Stooping past "Dante's Gateway," the low aperture exposed by the falling of the coffin from the wall, we pass down a series of low vaulted passageways. Safely through, we are on the irregular way to the Pits and Domes; the portion of the cavern containing these wonders being called "Harrison's Hall." Our first

large shaft is the "Bottomless Pit,"—with a bottom,—as our guide explains. It is spanned by a wooden bridge which enables us to stand over the middle of this abyss. Gazing upward we behold, rising sheer above to a height of one hundred and forty-five feet. "Shelby's Dome,"—the top of the Bottomless Pit; the fluted and folded walls of the dome are almost vertical. A short distance beyond, the passage widens into "Reveller's Hall," so named from the numerous tourist dinner parties formerly held there. Leaving the hall and turning to the left down a sandy hill and through an intricate series of channells, past many small pits and domes, we find ourselves at the "Window," the best place to see "Gorin's Dome," here disclosed to view. As the candles pierce the gloom, directly in front, we see a great curtain of limestone and alabaster, rising in tier after tier above us, until it disappears in obscurity, while far below, we hear the splash of falling waters as they tumble down the mysterious depths of an unknown, unnamed river on whose surface no human has ever sailed. Venturesome explorers who have striven in vain to reach its bosom, tell us it is far below, that its current is strangely silent, but swift and strong, its source and its ending unknown. We peer with awe down into the inky darkness, but our straining eyes cannot reach the dark current flowing beneath. All that comes up to us is the hollow rumblings of an unseen cascade, as its waters fall to mingle with the mysterious river hidden in the black depths far below. Leaving these behind, we return to "Reveller's Hall," and having completed the short route, retrace our steps through the labyrinth to the sunshine of earth above.

(To be Concluded.)

The Autumnal Equinox.

HELEN FOREMAN, '09

In one respect the month of September may well claim place as one of the most remarkable of the twelve months that make up our calendar year. For in September occurs one of those great events in Nature that receive too generally only passing notice, or is accepted as a matter of course.

At this time takes place one of the equinoxes. The name equinox is made up of two Latin words, *aequis*, equal, and

nox, night, and describes a condition where the sun, as the expression is used, "stands directly above the equator," and throughout the world the day and night are of equal length.

There are two of these equinoctial periods, one occurring in March, called the "vernal equinox" and the other in September, called the "autumnal equinox."

As they occur with absolute regularity, and their arrival is known with certainty

many things in our life are made to agree with them.

Since we soon learn that they are connected directly with our "seed time and harvest," we may learn from them the value of preparation in our affairs. When we observe that they are very punctual, we may, if we wish, learn also to be on time. If we remember that they are made to contribute to the support of all levels, the old waterways became abandoned and the dry avenues and caves of the present day are seen. Throughout this region everywhere are myriads of sink holes, or oval depressions, without

kinds of life on this earth of ours, we may know that Nature wishes to aid us. It is really a great thing to think of all the wonders of changing seasons. To those interested in spiritual ideas, the equinox may be a great comfort, as it teaches that whatever dies will live again.

And so in this equinoctial time of September has taken place one of those events so important to all forms of life, from which he who scans the skies, or plows the fields, sails the seas or treads the wilderness, may know that great Nature is silently at work.

Preparations of Animals for Winter.

ETHEL LEWIS, '08.

In this progressing world, people are so busy with their own preparations for the cold season, that they probably never think of the preparations that the lower animals make for the winter. Nature has provided for this, in a variety of ways.

All fur-bearing animals are, at the approach of winter, given a heavy coat of fur. All feathered animals, like the chickens shed their feathers in autumn, and receive a new and heavier covering for the approaching winter. Nature still further provides for some animals, by giving them climatic instincts; that is, instincts which enable them to prepare for the change of season.

For instance, some store up food in their homes and storehouses. The squirrel, at the approach of winter, gathers nuts, and carries them, either to his home, or to some other secret place to which he has easy access. The woodpecker also stores away food for use on stormy days during the winter. He does this by pulling back the bark or making cavities in trees.

Such animals as bears, hogs and snakes store up food in an entirely different way. The food is eaten in times of abundance, and stored up in their bodies as fat. Then, when winter comes, they go into seclusion and pass into what is called their winter's sleep, not eating, but drawing upon the store of fat in their bodies. It seems almost impossible that these animals could lie so long without food. However, when they are in this inactive state, there is very little wearing away of the tissues of the body, consequently scarcely any food is needed.

These animals also require homes, and

have been given such instincts as will enable them to prepare the proper kind. The squirrel builds his nest in the hollow trunk of a tree, which is suitable, both for a home and a storehouse. The mouse generally builds its nest in some building where it has easy access to food. The field mouse has its nest in the ground, and has tunneled the grass and weeds to its food supply, which consists chiefly of seeds.

Other animals either have their dens in holes in rocks, and the ground, or in some old stump or log. Still others prepare for winter by doing what some people do, that is, by going to a warmer climate. They are the migratory animals, such as many of our birds. Nature has provided these animals with a wonderful instinct, for they not only know when to leave for a warmer climate, but also know in what direction to go, and the best way to find these regions. They do not seem to care for distance, as many birds go as far as the central part of South America.

Then there are animals that make no preparation at all, but have the natural instinct in the way of home-building and food-seeking. Such animals as the fox, wolf and chipmunk are adapted for securing their food at all seasons. They live mostly on other animals, such as birds, chickens and rabbits, and it is just as easy for them to procure food in the winter as in any other time.

Therefore, since every species of animal seems to have just the proper instinct to prepare themselves for all occasions, we can partially understand how great the work of nature is.



Bret Boright

Mary Louise Topping

I YELL! YOU YELL! ALL YELL! MANUAL!! HURRAH!!!

Basket Ball.

With the once popular football abolished we must turn our attention to Basketball, base ball and track development. Basketball this year, under the splendid management of Dr. E. M. Hall as coach and Mr. Swanson as business manager, should accomplish wonders. We base this upon the fact that many of our players are old and experienced, having fought many a hard battle on the court in defense of the crimson. Among the well known old members of the team are Don. Wheelock, Robert Gibson, Ivan Mayberry and J. Konigsdorf. These boys with about fifteen others have been working faithfully since the opening of the school year and a successful season in Basketball should follow.

4th Annual Cross Country Run.

Cross country competitive running in High School sports is something new and the boys take to it like ducks to water. This sport is not only enjoyable and exhilarating and its reward is not only rosy cheeks and a splendid country dinner at the end of the course, but it builds up sinews and develops the boys wonderfully for long distance running. Dr. Hall is working hard to make the run more pleasant this year than last and to do so he only asks the hearty co-operation of the Manual boys.

Track Prospects.

In speaking of the athletic prospects of the coming year, we must say something in behalf of the splendid work which is going on in track training. To accomplish much in track work, it is necessary that the boys train diligently throughout the entire year, thus slowly building their bodies into hard and lasting muscle, and be able to qualify in scholarship by doing passing work in three academics. The Manual Athletes are noted for their grit and perseverance, and these qualities are only acquired through steady work. Commencing this year, annual indoor meets are to be held in the gymnasium, and all the boys will have an opportunity to try their mettle and perhaps win unique little medals. In the Playground Association Meet which was held at Association Park Sept. 28, Manual made several entries and won honors in all events entered. Probably the feature of the meet was the winning of first and second in the one-mile run by Porter Craig and Howard Richards respectively. Harry Kanatzer distinguished himself in the hammer throw and shot put and established that fact that Manual has indeed within her ranks a second Talbott. Considering the splendid prospects of the coming year, it is safe to say that once again Manual's banners will fly high from the grand

Board to consent to set aside and prepare the ground properly for a sufficient number of Tennis Courts over on the Parade Grounds

I yell! You yell! All yell! Manual!

stand and still more beautiful cups will decorate the already glistening trophy cabinet.

The prospects for tennis are better since our principal has induced the Park

The Sacrifice of Lyman.

GEO. H. BOWLES, '08.

"Whee—e—e
Whow—
Chee—e—e
Chow—
Colburn!"

"We won't go home but with victory."

"You'll never go home then, Welworth."

The scene was a gay one. Two stands and two bleachers were crowded to their limits, with a gaily-colored, seething, howling mass of school humanity. It was the end of the fall out-door-meet and every-one was bubbling over with enthusiasm.

Colburn and Welworth always met twice yearly in athletic combat; once in the fall and once in spring. A cross-country run of five miles was always included as the final feature. The course was arranged so that the finish was upon the athletic field. The winning of this run was always important, not only for honor, but inasmuch as first place counted ten points, with second, five, and third, three.

Colburn needed first place, at least, to win the meet, for the score now stood: Welworth, 52, Colburn, 51. The outcome was doubtful as both schools possessed excellent runners; Wris Lyman and Boring for Colburn, with Harvey Reynolds and Mitz for Welworth. Lyman was known to be an excellent runner and many believed he would win.

Now everyone was nervously awaiting the close. It was nearly time for the participants to make their appearance, a quarter of a mile from the field. Every eye had been upon this point for the last ten minutes. Would the runners never appear? It seemed they would not. Then suddenly a white-clad figure came into view—then two others. Now everyone was up and excited, for it was no common thing for three boys to be grouped at the finish. Never had it been so close. But who were these three?

Which school did they represent? No one could as yet tell. The boys were running very slowly and it was evident that the strain had been great and the distance long gruelling.

Now they were nearer! The first runner was still in the lead by perhaps 50 yards. It seemed that he would surely win, unless he dropped before the finish. But the other two—they were within fifty feet of another!

"The first is Lyman!" someone cried out.

"And the second Reynolds, and the third Weis!" came from someone else.

Then gradually different parts of the crowds recognized the runners as such, and then cheer after cheer went up for them.

Now it was only a matter of seconds before the tape was reached. Lyman still easily held his lead, and it seemed destined that he should win. But which of the other two would conquer—Reynolds or Weis?

"Come on Reynolds," came from Welworth, "Run! Run!"

"Weis! Weis! Weis!" from Colburn.

Each runner seemed to hear his friends calling, for each struggled to quicken his pace. It was painful to watch them. Each hated to acknowledge defeat. It meant a great deal to either to win.

Now Weis seemed to be gaining! He seemed to have more strength left than Reynolds. He was not running so heavily. But Reynolds was fifty feet in advance and that was a long distance now, with the finish but two hundred yards. Was it possible for him to overcome that gap? But yes,—he was gaining. Slowly but surely, he was creeping up on Reynolds.

Now the finish was but one hundred yards. First place was decided and Colburn had won the meet, for Lyman had crossed the tape. Reynolds was aware that he was liable to lose second place,

for he glanced furtively over his shoulder, as if expecting Weis to pass him. But he did not give up. He only tried the harder. But his body refused to respond to the call. It was only acting mechanically now. Weis was still gaining, for the line was only twenty yards distant.

Painfully the runners approached the line. Weis was but two yards behind now—five yards more and he had further cut down this lead. Now Reynolds was staggering. Once again he tried to quicken, but it was of no use—Weis had crossed the line first.

* * * *

It was just one week after the meet and all athletic Colburn was in a turmoil. The election of the President of Athletics was occupying school interest. It was considered quite an honor to hold this office as the holder was believed by the school, to be the most capable of piloting them through the athletic world for the year. Freshmen were barred from being candidates and it was very seldom that a Sophomore succeeded in gaining this office. But the preceding year, Stuart Lyman, then a Sophomore had gained this honor, though his success was due a great deal to his record as an athlete.

Lyman was a first class fellow in almost every way. He was popular and known throughout the school. He had come to Colburn with a reputation as a runner and had jumped into prominence by gaining laurels from the start, on the athletic field. He attended to his duties as President well and so was a warm favorite for re-election.

Reynold Weis was in his Senior year at Colburn. During his first three years at school, his time had been almost wholly taken up with the heavy course he had selected and he found only a small time to spend in athletics and other matters. As a result of this he was hardly the popular boy that Stuart Lyman was, though he was his equal in almost everything, but he had not been able to prove his athletic worth so well. Now that Weis had the time, he was very anxious to gain some school honors. His mother had wished that he could be looked up to in school affairs, and so he had heartily entered the contest for the athletic presidency. Few realized how he had looked forward toward gaining this office.

All was excitement that afternoon at school. Much interest had been aroused over the election and canvassing of votes was general. It seemed that the contest was to be close between Lyman and Weis, though Lyman was conceded to be the favorite. At last the time arrived and the white slips with the candidates names were given out. The choice was to be denoted by the placing of a cross beside the name. Five candidates were on the list.

Braylin,
Glowman,
Lyman,
Sawyer,
Weis.

After the voting which was at the last of school, the boys gathered in groups and talked over the election. Everyone was impatient to hear the result, though the returns were not to be given out until the close of school on the following day.

During the evening, Weis frequently wandered aimlessly about his room, thinking, wondering, if he had a chance of winning.

"Oh, come Reynold! Don't worry about it. You've done your best, and we've given you our support, so don't worry about it," Barton, Weis's roommate slapped him encouragingly on the back.

"I know, Frank. I won't do any good, I know. But somehow I can't help wondering if I really have a chance—if I really can beat Lyman. I think,—I hope, that I stand a better chance of doing so than the rest. I can't help thinking how hard I've worked for it, and how much of disappointment it may be,—not to me so much, but at home. When a fellow's mother wishes it, it seems mighty hard to lose it, you know. You see Frank, she's so anxious for me to make a name for myself in some way. She's looked forward to it, almost prayed for it, that I might gain this honor. If I shouldn't why it'd sort of break her up you know. So you see it means a lot to me. If Lyman wasn't in this election, I'd feel reasonably sure that I'd win. But with him in it, it looks dark. Everyone knows him and they all think well of him, and I don't blame them either, for he's a capital fellow and I like him. But somehow, for all that, I can't help thinking that I should have

the office. It's my last year here and it means a great deal to me, while he's only a Junior and held it once with the chance to hold it next year. He's used to these things and he wouldn't feel defeat as I would. He doesn't know, though, and he'll never know. But—oh, well, I've talked too much for my lesson's sake now, so I guess I'll quit."

But Lyman did know. He had been passing Weis's room when he had heard his name mentioned and had unconsciously stopped to listen in front of the door, that was partly ajar. He had heard how Reynold had wanted the office, of his anxious mother at home and how Reynold had wanted it for her sake.

He had had a mother once, and she had been just the same. She had wanted him to attain just such things. He had attained them, but now she was dead. She had not lived to see the fulfillment of her wishes. It was true he had served as Athletic President, and also that he would probably have a chance again next year. But Weis would not. Somewhere a mother was anxiously awaiting the outcome. What disappointment would be hers, if her son failed. But what could he do? Oh yes, it might lay in his power to make this mother happy.

At the close of school, everyone was in the Assembly Room to hear the result of the voting. The principal arose and gave a short address upon the duties of the office and then read:

Lyman, 250;
Weis, 200;
Braylin, 163;
Sawyer, 161;
Glowman, 117.

Then amid thundering applause, Lyman mounted the platform and held up his hand for silence. At last he was able to begin.

"My friends, I wish to thank you for the honor you have bestowed upon me. I want you all to know that I appreciate it and that I thank you, but I am sorry to inform you that I cannot accept it. I have had the office once and have now decided that I should allow someone else to hold it. I think that Mr. Reynold Weis reserves this more than anyone else and as he was next highest in number of votes, I resign in his favor. I thank you."

There was deep silence for nearly a minute and then everyone realized the sacrifice that Lyman had made, because he had received his share of honor. Then cheers rang out for Weis, who at last stood before them.

"My friends, all that I can say is that I thank you all and Mr. Lyman, and will try to do my best for you all and the school."

He could go no further. Somehow he could think of nothing save home—of his mother, and what her happiness would be. Lyman must have known.



MANUAL TRAINING.

Paul Dodd

Mabel Thornton

Prizes Won at the State Fair, by our Manual Training Pupils.

Ruby Lee.

Skirt—First premium\$2.00
 Sample Book—First premium ...\$5.00
 Gingham dress—First premium...
 (plant valued at \$5.00)
 Biscuits—First premium\$5.00
 Cake—Second premium\$1.00
 Button-holes—Second premium .\$.1.00

Marie Munz.

Button-holes—First premium
 Sample Book—Second premium.
 Skirt—Second premium.

Marie Coie.

Shirt waist suit..... premium

FOR BOYS.

Mech. Drawing.

First Prize—Fred Thilenius.
 Second Prize—Francis H. Riley.

Special Prize (Findley Engineering school scholarship)—Fred Thilenius

Joinery.

Best Single Piece—Walter Berkowitz.
 Second Prize—Fred Thilenius.
 Special Prize for best display of Joinery—Francis Riley.

Turning.

First Prize—Single Piece; Francis Riley.
 Second Prize—Single Piece; Fred Thilenius.

Forging.

First Prize, Single Piece—Francis Riley.
 Second Prize, Single Piece—Fred Thilenius.

Washing Dishes.

JOHN THOMAS, '09.

Washing dishes may be an art. An art which belongs to the housewife or the hired girl. The usual way of performing the act is the following: Get a pan full of hot water and begin with the glass ware, and close with the tin pans and the iron pots. However, I know of several clever ways of washing these weapons of the cook.

One noon hour several years ago, I was eating dinner amidst a mob of rough tradesmen who were very jolly. They had been telling stories of bravado, wit and queer occurrences, when some one introduced the subject of

washing dishes. Several persons, whose wives were out of town, had told their troubles, when an old, shriveled up carpenter, known as "Uncle Joe Wrole," commenced and in all sincerity gave some information, which I will here record.

"When Rocksy, my wife, ain't home to do the dishes, I wait till I get a tub full or so, then I fall to and wash 'em all to once. I get a "2 by 2" and tie a rag at one end and then take the dishes as they come, and just swab 'em clean. I tried to learn Rocksy how, but she thought she knowed more than me so I quit."

There followed several other interesting extemporaneous speeches, in which the rhetorical unity, section, and most of all, the expository law of repetition were unmercifully ill used. One man told how he usually got rid of half a week's wages, and a good bit of silverware, by hiring some person to

wash his collection of dirty dishes. But the last man and the one whose mode I would follow, spoke thus, "Well, I do differently from all of you. If Mrs. Austin is away, any length of time, I cook and eat until all the dishes are dirty, and then I lock up the house and go to the restaurant."

A Modern Transformation.

EDNA ELLOUISE LONG, '09.

"Are you going to the masquerade party, Bessie?"

"No, mother says that I just can't go. Are you?"

"Of course, I wouldn't miss it for—Oh—for ten thousand dollars!! Why won't she let you go?"

"Well, Gertie, I just can't afford a costume."

"Oh, pshaw!"

"That's a fact."

"Tis a shame, nevertheless."

The two girls were swinging in a hammock on Gertrude Hoffman's big side porch. For a while the only sound that broke the stillness of the warm autumn afternoon was the sleepy carolling of a canary bird that hung on the porch.

"It would not cost so much, would it?" ventured Gertrude, who was a girl that did not know what it meant to want for anything, in vain. "Can't you think of some way to manage. I could lend you some money if—"

"No, that never would do."

"Oh pshaw!" from Gertie.

Again an unbroken silence. They remained swinging for some time both thinking of the party. At length, a tear rolled down the cheek of the disappointed girl and fell unheeded on her hand. Before long another tear followed the first one. Then Bessie straightened up and brushed her hand across her eyes as if to say, "Crying won't help my case any," and again a painful silence. Then—

"Oh—o—o!! I have an idea! An inspiration! Really, truly, an inspiration! Don't I look inspired?"

"Yes, yes, but tell me."

"You would make a beautiful yellow daisy."

"What for? and how? and when and where?"

"Wait till I explain."

"Hurry please, Gertrude, talk fast."

"Listen then. Up in the garret is an old white, or I suppose cream now, silk dress, which my mother wore when she was maid of honor at my uncle's wedding. We can get some dyes and dye it yellow, also the gloves, and with our school patterns we can make it over into a beautiful dress for you to wear to the party."

The canary bird now began to sing, at first softly and low, but gradually the notes rose higher and higher, trying it seemed to send his happy song to the attic where the girls were opening trunks and boxes in search of an old silk dress that was soon to be made over as if by the magic touch of Cinderella's god-mother, into a dainty yellow daisy dress. But every one knows that Cinderella's godmother is dead and that her magic touch died with her, so that this transformation could not be by her. No, it was simply by the fingers of two modern maids who had been taught by several earnest patient teachers of the Manual Training High School to use their fingers as well as their heads.

They found all the patterns they had made at school, but could not use the skirt pattern. However, they were ready for any emergency. Therefore, they must make a new pattern. More rummaging until the notes on drafting were brought forth. But where could they get pieces of paper large enough for the gores? The butcher! "Why of course." They intended to pay the man for the paper but the good natured old German, getting a hint of what

was up, provided them willingly with the heavy brown paper. It took the girls the rest of that afternoon to draft their pattern; and although they had to make three front gores before they succeeded in getting one that would set perfectly, they worked on and worked hard, overcoming every difficulty that confronted them, so that at the close of the week a pretty yellow dress all ruffles and tucks, was spread out on the bed in Gertie's room, while several neighbor women and the family were admiring it.

"If I were not so old, I think I should go to Manual myself and learn to sew, would not you, Mrs. McGinnis? At any rate my Mary Ann shall go there. And how do you like it, Miss Brown?" said the spokeswoman addressing herself to a prominent and excellent dressmaker of the city.

"I could scarcely have done better myself. I find it about perfect. Such splendid taste, I have never seen girls have before. And to think" she continued, "that hundreds of girls are being taught to do this. When I was very young, Mrs. McGinnis, there never was such a school to attend and, as you say, if I were not too old I would go and learn something myself. Well, these girls have done splendidly and when I advertise for an assistant, I will never take one unless she has gone to the Manual Training High School and been taught to sew, and in that way I shall be sure to get some one who will not waste everything she puts her scissors into.

* * * * *

One evening about a week later, in the brightly lighted parlors of Miss Stewart's home, was gathered a most interesting group of young people.

Behind a bunch of palms, Red Riding Hood could be seen talking to a circus clown, while Mother Goose was fastening a rose on Foxy Grandpa. There was a witch and a little Japanese lady strolling about arm in arm, and a Chinaman who thought he was talking Chinese, was expounding upon the nourishment to be gained from living on spider soup. Many others, such as Hans and Fritz, Jack the Giant Killer, Queen of Hearts and Sunbonnet Babies,—were standing about in groups trying to identify one another and of course, all were talking, causing a hum like so many bees in a clover patch when, suddenly the talking and laughing ceased, as the "Yellow Daisy" entered. There was a general raising of the eyebrows and each one's face was a question mark. Who was it? Soon, however, the daisy was identified.

"You'll take the prize, Bessie," whispered the Jap lady, unselfishly to her friend.

"If I do, it will be yours, too."

"Oh, no. You made it most all yourself. I just helped."

Of course, the yellow daisy took ladies' first prize. She looked very beautiful with a wreath of real daisies crowning her golden head. And the little Jap lady? Oh, she was happy because she had helped to make her friend so happy. "And," said she to the daisy, "if it had not been for old Manual what would we have done?"

How to Make a Machine Steel Ring.

ROBERT DAVIDSON, '00.

A machine steel ring is one of the most delusive articles I have ever attempted to manufacture in forging. When I first saw one I thought that it would be hard to make, but, upon seeing one made, I decided that it was easy. However, when I tried to do it myself, I found that my first opinion was right.

The stock from which the ring is made is a piece of steel about two inches square and one half an inch thick. Because of the hardness of the steel a three and one-half pound ham-

mer is used instead of the usual one. Before working on the ring, it must be heated to an almost white heat and kept that hot until finished, or the hammer will make little impression upon it.

The first operation to be performed upon it is to hammer it into a round piece, about two inches in diameter, with the same thickness as before. Then, with a hand punch, a hole is driven through the center, being about five-eighths of an inch in diameter. The last and hardest operation is to enlarge

the hole. This is done by slowly revolving the exercise around the horn of an anvil and at the same time hammering the top of it. This is continued, until the width of the ring, from the circumference of the hole to the outside circumference, and the thickness of the ring is seven-sixteenths of an inch. The ring is now ready to be smoothed up and blackened.

This ring, when properly handled, makes a neat little exercise, but, if one is not careful, it will take the shape of an uncooked doughnut. The reason for this is that when the hole is being enlarged around the horn of an anvil, one is apt to hammer it too long in one spot, and that will make it lopsided.

Domestic Art.

MARJORIE MORTON, '09.

Sewing, in some fashion, must have been practiced from time immemorial. In the earliest times it could scarcely be called an art, as the skins worn then were pierced probably by a sharp stone, thorn or splinter, and laced together by the hand. Later an eye was made in the splinter, so that the material might be pierced and laced at the same time.

Domestic is most certainly the correct way to describe sewing. Probably no subject taught in Manual is used to a greater advantage than this homely art. Homemade articles are in almost every case more satisfactory than ready made ones.

In the first year sewing class, the fundamental principles of sewing are taught. In fact, the first term takes up the very simplest rules; such as the proper threading of the needle, the cutting of the thread so as to prevent knotting, and others quite as simple, yet in the end very beneficial and labor saving. Patching and darning, which everyone knows are most useful, as well as very difficult to do neatly, are taught during the first year. Single

garments are then attempted by the pupils, after having learned to stitch straight, which some find extremely hard to do.

The second year takes up a more pretentious line of work. The drafting of patterns forms an important section of this work, as well as does the calculating of the amount of material needed. And every girl is proud to display the garment she has completed, as she has very probably made a success of it.

Besides giving the principles of garment making, the art of dressing well and in good taste is taught in the class. The harmony of colors and the proper costumes to wear on different occasions prove very valuable to the pupil.

The majority of the sewing pupils consider the first year the more important of the two, for the reason that the principles underlying all good sewing are taught. It seems evident, despite all arguments to the contrary, that our school or for that matter any school, is made more complete by the addition of Manual Training properly planned and taught.

The Modern Office Building.

HENRY LOHMAN, '09.

Almost any pleasant day, if you happen to pass one of the steel office buildings which are now in the course of construction in our city, you may see some individual holding his hat on his head with one hand, shading his eyes with the other and gazing intently upward at the steel skeleton. Presently he will turn to the person next to him and remark, "There is certainly a lot of work about one of those skyscrap-

ers." If there does not happen to be anyone near him, he may inform himself of the fact. But unless he has some knowledge of steel construction he cannot realize how much labor the designing and erecting of such a building requires. Let us make a brief outline of the steel work on such a building.

When the designing architect has received his instructions as to what the

general construction shall be, he must prepare the drawing. The designing of such a building requires thorough knowledge of the subject. An architect may be excellent on general work yet he might not be able to design a steel structure properly. Each piece of steel in the building must be calculated to carry its part of the enormous load. There must be no unnecessary steel used, for this would be wasted. Therefore the calculations must be accurate and no guess work whatsoever can be tolerated. There is a large factor of safety used in figuring steel, however.

The plans which the steel contractor usually receives consist of floor plans, detail sheets, specifications, and a set of general drawings. The floor plans show the walls and the arrangement of the columns and beams. The sizes of the beams and their elevations above or below floor level are also given. The only dimensions given are the over-all dimensions and those from center to center of beams and columns. The exact lengths of the beams must be figured by the steel contractor's draughtsmen. Connections must be designed for the beams where they are fastened to columns or other beams, and corresponding details must be added to the columns. Every piece of steel in the building must be detailed and given a separate number. As fast as they are detailed, the pieces are checked off and their numbers are

marked on the erection plan. This plan is like the floor plan, excepting the addition of the numbers just mentioned and that only the steel beams are shown. After these details have been checked and re-checked, they are sent to the shop. Here the steel is fabricated as per drawing, and the number painted on the piece. The material is then shipped to the building site, where the erector takes charge of it.

With the aid of the before-mentioned erection plan, the erector assembles the steel preparatory to erection. The first floor is usually put up by means of a traveller, which consists essentially of a steel frame upon which are one or two large derricks and their independent hoisting engines. This traveller begins at one end of the building and the big derricks swing the columns and beams into place, where they are securely riveted by the workmen. As the work progresses, the traveller is moved along on rails. Above the first floor, however, the single derrick is usually used; the hoisting engine furnishing power from the ground below. As the steel skeleton grows it is given a coat of graphite paint. After this all of the steel is covered with fire-proofing and at the same time all of the numerous pipes are led up into the building. When finally the half clad skeleton is covered outside with stone or brick and finished inside, our gaunt skeleton has become a modern office building.

Mission Furniture.

KENNETH BAILEY, '09.

The name Mission Furniture has become quite current in the last few years. It is unjustifiable because it was adopted. The Monks in the Spanish Missions in southern California built their Missions from this old form of architecture. This kind of architecture was used in Spain and the Spanish Netherlands in the Middle Ages. It was therefore used by these people in fidelity to the Mother Church and Mother Country. The style is simple and crude and well fitted for the mountainous background, for

which reason it became a success with these people.

Their tables, chairs, and benches were made of upright and horizontal timbers so crude that they might have been used by the first cabinet maker. Their furniture form was copied from typical originals remembered from the Mother Country or from such few articles that they had brought with them. Other domestic articles were made without any distinctive style and were originated in the Missions. The name can be classed with the name

Savanaralo chair, which could be better named the Fifteenth Century type, inasmuch as it had no peculiar connection with the Dominican Monk and was incidentally used by him.

The name was at first applied to a single chair, made by a California cabinet maker, who no doubt, made the article by thoughtfulness and observation while visiting the Missions. The chair was attractive, because of the fictional interest belonging to it, its connection with the history of our continent, and because adorned by a romantic cause. It was made of four three-inch square posts with a plain rush

seat and it was sent East to an exhibit as the original, as prior to that time little was known regarding the religious foundations of the southwest. Therefore the article could not be questioned.

Following the introduction of this chair, a capable eastern manufacturer, who quickly appreciated the possibilities of the style, designed in accordance with it a series of furniture, which he extensively advertised under the new and infatuating name with an immediate and lasting success. So the beautiful Mission Furniture now used is named after the crude, but interesting articles made by these Monks.

With all friendliness and kindly interest our sister Manual Training High School, the McKinley High School of St. Louis, has sent us a sample book of their work in sewing. The exercises are very good, the notes neat and accu-

rate, altogether making it an excellent book. We wish to thank the school for sending it to us, and in return say that it has encouraged us to do better work ourselves.

GENIUS.

Unlike the common folk who tread in paths
 already trod,
 Genius takes a path alone o'er new and un-
 marked sod.
 For he sees not as others see, with dimly
 clouded gaze,
 But looks ahead in reverie that pierces
 earthly haze.
 Where others see but commonplace and has-
 ten on anew,
 There Genius stoops to scrutinize where Na-
 ture left a clue.
 The common folk regard the earth with
 blind, material eye,
 But Genius sees in commonplace reflection
 of the sky.

—P. Lindsay Freeland.



EXCHANGES

Olive M. Thomas

Bolland Montague

Estelle BerRowitz

The exchange column must, in a measure, reflect our school spirit,—that same school spirit which so thoroughly permeates Manual, and makes the *Nautilus* the product of a democratic institution. When requests to exchange come from every part of the U. S., we feel that the "Nautilus" is broad enough to profit by a wide circulation. Otherwise the Exchange department is worse than useless. So we shall thankfully accept, and fraternally offer any comments or criticisms which tend toward improvement.

An especial cause for thanks is the number of college periodicals we have received; among them, "The Reveille" from the Western Military Academy is notably splendid. "The Strike Breaker" and "Dolores Decision," are quite masterful in description and character study. Fro mits odd original cover design through to its last photograph, the "Reveille" is above criticism. "The Wabash" from Indiana is an interesting college paper, with, however, too small an exchange list.

Other college exchanges are, "The Graduate Magazine" from K. U. "Westminster Monthly," from Fulton, Mo., "The Exponent," Marianville, Mo., "The Delta" from M. V. C., "The Daily Maroon," from Chicago University, and "The Industrialist" from Kansas.

From our enormous High School exchange list it is hard, in this space to discuss any at great length. The Commencement number of the "Polytechnic

Student" from Los Angeles, is undoubtedly the most formidable rival yet appearing, and the "Nautilus" will need to strive particularly hard to attain front rank with such a competitor in the field.

It is fortunate that the St. Louis "*H. S. News*" is such an exceptionally good paper else the unsparing critic would not dare write those unmerciful "roasts" found in the exchange list.

"*The Tocsin*," from Santa Clara, is a charmingly attractive paper, whose excellent quality of reading matter, amply repays the lack of quantity.

The "*Mirror*," Indianapolis, Ind., is a very neat little paper, and one of the best exchanges we have.

The "*Forum*" St. Joe needs to enlarge on her exchange list.

We would suggest to the "*Advocate*" of Lincoln, that they get something in their paper. There is hardly enough said for ten cents.

We wish to compliment the author of "A Dangerous Tendency in Popular Song" in the *Westminster Monthly*. It is an excellent story and the author deserves all the praise that is possible. A Local Department would help the paper out considerably.

The *High School Herald* of Carthage would be greatly improved if a Local Department were added.

Young man, pretty maid,
Tunnel came and then the shade;
Not this time, so have no fright—
Porter came and lit the light.

"Did you enjoy yourself in Germany, Mr. Brush?"

"No, I got tired of being called Herr Brush."—*Ex.*

HIS REASON.

Boy: "Papa, when I grow up I want to be a lawyer."

Millionaire Father: "Why a lawyer, my son?"

Boy: "'Cause I want the job of making your will.

"My son," said Johnny's mother, "ain't it a little extravagant to eat butter with that superb jam?"

"No Ma'm, its economy. The same piece of bread does for both."

Mistress: "Bridget, I saw you kiss the milk man this morning. I will take the milk in hereafter."

Bridget: "Tain't no use, ma'am, he promised not to kiss any one but me."—*Ex.*

Ethel: "Would you shout if a man tried to kiss you?"

Mabel: "Certainly."

Ethel: "What would you shout?"

Mabel: "Encore."

ALL IS VANITY.

We have the horseless carriage,
The wireless and all that;
Also the loveless marriage,
But not the birdless hat.

A visitor from the great metropolis had been sightseeing in the Quaker City with a neighbor of that place.

"People don't die very often over here, do they?" he remarked.

"No, only once," replied the Quaker calmly.

DISENCHANTMENT.

In converse o'er the telephone

Upon my heart she scored;

But when I met her face to face—

Oh, Lord! Oh, Lord! Oh, Lord!

Teacher—"What kind of animals inhabit the North Pole?"

Freshie—"Pole cats."

"I dreamed I slept in an editor's bed,

When the editor was not nigh,
And I thought as I lay in that downy couch,
How easy editors lie!"

Rastus: "Sambo, what's you doing dese days?"

Sambo: "I'se occulist in de hotel."

Rastus: "Yer don't say so?"

Sambo: "Yes; I cuts de eyes out of de potatoes."—*Old Gold and Blue.*

Ethel.—"Mamma, don't people ever get punished for telling the truth?"

Ma.—"No, dear. Why do you ask?"

Ethel.—"Cause I just tooked the last three tarts in the pantry and I thought I'd better tell you."

Aunt: Tommy! How cruel! Why did you cut the poor worm in two?

Tommy: He seemed so lonely.—*Ex.*

Henry looked at Bessie,

Oh! what a pretty miss,

He crept a little nearer,

Then gently stole—

Away.—*Ex.*

Dan Cupid's a marksman poor,

Despite his love and kisses

For altho he always hits the mark,

He's always making Mrs.—*Ex.*

First Boy—"We had the minister for dinner yesterday."

Second Boy—"We had turkey."

Teachee, teachee, all day teachee,

Night mark papers, nerves creepee;;;

No one kissee, no one hugee,

Poor old maiden, no one lovee.—*Ex.*

Grocer: "So you want a position as clerk, eh? Let me hear you say the weights table."

Applicant—"Six ounces make one pound, an—"

Grocer: "That'll do. Take off your coat and go right to work."—*Ex.*

O Rose, thou dearest, sweetest flower

That e'er perfumed my lady's bower,

I would that thou couldst say to her

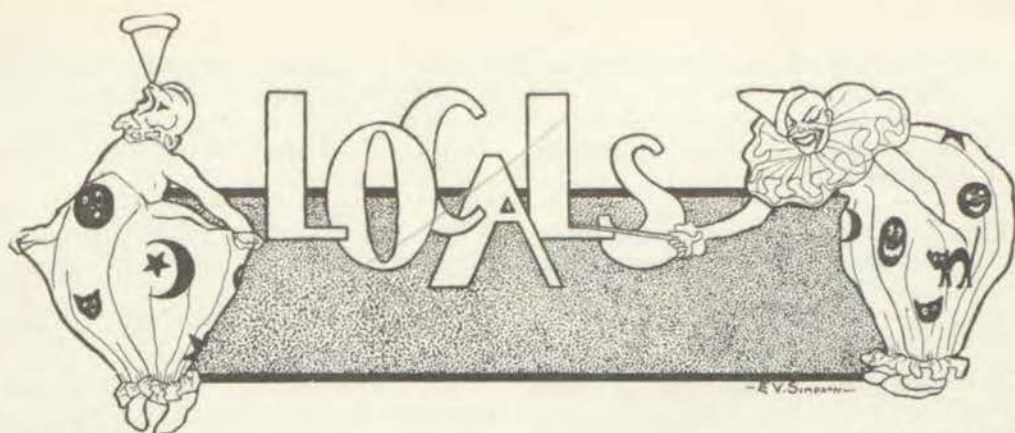
For thee I planked two dollars per!

Lippincott's Magazine.

MATRONLY WARNING.

"The farmer," said the young turkey, "seems to be very fond of me. He throws the choicest morsel of corn to me every day, and in many ways shows his admiration for me."

"Well," advised the old turkey, "I wouldn't let it go on if I were you. You are apt to lose your head over it."



Donald Wheelock

Ruth McGurk

"LAUGH AND THE WORLD LAUGHS WITH YOU, CRACK A JOKE AND YOU LAUGH ALONE."

Although this quotation is somewhat old and worn around the edges, it carries with it a vast amount of truth. In other words, it gives a clever picture of the local editor's predicament. If you could only hear the laughs that have been turned loose from this department, you would do more than your share of laughing to even things up. And why not? LAUGH! It doesn't cost much, and besides get it out of your system. It will do you good.

We are not going to give the customary annual excuses and apologies for these locals, for what is the use? The locals are here and we can't change them. Remember they are of your making.

Just a word of caution to the Juniors and Seniors, as we know the Freshies and the Sophies are not guilty. Some of you dear people are of the opinion that the local department is running a curio shop as a side issue. But to tell the truth, you are *far from right!* We have received in the local box during the year a metal check marked "Imperial Brewing Company." (Of course, we did not know what to do with this), a piece of scrap iron, a peroxide blonde curl, a six legged cricket, apple cores, and a penny with a hole in it. We prize these donations, but really, we can't use these little mementoes of your appreciation. Why not spend some of your time thus wasted in writing up a good joke? We certainly would appreciate it.

Now, of course, you are not going to take this seriously. We knew you

wouldn't. But really, if you can't laugh at these jokes, make a noise like a clam and somebody hearing you might take it for a laugh.

In closing, lest the meaning of these locals be misconstrued, we leave you the following direction, "Take it." Or, if that is impossible, we can only give you the advice, which some considerate contributor gave to the editors—"If you can not see the point to some of these locals, anoint your brow with a little "see" water.

IN VIRGIL CLASS.

R. Robinson (translating)—"And the queen poured the wine on the tablecloth."

Dr. Burnett—"Yes, yes, well that was a dirty trick."

HEARD IN POLITICAL ECONOMY.

Mr. Davis—"Do any of you know what it means to buy on credit?"

Velma—"Oh, Mr. Davis, I do."

Miss Fisher—"I will meet you below, tomorrow."

Pupil (aside)—"Just so she doesn't make it too warm for us, it's all right."

Mr. Woods (in assembly)—"Now we will have some Congregational singing."

Pupil (sotto voce)—"I guess there will be some Methodist singing too."

Whom do you take English from?

Smart Senior—"I don't take it from anyone. Mr. Kizer gives it away."

Grace Aleshire—"I'm hungry."

Mr. Woods (taking a transfer from his pocket)—"Here, eat the dates."

Miss Fisher (trying to make pupil understand a French sentence—as she holds out her arm)—“What is that?”

Pupil (grasping meaning of the text)—“Chubby arm.”

Miss VanMeter—“Compare the mediæval head-dress with the modern curls, puffs, and—?”

Thomas—“RATS.”

In French. Mr. Deister asked, “What has he?”

Florence (translating)—“QU 'A—T—IL (CAT TAIL).”

Miss Sublette—“Arthur bring me your reports on the Fly and the Beetle.”

Arthur—“I have the paper on the BEETLE, but I didn't bring the FLY PAPER.”

Augusta—“Hester is awfully happy today, her glasses must agree with her.”

Juliet—“How many glasses has she had?”

Junior—“This morning I pumped for half an hour and could not get a drop of water.”

Mr. Page—“The sucker was on the wrong end.”

Adam lay on his bed of fig leaves fatigued and overcome. His anxious friends and children crowded round him. “Is there anything we can do?” they cried.

“Yes, yes,” exclaimed the tired man. “Pay my subscription to the NAUTILUS.”

They have such hot tempers in room 7 that it is no wonder that the iron gets into scraps.

IN THE FALL.

(Parody “In the Spring.”)

Did you ever go out fielding
In the fall, in the fall,
With your physiography teacher,
In the fall?
If you have not, then you know not,
In the fall, in the fall,
Half the dust that you may gather,
In the fall.
And you try with all your might
To get yourself to “looking right,”
But you know you are a sight,
In the fall.

H. M. P.—“I could count every vibration of this pendulum looking out of the window.”

P. D.—“I'll bet you couldn't in room 42.”

Mr. Cowan—“You know that spring is always enhanced by a fair maiden's face, don't you?”

Very Small Boy—“Not yet.”

Mr. Davis—“Why, pupils, I can tell you several ways to work the street car conductors.” (We wonder how he knows.)

Mr. Page (discussing terms “hypothesis” and “Theory”)—“If you say the moon is made of green cheese, what is that?”

Paul Dodd—“That's all bosh.”

Paul Dodd (giving Law of Gravitation)—“Everybody has an attraction for everybody else.”

Mr. Page—“Did you just discover that?”

Irate Dutchman (to a man who has just stepped on his toes)—Mein friendt, I know my feet was made to be walked on, but dot brivilege pelongs to me.—*Ex.*

We went to Cupid's retreat,
And wandered in the sand;
The moon was coming up,
I held her little _____
umbrella.

I held her little umbrella;
How fast the time flies!
As the moon came over the water,
I gazed into her _____
lunch basket.

I gazed into her lunch basket,
I wished I had a taste,
There sat my little charmer,
My arm around her _____
shawl.

My arm around her shawl,
This charming little miss,
Her eyes are full of mischief,
I slyly stole a _____
sandwich.

I slyly stole a sandwich,
Altho' 'twas hardly fair,
As the moon came from behind the cloud
I stroked her shining _____
umbrella handle.

Long, long, ago,
There was a man in our town,
Who to Father Time bore close relation;
He lived and died a sad, sad death,
Waiting for our Union Station.

Miss Ferguson (in cooking)—“Now, girls, a grape is a berry because it has skin, pulp and seeds. Can anyone mention another berry?”

Bright Junior—“A watermelon.”

’Twas down at Morton’s first they met,
This Romeo and Juliet;
’Twas down there first he fell in debt,
For Romeo’d what Juliet.

John—“I kissed her when she wasn’t looking.”

Tom—“Well, what did she do?”

John—“Kept her eyes shut the rest of the evening.”

Mr. Gustafson (in chemistry)—“We now have the volume in litres. How can we convert it into grams?”

Shrader—“Find the weight of a gram.”

Mr. G.—“I always thought a gram weighed a gram.”

Mr. Dodd (to a boy who is trying to explain a problem in geometry but who does not make himself clear)—“You know what you mean but can’t explain it. You want to put a little English on it.”

Miss VanMeter—“Homer, give a good quotation.”

Homer J.—“Always do others before they have a chance to do you.”

Miss Gallagher—“Why is Montague tender?”

Answer—“Because he is not Ruthless.”

Heard in Room 30.

Marie—“I think its so funny for Mr. Burnet to be called Doctor, when he has M. S. D. written all over the boards.”

Mr. Page—“Now, what would happen if you were set free from gravity? Where would you go?”

Mama-boy—“Home.”

Patronymics in Potpourri.

A grand Holiday had been given our school by the principal. This was such a rare case that for a week preceding it nothing else was talked of in the Hall.

“Why, it is wonderful, how Canny?” said someone.

“Well, why Kent he?” said another. “It’s no more than we deserve.”

In all, there were exclamations enough to Phillip several Pages of Small paper.

“Let us, on this eventful day, hie ourselves to the Greenwood,” said the faculty.

So a long tramp was arranged for, followed by a Dutch lunch. Great were the arrangements for this feast, and questions and directions of all sorts were answered and given, such as—

“What Kahn you bring to eat?” “Will you bring some cold Lamb?” and “O, you bring a Fulton of Berry(s).”

After all the usual anxieties as to whether or not the day would be Rainey, our faculty started for their day’s outing.

One instructor took Hoer-nig along to carry the baskets and to act as Steward.

Pyles of amusing things happened during the day.

The Lyon Chace(d) the Campbell for nearly two Miles until they came to a Hill which proved too much for the Lyon, but the Campbell got a hump on itself and went on over the Hill.

Early in the afternoon the Arrow-smith caught a Drake which, later, got a Bone in its throat. The faculty had great trouble in getting this out, but some one finally suggested that they Burnet. This they did, and the Drake recovered quickly.

At one o’clock, lunch was served, when the Kizer, who had been detained, dropped in to say “gute Heyl.”

After lunch they started on their long walk home. Soon they came to a house that had been Sublette to some Berger. The man was not at home so they all climbed the Pickett fence intending to Steele whatever they could find, but on the other side of the fence was a huge bulldog. Our faculty had no sooner seen this beast than they were so filled with (re)Morse for their attempted misdemeanor that they made a sure and fast exit from the premises.

The remainder of the walk was uneventful and the faculty all reached their different homes, their minds refreshed and rested, ready to begin on the spring examination questions.

Our New Department.

SAY.

It is said that the wants of the rising generation can not be supplied. Now this is a state of affairs which, if possible, should be remedied. In view of the fact that the "Nautilus" circulates among so many of the youth of our city, the Local department has concluded that it will be a good thing to make these wants known through the medium of our columns. If there is anything that anyone would like, your wants will be made known to the general public, by your putting the "ad." with name attached in the Local box. We hope you will get what you want, since the space is free. The following are the first "ads." to appear:

Wanted—A Debater, who has a pin to exchange.—Velma Burke.

Wanted—A basket to carry the tune.—The Glee Clubs.

Wanted—An atmosphere somewhat Rainey.

Wanted—A substance somewhat Reilly.

Wanted—A small house and lot at a moderate price—Montague.

Wanted—A Park-er two for amusement.—Irene Preston.

Wanted—To see a Freshman old enough to be without its Mama.

Wanted—A good automobile at a moderate price, for one afternoon—John Arthur, Harold King.

When the sign FIRE ESCAPE was placed over the door of Room 12, it caused Mr. Page to remark to Miss Berger, "They ought to put a comma after Fire on account of my hair.—Fire, Escape.

Mary had a little lamb
She put it on the shelf
Every time it wagged its tail
It spanked its little self.

The following "ad." was taken from the "Springville Times:"

Wanted—In a first class restaurant, a man with a wooden leg to mash potatoes, also a girl with one tooth to punch holes in doughnuts.

File: "What's the matter, Mr. Chisel. You are not looking very *chipper* today.

Chisel: "No, I have been feeling rather *dull* lately. You see, if I wasn't *hardened* to this life, I would continually be losing my *temper* for my nerves are all on *edge*. Then that *hammer* is always *knocking* me, and he knows that I *cut* more ice than he any day. Now with you it is different. You go along in your *even* way, *smoothing* the bumps out of life and having an easy time. Of course, it *rasps* once in a while, but generally it is *dead smooth*. Just look at poor *Emery*. His life is a continual *grind*. Then, too, *copper jaws* at him a great deal. That piece of stock there is always in that *dog's* grip, and can get loose only by giving the dog a good *wrench*. Ah, it's a hard life for us all."

THOSE CORDUROYS.

While jaunting up and down the halls,
We see lined up 'gainst Manual's walls—
Those Corduroys.

The Sophies yearn, the Freshies stare,
And wish they might wear a pair,
Debaters only get in there—
In Corduroys.

The girls all doubt and even jeer
They will be worn throughout the year,—
Those Corduroys.

The feeling for them grows intense
They are so Royal-y immense
I fear they are a great expense,—
Those Corduroys.

GEE!

Once a Freshman named Skyd
Kissed a girl on the eye lyd;
She said to the lad,

"Your aim's mighty bad,
You should practice a while;"
So he dyd.

DANGER.

Potassium iodide and sulphur under slight pressure give an exceedingly interesting result, as follows:

KI plus 2 S=KISS.

The experiment is dangerous, as the above result may not be accomplished, but instead the reaction may be violent. This experiment should be attempted in the absence of light when few (usually two) are present. One remarkable property of the substance is its great sweetness. It is contrary to rule, for it acts thus: increase pressure—increase volume.

Our dear freshmen, it is to you that always come the slams, trials and anxiety of school life. To show you we are your champion, we are going to do a most generous thing by you. We are going to devote a whole page to you, your cute sayings and nursery rhymes.



Mr. Small (in 5th hour Algebra class)—“We will have assembly hall Thursday of this week.”

Freshman (shaking his hand vigorously)—“How much does it cost?”

Mr. S.—“We will give you a reserved seat free.”

A faint cry of “Mamma” was heard the other day in the lower hall. Upon investigation it was found that one of our Lilliputian Freshmen had gotten into Room 23—No wonder, the number and the odor of the room would make even a Senior cry for mercy.

Freshman (coming into joinery shop whistling a merry tune).

Mr. Arrowsmith—“Wrong room, sir! Music room is No. 10.”

Mrs. Case: “What did Shakespeare mean by the ‘Multitude Green?’ ”

Bright Junior: “The Freshmen.”

Miss Gallagher (to Freshman)—“Did you come up to enroll?”

Freshie—“No'm, I just came up to study.”

Miss Elston—“Don't forget your oral composition tomorrow.”

Freshman—“Do they have to be in ink?”

Some of these Freshies are just a little too dark green, so Miss Fisher says.

A LAW OF NATURE.

The age of a Freshie varies inversely as his height.

Freshie in English—“Shakespeare lived in 65 B. C.”

Freshman (excitedly)—“Mr. Hont, there ain't no lock on my locker.”

Wise Freshman (to teacher)—“Will you kindly be so condescending as to grant me the permission to have the pleasure of complying with the wishes of my class-mates by proceeding to elevate the window to the maximum height of about three or four inches?”

Teacher—“Yes, dear.”



Junior—“Quite a crime is being committed Manual.”

Freshie—“What is it?”

Junior—“Some Junior boys were caught forging.”

A Manual pupil was asked by his English teacher to write an essay of 250 words. The following was the result:
 "My uncle recently purchased a new touring car of which he expected wonders. We went for a ride in the country one day, but the automobile blew up. I guess this will about make fifty words. The other two hundred are what my uncle said, but they are unprintable."

Mr. Gustafson (in Chemistry)—
 "What is an Ion?"

Bright Senior—"An Ion is the smallest particle of matter."

O'ita Secretary—"Well that's an amendment to an amendment."

Nan Beatty—"That's an amendment squared."

A JEWEL.

Father—"Who is the best writer in your class, Bobby?"

Bobby—"Jack Bulger. He writes the excuses for every feller in the class."

Rich Aunt—"You only visit me when you want money."

Spendthrift—"Well, I couldn't come much oftener, could I?"

English John and Pat were two friendly workmen, who were constantly tilting, each one trying to outwit the other.

"Are you good at measurement?" asked John.

"I am that," said Pat quickly.

"Then could you tell me how many shirts I could get out of a yard?" asked John.

"Sure," said Pat, "it depends on whose yard you get into."

First Kid—"When you grow up are you going to advertise for a husband?"

Second Kid—"No; I'm going to be a widow. They don't have to."

1st Senior—"What kind of nuts have no shells?"

2d Senior—"I don't know, what kind?"

1st Senior—"Doughnuts."

Miss Campbell (criticising a sketch)
 —"You have too much jaw and not enough brains."

Marye hadde a lyttle lambe,
 Its fleece was white as snowe,
 And everywhere that Marye wente,
 The lambe was sure to followe.

—From Chaucer's Mother Goose.

Brilliant Senior Boy—"What does that M. S. D. on your book mean?"

Willrose—"Not a thing on earth."

B. S. B.—"Maybe it's something in heaven, then."

Mr. Cowan—"It is claimed that Murphy, the great temperance speaker, could talk more fluently when he was full—of his subject."

Loy—"I've seen lots of men that talked fluently when they were full."

"See here, Pat," said his employer, didn't you tell me that when you was out West the Indians scalped you? And now you have your hat off I see you have an extraordinary quantity of hair! You certainly told me so, didn't you, Pat?"

"O'i did, sor," answered Pat, "but Oi bear in moind now that it was me brudder Moike. It's thot much we are aloike that Oi think Oi'm Moike an' Moike be me."—*New York Times*.

Teacher—"What is an octopus?"

Smart Junior, (after a pause)—"An eight sided cat."

Miss Ferguson—"That will never cook in this world with the window up."

Bly Floyd—"Well, it will cook in the next, all right."



WE WANT POSTERS

This poster took the prize for the first issue. May be you will win in the second. Try. The contest is open to all readers of the NAUTILUS. Make a poster



for the Literary, Science, Manual Training, Athletic, Local departments or just for the NAUTILUS. All will be judged by a competent committee and the prize poster will be published in the NAUTILUS. Miss Myer won the laurels this time but you will next time if you try hard enough.

The First Thanksgiving.

PEARL ZACHARIAS '08

The first Thanksgiving may be traced back through the scenes of the Colonial days,—back to the troublous struggle for independence, when the turkey was roasted over a log fire. It may be traced back as far as two-hundred twenty-six years ago where, in sixteen hundred twenty-one, in the dark wilderness, the first Thanksgiving was celebrated.

It was November 21, 1620, that the Mayflower brought a company of Pilgrims, one hundred and two in number to Cape Cod, after a long and terrible journey of nine weeks. They were not very well pleased with the appearance of this spot, so, exposed to the intense cold of the weather they went in search of a more suitable settlement. Finally on the twenty-first of December, they reached Plymouth Rock, where they decided to make the settlement of the first New England Colony.

With hearts filled with gladness because of their success they all began to erect roofs to shelter their women and children. On Sunday, they would rather die of cold, than to drive a nail to shelter them. It was not long, however, before the colonists were stricken with sickness, and in about three months nearly one-half of the inhabitants perished. At one time, in the dead of the winter, there were only seven men left, and they spent their nights in burying their fellow men. They were buried at night, so that the Indians would know nothing of the weakness of the colonists. Many of the courageous men wept for their loved ones, but still kept up their strug-

gle for success. Finally, they began to fit up houses and dwellings for the winter. Their wealth and strength was renewed, and the colony was on its road to civilization. In honor of this, Governor Bradford issued a proclamation appointing a Feast of Thanksgiving, that all the colonists might rejoice together.

People were sent out into the woods to get wild turkeys, which were very plentiful in that region, and after the feast was prepared, a messenger was sent to invite Massasoit, the chief of the Indians, to attend the celebration. Early on the appointed morning, the chief with ninety Indians arrived in the village with wild yells announcing their arrival. There were by this time seven houses, and four public buildings. All work was stopped, and Thanksgiving was celebrated for four days. But the largest feast, or dinner, was given on the last day.

Their table was filled with all good things to eat. There was roast turkey, dumplings of barley flour, delicious oysters (which were given by the Indians), great bowls of broth, fish, salads, cakes, pies and a various variety of wild fruit. Through the calm air, rang the hum of voices, as the Pilgrims and the Indians partook of the feast which God had given them. There in the midst of the forest, started the history of Thanksgiving. In this manner the Pilgrims conquered, merely by having such an unfaltering trust in God. That memorable feast will never be forgotten and is celebrated in the homes of both the rich and the poor.



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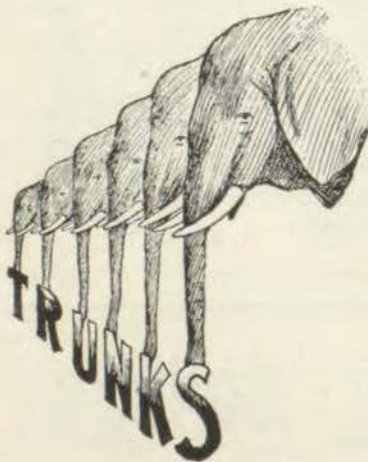
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1908



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HIGH SCHOOL

VOL XI

NO 2

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SSOME dealers in clothing of a certain or uncertain sort are making a great hurrah over their "bargain sales."

Like the old cry of "wolves", these exponents of the sales all the year round must have trouble in finding buyers to believe them.

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Balance of This Month and February.

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THE NAUTILUS



Build the more stately mansions,
O, my soul!
As the swift seasons roll;
Leave the 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.*

VOL. XI. No 2

KANSAS CITY, MO

JANUARY, 1908

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Entered Kansas City Postoffice as second-class matter.

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.

When the National Bank of Commerce failed, it carried with it all the money which the Nautilus had taken in from subscriptions, ads., and the surplus from last year. We were left with nothing but a few dollars yet to be collected from one or two advertisers. The check for the last issue was returned unpaid, and we found ourselves \$172 in debt. We have received donations to the amount of \$46, and loans of \$35, for which we are grateful.

Our generous Alumnus, Mr W. F. Smith, has presented to Manual a set of beautiful slides on another of Kansas City's industries, the Manufacture of Hay Presses and Garden Implements.

These slides will be of special interest to the Commercial Geography classes. The slides portray various products of the factory and interior views of different parts of the plant, which Mr. Smith helps to operate.

Mr. Paul Baker won in the Poster contest of this issue. His poster was so good and appropriate that it was decided to use it for the cover.

Why we
need Cash.

Another Gift
to
Manual.

THE HONOR LIST.

Names of pupils who have obtained ads. for the Nautilus.

Marcy K. Brown.....	1 page
Paul Reymond.....	1/4 page
Miss Morton.....	1/4 page
John Weston.....	1/4 page
Harry Hathaway.....	1/4 page
Lucile Hutchinson.....	1/8 page
George Harold.....	1/8 page
Ruth Reinhardt.....	1/4 page
Charles Davis.....	1/4 page
Harold Bell.....	1/4 page

We wish to thank Jay Ross for obtaining 1 3-4 pages for the November issue.

The Nautilus in its present state of need must have more advertisements. The existence of any paper depends on its ads. YOU can get us an advertisement.

Be in the honor list as one who has helped the Nautilus in the greatest crisis it has ever witnessed. Be a MANualite.

"To give in secret and to let it be found out by accident"—is the motto of the true and unselfish philanthropist. A beautiful example of this method of giving is illustrated in the donation of a check for \$25.00, which a friend of Manual has recently given for the benefit of the Nautilus Relief Fund. At this time, when our beloved ship of pearl is passing through the storm and stress of financial troubles, such a gift comes to the Nautilus like a life preserver tossed in time to a man overboard.

That the new year may bring prosperity and added joy to our modest friends, is the ardent wish of Manual's grateful faculty and pupils.

Another silent friend has given Manual a collection of stuffed birds and animals which the zoological laboratory received with the grateful feeling of a long-felt want supplied. Though he be silent, he will not be forgotten, and the school wishes to thank him and assure him of its sincere appreciation of his kindness.

Among the rescuers who have responded promptly with practical sympathy to the help of the Nautilus after its financial calamity caused by the closing of the Bank of Commerce,—appear the fair and generous OZO's, who, through their worthy secretary, Miss Mildred Keating, handed our Principal a \$10.00 bill as a contribution to the Nautilus Relief Fund.

Faculty, Students, Nautilus, Staff, and Printers—all raise their voices in one glad note of thanks and praise to the OZO's for their kind and voluntary gift just in the moment of greatest need.

On December 6, Mr. Sim Harris, Member of the Board of Education of Yorkshire, Eng., and member of the International Peace Society, visited Manual. He came just at the time when the clouds were thickest and overheard Mr. Phillips speaking to a member of the faculty about the financial embarrassment of the Nautilus. As he left he pressed a \$5 bill into our worthy principal's hand and said that it was for the school paper.

We wish to thank our friend across the waters, and hope that he may be repaid a hundred fold for his kindness.

At our assembly of January 9, when Mr. Phillips asked who would be the next to help the Nautilus, there arose a gentleman who said, "Here is five." Mr. Phillips did not hear him, so his gift was not publicly recognized at the time, but we wish to thank Mr. Boright now for his kind donation and assure him that such as he are valued as true patrons of our school.

From our sister city, St. Louis, comes a letter sent by an Alumnus of "Old Manual," Mr. Arthur Wolf, who expresses his sympathy for the condition of the Nautilus and makes a small offering of \$1.00, which we gratefully accept, glad to be remembered by an absent friend.

**The OZO's
Donation to
Nautilus
Relief Fund**

**Our Silent
Friends**

**Friends—
No matter
near or far
are Friends.**

It is gratifying to know how many friends Manual has and how generous some of them are to our school.

Dr. Chas. W. Moore's Art Loan to Manual

This time our benefactor is Rev. Dr. Chas. W. Moore, of the Institutional Church, who has loan us for

our use in the departments of History and Art over 500 beautiful slides made from photographs, which he himself took, on his tour through Europe.

The faculty and students are exceedingly grateful to Dr. Moore for this generous and useful accommodation.

On the eve of Friday, November 22, the Nautilus Staff was entertained by Mr. and Mrs. Phillips in their new home on Forest avenue. The time was spent in

The Nautilus Reception

games, recitations, and songs. All the members of the Staff were present, and all agreed that it was a reception to be remembered as one of the most enjoyable they had ever attended.

We wish to extend to Mr. and Mrs. Phillips a hearty vote of thanks for the good time we had, and we feel sure that it is a pleasure to be looked forward to by our successors, as it is an annual hospitality.

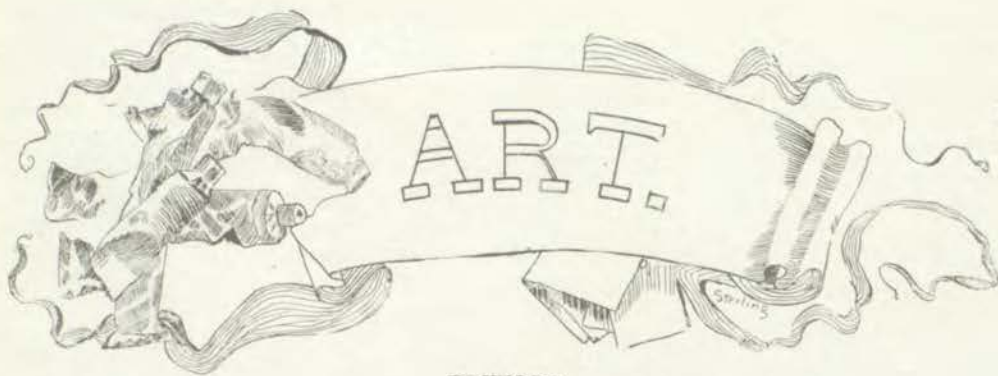
Dates for the Society open Sessions.

G. A. A.	January 23
Ion Society	February 6
Daphne Society	February 20
A. L. S.	March 5
Edisonion Society	March 19
O'ita Society	April 2
M. S. D.	April 16
D. S. V.	April 30
Elocution Dept.	May 14
Glee Clubs	May 28

The Debaters have loaned the Nautilus \$25 to tide over its affairs, for which we thank them. We also wish to thank the Allerli for its kind offer of a loan of \$10.

Important Dates for School Events

1. D. A. R. Essay Contest—\$10.00—
"Santa Fe Trail."
Length, 1825 to 1907 words.
Last day due—February 5th.
Award—February 22.
2. Peace Essay—Prize \$25.00.
Length, 1000 to 1500 words.
Last day due—April 15th.
Award—June 5th, A. M.
3. Inter-Society Contest.
Preliminaries, Last Chance,
March 27th.
Grand Finals—April 24th.
4. Senior Contests for "M. S. U."
Scholarship.
Last chance to report subjects
for girls' essays—April 2nd.
Final preliminaries here—
Saturday, April 18th.
Boys, 8 A. M. Girls, 10 A. M.
Grand Finals at Columbia—
May 2.
5. D. A. R. Examination.
"History of Missouri."
May 23.
See Miss Gilday.
Awarded at Manual, Monday,
June 1, A. M.
6. Law School Scholarship Exam-
ination, Friday May 15.
See Miss Gilday.
Award—June 5th.
7. Spring Examination.
June 4th, 5th, and 8th.
8. Awarding of Prizes.
June 5th, A. M., 11:15 to 12:15.
9. Class Day.
June 8th, 11:15 to 12:15 A. M.
and 3:35 to 4:35 P. M.
10. No School June 9th.
11. Commencement June 10th.
12. Report Cards issued June 11th.
13. Baccalaureate Sermon June 14.
14. Last date for a senior to enter
the list to try for commence-
ment program,
Friday, April 24th.
15. Final contest before committee
for commencement program,
Saturday, May 9th.
16. Last chance to get name on the
list for graduation,
Friday, May 29th.



EDITORS
Agnes Meyer Henry Ackerman

Prizes in Free Hand Drawing Department Won by Girls of M. T. H. School at Inter-State Fair

Charcoal—

- 1st Prize—Mary McCrum.
- 2nd Prize—Lydia Roberts.

Perspective—

- 1st Prize—Miss Beryl Haley.
- 2nd Prize—Frieda Markgraf.

Water Color—

- 1st Prize—Mary McCrum.
- 2nd Prize—Marie Confer.

Nautilus Cover Design—

- 1st Prize—Margie Rice.
- 2nd Prize—Sylvia King.

Leather Work—

Dyed Leather:—

- 1st Prize—Alta Bradfield.

Tooled and Modelled Leather:—

- 1st Prize—Lillie Leiner.

Clippings from Art Readings

MILLET MADE THE FRENCH PEASANTS FAMOUS by being the first artist to take them for the subject of his pictures.

RAPHAEL ALWAYS PAINTED HIS MOTHER'S FEATURES in his many Madonnas. He resembled his mother so greatly that people thought he was giving his own likeness to posterity.

THE EXPRESSION IN THE EYES of the mother and child in the Sistine Madonna is often criticised as being too fixed and staring. This expression, however, was intended by the artist who wished to give the mother a questioning and the child a knowing look into the future.

MICHAEL ANGELO MADE HIS FAMOUS STATUE OF DAVID in an open street of Florence. People,

passing by, questioned the white haired sculptor as to what the marble column was to become, but received no answer except a fast flurry of chips. When, at last, the masterpiece was done it stood for many years in the street, the wind and rain wearing it away. However, not even the elements were able to hide the majestic beauty of David, and it still remains, one of the greatest pieces of art the world has ever known.

THE "BIRTH OF ART IN AMERICA" occurred when Benjamin West was seven years of age. He had always loved to scribble, as all children do, but had never shown marked ability until one morning when he drew a picture of his little niece whom he had been told to watch while she was napping. It was such a remarkable resemblance that, from that time he was encouraged to take up the work which made him our first artist.



EDITORS

Lucile Phillips Harold King

Heart of Stephen Smith.

Howard H. Richards, '09.

It is customary for railroads to give all large circuses the same train and engine crew over the entire system; and, therefore, Stephen Smith and Forty-four had for two weeks been hauling the "show train" between the various towns of its itinerary.

During that time the stalwart young man had made many friends among the jolly circus folk, and more than a friendship had arisen between the engineer and Trixie Allison, principal "aerial artist" of the show.

The blare of the band from the distant circus lot, softened by the distance fell pleasantly upon Smith's ears as he diligently hammered at the refractory wedges.

Crawling finally, with a satisfied expression from his position between the drivers, he confronted a young lady of obvious prettiness, simply attired in a gray walking costume. Off came his cap and he began to stammer apologies for his grimy appearance, which were cut short by a merry laugh from the young lady.

"I hurried through my work tonight so that I might look at your engine Mr. Smith; you've been singing the praises of Forty-Four so much that I feel as if she were an old friend," she observed.

Then Smith explained the mechanism of his engine to his appreciative audience.

Finally she said, "I never was interested in a locomotive before, Mr. Smith, but now I understand why all engineers are in love with their occupation."

"It's possible for an engineer to fall in love aside from his calling, Miss Allison," returned Smith.

"I suppose you think I'm a presuming fool for speaking like this, but my love for you is honest."

"This is our last night with your train, the show will be off the C & S in the morning, and perhaps I'll never see you again, but if ever you get tired of circus life remember there's an engineer on the mountain division that wants to make a little home for you some day."

In reply she said nothing. Suddenly delving into the recesses of her handbag she drew out a card and said, "Here is my New York address. Come to the city when the season ends and I'll give you my answer, and now, good-bye."

Then turning she tripped off through the dark along the line of circus sleepers. Smith looked wistfully after the retreating figure, when his eye fell upon a crumpled glove by the side of his engine. He picked it up and carefully placed it in an inside pocket of his vest. Then he scrambled into the cab to catch a few winks of sleep.

He was, however, an hour later wakened by Pat O'Toole, a brakeman, who stood hatless and coatless beside the engine, his face a grayish pallor. The circus train was loose on a four per cent grade. Even then the distant roar of wheels told the story.

Like lightning across Smith's horror stricken brain came the vision of Davis' curve, where poor Davis had

lost his life in the last runaway. In an instant he thought of the form of his loved one crushed and lifeless beneath a mass of twisted iron. Then the blood surged through his veins and he sprang to his levers. "Pat cut off those two cars in back of the engine, then come up here and fire for me I'm going to catch that runaway."

"But Steve, lad, you never'll make it, they're miles off by now and you're risking your life," said the gray-headed yardmaster.

"He get 'em if Forty-Four holds together; if she don't I'll never come back," Stephen said.

There was a hiss of air, jauney's unlocked and there burst forth a terrible exhaust from her sawed off stack and old Forty-Four swung out into the night, the hoarse notes of her chime whistle as she disappeared over the brow of the hill answered the cheers of the little crowd. The race was on!

With half his body out of the cab window Smith stared into the night. In spite of the grade he pulled again and again at his throttle and the engine leaped forward with renewed speed as his hand grasped the polished lever.

O'Toole scattered the half-coked coal till the little stack fairly vomited sparks like a blast furnace. The big engine seemed to fall down the mountain side, rolling so that the bell clanged continuously, but those tense fingers never relaxed or for one moment strayed for the "air."

Always came the steady pull at the straining throttle, while the wind howled like a cyclone past the reeling cab, and cinders and pebbles whirling from the roadbed beat in unnoticed fury at the white stern face peering into the darkness from the back of this monster of steel and fire.

Suddenly with a rending crash, Smith's universe seemed blotted out. A moment later he staggered to his feet half blinded by the blood that streamed from a gash in his forehead, his right arm dangling useless at his side.

O'Toole had disappeared and with him the entire top and right side of the engine, headlight, sand box, dome, bell and cab had been swept from the engine. But Forty-Four still held steam and she flew ahead.

A coal chute had been struck and partly wrenched from its fastenings by a high corner of the runaway elephant car, and dangling by its chains, had dropped just far enough to tear away the entire top of the pursuing locomotive.

Dizzy and sick, Smith bore the agony of his broken arm, clinging to what was now the outside of his engine.

And as Forty-Four swung into the stretch the moonlight illuminated the runaway circus train. With a grasp that was half a sob, Smith perceived a slender figure clinging to the railings of the rear platform.

Foot by foot the pilot shortened the distance. Then crouching, grasping blindly at hand rod or brace the engineer let himself down upon the locomotives' battered front then opened the coupler and waited. Forty-Four crashed into the train, the couplings caught and locked and Smith fell unconscious upon the platform of the pilot, the train continued on with unchecked speed. But unbeknown to Smith a slender figure clambered along the sides of the locomotive and according to previous instructions in railroading given by Stephen she succeeded in throwing the reverse and putting on the air brakes, "plugging" Forty-Four so that it flattened every driver but succeeded in stopping the runaway train.

Smith during his long stay in the hospital was given full pay, with a promise of high promotion on his recovery for "conspicuous" bravery.

No wonder then that as he lay with bandaged head and arm he received his answer and the little circus girl entered into the undisputed possession of the heart of Stephen Smith.

The Meaning.

Don Wilkerson '10.

What a merry crowd! What a splendid crowd! The prospective musical festival had been the talk of the town for months. It was an annual occurrence but unusually eventful this year because it was probable that some of the vocal talent would be selected for the new Opera Company.

Limousine, tonneau, brougham and victoria followed one after the other and deposited their cargoes of silks, laces and jewels at the theatre. The scene within the theatre was equally as grand. The very air seemed opulent. A soft mellow light from myriads of incandescents reflected upon myriads of scintillating jewels.

The orchestra began the overture. As it finished with its vivacious grand finale the lights suddenly flashed out and the great drop curtain rose. The stage seemed extremely large and vast.

Before the curtain was scarcely up there came slowly and timidly before this fastidious audience a slender but undeniably beautiful girl. Everybody looked at his program. The girl's name was Mlle Verdow. The number a vocal solo. She was gifted with a rich voice of perfect harmony and compass. As she finished, she quivered, then tottered and would have fallen but that an attendant assisted her off. She was rewarded with rapturous applause.

The program continued and soon the incident of Mlle Verdow was partly forgotten by most of the audience.

After the performance there was a greater congestion of vehicles and cars on the outside than before. But soon with the aid of police, grooms and mechanical devices nearly all the people had left.

A party of four: Dick Helmar, Arthur Williamson, Ethel Van Wert and Rosaline Courtney were the last to leave. Dick Helmar was the promoter and manager of the new Opera Company. Ethel Van Wert was the daughter of Nicholas Van Wert, the city's representative banker. It had been whispered that the house of Austin was about to take in nuptial custo-

dy this daughter of the house of Van Wert. But as yet it had never been corroborated by the two persons in question.

On their way home the general topic was upon the genuine success of the performance. "Well Dick," said Arthur "Hurrah for the Helmar Opera Company! I suppose you'll enlist new talent now? But come tell us that story about your life you know we were all telling about our kid days when the curtain went up but you did not get to tell yours, you know."

"Oh do!" insisted Ethel.

Well "began Dick" you doubtless have wondered where my parents are and how I happen to live with Mr. Austin. The first question I can't answer; but the second, I can. My father died when I was very young. My mother being unable to support my sister and myself, gave me to the care of Mr. Austin, who while he lived was more than a father to me—"

"And when he died, of course left a fatherly will," remarked Austin humorously.

"I keep my original name," continued Helmar "but when the fire broke out and destroyed so many happy homes and obliterated so many others. Mine was among the missing. I have searched the city over and over again but I have neither seen nor heard of my mother and sister since. You know the rest of my life and my business career with good Mr. Austin."

"And you have no token or other memory of your mother?" asked Ethel. "Yes," answered Helmar, "I remember that shortly before the fire that my mother gave to me, on one of my many visits a little pocket bible with the blessing written on the inside. And at the same time she gave one, its mate, to my sister."

Helmar had scarcely finished his story before they found that they had reached home,—or rather Ethel's home for Rosaline spent most of her idle time, (which was the only kind of time she knew) with Ethel and of course she usually called it home. Wil-

Williamson accompanied Helmar to his apartments.

Early the next morning Arthur came out in his automobile to see the girls and ask them to take a morning ride with him.

"Sorry," he said to Ethel, "but Dick can't come. Got opera fever, you know, but he sent a poor substitute instead."

"Why shame on you, Arthur Williamson," said Rosaline sternly, "you are as nice as Dick Helmar, even if Ethel is here."

"Oh, now, Rosaline, don't think I have such a hatred for myself. I meant these—violets. But thanks anyway for that exaggerated compliment. I'll try to do it justice."

"Oh, well, then I should say it was a poor substitute Ethel" agreed Rosaline, "you'll have to sue the opera company for interfering."

But Ethel was reticent. She knew well enough that Dick's interests were her's and nobody else's.

Arthur was quite au fait in the matter of running an automobile. The ride was glorious, as the girls said afterwards. The morning itself did a great deal to enhance the ride. Lowell would never have asked for a rarer day had he only known this clear, sparkling winter forenoon. The girls chattered continually and did not notice that Arthur had spied some one on the next corner.

"Yonder," gentleman, "he announced" is Mr. Dick Helmar."

Helmar was standing on the corner reading the morning paper and evidently waiting for a car. He was as much surprised at the meeting as they.

"So—," questioned the suspicious Rosaline, the opera company is detaining you?"

Helmar laughed. He saw instantly the faithlessness to Ethel that Rosaline suspected. "Yes, you little vixen, but you're on the wrong trail now. For I was only waiting for a car to take me to Mlle Vendou's house. The papers have given her an unusual lot of free advertising and so I have adhered to the old theory that "the early bird gets the worm."

"Well, answered Rosaline, "we're like Missourians "show me." So get

in and we will save you car fare if you'll take us with you."

In a short time they were out of the fashionable section that bounds their own yellow horizon and had entered another part of the city very much unlike their own. The city had grown like all others in jumps. Each new addition axiomatically marked by its own architecture characteristic of styles prevalent at the period of building. The part where Helmar was to go to was one that years before had been tenanted by a set as exclusive as their own. They stopped before one of these mansions and were admitted by Mlle Vendou herself.

She was utterly perplexed. A big French automobile, two fine looking young men and two finer ladies! Visitors like these were never admitted to her humble home before. A home that she thought the world would mark as homely appealed to these strangers as "beautifully ugly" or alike to others as simplicity.

Helmar was prompt in stating the object of their visit. She was offered the highest flattery. After each had finished his fancy prosaic improvisations Rosaline asked her if she had studied long.

"Well," Vendou answered, "not very long but very hard because—you can see why I could not afford much training, my mother has endeavored hard for my success, but a few weeks ago the neurotic strain caused her to be taken suddenly ill and so with caring for her and continuing my vocal study I found my time too short, so often while by her bed I sang to her and it really seemed to satisfy her."

"Yes," said Arthur, "you charmed many more than your mother, Mlle. Vendou."

Dick showed her the contract. She took it and examined it, and was astonished at the conditions therein.

"Really," she said, "this is too much. I don't deserve so much."

But Helmar insisted.

"Thank you ever so much Mr. Helmar she said "you don't know how much this means to me."

"Tell us what it means," implored Ethel.

"It means" answered Mlle. Vendou,

"that I can repay everything that I owe my mother. It means nice comfortable quarters for us. It means the best doctors care. Oh, it means everything to me and my mother! She signed the paper and returned it to Helmar.

"But Mlle Verdou," he said, "you had better sign with your real name not your *nom de plume*,—for you have another name?,"

"Oh, yes," she laughed, and signed it again."

"What?" he exclaimed "Helmar? Why that's my name. You'll have to be my lost sister," he jested.

"Then, as turn about is fair play, you'll have to be my lost brother."

"So you've had a brother and I a sister that makes the compact absolutely necessary."

"Yes" she answered, "but my brother was only a small child when we lost him. He was adopted when a child and he was lost to us during that horrible fire. You've heard of it. We

searched the city over for him but could neither find him nor any clue of him so we left the city. We just returned last month to prepare for my debut in the festival."

Helmar suddenly drew out a small bible. "Did you ever see this Miss Helmar?"

"Why, yes," she answered, "or at least one like it my mother gave one to me and one to my brother too."

Helmar showed the writing on the inside.

"Oh!" she cried, "you know my brother? Please tell me where he is!"

"Miss Helmar," he said "you said that this contract meant everything to you—It means even more than you think. It means—that I am your brother. And it means too that I have brought you the sweetest sister on earth."

I leave it to the readers own speculation who the sister was but don't guess but once,—for that first guess is right.

A Little Messenger.

Lewis E. Nofsinger, '09.

There was great excitement in Westport Landing, one afternoon late in the fall of '61. Most of the townsmen were at the wharf when the boat "Evening Star" whistled. My father, who was a merchant, and I were in the crowd. As soon as the captain came on shore, he singled my father out, rushed up to him, and handed him a letter marked "important." He said, "This message must be delivered before morning to the Kansas legislature, now in session at Shawnee Mission." My father and the captain walked slowly up to the store, discussing how to get the message delivered. Shawnee Mission was about two and a half miles west of the historic Harris House, which still stands on Westport avenue. The road over which a messenger must pass was most dangerous. The state line between Kansas and Missouri was the dividing line between the Union and Confederate forces. The outlaws were thickest in this region. Not more than a week had passed since two men had been shot while passing over this route.

After my father and the captain had been in conference for an hour, my father called me to the back of the store and said, "The captain has suggested that you take this message to your uncle at the Mission. As you are only a child of twelve, there is no danger of your being harmed by the bushwhackers. Do you think you can carry it?" With the boyish love of adventure, I immediately consented. I ran home to tell my mother the news. She unwillingly gave her consent. Proud of being trusted with so important a mission, I boasted about what I would do if attacked.

Before dark I had my father's black mare, Mollie, saddled, ready for the trip. At eight o'clock on that memorable night, I kissed my parents good-bye, mounted my horse and was off. The night was very dark and I trusted to the sure-footed Mollie to make her way over the familiar route. After I had left the town, and was fairly on my way, my high spirits began to droop. To keep them up I whistled a tune. Mollie went along at leisure-

ly gait, as my father had told me not to hurry her till I had passed Westport. About half past nine I rode down the main street of Westport. Here and there burned a light, and the town was wrapped in slumber. How I wished I could spend the night at the Harris House where I had often visited!

Half a mile west of the Harris House I entered the path through the woods: I imagined that I could see bushwhackers skulking behind the trees, with their rifles aimed at me. I dug my spurs cruelly into Mollie's sides and urged her forward. When I was half way through the woods, I heard somebody behind me. In spite of Mollie's increasing speed the follower was gaining. Mollie began to show the strain of the fast riding. I knew she could not stand it very long, and decided to dismount, and lead

her into the thicket. Before I could carry out this plan, my follower was upon me. Now my fright became terror: I threw my arms around Mollie's neck and again dug my spurs into her sides, and rode for my life. I was then within a quarter of a mile of my destination. Then came the climax, just as I was in despair, the follower's horse whinnied and Mollie answered. This sudden reversal of feeling almost caused me to lose my hold on Mollie's neck and fall, as I heard my uncle say: "Why John did you think I was a bushwhacker following you?" Then he explained that he had arrived at Westport Landing shortly after my departure, and had decided to overtake me, if possible. Now that I have boys of my own, I am often reminded of that exciting experience encountered while delivering my message.

A Leap Year Episode.

Agnes I Meyer, '09.

Professor Crane and Tom Holler resembled each other more than any other two men in Colorado Springs. This fact was not so remarkable, but that two men so much alike in appearance should have had such contrasting characteristics, mental abilities, and tastes was rather surprising. Professor Crane was a man of few words, in fact he was seldom known to exceed the limit of forty words a day. Tom Holler loved to talk. The professor was a profound woman hater. Tom liked nothing more than to bask in the sunny smiles of the gentle sex. There could not be found in Colorado Springs, a man more learned than the professor, and it would have been even harder to find a man as smart as Tom and yet as illiterate. The professor had no sense of humor while Tom had Boston, the other from Colorado a little too much. The one was from Springs.

These two men were 43 years of age very tall, and both possessed iron gray hair. Tom Holler was Professor Crane's man-of-all-work, companion, and adviser in the matters of outside life.

It was on June the second, in the

year of 1904, that Professor Crane was brought suddenly and emphatically to the realization that there were such things as women on this earth. The alarming reminder was in the shape of a telegram from a distant cousin of whom he had not heard since he was twenty years of age and had made a visit to her home. She had been at that time, at the interesting age of cutting teeth and had unconsciously been one of the causes to shorten his visit at that household. The telegram read as follows:

Will spend June 3rd, in Colorado Springs. Arriving at 10.30 a. m.

Katie.

"Katie" graned the professor, "Katie," now that sounds just like a woman." (This was a very natural remark; for, to a man, everything disagreeable is "just like a woman.") Professor Crane beckoned Tom to his side and pointed to the telegram and, for once in his life, Tom was at loss to know what to say. The misery in the Professor's face, however, urged his fetile brain to planning.

"Well, now," he began, "'twouldn't be so bad;—not so bad!" he screwed his mouth up in his efforts to think.

"Ye've got to meet her now—thats sartin,—and," Tom's sense of humor, at this moment got the better of him and he burst into a roar of laughter, "and say! Professor this is Leap Year, this is."

"Leap Year" yelled the Professor. Oh! he knew now why Katie was coming. She'd make him marry her. Why—

"Say! Professo-or, I'll meet her!" This sentence burst like a bomb of joy on the Professor's agonizing brain. Really Tom was getting quite a lot of gray matter. Why, of course, Tom could meet her. "I'll give him my new suit and he will pass for me any day, just so he doesn't talk," mused the Professor. He clapped Tom enthusiastically on the back and like a pair of boys preparing a lark, they proceeded to lay their plans.

"But" warned the Professor, "don't utter one word or we'll be found out. Remember not one word." And Tom promised not one word."

* * * * *

At 10:30 the next morning a gray haired man, clad in an immaculate gray suit was waiting at the station for the train from the east. As the Professor watched Tom pass down the walk he couldn't help thinking that he was quite a good looking man, if he resembled the departing figure. Both Tom and the professor were happy. Tom knew, he looked so much nicer than he ever had looked, or even hoped to look again and he was prepared to enjoy the moment to its fullest extent. To wear his friend's clothes, spend freely of his

money, and do just what he wished in the way of entertainment for a young lady from "out East," was a day dream at last come true. The only payment being "not one word." "That would be very easy," Tom reflected, "We will go through the garden of the Gods an' I'll pint out the things and she'll be so took up that she won't want me ter talk." And so Tom was happy.

The Professor was also in the most exhilarated mood. He had once more escaped the wiles of a feminine pursuer and could return in peace; at least for a while, to his beloved books. In an hour he was in the midst of a lecture and it was not until three o'clock that he glanced up to see Tom coming up the path. He wore a sheepish grin and chuckled many times with inward mirth as he came upon the porch. Before he had entered he began to release his long pent up speech.

"I never talked 'til she went and made me," he began "An' she still thinks I'm you."

The Professor was immensely satisfied with this rather mixed explanation, but was still curious to know all that he had escaped.

"Did—did she propose?" he asked excitedly.

Tom drew a long breath, patted the coat pocket wherein lay a ten dollar bill (whether or not Katie had known the fake all along will always be a mystery) and finally smiled a broad and cheerful smile. "Wal, Professor, she couldn't. She brought her husband along. She was on her Wedding trip."

When I Enrolled.

Florence Acton '08.

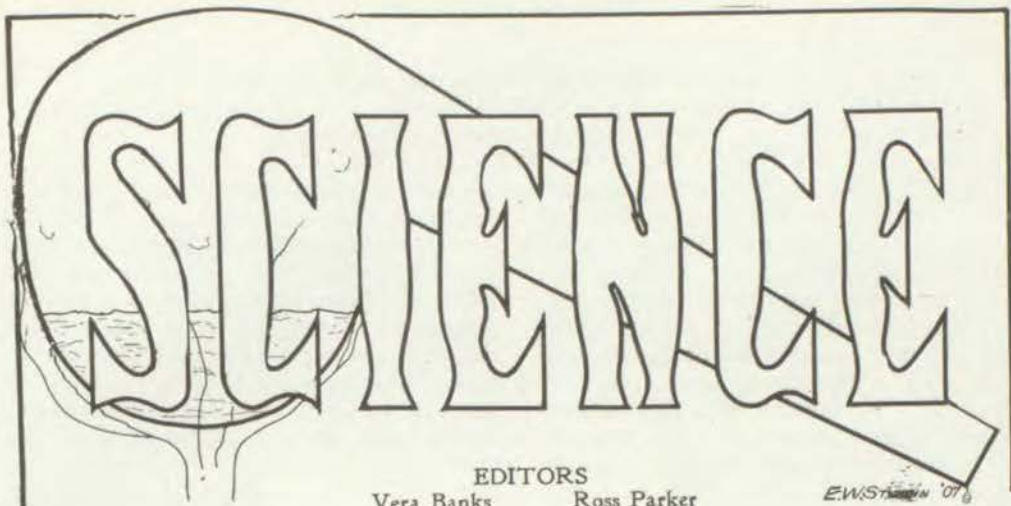
It was my misfortune to return last September, from my summer vacation, too late to enroll with the other seniors, and I was obliged to draw my ticket and enroll on Freshman day. At first I was tempted to turn back, so crowded was the buliding with little ones, but then I became conscious that I was a Senior and must on all occasions show my superiority. So

in I started and after some fifteen minutes I had succeeded in gaining the table, where I was to write out much of my history on one of those inquisitive little slips. I then had an opportunity to glance about me. Really it looked like a baby show or an outing for dolls and teddy bears. Some were tall some were short. Some were happy, some were frightened,

and over them all was a tint of green. Some were bold enough to walk about, but most were content to huddle in some obscure place to wait for—they knew not what. Some had their mamas with them, some their papas. But I must pay a compliment to this extraordinary class, a few had come alone.

One little girl across the table from me was trying to count on her fingers how much past twelve she was. Another one next to me was earnestly endeavoring to climb upon the chair so she could see over the table. A little boy was very much interested with the playthings in the case in the hall. Another was thinking what a fine place that smooth, circular desk, in the office would be to play with his toy engine. One small boy glancing into one of the rooms, saw a large round-topped table, and thought it was a piano stool. He was looking all around trying to find a grand piano. Two little girls were discussing what time it would be at three times forty minutes after twelve sixty, and two little boys were wondering if they would have to pay carfare, now that they were in the High School.

Near by was a little girl of the more forward disposition, who was surrounded by an excited group, to whom she told many wonderful things about Manual. She told how some steps went up and some went down and some of the doors went in and some went out. She told them how to 'proscribe' for the Nautilus and how to be 'royal' to the school. She told how they would have to 'transplant' Latin and French, and how the little things they made in sewing could be used afterwards for their dolls. I heard her say something about enrolling for 'Physiognomy' and about taking the 'College Premotary Course.' She also said she intended some day to go to the 'anniversary.' Oh! poor child, she did get her words so confused. But I should be ashamed of myself for ridiculing the Freshmen. Where would the Senior be if there were no freshmen? There would be no progress, no life, no fun in school, if there were no Freshmen. So let us rather pity them and kindly answer their many foolish questions, and do all in our power to save them from too many disgraces.



Brevities

ONE OF THE SCIENTIFIC APPLICATIONS of Wireless Telegraphy capable of considerable extension, is the determination of longitudes. To know one's longitude on the earth it is necessary to compare the local time with the time of a standard meridian. Signals sent by wireless are almost instantaneous, they travel 186,000 miles per second. Thus practically no time is lost in transmission. Another advantage is the fact that wireless signals are capable of furnishing their information where no ordinary telegraph lines exist. Recently a comparison of the two methods was made between Potsdam and Mount Brocken. The result showed that the wireless method was very trust-worthy, although the aerial signals are much more sensitive to atmospheric influences than those sent by wire.

A LONDON SYNDICATE will have 100,000 tons of Egyptain Papyrus plant ready to ship to its paper mills within the next six months. This revives an industry which has been extinct for over 1000 years. A long search finally located a few plants in Palestine which were transplanted to Egypt and cultivated. The twentieth century seems to find frequent occasion to learn from the vast treasure house of knowledge of that remarkable people.

EGYPT'S GREAT DAM at Assonan, built to harness the Nile is to be raised 15 ft.

THE DANISH AERONAUT, LUDWIG JOHANSEN, who has made more than 500 ascensions, has come to America in hopes of interesting the editor of some American Newspaper in a projected flight across the Atlantic in his new dirigible balloon. He proposes to attempt the trip from France to the United States, with two companions selected by the editor, if he finds it is possible to get some newspaper to furnish the funds.

THE NORTH GERMAN LLOYD STEAMER, "Kaiser Wilhelm de Grosse," en route from New York to Cherbourg by way of Plymouth, England, lost her rudder in a raging storm when two and a half days out of New York. She steamed the rest of the distance to Plymouth, 1,750 miles, steered by her propellers alone. This was accomplished by alternately driving and stopping the screws on one side and then on the other.

THE FIRST FERRY LINE to cross the open sea will be established on the Baltic between Germany and Sweden. The distance of 70 miles will be covered in four hours, and the boat will carry an entire train.

A Trip Through The Mammoth Cave

Part II.

The Long Route

Marcy K. Brown, Jr., '09.

The following day, after a well-earned night's repose, we awoke all fresh and ready for the "Long Route" of the Mammoth Cave. Following the guide down the same cool valley, past the same little cascade at the entrance, with its unceasing flow of clear, cold water, we enter again to further explore the mysteries of this underground world. Again we pass through the Rotunda, with its immense vaulted dome, through Dante's Gateway, and over the Bottomless Pit, until we come to what is probably the most appropriately-named thing in the cave,—"Fat Man's Misery." This is a tortuous channel, eighteen inches wide and four or five feet high, which changes its direction eight times in the two hundred and thirty-six feet of its course. Passing from the close embrace of the cold stone, we reach a large room, fitly called, "Great relief." Nearby is "Bacon Chamber," where one can see mimic rows of ham and bacon suspended from the ceiling. These masses of limestone form one of the most curious examples of nature's counterfeiting. Our pathway now borders on a cliff of about sixty feet in height, at the bottom of which, is a motionless pool of water, called the "Dead Sea." Descending a flight of steps to a lower level, we are by the banks of the "River Styx," a sluggish stream of about four hundred feet in length and forty feet in width. Crossing a natural bridge midway of its length, we enter into a large hall where is brought to view the calm and unruffled surface of "Lake Lethe," a body of water of about the size of the Styx. Edging along a narrow path on its margin, we step into a broad passageway, which leads to the greatest wonder of the cave,—the "Echo River." After about four hundred yards walk, we come to the head of the river, where a number of flat boats await us. Safely launched, the guide propels the boat with the pointed end of his long staff. The overhead archway varies from five to thirty feet, the depth of the water is about the same; the width is from

twenty to two hundred feet, and the length probably half a mile. Soon the guide requests absolute quiet, and proceeds to show the phenomena for which the river was named. He strikes the water vigorously with his paddle; the first sound is as of the tinkling of many little bells. Little by little, they seem to be joined by larger and deeper toned bells, until it seems as if all the chimes of a great cathedral were above our heads. Gradually it grows fainter and fainter, until it dies away into a whispering, and nothing else is heard but our own heavy breathing. The guide motions again for us to be quiet, and intones a few notes with his voice, when suddenly out of the darkness there comes to our listening ears a tone as mellow and sweet as that of a pipe organ, and again the volume grows until the whole vaulted dome is filled with the matchless melody. Some one shoots off a revolver and the sound reverberates, until it almost seems as if a great battle were going on around us; we whisper softly and weird, sighing sounds come faintly back to us from the darkness, like whispering spirits, and we remember the consumptives' cabins behind us and shudder. Some one of the party gives forth a groan and another a yell;—the sounds mingle, and frenzied shrieks, like the wailings from myriads of lost souls return from the cave's mysterious depths, until again we shudder, and think of Dante's Inferno. Then, all together, we sing a song;—the sweetly solemn strains go out and again they float back transformed like the silvery voices of an angel's chorus, strangely sweet and soothing. Musing, we think, after all, how much like life itself is this mysterious river, with its giving back to us in good or ill, just as we put forth, except intensified. Kindly deeds put forth come back in kindlier ones, while acts of ill return with harshness, intensified a hundred-fold.

This does not give a distinct echo, as is usual in other caverns, but instead, it gives back a rhythmical lengthening of sound from ten to thir-

ty seconds after the original. Echo River cannot properly be called a river; it is more of a mysterious, subterranean lake. Though having a sluggish current of about four miles an hour, and an outlet which has been lately discovered, emptying into Green River, it has no banks, the walls rising abruptly from the water into a magnificent arched dome; nor has it anything in common with what is generally known as a river, except the almost imperceptible flow of its waters. In this river may be found small, eyeless fish, dwarfed and stunted, about the size of one's little finger.

Landing at "Rocky Islet," on the far side of the river, just as the last reverberations of our cheers die away in the distance, we pass into "Cascade Hall," where the pleasant murmur of a little waterfall greets our ears. Thence to "Stillman's Avenue," down a steep incline called the "Hill of Fatigue," and after a long walk, we arrive in the "Valley of Flowers," where the white formations of gypsum on the cavern walls are beautiful beyond description; some of them bear exact resemblance to a tuberose, while others disclose the silvery white petals of a full blown rose. "El Ghor," a wild and rugged pass, like the dry bed of an ancient river, on a lower level than Stillman's Avenue, comes next. In "Fly Chamber" the walls are covered with myriads of tiny black gypsum crystals, each as large as a common fly. About half a mile farther, "Martha's Vineyard" is reached; there a large stalactite winds from ceiling to floor, called the "Grapevine," and on its sides hang alabaster formations like clusters of grapes. Soon comes the hall, which, at this time is, to us, the most important place in the whole cavern, "Washington's Hall,"—the cave's dining room. Here a welcome dinner is served, brought down from the hotel above by the cave guides. After a hearty meal, we pass into "Snowball Room," where the round white gypsum formations are sticking to the roof, as if mementoes of a merry party's snowball fight. Following on, we find the most beautiful floral forms of gypsum in the cave, "Flora's Garden," "Floral Cross," "Last Rose of

Summer," "Vale of Diamonds," "Diamond Grotto" and "Gem Hall," are very appropriate names given to these successive sections of the hall. Here in the darkness of the earth's bosom, just as in the sunlight above, have the mysterious forces of nature worked for man's bewilderment. Examine any one of these myriads of mimic flowers and the astonished eye beholds each rosette made up of countless wonderfully perfect crystals, shaped into glorious blossoms of beautiful adamant.

Soon after, the way begins to be hilly, rocky and very rough, and this portion well deserves the name of "Rocky Mountains." At the top, the road branches, the hall to the left being the most important. Following our rugged path for a short distance, we enter into a hall, in which are several large growing stalagmites, and at its far end, to our right, is a deep ragged pit, called the "Maelstrom." This hall may virtually be regarded as the end of the Mammoth Cave,—there being no other way to reach the surface than by the route we came. We start back on our long journey, retracing through the Flower Gardens, Snowball Room and Echo River. Up to about two miles from the entrance the road shows nothing new; then we save about a mile and a half, by ascending through a maze of intricate, narrow and winding crevices, fitly called the "Corkscrew," to a higher avenue. We plod on wearily, our thoughts with Dante of the underworld.

"Till on our view the beautiful Lights of Heaven

Dawned through a circular opening in the cave,

Thence, issuing, we again behold the stars."

And as we leave the Mammoth Cave behind us, never again, perhaps, to enter its hushed and sombre portals, we take with us treasured memories of its profound and solemn mysteries that will last through life itself.

What a travesty upon good sense when thousands of American tourists, without ever having seen the matchless wonders of nature found in their own country, rush off to Europe each year, because it is the fashionable fad.

What does Europe offer that should inspire the true American heart? Her ancient castles and mouldering ruins are but the gloomy monuments of the bloodshed and cruelty of the feudal ages, while the splendors of her modern palaces are based upon the wrongs and oppression of her masses.

But America, with her teeming cities, throbbing with energy and life, her broad and fertile prairies, her magnificent mountains and the untold possibilities, locked up within even her desert's wastes,—what a field for the American tourist, in his own land. America! how sacred her temples, consecrated to liberty and justice; how holy her battle fields, reddened for the rights of humanity; how glorious her present achievements; how inspiring her future hope!

What feelings of patriotic pride are aroused by pilgrimages to the natural

wonders found in our own country! How nature seems to have wrought her grandest marvels for our own fair land! Within the whole world's compass where else can be found so much of sublimity and grandeur! Niagara,—the world's sublimest cataract, with the thunder of its waters, its whirlpool rapids, its torrent's rush and roar; Yellowstone Park,—with its mysterious geysers and gushing, boiling fountains, its countless wonders, indescribable and unsurpassed; Yosemite,—with its beauteous valley, its towering cliffs, its swelling mountain domes and peaceful waterfalls; Grand Canyon of Arizona,—the world's mightiest gorge,—Nature's one supreme and awe-inspiring earth-chasm; and Mammoth Cave,—alone in its immensity, in the sublimity of its silence, and the wondrous mysteries of its subterranean world!

Explosives

Robert Davidson, '09.

Explosives, although they are the most destructive forces known, are, nevertheless, among the most useful ones. Great engineering feats have been accomplished by the use of them, which otherwise would have been an impossibility. Enormous reefs have been removed, harbors deepened, tunnels made, and great excavations dug in solid rock by their use. They are, also, the chief factor in modern mining and warfare.

The erroneous idea has been spread abroad that they are very dangerous to handle, but, in fact, only a very few are dangerous. Some of the most powerful explosives may be shot out of a cannon against a stone wall, or, stirred with a white hot steel rod without exploding. The frequent explosions, in places where explosives are made are due to the extreme carelessness of the employees.

Now, an explosion is due to a chemical reaction, which is effected in a short space of time with the evolution of a large quantity of gas. If the explosion occurs in a body which is confined, the sudden formation of gas, which is often 50,000 times the volume of the original explosive, causes the body to be disrupted.

Explosives may be set off in two different ways. First, by ignition, (that is, by setting on fire the explosive so that it will be rapidly consumed), second, by detonation, (that is, by causing the explosive to be consumed spontaneously.) Explosives set off in the first way are called slow explosives; those set off in the second way are called high explosives.

Gunpowder, an explosive mixture, consisting of potassium nitrate, sulphur, and charcoal, belongs entirely to the first class. It was formerly used in cannon and small arms, but is being rapidly superseded by smokeless powders. One reason for this is that, when ignited, it gives off a large quantity of smoke, which gets into the cracks and crevices of the gun and forms a sort of soot, which is a great nuisance. The most important reason however, is that it is much slower in acting and has a great deal less force than smokeless powders. It is useful in a great many ways, nevertheless, and \$1,452,372 worth of black gunpowder is manufactured in the United States every year.

Guncotton, one of the most powerful explosives known, belongs to the second class. It is made by treating

pure cotton with a mixture of nitric and sulphuric acids. For every pound of cotton, 12 pounds of the acid mixture is used. Before it dries it is compressed into rectangular blocks in a moulding-press, where the pressure is first 100 pounds to the square inch and, finally, 6,800 pounds to the square inch. It is used principally in projectiles and in making smokeless powders.

Smokeless powder, an explosive substance that burns without developing smoke, is placed under the head of high explosives. It is divided into three classes. First, powders in which guncotton alone is used, which by the aid of a solvent has been converted into a horny substance; second, powders in which a mixture of nitroglycerin and dinitro-cellulose has been transformed into a similar substance; and third, powders that contain nitroderivatives of the aromatic hydrocarbons, either by themselves, or, in connection with nitro-cellulose. The horn like substance, which has been formed, is then cut into flakes by machines and formed into cords, which are then cut into grains. Smokeless powders are used for military purposes almost exclusively.

Maximite, a high explosive invented, by Sir Hiram Maxim, for use by the United States government in projectiles, can be set off by detonation alone. Fulminate of mercury, which is made by dissolving mercury in nitric acid and, when cool, adding alcohol to the solution, is used for a detonator. It is very sensitive and an ounce of it is said to have a force of 50,000 tons. This solution is put in a capsule, and, so placed, that, when the projectile hits an object, this will be forced back into a chamber of guncotton and exploded, thus setting off the Maximite. In this way the projectile has time to pierce the armor before exploding, when, without the detonator, it would explode upon hitting. The composi-

tion of this explosive is unknown as it is a government secret.

Nitroglycerine, a colorless, odorless, and transparent oily liquid, is one of the most powerful explosives in existence. It can be set off by either ignition or detonation. It is made by passing pure glycerine into a mixture of concentrated nitric and sulphuric acids and explodes violently at 180 degrees centigrade. Its tendency to decompose, resulting in a violent explosion, has practically led to its abandonment commercially. This property, however, is removed, when combined with a suitable absorbent, which has given rise to the well known dynamite. It is useful not only as an explosive but also as a medicine. When diluted with alcohol, it is given to cure headaches. It is also employed in asthma, epilepsy, and in many other diseases. Although it was not manufactured in the United States until 1867 and its progress was slow, in 1900, 35,482,947 pounds were manufactured, of which amount 31,661,806 pounds were used in the manufacture of dynamite, blasting gelatine, and smokeless powders.

These explosives, which I have mentioned, are just a few of the great mass, which have been invented. They are the most useful, the most powerful, and the most important of the explosives. It was by their use that the United States threw off the yoke of England in 1776; maintained her independence in 1812; acquired Texas in 1848; saved the Union in 1861; and freed Cuba in 1898. Explosives have been important factors in the histories of other modern nations. They have built up some and caused the downfall of others. They are, also, important factors in peaceful pursuits. If it were not for them, modern mining would be an impossibility. They have been the subject of much thought by the chemists and great improvements have been and are being made in them.

The Milky Way

Ray Robinson '08.

The Milky Way is a band of stars situated far from us in the depths of space. The stars which form it although separated from each other by

inconceivable vast distances are so far away and of so great a number that the light coming from each produces a continuous stream of white light.

Hence its lasting analogy. Ovid speaks of it thus;—"There is a way sublime, manifest in a serene sky: it has the name Lactea, notable for its very whiteness." Looking at a grove from a distance the trees in it seem to be closer together than they really are. So it is with the observer of the Milky Way. But this is an illusion produced by the senses, for the stars in this broad belt are far apart.

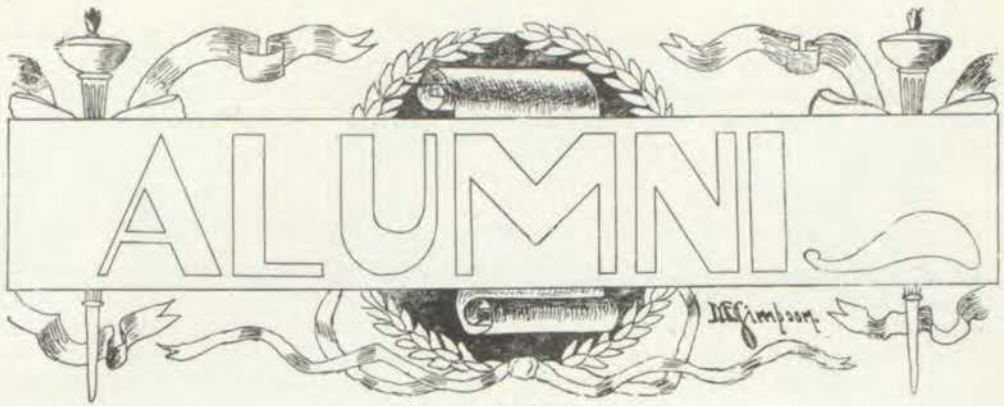
The Galaxy is lenticular in form. Picture it as a strip of paste-board distended near the centre by some substance. The suns extend along in one continuous band except where they divide into two branches.

The length of this path of suns can be deliberated over with the aid of the fact that it would take a ray of light traveling 186,000 miles a second, fifteen thousand years to go from one

end to the other. What makes this length? Suns. Sir William Herschel counted eighteen millions of them. Photography shows up one hundred million and more.

We are not so far from the Milky Way. Our sun is only a star. Our sun is one of the stars of the Milky Way. Camille Flammarion says that when in the field of a powerful telescope we observe the little distant stars situated in the depths of the Milky Way our retina receives the impression of a luminous ray which started seven or eight thousand years ago from a sun analogous to ours and forming part of the same group." We then see these suns as they were in the Prehistoric Age. In order to see any of these suns as they are now, one would have to wait patiently until the year 8907 A. D. rolled around.





EDITOR
Lota McFarlin

Our Alumni.

Manual's graduates are scattered in all parts of the world. Several heard from lately are doing very well in the business world, or in advanced studies. We will see what the various honorable graduates of our good school are doing:—

In Kansas City, Mrs. Wallace, who was Miss Mary Shortall when she attended Manual, is employed as designer for a jewelry house. Miss Bernice Edwards is advertising designer for Emery, Bird, Thayer. Miss Florence Pretz is doing interior decoration work for Robert Keith Furniture Company. She is also illustrating for magazines. She and Miss Sara Birchall have collaborated on a book of fairy tales, now being published in a Canadian magazine. The stories are to be issued in book form later. Miss Birchall has written a poem entitled: "The Bark of the Singing Winds," which was published in a Chicago magazine. She has also done some work in various well-known magazines and newspapers.

Miss Ida Edlund is making advanced study of art in Chicago.

Miss Bertha Farris is studying in New York.

Ledwige Sargent is in South America in the Andes mountains. He is foreman for the Cerio de Pasco railroad and is stationed at Oroyo, Peru. Professor Todd, who recently observed Mars down there, made some of his photographs at Oroyo. Ledwige says that he looks forward to the date on which the Nautilus is issued and appre-

ciates the paper very much.

Another of our boys who is quite far away from us, is Egbert Schenck, who has a position in China. Miss Van Metre received a letter from him in which he says that Japan is the best place to live that he has found. Here is an extract from his letter:

"If I were to tell you of the thing that has been most attractive to me here in the East, my letter would be all of Japan. All of the wonders of this 'Flowery Empire' you can read of with much more interest elsewhere. Still I am so much in love with it, that lover-like, I cannot resist the temptation to sing its praises. So I will go back to my diary.

"About four o'clock we caught a glimpse of Fujiyama—just a ghostly outline. But later coming up the bay, we saw the sun set just west of the mountain. It was indescribably beautiful. The sea was black, tossing with snow white caps. On the horizon was a dark shade of delicate lavender shading into the sea on the one hand, and on the other into pink, then yellow, then turquoise and finally into light blue. All the tints were the most delicate in the world, like, as Kipling says, "a giant opal upside down." * * * This was our first view of this side of the world. Could you have seen it you would not have wondered that I thought we had come to fairy land. And China! We steamed up the dirty Yang-tze in a drizzling rain. I wish I could tell you all I saw and that it would be as fascinating to you as it was to me."

He then describes a temple that he visited, which hardly agrees with the descriptions of the temples we read about, being, as he said, somewhat disappointing. But the scenery, as de-

scribed in the letter is quite beautiful. For want of space more of Mr. Schenck's letter can not be quoted, although very interesting.

Lawrence, Kansas, Dec. 11, 1907.
1605 Tennessee St.

Dear Friends:—

The Thanksgiving number of the Nautilus found me deep in a jumble of Kirsematics, Calculus, German, Trigonometry and Rhetoric. I could not resist from a rapid perusal of its pages before turning to work again. But now, every word of the paper is read and it has made me very glad. I cannot get along without it. Do not fail to mail me the succeeding issues.

I feel more and more proud of dear old Manual as the days pass by. It gives me much pleasure to see the high estimation in which Manual is held by every one here. Most everyone has heard of its work, and quite a number of the faculty have visited the school personally; each pronounces it a very grand institution; possessing excellent work and discipline.

The student spirit for work here is certainly great. The courses are all quite heavy, but consequently of a thorough and high training for the in-

telleet. Our Engineering course is especially strong and of an extremely practical nature. Scientific societies are organized in the various branches and members are required to be able to discuss modern technicalities in the mechanical field. Our strong feature of these societies is that the freshmen are welcome to take part.

The school life is a training that is an education in itself; it is a more serious step in life's progress. One learns quickly to look upon his school work as a business affair and not in a secondary manner. Our faculty possess the power to help us see our way clear in our work, and are extremely patient any sympathetic to those who sincerely desire information or assistance.

I thank you for remembering me, and I know I shall find the coming numbers of the Nautilus as interesting as the one already received.

Sincerely,

Ray L. Bartlett,
K. U., '11.





MANUAL TRAILING



EDITORS

Mabel Thornton

Paul J. Dodd

The Auto-Engine.

By John Arthur, '08.

It has been thought by many that the auto. is the heart of the motor-enthusiast. Some say the engine is the heart of the auto and others claim that the carbureter is the heart of the engine. So in this auto business, as well as every other, there follows a string of hearts (no matter to whom they belong) and some one always claims them. But it is about the heart of the auto that we are going to speak: this puffing, grunting, rattling, sizzling, affair that every one of us sees and hears every day.

Were I to attempt to discuss the design of these machines, the patience of the reader would undoubtedly be exhausted long before the end of this jumble is reached. Hence, to avoid the waste-basket, we will leave it to professional designers.

About fifty years ago, many ingenious hot-air engines were invented, but all except those of small power were impracticable on account of their great size and weight in proportion to the power developed as compared with the engines.

In a gas or gasoline engine a mixture of gas and air is compressed in a closed cylinder and ignited at the proper instant, usually by means of an electric spark, thus causing a great increase of pressure and temperature in the cylinder. As the piston moves outward, the burning gases expand, the pressure drops and the gases become cooler, a portion of the heat from the combustion being converted into mechanical work.

For automobile motors, gasoline is the fuel commonly used, as it is easier and more practical to carry gasoline than to carry tanks of compressed gas, and the gasoline, being a volatile liquid is readily vaporized as needed by the engine.

Some tests were made by Arnat with engines of eight and ten horsepower, using acetyline, with no other change in the engine than to diminish the inlet valve.

Knowing that gases when compressed become heated, it is evident that in order to avoid premature explosions the cylinder must be kept at a temperature below that of the ignition of the mixture when compressed. To accomplish this, a water jacket or other cooling devices form an essential part of this throbbing heart of the auto. On the other hand, the low temperature of the cylinder walls would greatly diminish the effective pressure of the stroke, as the cooling effect on the gas would be very marked. The only way to increase the efficiency would be to increase the piston speed, thus giving less time for a transfer of heat between the gas and cylinder walls.

Perhaps we should get a faint idea of how this whimsical engine is operated and the principle upon which it is operated. The accepted type of engine for automobiles is the four-cylinder type. By this we mean that class of gas engine that gives one working stroke to two revolutions. Between explosions four things happen. First,

the downward stroke of the piston draws in the gas. Second, the upward stroke compresses it and while at the top of the stroke an electric spark ignites it and the combustion follows. Third, the piston travels down as a result of the increased pressure, and lastly the upward stroke exhausts the burnt gases, then the cycle commences anew. So when you hear one of these four-wheeled time-beaters coming and explosions follow so rapidly that you can hardly distinguish them, stop and think of the things that are happening—four of them all between two explosions, and if any one of these four things fail to happen, there is no explosion and the engine "misses fire."

One of the first requirements for a successful auto engine is that it should be economical, though even this, in the case of pleasure vehicles, can be sacrificed to other considerations. Of course, it goes without saying that the motor be compact and light, but even features essential as they may be, should be sacrificed to accessibility for inspection and repairs. This last feature cannot be too strongly insisted upon, especially if the vehicle is to be used for touring purposes. Any and every class of machine is subject to failure, as a result of ordinary wear and tear or excessive stresses accident-

ally applied, and the break-down of an auto upon the road, always provoking and amazing, seems doubly so, when, in the absence of first-class shop facilities, the mechanism is so designed that the disabled part cannot be readily removed and replaced. While a light-weight engine should be the end of every design, it should not lose sight of the necessity of strength.

Finally, the ideal auto motor should be silent, as free from vibration as possible, and absolutely always ready to go. This little puffing piece of mechanical art is one of the most contrary and unreliable pieces of power-developing machines that was ever manufactured. It is truly a wonder, for, if it feels not in the mood, it runs not in the road. It has all the whims of a child, and if a parent ever be found that can really make any and all of these mule-like engines mind, he surely has his fortune safe. Men have been known to grind away for hours and not so much as a pop is given by the engine as the reward. Again, sometimes it is only necessary to touch a lever and a fifty horse-power motor at your command. Of course, there are reasons for these spells of hard-headedness, but if you would keep what religion you have, the gas engine should be your last chance.

Modification of Fudge.

Ina Donnelly, '09.

A bunch of girls,

A box of fudge,

A dude to eat it.

Natural?

Fudge! What a world of memories crowds through your minds when that name is mentioned. Do you remember the time that you brought some to eat in the assembly meeting? Oh! I will relieve you of an answer since the faculty is present, but of course you never did such a thing. In the halls are congregated here and there a crowd of boys and girls. To the eyes of one not well versed in high-school actions, this would be an object of curiosity. "What can the attraction be?" would no doubt be the question asked. Can you imagine the feelings of that person when

the answer comes, "Only a box of fudge?"

It is fudge, fudge, fudge. Everywhere you go, everyone you meet, knows about fudge. The newspapers and magazines are crying out, "A new way to make fudge," while bills are being distributed advertising chocolate, or cocoa, with a recipe for fudge thrown in. Is it any wonder then, since recipes may be had almost without the asking that many girls have given their lives to the sole duty of fudge-making? Indeed, our ancestors would no doubt term it a foppish affec-

tation. Such a one that girls and boys of this day and age are exclaiming, "Oh, fudge!"

Historically speaking, it might be called the "Age of Fudge." But let us turn to our grandmothers. Did they live in this wonderful age? Oh, no! It was the "Age of Taffy." What happy times they had at those taffy pullings. With butter on their hands, a plate of candy before them, and fingers thoroughly able to stand the heat, what a picture they must have made! But on the other hand, what a picture we would make if we were to try taffy pulling. It would stick to our hands, get in our hair, cover our clothes, burn our fingers, and we, because we lacked experience, would return to fudge to

give it a beat, turn in buttered tins, let cool, and cut into squares.

Shall we permit it to be said of us that for lack of experience we continue in the same way? No. Then, let us clothe fondant butter-scotch, molasses, or some other candy, in such a garb that fudge will cease to be the center of attraction. If by no other means we are able to do this, let us add to the usual ingredients salt and pepper, then, I am sure, our appetites will be checked in time. It is our duty as historians of this age to preserve all recipes. If we can find no other method than the one above mentioned, let us resort to it. Nature hates monotony, so does man.

Portland Cement as a Factor in Construction.

W. Cushman Farnum, '08.

Portland cement is rapidly growing in favor as a factor in building and construction. A crude sort of cement was made as far back as 4000 B. C., but it seems to have taken a sleep for nearly 6000 years. Portland cement has come into extensive use only within the last ten years. Cement was manufactured and used, however, on a small scale as early as 1855 in Europe. It was not until 1872 that the enterprising Yankee got an idea into his head that he, too, could make Portland cement. The result was the manufacture in that year of about 300 barrels. Since 1900 especially has our manufacture of this article increased enormously. In 1900 the United States manufactured 8,400 barrels of Portland cement; in 1905, 34,000,000 barrels; and in 1906, 50,000,000 barrels showing a vast increase in the last seven years and giving grounds for hope of still greater increase in the future.

Perhaps a brief explanation of the composition and manufacture of Portland cement will be appreciated. Portland cement receives its name from its resemblance, when "set" or hardened, to the stone found on the Isle of Portland. It is a product of burning together about 75 per cent of limestone and 25 per cent of clay. These materials are ground together, mixed thor-

oughly and burned to the point where they fuse or melt into a clinker. This clinker is ground to a very fine powder and we have our well known Portland cement.

So many uses have already been found for cement that the expectations of its future value in construction are almost without limit. Today it is extensively used as a material for sidewalks and other paving, sewer pipe is made of it, and 50 per cent of Milwaukee's sewerage system is constructed of cement sewer pipe. Portland cement built upon and strengthened by iron in different forms is used in making fence posts, telegraph poles and lately it has been experimented with as a material for railway ties. At the present time there are five miles of concrete telegraph poles on the Pennsylvania railroad just east of Chicago. Reinforced concrete is the name given to this kind of cement construction, the concrete being reinforced by the steel imbedded in it. Tall chimneys have lately been constructed of this material, and as far as can be seen, are a great improvement on any other kind. The advantage of concrete chimneys over masonry ones lies in their strength and durability without the great amount of material necessary in the latter. The good steel chimneys are not much thinner than those con-

structed of concrete and are a great deal less durable. However, the greatest use and also the one from which we are expecting the greatest results in the future, is that of the re-inforced concrete in the construction of great buildings and bridges. Re-inforced concrete promises to supplant, to a great extent, steel, masonry, brick and wood, as a cheap and durable building material. Still in this field there is a great deal to be accomplished before it will be perfect, but it is in the accomplishment of these things that we expect the results which will entirely revolutionize building and construction.

One phase of this use is illustrated by the new buildings which we see going up all over. An example near at hand is the new Montgomery Ward and Company warehouse, in which the re-inforced concrete is used throughout. Still another phase is its use in bridge construction. Tests were made on a building constructed of this material in Pittsburg, Pa., which proved that the floors were capable of standing a pressure of nearly three hundred and fifty pounds per square foot. This building was put up in one-half the time which is necessary for an equivalent steel one and has far greater durability. In bridge building re-inforced concrete is much better on account of its great lasting power; its greater beauty, doing away with all overhead steel and stone work; and also its greater strength. For instance, compare some of the new concrete bridges, which have only an ornamental rail above the floor, and the old-

fashioned, ugly steel arch and suspension bridges.

In the construction of residences concrete, in the form of both solid and hollow blocks, bricks, and that which is re-inforced, is bound to play an important part. The concrete bricks are especially superior to the clay ones because of their greater durability and because they do not absorb nearly so much moisture. Suppose a man wishes to build a fine residence. He considers wood, but finds it unsatisfactory because of the cost and inconvenience of frequent painting, and also because it is not durable. He then considers brick, but because it gets dingy and is conducive to dampness, unless the plaster is applied on laths, it must be also thrown out. Any objection to stone? None, except the great expense for cutting in the ornamental work. He then considers the concrete block and finds it an ideal material. It costs little more than wood, needs no paint, cuts down insurance, costs no more than brick, needs no laths, can be constructed at one-fourth the cost of stone, and has the advantage of a hollow, insulated wall. These houses are warm in winter, cool in summer, fashionable, durable and ornamental. Just as great beauty can be executed in concrete as in stone, and at less cost; why are there not more of this kind of houses? Simply because the people are waiting to learn more about concrete construction. From these statements one can see the present and especially the future value of Portland cement as a factor in construction.

The Chauffeur.

"The Naturalist.

The chauffeur is a flying animal, new to our fauna. Its original habitat is France, but it is hardy, adopts itself to all climates, and multiplies rapidly, so that it now abounds in most parts of the world. Its habits are as yet undetermined. It flies by night as well as by day, very near the ground. It does not migrate, strictly speaking, although it shows some preference for warm regions. Its reason for killing its prey is still in question, because after killing they do not feed upon the body,

but increase their speed of flight with such acceleration that it is conceded the energy and vigor of the deceased passes from the victim to victor. The creature is difficult to capture and languishes in confinement, hence owners of rare specimens pay largely to protect them from perils of capture. No nest has yet been found or any immature specimens. The chauffeur first happens full grown, and may be taken in his haunt in the garage, about which they settle in flocks.

A Brass Manufacturing Plant.

St. Clair Mendenhall, '09.

Just lately I had the opportunity, with a couple of my friends, of visiting the plant of a Brass Manufacturing Concern, situated in our own Kansas City. The plant is a two-story brick building, occupying about a block in length and about two hundred feet in width.

On entering, we found ourselves in the office, but going through this room, we made our way to the pattern shop, located on the second floor; here the patterns for everything manufactured must first be made. One of the pattern-makers came to our rescue, and satisfied our curiosity by explaining why certain woods must be used for certain patterns, the method of making patterns, etc., and as he proceeded with his explanation we were convinced that the pattern-maker's trade was by no means an easy one; we saw very clearly that to make patterns one must have a good idea of the machinist's and moulder's trades.

The next person to handle the pattern was the moulder, who, with flask and moulding sand, stood ready to make any moulds, simple or difficult.

Here we saw the perfect image of the pattern, to the smallest detail, made in the sand.

From here we wandered, our curiosity becoming greater at every step, to large holes or receptacles made in the floor, in which, we learned, the brass was melted; coke fires were built in these receptacles, and a bucket-shaped vessel, called a crucible, containing copper, zinc and other metals which go to make up brass, was placed in this fire and the hole covered for two or three hours, during which time the materials melt and thoroughly mix.

By this time the brass is ready to pour, the moulder has his molds finished and two men pour the brass into them. In a few minutes the molder breaks the molds of sand and lo! behold our pattern in brass.

From there the casting is taken to the machine shop, and amid the whirl and hum of machines, we follow it from one machine to another until it is finished and ready for polishing.

The polishing is done in buffing wheels and a high finish is obtained in a remarkably short time.

The Balloon.

Harold Allen.

Ballooning is the safest method of transportation in air that has been discovered. It is safe according to the principle of Archimedes, that if a fluid is put in a body which has less weight than the force of the fluid, the body will be taken upwards. The common balloon is a pear-shaped silk bag, which has been varnished and put in oil of turpentine to make it air tight. A network of twine is put over the balloon and is then attached to the car, which is a large wicker basket. At the lower side of the balloon is a small hole through which a man may go to make repairs, while at the top is a hole about five inches square that is covered by a small board, attached to which is a string that goes down through the car. The equipment of the car consists of sand-bags,

a barometer, a map and compass, a grappling-hook and a long rope. When the aeronaut wishes to ascend he drops some of the sand-bags; when he wishes to descend he lets his grappling iron seize some stationary object on the ground. Then the board at the top is pulled out, and the balloon descends as the gas escapes. The balloon is always carried with the wind. In 1766 hydrogen gas was discovered, and it was found that an envelope filled with this gas would rise alone. The first real balloon was made by two French brothers, who raised a balloon 35 feet in diameter 1500 feet into the air. Later a balloon was raised to which a basket was attached containing a sheep, a duck, and a chicken.

In 1783 a complete aerial outfit was made and two men went 90 miles in it.

In 10,000 ascents made by aeronauts, only 15 lives have been lost.

Balloons have been made 390 feet in diameter, containing 700,000 cubic feet of gas. In the United States in 1859, a man made a trip of 75 miles an hour, keeping up that speed for four hours. This was probably the best

time ever made. Another man made a trip from St. Louis toward New York of 1150 miles in 20 hours. The longest trip ever made was from Paris to Kief, Russia, a distance of 1250 miles. Apparently the Augustan age of fast balloons has passed and has given place to the more practical use of balloons.

A MEASURE OF THE NUMBER OF PERSONS dependent upon mechanical pursuits and manual training work can be obtained from the reports of the United States Census Bureau. The report for the decade ending 1900 shows that there were then 29,000,000 persons engaged in various occupations. Of this number there were no less than 8,000,000, omitting entirely all those engaged in agriculture, employed in occupations where a knowledge of the mechanic arts formed the basis of the work; while in nearly all of the others some such knowledge was desirable, and in many cases es-

sential. The farmer for example should know how to weld two pieces of iron, be a carpenter and a mechanic so that he may build barns or mend machinery. It is not an exaggeration to say that machine and tool-work so large a part of the daily vocation of the majority of all the working classes in this country that there is not a single calling where the worker is not required to show some familiarity with tools, and where some proficiency in mechanical dexterity and knowledge of material will not lead to his advancement.

If you want to write something for the Nautilus and do not know what to write about, see the Manual Training editors.



SOCIETIES

MANUAL SOCIETY OF DEBATE.

November 22.

Resolved: That the United States has the right to impose taxation on the Phillipine Islands.

Affirmative	Negative
1st. speaker, Donald Wheelock	1st. speaker, Ross Parker
2nd. Lewis Nofsinger	2nd. Harold Wheelock
3rd. Robert Mann	3rd. Arthur Perry

December 6.

Inter-Society Meeting.
 Representative..... Marcy K. Brown
 Oration..... "The New South"

December 20.

Meeting with O'ita Society.
 Songs by Debater Quartette.
 D. Wheelock Zimmer
 Dodd Fillmore
 "Fair Harvard" and "Solomon Levi"
 Vocal Solo..... Archie Zimmer
 "A Son of the Desert."
 Christmas Greetings.. Royal Fillmore

ION SOCIETY.

November 22.

Biography..... Life of Bret Harte
 Ernst Elliot.
 Oration..... Works of Bret Harte
 George Sperry.
 "Heathen Chinee" and "Her Letter"
 Allan Craig.
 "Outcasts of Poker Flat"
 Jay H. Ross.

December 6.

Inter-Society Meeting.
 Representative..... Robert C. Marley
 Oration.... "Life of Daniel Webster"

December 20.

"Santa Claus on the Beach"
 Frank Laud.
 Resolved:—That the Belief in the Mythical Santa Claus is not injurious to Children.

Leaders.

Affirmative, Robert Marley.
 Negative, Frank Shields.
 Christmas Tree.

AMERICAN LITERARY SOCIETY.

November 22.

Oration..... Henry Ackerman
 Current Topic..... Vera Banks
 Song..... Ethel Brothmarkle
 Book Review..... Amos Wood
 Argument..... Telma Burke
 Song..... Ellen Doherty
 Book Review..... Winona Gibbons
 Essay..... Otis Grant
 Short Story..... Helen Harrison
 Extemporaneous Speech.....
 Myron Witters

December 6.

Inter-Society Meeting.
 Representative..... Helen Harrison
 Vocal Solo.

December 20.

Violin Solo..... Bret Boright
 Declamation..... Vera Banks
 Argument..... Edward Luce
 Declamation..... Irene Neal
 Extemporaneous Speech.. Gratz Shelby
 Translation..... Winona Gibbons
 Oration..... Lucie Hutchinson
 Oration..... Otis Grant
 Song..... Harry Keneister

O'ITA SOCIETY.

November 22.

Piano Solo..... Pauline Fort
 Thanksgiving Games.

December 6.

Inter-Society Meeting.
 Representative..... Georgia Riley
 Recitation.

December 20.

Joint Meeting with Debaters.
 Recitation..... Georgia Riley
 "The Other Wise Man."
 Reading from Riley.... Helen Filley
 Recitation..... Ruth McGurk
 "Just a Kid."

DEUTSCHER SPRACH VEREIN.

D. 22. Nov.

- DIE DEUTSCHEN VON 1150-1300.
1. Namen beantworten mit einem Spruch aus Freidanks Beschcheidenheit.
 2. Rede—*Volksepos*..... Marie Katzmaier
 3. Aufsatz—*Das Niebelungenlied*..... Gynne Raymond
 4. Essay—*Kriemhild and Brunhild*..... Helen Pursley
 5. Gedicht—*Jung Siegfried*..... Lucy Norton
 6. Aufsatz—*Rittertum im Mittelalter*..... Leora Brink
 7. Lroagrahpie—*Volftram von Eschenbach*..... Benjamin Messing
 8. Essay—*Parsifal*..... Henry Lohman
 9. Synopse—*Der Arme Heinrich*..... Ethel Lewis
 10. IV Kapitel—*Eine Liebesgeschichte*..... Raymond Fritton

D. 6 Dec.

Schulvereinigungen.

Gegeben von { Estelle Burkowitz
Marie Burke
Richard Summers
Scene von.. Minna von Barnhelm

D. 20 Dec.

- DIE DEUTSCHEN VON 1300-1720.
1. Namen beantworten mit einem Ereigniss aus dem Leben von Hans Sachs.
 2. Rede—*Deutschland von 1500-1720*..... Frl Von Unwerth
 3. Aufsatz—*Die Minnesaenger*..... Ethel Riley
 4. Synopse—*Der Saengerkrieg auf der Wartburg*..... Augusta Busekrus
 5. Ein Schauspiel von Hans Sachs.....
Der Fahrende Schueler
Der Schueler..... George Bowles
Die Frau..... Pearl Zacharias
Der Mann..... Fred Hammil

EDISONION SOCIETY.

November 22.

The Gyroscope.....Earl Davidson

December 6.

Inter-Society Day.

RepresentativeRobt. Denny

The Speaking Arc

December 20.

Common AirAlbert Grant

Coal Tar.....Harlan Thompson

DAPHNE SOCIETY.

November 22.

Thomas Nelson Page, His Life as a Writer Elizabeth Ziegler
Reading of Uncle Remus..... Elizabeth Ziegler
Review—In Old Virginia..... Elizabeth Donohue
Economic Value of Domestic Science..... Lucy Risley
Game—"The Boiling Kettle..... Jessie Stevenson and Annette Robinson.

December 6.

Inter-Society Day.

Representative.....Annette Robinson
Violin Solo.

December 20.

F. Hopkinson Smith, His Life as a Writer..... Blanche Levinson
Review, Colonel Carter of Carterville..... Eva Danrall

Christmas Story.

Ada Fulton.

Stocking Hung on the Chimney with Care Jessie Stevenson and Annette Robinson

GIRL'S ATHLETIC ASSOCIATION.

November 22.

Piano Solo...Grand Waltz de Concert
Hildur Rudin

Essay.....An Indian Dance
Nell Battin

Vocal SoloSome
One Thinks of Some One.
Bess Lukin.

Basket Ball Practice.

December 6.

Piano Solo
.. "Home Sweet Home Variations."
Pearl Roemar

Reading..Japanese Physical Training
Immagine Wilson

Vocal Solo "Slumber Land"
Lucile Pieser.

Basket Ball Practice.

December 20.

Quotations on Physical Education.

Piano Solo..... "The Spark"
Clara McNeil.

Reading
.... Play as a Factor in Education
Hazel Purnell.

Informal Address.

Mr. Phillips.

Basket Ball Practice.



EDITORS

Mary Louise Topping

Bret Boright

Base-Ball.

Perhaps more genuine interest is taken in base ball than any other form of athletics in the school. Last year Manual won the pennant with little effort and judging from the prospects at present, it is reasonable to expect the same results this year. We base this statement upon the fact that many of last year's players are with us this year. Among the old members of the team are Eldon Etherton, James Robbins, Robert Gibson and Louis, all of whom have done excellent work on Manual's team.

Basket Ball.

The season of basket ball is soon to commence. The work of the team up to date has been aggressive and the best results are expected. A new system of ticket-selling has been introduced this year. In all, eleven games are to be played. A season ticket has been offered for only \$1, which obtains admission to the entire eleven games. This is a very reasonable offer, and one which is within the reach of all, so come out all, and let us make basket ball a success this season. The schedule dates of the games cannot be published on account of confictions existing at present, but the dates of games will be announced in ample time to inform all. The games are to commence at 8:30 p. m., and will be played in 20-minute halves.

Schedule:

- Manual vs. Haskell Indians.
- Central vs. Haskell Indians,

- Central vs. St. Joseph High School.
- Manual vs. St. Joseph High School.
- Manual vs. Lawrence H. S.
- Central vs. Lawrence H. S.
- Central vs. Topeka High School.
- Manual vs. Topeka High School.
- Manual vs. Central (3 games).

The Girls' Athletic Association.

Nearly nine years ago, when our school was still very young and school organizations were comparatively few as yet, "The Girls' Athletic Association," Manual's oldest girl's society, was founded. This organization held from the first, regular weekly meetings like any literary society, these meetings being devoted to the practical study of Physical Culture in every phase, including indoor games, fencing, dancing and Basket Ball.

From the first year up to about a year ago, the society has been much the same, following the original aim to create interest in Physical Culture. The members of last year's society, added to the original plan the idea of having, at their regular bi-weekly programs, literary productions bearing on their subject. The plan was highly successful and is being carried on again this year.

In this way the society became really a Literary organization, although it had no constitution or charter and was not recognized as such.

Lately, however, Professor Phillips

has approved the constitution which the girls drew up and has granted them a charter.

We wish to extend through the

pages of *The Nautilus* our most hearty congratulations and a strong welcome to Manual's oldest, yet newest, Literary society.

Physical Training of the Ancient Greeks

Martha Greenleaf '09.

"Grant me a sound mind in a sound body."
Juvenal.

The ancient Spartans were a people whose main desire was to produce a hardy and valiant race. Being warlike in temperament, they began to develop and strengthen the bodies of their young at an early age. Since the authorities had absolute power over their citizens through all stages of their lives, the infants were subjected to the judgment of a body of selected citizens. If the infants were approved by these, they became the objects of care to the state, but, if condemned as not promising good health and strength, were killed.

Until the age of seven, the child was under the care of his parents, but after that period was given into the hands of an official. This official was expected to discipline the child in all exercises that were adapted to develop the body. Later the youth was sent to school, where gymnastics held an important part; nor did the training cease in mature years.

In connection with the physical training, many games were developed, as the Greeks believed uninterrupted employment was detrimental to both physical and mental life. Such games as the modern blind-man's buff, hide-and-seek, and tag were engaged in by the children; but ball-playing was the chief sport among both old and young. No exercise was so popular among all

Greeks of different periods as ball games. The earliest mention of ball playing is found in two passages of the "Odyssey," in which Homer has said the games were accompanied by music and singing.

There were many different ways of playing ball, but only definite descriptions of few have been handed down. Probably the most interesting game with them was that, played with a leathern sack, which resembled our punching bag. The sack, however, was filled with fig-seeds or meal, instead of air, but the exercise was played similar to ours. The ancient physicians regarded this exercise as very beneficial because it strengthened both muscles and nerves.

Enough has been said to show that the Greek ideal of manhood was not the mere scholar, but the strong, yet light and graceful athlete. They loved life and, as health and strength are the important factors, these they developed by various exercises. However, the exercises not only gave them symmetry of form and the litheness of movement, but also had marked effect upon the faculties of the mind, by keeping the understanding clear and the imagination untroubled. Thus the Greeks attained a sound mind as well as a sound body.

Grit

Lucile Phillips, '09.

"Two diedral angles are equal when the hypotenuse, no; two triangles are equal when the plane angles of one are equal to— it wasn't fair for Ferrit to cheat in that game; and I don't see why I can not remember my geometry," sputtered out Roy, and with that he deliberately turned a somersault on

his bed and resumed his studying (?). It was quite late, in fact, 10:30 p. m., and his parents thought that their son was enjoying sweet dreams, but alas, his conscience was pricking him, and with shades drawn and lights low, he was, yes, he was "cramming."

Tomorrow his mathematics teacher,

Mr. James, would be giving out nice sheets of paper; and everyone would be saying he was not scared,—everyone except Roy. He was a member of the school's noted baseball team, but, for some strange reason, he had fallen behind in his mathematics, so far, in fact, that even one whole evening's constant studying could not help him.

"Most people would get at least 'P' or even 'G' in solid geometry, but to get 'F,'" groan, "and my first F," continued Roy, sadly, then he mechanically opened his book to one very dirty page on pyramids, and first turning his ear wrong side out, he began the discussion, failing to remember ever having read it before.

"It's no use; time's time, and I have spent too many afternoons on the field already. Tomorrow I shall fail: I can't remember a dozen proofs. But worst of all I will not be allowed to play the one great annual game! I am mad!" Slapping his book together, he rose; turned out the light, and said he didn't care.

Oh, that was a horrible night,—tossing and rolling. All through the night triangles and polygons of various shapes and sizes danced before him, and in each one was a neatly printed "F." His mother declared she heard him yell frantically, "Play Ball!" half a dozen times during the night, but Roy still remained silent. It would not do any good to tell her now, he thought, inconsistently.

When he reached the school Roy saw the tickets being sold to that game three days off; saw a display of penants and megaphones for sale; and oh, how tantalizing, he saw his fellow baseball players exhibiting their new sweaters!

"What's up?" inquired the captain, pulling Roy aside by one shoulder.

"Nothing," was the only answer, and then the bell rang.

"Hand me your papers as you pass out."

"Ahem, ahem, Mr. James, when will it be convenient to you for me to take the test over?" Then Mr. James turned and heard the usually high-spirited chap talking in a rather husky voice.

"In about four days," was the reply.

Four days,—that was after the game, then; no hope now.

"Pass?" inquired the captain, passing Roy in the hall.

"No."

"What? why Roy, you above all others; you ought to be ashamed! How do you expect us to win if all the players are going to flunk?" and receiving a squelching look and a nudge in the ribs, Roy saw his best chum, the captain, leave him abruptly. Tears voluntarily sprang to his eyes, but no, he was a man, and blinking fast he strode on down the hall meeting his friends with a forced smile. On nearing the entrance he saw all the baseball players gathered together and talking low. They had heard. As he approached they stole glances at him, and continued conversing with one another. Merely nodding, he passed on, to be chased by the pitcher, who thrust a lemon at him.

Sick at heart, Roy made for his locker; slapped on his hat; took the first car, and turned his face homeward, convinced at last that his mother was his best confidante. Two very uncomfortable days passed and on the morning of the third what should be the surprise of everyone, but to see it raining. "I wonder what they'll do now," mused Roy, tugging at a tie of the school colors. "I'll wager this tie the game is called off, and then, hurrah!"

Everyone has his disappointments, and everyone has his days when he feels like going down the hall in somersaults and frog-leaps. The latter is the way Roy felt, because, what should be posted on the bulletin board that dreary morning than this announcement:

"Annual game of ————date postponed to———date one week hence."

Roy figured out that if he studied two solid hours every day for six days, that he would take the examination on the evening of the sixth, and, may be, on the seventh find that he had passed. "Wish I had kept up right along," he mused, striking an arc with his compass preparatory to his two hours' studying for the first day. Roy afterwards declared that that week was the toughest week of studying he had even spent, but it paid, for he passed,

and who would mind working a little if he knew that in the end he would be patted on the back by the principal and hugged by the team?

That was a great day, that day of the game, and at least one chap learned what a true patriotic spirit is. The gay banners were flaunting in the breeze; the school yells rose and fell; and, when the eighteen trotted out on the field, everyone was confident of his schools' winning. Maybe it was the fine weather, maybe it was the yells, maybe it was the sight of the large attendance, or maybe it was Roy's spirit and fire which animated the team, but anyway, the score went up and read twenty to zero in favor of Roy's school.

Perhaps some of us have experienced great joy, perhaps not, but it

would have done anyone good to see that fellow who worked so hard for his school, enjoy the honor won by it. It was only after great kicking and squirming that Roy succeeded in making his mates drop him from their shoulders.

"Don't lift me up; lift up the banner of your school!" he cried, amidst the din and clatter of it all.

After the players had dispersed and Roy was picking his way with his suit case through the crowd, he felt someone touch him on the shoulder, and turning saw the captain with his hands extended. "Beg your pardon, Roy," he mumbled, "I did not treat you half square, but you have the grit, old chap!" Then, as if to prevent any show of affection, he darted off down the street.

The Decision

By Roy A. Guittler, '09.

George Davis, about whom the story runs, was a tall, handsome young man, given very much to athletics. He was the forward on the Wellington University basket-ball team, and although his chances were excellent to gain him prominence among the fair sex around the school, yet George kept his distance and was universally known as a woman hater. One day when he was walking with one of his friends, they stopped to watch a game of tennis, which was carried on by several freshmen. As they stood there, an attractive young lady passed in the rear of them. Fred Bacon, his friend, gave him a nudge, at the same time whispering to him:

"Look, George, isn't she a queen, though?"

"Aw, forget it," said George, quite out of patience. "I am tired of hearing you talk about girls, for my part, I find them inexpressibly wearisome." And, having delivered himself of this, he turned squarely around and looked directly into the quizzical blue eyes of the young lady under discussion.

She was the first to speak, and it was evident that she was a little bit startled by his last words and his sudden turning. Nevertheless, she was the first to speak.

"Excuse me," she said, sweetly, "but

can you tell me how to find Gordon Ave.?"

George stood speechless with astonishment, and Fred, as soon as he could find his voice, directed her to the desired number, and she went her way. Fred, with a smiling face turned to his companion, who was staring after her like one in a dream.

"Come, old man," said Fred, taking hold of his arm, "don't let it affect you like that." George followed him and together they wended their way back to the gymnasium.

That evening George, for the first time in his College days, went to the Ball given in the University hall. He went in hopes that she would be there, and in these hopes he was satisfied. They met, were introduced, and George, with Miss Carson on his arm, promenaded the hall. To his eyes she was more beautiful than ever. She was just the right height, and was a Queen for looks. It did not take long for the news to travel, that the woman hater was in love, and in love he surely was. He took her to dances, and parties, and automobiling, and walking, and, in fact, took her to everything that a young college fellow could.

At last, one moonlight evening, he popped the question. Of course, it is none of our business how he did it, but

he did. But to his chagrin he found that she was under a conditional engagement, namely, that if Wellington lost the championship game to Cromwell University, that she was to marry Thompson, the forward on the Cromwell basket-ball team. Yet she let a hint drop that if Wellington should win, why she would consider his proposition. In short she admitted that having been seen and been with him, she really liked him better.

George, in the meanwhile, during the three weeks that was between the game and now, worried so much about the outcome of the game that he began to fall behind in his school work. He failed in Latin, and his teacher required so much back work, that he did not have time to practice on the team, and when the great day came, he was put on the substitute bench. Then he felt sure that Wellington was gone, and that he was lost. The game was to be played in the large town hall, which had a seating capacity of 3,000 people. Crowds of people stood in line half the night waiting for the ticket selling to begin, and the old hall was jammed tight with enthusiastic and cheering people. Pennants were waved and college yells rent the air, yet through it all George Davis sat on the substitute bench and held his hands. The people were yelling demons and the players plunging from one side to the other, first one falling and then another, and then a score for Cromwell and then one for Wellington, till at the end of the first half the score stood at 10 to 10.

George turned to look for Miss Carson. He saw her standing on one of the seats, holding two pennants, one a Cromwell and the other a Wellington, as she noticed him, she waved him a welcome with the Wellington flag, and then he felt happy. Once again he turned his eyes towards the game, and then he saw Thompson, the forward on the Cromwell team playing like a hero. Just then the forward playing in his place fell and sprained his ankle. Then it was that Davis sprang like a lion to his place on the floor. His first act was to score twice in succession, tying the score for his side, for which event the people cheered till they were hoarse. They were now playing their last round, and Cromwell had the ball under their basket. Thompson raised to throw it in the basket, when it was knocked from his hand, and Fred Bacon, who was standing back of him, snatched the ball and threw it to Davis, who scored the final, making a score of 25 to 26 in favor of Wellington. George turned his eyes towards Miss Carson, and she waived a Wellington banner.

The crowd pounced over the rail and lifted Davis from his feet and paraded him around on their shoulders. The following evening while down in the Gymnasium, a note was handed to him from Miss Carson, requiring his immediate presence. Arriving there with all haste, he was met at the door by her, and it is none of our business what happened. But later in the evening, Miss Carson asked him if he found this girl "inexpressibly wearisome."

An Indian Dance

Nell Battin '09.

Tum, tum, tum, tum—those were the sounds and measured the rhythm with which we were greeted as we entered the camp of the Indians. It was night. Some distance ahead we could see the dancers moving in perfect time to their music. Around us were the silent tepees from which dogs ran barking at our approach. As we neared the camp fire made from huge logs, we had to step carefully lest we tread upon some sleeper rolled in his blankets. But after dodging

horses, avoiding dogs and skirting tepees we arrived and mingled with the on lookers.

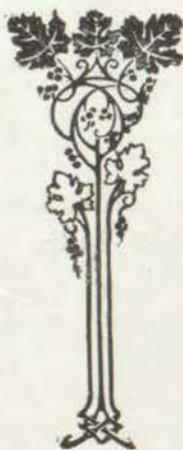
At first glance all was a blur of moving figures, and then the dance began to take shape. In the center of a group of men stood the musician pounding on a kettle over which a skin had been tightly stretched. Around this group in a circle, stood the squaws. When the song began—sung by the men and accompanied by the musician—the squaws would

prance to the center and each touching a man upon the back would claim him as her partner. Then locking her right arm in his left, so that each faced in opposite directions, together they would dance first to the edge of the circle, then back to the center again and so on until the song was finished.

Threading their way with skill among the dancers were the Medicine Men. It was their duty to keep peace and see that the dance progressed well. They were very conspicuous in their queer costumes composed of leggings, a short skirt, painted body and head dress of feathers.

Often the medicine men would give an invitation to the spectators to join in the dance. When I heard this I could not rest easily until I had gained permission to be one of them. So after a few words of advice from the members of my party, I took my place among the squaws. An instant later the song began. With a brave face I pranced to the center and touched a singer on the back. He turned but

before any word could be spoken two Indian maidens glided between us and carried him off as their partner. Undaunted I tried another, this time with success and before I could realize the fact, I found myself hanging onto the arm of a full blooded Indian—braids, paint blanket and all,—and prancing up and down to the queerest music I ever heard. Suddenly, with a loud cry the dancers separated and formed a circle around the musician by grasping hands. This was entirely new to me, but I had noticed a large number of soldiers among the audience so felt safe and kept firm hold on by partner's hand. Around, and around the circle moved, growing faster at each revolution until, when it stopped, I could scarcely keep my balance. It was in this way a set of dances was ended. Now that I had had my dance, I was willing to return to our camp, so shortly after, we started; but I found the four mile walk back much longer than when I had first gone that way.





EXCHANGES

EDITORS

Estelle Burkowitz

Rolland Montague

We are almost overwhelmed by numerous magazines and requests for the Nautilus, which have been pouring in since the last issue. So new-comers shall be served in order of arrival.

"The Cascadillian," from Ithica, N. Y., barring its exorbitant subscription price, is a gem. For its splendid appearance as well as its clever articles and well edited departments, the fall number is to be congratulated. "The Folly," and "A Tenderfoot's Thrilling Experience," are easily the most bright and coherent stories in the "Cascadillian."

"The High School News" is our only exchange published by school societies,—but then this St. Louis school has some eight or more organizations, and the November "News" is brimful of interesting reading matter and excellent cuts.

From Meriden, Conn., comes the "Pennant," a readable periodical, the November number of which contains the first installment of a romance called "That Red Haired American Girl." The impressive title is, however, but a poor indication of a rather clever, though distinctly commonplace story, if the first five pages are any criterion.

"The Mirror," from Indianapolis, reflects only credit on its staff and students.

The Thanksgiving issue of the "Carnation," from the Wm. McKinley High School, is altogether excellent. Especially commendable is the plan of choosing a good assistant Freshman,

Sophomore, Junior and Senior to edit an individual department, this providing a democratic ground for representation.

The "Trumpeter," from Wentworth Military Academy, is quite as stirring as the name indicates.

We are glad to acknowledge the receipt of the "Allerlei," the unique annual publication of our own German classes. Besides its attractive appearance externally, it contains an abundance of simple short stories, some original poems, splendid maxims, and an odd, interesting, local department.

The "Porcupine," Santa Rosa, Cal., is a very neat little paper, but we do not like the idea of mixing the advertisements with the jokes. Keep each separate.

The "Sounder," Fort Smith, Ark., is a "dandy" little paper. We offer no advice whatever, only keep up the good work.

The "Mirror," Philadelphia, is another one of our best exchanges. "Football in Hades," in a very clever story.

We are glad to exchange with the neat little "Spirit" from Seattle, Wash. It is the only paper we receive from a girls' school.

"Argus," don't mix your advertisements in with the literary part. It takes the interest away from the reader.

"Advance," Arcata, Cal., how do you sell your paper, by the yard?

Central, we think the "Luminary" would look better if you kept your dif-

ferent departments together. Don't mix the advertising up with the literary work.

"The sun never sets on England's possessions," said an Englishman proudly.

"No," replied the Irishman, "the good Lord is afraid to trust her in the dark."

"Miss Edith," said a young man, "may I ask you, please, not to call me Mr. Durand?"

"But," said Miss Edith, with great coyness, "our acquaintance is so short, you know. Why should I not call you that?"

"Well," said the young man, "chiefly because my name is Dupont."

He Got Even All Right.

A grocer was guilty of some rather sharp practice on a customer, and the latter stamped out of the store, roaring:

"You're a swindler, and I'll never enter your doors again!"

Next day, though, he came back and bought five pounds of sugar.

"Dear me," said the grocer, smiling in a forgiving way, "I thought you were never going to enter my doors again."

"Well, I didn't mean to," said the customer; "but yours is the only shop in the place where I can get what I want. I am going to pot some bulbs and I need sand."

Little Mary started to school, slate and pencil in hand. By-and-by she stopped the use of the slate, and the "tablet" was substituted. She also dropped the "r" and "May" was her new name. High-School days increased her knowledge and also her name—it appeared "Mayme." College days were crowded full and the little notes reached home signed "Mae." College days have passed and gone and in a home of her own they call her "Ma."

The poultry editor of a county paper received this letter from a poetical summer cottager:

Dear Editor: What shall I do

Each morn when I visit my hen-house
I find two or three fowls on their backs,
their feet sticking straight up and their
souls wandering through fields of Ely-
sian. What is the matter?

The prosaic editor replied by return mail:

Dear Friend: The principal trouble with your hens seems to be that they are dead. There isn't much that you can do, as they will probably be that way for some time.

Yrs resp'tly,

Laugh and the teacher laughs with you,

Laugh and you laugh alone.

The first, when the joke is the teacher's,

The second when the joke is your own.

Rustic Frankness.

"And have you music at the church?"

I asked the rural squire.

"Wall, no," said he; "can't say we hev,

Jest singin' by the choir."

New York Sun.

Farthings worth of white bread,

Half-pence worth of ham,

Makes a ten-cent sandwich.

That isn't worth a—continental.

For more than a week the school-teacher had been giving lessons on the dog, so when the inspector came down and chose that very subject there seemed every prospect of the class distinguishing itself.

Things were progressing quite satisfactorily and the teacher was congratulating himself on the trouble he had taken when, alas, a question was asked which made him trouble for the reputation of his scholars.

"Why does a dog hang his tongue out of his mouth," was the question.

"Yes, my boy," he said to a bright looking lad who held up his hand, while the light of genius was in his eye.

"To balance his tail," shouted the bright boy.—Youth's Companion.

"Pat!"

"Phwat?"

"Why do the niggers carry tin pails at funerals?"

"Begob, they are going blackburying."

Freshman—"Pick that splinter out from under my nail."

Senior—"What have you been doing? Scratching your head?"

A teacher observed what he thought a lack of patriotic enthusiasm in one of the boys under his instruction.

"Now, Tommy," said he, "tell us what you would think if you saw the Stars and Stripes waving over the field of battle."

"I should think," was the logical reply of Thomas, "that the wind was blowing."

Teacher—"Why don't you speak louder when you recite?"

Pupil—"A soft answer turneth away wrath."—Ex.

Rich Uncle Ebenezer—"So you are named after me, are you?"

Small Nephew—"Yes, ma said it was a shame, but we needed the money."—Ex.

The world is old, yet likes to laugh;
New jokes are hard to find;
A whole new editorial staff
Can't tickle every mind;

So if you meet some ancient joke
Decked out in modern guise,
Don't frown and call the thing a fake,
Just laugh—don't be too wise.

My Love Story.

A lady of sagacity and beautiful audacity once had the pertinacity to ask me at her door:

"If I can find a minister who is not bold or sinister, why should I stay a spinster—and you a bachelore?"

It was no time for puttering or stammering or stuttering, and so I hastened, uttering as fast as I could speak:

"Had I a home colonial, with furnishings baronial, I might feel matrimonial—but not on six a week."

She laughed and said quite cynical: "Well you're the very pinnacle of everything that's finical"—but I said nothing more.

And thus we found no minister, and I moved off to Finisterre, and she is still a spinster, and I'm a bachelore.

(By a Puzzled Foreigner.)

The teacher a lesson he taught,
The preacher a sermon he praught;
The stealer he stole;

The heeler, he hole;
And the screecher, he awfully scraught.

The long-winded speaker, he spoke;
The seeker of wealth, he soke;
The runner, he ran;
The dunner, he dan;

And the shrieker, he horribly shroke.

The pigeon to Belgium flew;
The buyer on credit, he bew;
The doer, he did;
The suer, he sid;

And the liar (a fisherman) lew.

The writer, this nonsense he wrote,
The fighter, (an editor) fote;
The swimmer, he swam;
The skimmer, he skam;

And the biter was hungry, and bote.

If ever perfect manners were,
The Boston lady had 'em;
She wouldn't say chrysanthe "mum,"
She said chrynanthe "madam."

Johnny—I learned something at school, today, mamma.

Mamma—"What was it?"

Johnny—"Learned to say 'Yes, ma'am' and 'No, ma'am.'"

Mamma—"Did you?"

Johnny—"Yep."—Ex.

"Pat, define strategy in war."

"Strategy in war is when you don't let the enemy know you are out of ammunition, but keep on firing."—Ex.

"Sure, an' I hate to be lavin' ye, Dennis."

"Ah, Nora, me darlin', I can't bear the siperation. If we must part, let's go t'gither."

She always darned her hose with silk,
The holes were quite extensive,
The price of silk was very high,
Which made them darned expensive.

"Faith, Mrs. O'Hara, how do you tell the twins apart?"

"Aw, 'tis easy. I sticks me finger in Moike's mouth and if he bites, I know it's Dinnis."—Ex.

A boy went to church and on returning home his father asked him if he knew what the text was. He answered he did. His father then asked him what it was. He replied: "Don't get scared you will get a quilt."

The father later asked the minister what the text was, and received the following reply, "Fear not, the comforter will come."

To Protect His Son.

Little Frank—"Mamma, please tell me how father got to know you."

Mother—"One day I fell into the deep river, and your father jumped in and saved me."

Little Frank—"Well, that's funny; he won't let me learn how to swim."

"Snippy," said his mother, "when you divided those five caramels with your sister, did you give her three?"

"No, Ma, I thought they wouldn't come out even, so I ate one before I began to divide."—Youth's Companion.

Good Man—"Do you know where little boys go who smoke cigarettes?"

Mack—"Yep! Dey goes out in de woodshed."—Chicago Times.

General Phil Sheridan was once asked at what little incident he had laughed the most.

"Well," he said, "I don't know but I always smile when I think of the Irishman and the army mule. I was riding down the line one day when I saw an Irishman mounted on a mule, which was kicking up its legs freely enough. The mule finally got its hoof caught in the stirrup, when, in his excitement, the Irishman remarked:

"Well, begorra, if you're goin' to git on, I'll git off."

Why does Missouri stand at the head in mule raising?

"It is the safest place to stand."

The maiden sweet, at seventeen,
Bewails her chaperone,
And wonders if she e'er will be
Found entirely alone.

This maiden, fine, at thirty-nine,
Is utterly alone;
And now she'd give her head to have
Just one dear chap-her-own!

A first grade boy brought perfect spelling papers home for several weeks and then suddenly began to miss five and six out of ten.

"How's this, son?" asked the father.

"Teacher's fault," replied the boy.

"How is it the teacher's fault?"

"She moved a little boy that sat next to me."





EDITORS

Ruth McGurk

Donald Wheelock

LEGEND OF WON'TUTAKAD-
VICE

In these days the headstrong junior,
All the "sophies" and the freshmen,
Fear the mighty wisdom,
Of the grand and noble seniors;
Jealous of their love and friendships,
And their noble words and actions,
Have made at length a plot against us,
To molest us and annoy us,
But the ignorant little people
Oh so young and oh so heedless!
They should listen to our warnings,
Which should guide them and should
teach them.

Which the good and mighty seniors,
Grand and gracious in their actions,
Have paused awhile as if uncertain,
And finally in mighty words have
spoken:

Listen to our words of wisdom,
Listen to our words of warning,
From the lips of gifted thinkers,
From your elders who look o'er you,
We are weary of your fretting,
Weary of your useless clamour,
Weary of your quarrels and fusses;
All our strength is in our union,
Therefore be at peace, henceforward,
With the good and gracious seniors.
If you listen to our counsels,
You will ever gain and prosper,
If our warning pass unheeded,
You will fade away and perish.

English Teacher—"I wish some of
you girls would try for this prize.
Wont you Mr. Shrader?"

He stood on the bridge at midnight,
Disturbing my nights repose,
For he was a pesky mosquito
The bridge was the bridge of my nose.

Miss Van Metre—"Name some
books that should be chewed and di-
gested."

Myron—"Bacon."

YEA VERILY.

The editor stood at the local box
With a face of grim despair.
He opened it up, to his surprise,
He found a local there.

He studied over it long and hard
But nary a point found he
"Oh, well he sighed. "The microscope
May help me the point to see."

Miss Gallagher—"Now boys you
know it isn't lady like to talk!"

Georgia—"I wish you could have
met Rev. McGurk when he spoke
down at school."

King—"Well, we'll both go down
and see him some day."

Standard Quotations from Standard
Authors.

"Lies have no feet. Hence we have
to stand for them."

"All is well that ends swell."

"Socks should be seen and not
heard."

"Laugh and the world laughs with
you. Snore and you sleep alone."

"There is plenty of room at the top,
but the elevators do not run for all."

"Never miss a kiss if you have to
kiss a miss."

"He who would rise in the world
must pay for the yeast."

"What is home without another."

"A fool and his honey are soon
mated."

"People who love in glass houses should pull the blinds down."

"A lie in time saves nine."

"Misery loves company but company doesn't reciprocate."

"Look before you sleep."

"Sow your wild oats in a peach orchard."

"A kiss in time saves brine."

"Where there is a will there is a lawsuit."

"Mind your tongue lest it mar your fortunes."

"In one's own coterie may he not sport his pantry and vestry."

"A little widow is a dangerous thing."

"Many are called, but few get up."

"It is better to make friends fast than to make fast friends."

"All that a man knoweth will he tell to his wife (nit.)"

Brilliant Junior—"I should think Mr. Peters would be awfully bored after talking about lumber so long."

Miss Jenkins, (speaking of a funeral where the preacher did not speak above a murmur)—"Do you think that was a compliment to the dead man?"

Smart Freshman—"Oh' of course you know he couldn't hear him."

Mr. Peters in bookkeeping—"You have your debits on your credit side, my boy."

Freshie—"Ma always said I was cross-eyed."

Two Manual boys were talking about the feats of Heller, the great magician.

"That's nothing" said one—"I saw a fellow turn a cow into a pasture"

Leota McFarlin, in chemistry—"Now, Mr. Gustafson is going to experiment with alimony (antimony)."

Miss Gilday—"Fred, what is the hardest wood that grows?"

Fred—"The kind a feller's got to split."

Mr. Dennison—"Now remember that the whole is equal to the sum of all the parts"

Paul—"I know a place where that rule won't apply."

"Where Paul?"

Paul—"In a doughnut."

Henry—"Speaking of fertile soil; I once knew a man who sowed watermelon seeds and the vines grew so fast that they wore out the melons dragging them around."

Mr. Shirling—What nation is found in Botany?

Margaret—German nation.

Mr. Woods—"Now tell me before you answer."

Freshman (Looking at our trophies)—"Are there enough cups here for all the 'SPORTS' to have coffee?"

Mr. Swanson—"Now all who have season tickets can have the privilege of skating on them each night."

Notice.

We should like to trade the Philippines for Ireland so we could raise our own policemen.

Mary Louise (Pinning her hat on)—"I have as much trouble keeping the lid on as Gov. Folk."

Poet's Lore.

By Our Seniors.

Is her gone?

Has her went?

Did her leave I all alone?

Can us ne'er go back to she?

CAN her ne'er come back to we?

Oh! It cannot was.

Of all sad words of lip and tongue,
These are the saddest, "I have been stung."

Mr. Deister—"Examinations are much like death in that they are inevitable."

Small Brother—"Velma, give me a sentence with animosity in it."

Velma had just finished her dinner so she remarked, "I'm full of baked beans, sausage, and animosity."

Mr. Cowan (Indicating space between desk and piano)—"Lavinia, you want to take all that space for your feet."

The following was taken from a Senior's examination paper: "The Norman inquest of England was in 1066."

Miss Steele—"How much did you pay for that book?"

Blakney—"I don't know, I had it charged."

Riley—"I read in the paper about a Chinaman who broke his leg above his opium joint."

Miss Berger remarked upon reading a local: "Why, that's ancient. It's nearly as old as I."

Mr. Cowan—"Ina, I want you to take the subject of getting a meal."

Ina—"I can't, I'd burn everything."

Miss Van Meter (Speaking of John Milton)—"John! The very name has strength in it. Don't you think so, Helen?"

Helen—"Of course I think so."

"Quoth Ananias."

"A farmer planted a row of strong onions under his grape arbor. They were so strong that they drew the wine into the vats below the vines."

"A farmer whose potato patch was not irrigated enough, planted some onions with them and it made their eyes water so much that the ground was well irrigated."

Mice harm the cheese, but girls charm the he's.

Substitute—"Mr. Diester has the grippe today, so he won't be able to be here."

Florence—"Yes, I have often seen him bring one to school."

Teacher—"In which of his battles was Gustavus Adolphus killed?"

Pupil (Who had not studied his lesson)—"I think it was in his last."

Marcy Brown gives us this warning: "Before you pop the question, it's just as well to question the pop."

Senior to Freshie as they notice a lean horse coming down the street.

"That horse must be named after Napoleon."

"Why?"

"Because he has so many Bony parts."

WHILE WITNESSING some Manual boys playing catch, a freshman was struck on the head, the bawl coming out of his mouth.

The world is always hard to a woman who steps off of a street car backwards.

One round of pleasure—An engagement ring.

A mule doesn't have to go to school to make his mark.

An old maid of Kalamazoo refused to go skating with the only bean she had had in 20 years, because the rink was finished in undressed lumber.

"Hello—Yes, this is Mr. Elmer talking."

(Pause)—"Oh, did you want to speak to Papa?"

"TWO SOLES THAT BEAT AS ONE," remarked a freshie, to his mother, as she was dealing with him for his sins, using both slippers at once.

It doesn't matter how watchful and vigilant a girl is; if a fellow kisses her, it is ten to one that he will do it right under her nose.

A TEACHER WAS EXPLAINING the meaning of the word "adhere" to the class.

Dorothy learned that it meant to stick, so when the teacher asked her to give a sentence with the word in it, she said, "When I go home, I will adhere a pin into Miriam."

An eminent historian says baseball began at the time Rebecca went down to the well with a pitcher and caught Isaac.

Robt. Gibson says it is better to have loved a short girl than to never have loved a tall.

A FRESHMAN RECENTLY had the misfortune to swallow the contents of a bottle of ink. His mother, with wonderful presence of mind, immediately administered a box of steel pens and a foolscap of paper.

He says he has felt write ever since.

A motto for Young Lovers.

"So-fa and no-fa-ther." (Sofa and no father.)

An Extract from the Local Editor's Diary.

"We detected a piece of bark in the sausage and immediately visited the butcher shop to know what had become of the rest of the dog."

"The butcher was so affected that he could give me only a part of the tale."

JOKE.

Old Maid's laughter—"He! he! he."
But a bachelor's laughter is not
"She! she! she."

Butter is strong, but cheese is mitey.

Loy Shader was heard to remark to his fair partner as they strolled down the hall side by side—"Call me pet names—something typical of sweet sounds."

She said he was a gay lute.

A Sophie who sat down on the spur of the moment, will never do so again.

Helen—"I always do my letter writing on Sunday afternoons."

Lucile—"I do mine on Friday nights."

Helen—"Well, you see, I am sometimes occupied with other things then."

Irma—"I can't reach the high note."

Marjorie—"You had better take a step ladder."

Juliet—"My collar band is the quietest band you ever saw."

Estelle wishes to announce that she received a dust cap, a knife, fork and spoon for Christmas, and now all she lacks for going to housekeeping is a man.

All young men not otherwise engaged take note.

Agnes—"Why, I know the boys at school don't know how to propose."

FOR RENT—

Radiator, by Room 16. For terms apply to Mr. Clyde Drollinger.

Leota was cutting cake and there was just one small piece left, so she generously said, just as Tom appeared, "Here's a piece of cake for somebody"—then as Tom made a move to get it she finished—"somebody with a big mouth."

Exit Tom.

Marley (Addressing Craig, who is also called "Coffey") "Do you like Chilli, Coffey?"

Coffey—"No I prefer mine warm."

Enid Smith—"If I had a society, I wouldn't have any girls in it."

Miss Fisher to Etherton—"O' If I only had you across my knee. That's the only way I could impress you."

Miss Sublette says that the lips are very sensitive to touch (?)

Paul—"I couldn't get this lesson Miss Drake."

Miss Drake—"I do wish you would tell the truth, my boy."

Miss Berger—"Yes, you can often hear roosters crow in the night, even in the city, if your neighbors happen to have hens."

MR. DAVIS SAYS that a woman shouldn't get married till she is able to support her husband. Isn't he considerate?

How do we know that Rome was not built in the night?

We are told "Rome was built in a day."

Mr. Kizer—"Have you read Pilgrim's Progress?"

Pupil—"Yes, sir."

Mr. K.—"Did you enjoy it, and what was it about?"

Pupil—"It was about seven years ago."

Mr. Cowan—"You know the devil always finds work for idle hands to do so I will give you some."

Paul Byrd (in Algebra)—"You have to reduce the bushel of potatoes to centimeters."

Ralph—"Hello, Bob! What makes you look so excited?"

Robert—"Why, you see, they've got twins at sister's. One is a boy and the other a girl, and blamed if it don't make me an aunt and uncle both."

WARNING FRESHIES.

A freshie, named Mary, one day;
Took her lamb to a meadow to play.
But like all of her class,
She was such a green lass,
That for grass, she was eaten, they say.

"What a funny tail that dog has. I never noticed it before."

"No. It has always been behind."

Mother—"I expect the pastor to dinner, Sammy, and you must wash your face."

Sammy—"Yes, ma. But s'posin' he don't come."

Miss Van Metre—"What kind of a play was the 'Silent Woman?'"

McMillan—"A Miracle Play."

What killed Caesar? Roman punches.



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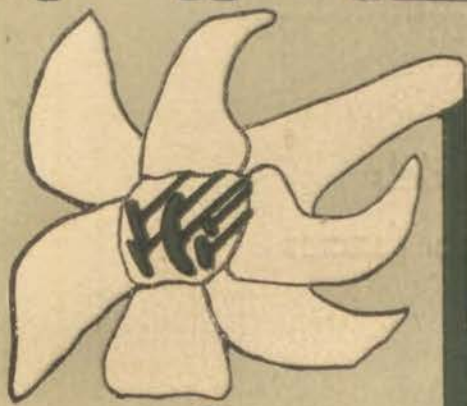
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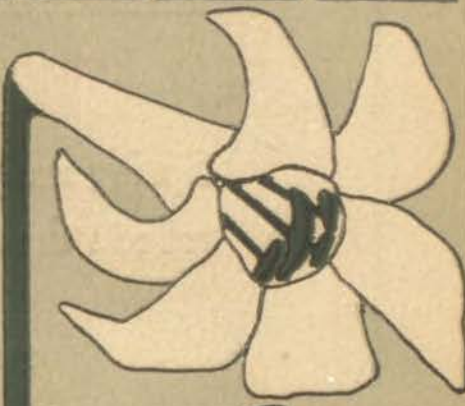
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THE NAUTILUS



Build thee more stately mansions,
O, my soul!
As the swift seasons roll;
Leave the 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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KANSAS CITY, MO.

APRIL, 1908

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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.

Mr. J. A. Gallagher, of the Faxon & Gallagher Drug Co., has donated five dollars to the Nautilus for which we wish to thank him sincerely. Woodson Thornton, one of our boys who is

down in Tangier, Oklahoma, also sent five dollars to the relief of his old paper. He was literary editor last year and the call of distress touched his heart-strings and loosened his purse strings to such an extent that we received assistance. We wish to thank him and hope that he will write us a letter to publish in the Alumni department of the annual.

The \$10 prize offered by the Daughters of the Revolution, for the best essay on the Santa Fe Trail was won by Donald Reid. The essay is published in the literary department of this issue and reflects much credit on its writer. A word of advice, Donald, don't spend your fortune in riotous living.

In the essay contest on the "Declaration of Independence," Cushman Farnum won honorable mention. His essay was of good quality and composition, but the judges chose to think that Central had better. Ten

**Our Friends
Are Still
Busy**

**The "Santa
Fe Trail"
Essay**

**The Sons of the
Revolution
Essay**

essays were entered from Manual and only one captured a prize. Where are our lusty "ink slingers?" Hasn't Manual as good writers as Central? Get busy! "Central commences to work on her essays as soon as the subject is announced." **Why don't you?** A city cannot be built in a day. Neither can an essay be written in a week. The winner from Manual worked that time on his essay. What could he have done if he had worked four months? Are we content to let it be said that "Central" can write better essays than any other high school in the state, **our alma mater included.** No! Prove it.

The subject for next year's essay in the Sons of Revolution contest is, "The Literature of Revolution Times." Now begin and work with a winner's will.

In the recent Art contest, Manual gained second prize and six honorable mentions. Raymond Fritton won our high laurels for us this time and the honorable mentions were won by

The Art Prizes

Mabel Clement, Helen Pursley, Eileen Leavitt, Neva Wing, Margie Rice and Helen Harrison. **Central carried off first and third.** Don't it make your heart ache to see that bright ten dollar gold piece go into Central's pocket? Don't spend your time in vain regrets but try the motto of the ancient Greeks "Get Busy."

Perhaps in wandering about the halls you have noticed a shell-shaped pin with the word "Staff" on it. This is not the pin of a new club or anything like that, but only the Nautilus pin, a recent conception of the staff. The shell is made to represent the Nautilus and the word "Staff" tells the rest.

Through the efforts of our worthy principal, Mr. Phillips, the School Board has granted Manual a case in which to place the Archeological collection, which the Pennsylvania University had given us. Additions have

been made to the case until it has a good collection of relics of all kinds. This is an object of interest which every pupil of Manual should study and take pride in.

On January 23, our new society, the Girls' Athletic Association appeared before us in a very interesting little sketch entitled "Dignified Seniors." It certainly smacked of college life and the blending of the dramatic, artistic, musical, and athletic was most enjoyable.

The society has started on the right road to a successful career in Manual and we all join in our praise of its first open session.

The ION Society on February 6, gave the pupils of Old Manual another of Arnold Hofmann's irresistible productions entitled "Here's to You!" It was given in two scenes, the first being that of a gypsy tent and the second the drawing room of an 18th century lord. The play showed originality, both in composition and production.

Rolland Montague had the role of the poor, deceived maiden, and Lewis Buxton and Jay Ross had the parts of wandering Willies. The antics of these tramps kept the audience in tears of laughter and when the curtain dropped on the last scene every one regretted that the time was only 25 minutes for all wished more.

Though the Daphne Society has been with us two years, February 20, was the first time that it has had the opportunity to appear before us in an open session. The little farce named "A

Night of Surprises" was written by the members and was very entertaining. It was a sketch of a night "feed" given by the college girls in honor of one of the student's birthday. Each participant was dressed to represent a character of the Colonial days and the costuming was very good. Of course the secret fun was discovered by the matron, but the girls were forgiven. The

Girls' Athletic Association Day

ION Day

Our New Pins

The Daphne Open Session

Our New Case Near 32

only thing in the whole play that was not enjoyable was to see them eat and yet be but a poor spectator.

“Our Noble City as It Has Been” might have been the title of a most amusing sketch given by the American Literary Society on March 5, but it was not. The title was “John Doe of Long Ago,” and it was the creation of Eldon Etherton’s fertile brain. The scene was that of a court room at Westport Landing in 1856. The prisoner

“John Doe
of Long
Ago”

was charged with the unforgivable crime of flirting. The whole scheme was carried out in perfect harmony and was very realistic. Myron Witters and Fred Thilenius carried out the role of old-time lawyers beautifully and the jury did the proper thing for a tired jury to do while Bret Boright, the Judge, kept the audience roaring until the noble windows of Manual trembled with the shock. He was in every way adapted for his part and his odd actions and sharp whistle made even the most dignified of seniors deign to spread their faces till the corners of their mouths neared their ears.

The Daphne Society in “A Night of Surprises.”



Honor List.

Adele Fiest	- - - -	Three-fourths page
Helen Spotts	- - - -	Three-eighths page
Velma Burke	- - - -	One-fourth page
Lela Stearns	- - - -	One-half page
Harold Sterns	- - - -	One-half page



ART



EDITORS

Agnes Meyer

Henry Ackerman

IT IS OUR INTENTION to make the 1908 annual number of the *Nautilus* the most excellent that has ever been published. To accomplish this we will need, along with literary talent, some artistic talent also. Although a book is not known by its cover, a good cover will tend to make the book more attractive as a whole. Now as the *Nautilus* is a good paper on the inside, so let it be on the outside. Pupils of the art classes especially and any others who are inclined, are the people to make this paper show some of its excellence on the outside. Be a Manualite and try for the annual cover prize.

WANTED.—Posters for the different departments of the *Nautilus*. Although there are laws against bill posting in some places, we think it is safe to adorn our own walls with a few of our own make.

IN THE FINE ARTS, probably more than in anything else, competition is very keen. But this emulation does not consist of envy or unfair rivalry, except in a few cases. It inspires a man to excel all others, by superiority alone. History is full of such instances of competition as that between Michael Angelo and Raphael, and between Albert Durer and Lucas van Leyden. It is well known that competition tends to the improvement, intellectually, of the competitors. Where there is no competition there is generally little activity. Master artists, above all others, endeavor to emulate their fellows in the skillful use of the brush and palette.

JEAN RANC, a French portrait painter, was sometimes annoyed by impertinent criticism. Having exhausted his talent on a particular portrait, the friends of the sitter were not pleased, although the sitter was satisfied. Ranc and the latter formed a plan for a practical retort to the critics. The artist made a copy of the picture and cut out the head so that the original could supply the opening with his own features. The would-be critics were called in and, still displeased, were about to condemn the likeness when the supposed portrait began to laugh. Thus the painter was avenged, for the unjust criticism of his work.

JOHN DE MABUSE, an eminent painter, was in the service of the Marquise de Veren, when the Emperor Charles V visited her. A part of the scheme of decoration was to have the household dressed in white damask. Mabuse was a spendthrift given to dissipation. So he sold the damask for his suit, spent the money and painted a paper suit instead of the other. It passed off handsomely for damask. Some of his friends told the Marquise, who was highly pleased and asked the Emperor which suit he liked best. He pointed to Mabuse and said that one excelled in whiteness and beauty of the flowers. He would not believe the suit paper until he had examined it with his own hands.



HERBERT HARR

EDITORS

Lucile Phillips Harold King

An Old Note Book.

Earl Davidson, '09.

"Glen, what is the matter with you? You used to be a fine pupil, but you are doing such poor work," Miss Parker said this to Glen as he sat down, after fumbling his Cicero translation and finally throwing his book on his desk in disgust. He thought of the good work he had done the year before and it sent a pang through his heart to think of failing. He had been doing worse and worse for some time and he felt furious. He thought of what his father would think. He would be ashamed to bring home an "F." But he must do it, if he does not do better work. And how could he have better lessons? He studied an hour and a half each day and he could not spend more time than that on his Latin. So he must fail, he thought. He went to his teacher in this melancholy state and explained to her.

"Certainly, that is enough time to get your lesson. But time can not do it all. You don't study hard enough."

He knew that he had gotten his Caesar lessons in an hour and stood at the head of the class; and he knew that no other pupil in the class was spending that much time. And why could he not do as well as they? When Miss Parker said this he realized that he was studying sleepily. He studied all the time, and never gave himself a moment of recreation. "Perhaps that is it," he said. "I'll try studying harder."

He went home resolving to have his lessons better in the future. He started to study his history. Finding a name in Mythology, with which he was not acquainted, he went to the book-case

somewhat out of humor that he should have to waste his time in looking up fairy tales. Without thinking he took a book from the case. He was worried still more to find it was not the book he wanted. But he liked to rummage through the library and look through the old books. He turned through this and placing it back, he saw an old note-book. He thought he would see what kind of work his father had done when he was in school. He drew it from the case and opening it read, at the top of the page: "Cicero's Third Oration Against Cataline." He soon recognized it, and was stunned for a moment. Turning over a page or two, he thought, "Just what I need."

He went back to his desk and hurriedly translated the text by the aid of the note book. To be sure the he had his lesson he read it over again with casual references to the note-book. "Oh," he thought, "What a lucky discovery." He felt certain he had regained his place. He soon got his other lessons in high spirits. He knew, then, that he had not been studying hard enough. He said he had gotten his lesson better that day than usual, in half the time. His mother noticed his jubilation at the supper table. Contrary to his grave and silent attitude, he talked a great deal, and in his nervous jollity up-set his glass and spilt the gravy. His father remarked that he must be feeling good that night, but said nothing more. He was glad to see his son in a better humor and hoped he would remain so. His mother told his father she was afraid the boy was in love.

But he, a matter-of-fact old man, thought his son strong enough to resist the onslaught of the fairest maiden. It is needless to say that Glen had a good lesson the next day and was soon leading the class again.

But a time soon came when there was danger of losing his reputation. The oration on Pompey was not translated. He would have either to lose his place of honor or to work very hard. He chose to get his lessons. It was hard, much harder than before he had found his pony, but he got it after two hours of hard work. No one knew the difference. If there was any at all, he showed that he saw more clearly the con-

struction of every sentence. By the time the oration was finished he shortened his study period by half, with just as good lessons.

Now the trial of his life had come. Would he use the pony again on the next oration. He knew it would be better for him not to use it. He knew he could get his lessons better without it. But it would be so much easier by using. He would not have to exert himself. Would he let laziness rule reason?

The pony still remains untouched; no longer a pony, but an old exercise book of his father's.

The Santa Fe Trail.

Donald Reid, '10.

Winner of \$10 Prize offered by the K. C. Chapter of the Daughters of the Revolution.

Across the plains where now run the glistening rails and Mogul engines of the Atchison, Topeka and Santa Fe Railway, there once stretched a lonely trail; the only thoroughfare between Santa Fe, New Mexico and the middle west.

This trail was a natural highway, for it was the road of least resistance, as is shown by the Railway selecting almost this identical route for its right-of-way. Could the curtain of history be raised we might see the aborigines of America making their invasions into, and their retreats from their enemies' territory along this trail.

From its western terminal it received the name of "The Santa Fe Trail." In those early days it took months to cross the plains, a thing that is now accomplished in twenty-four hours. A difference as great is found in the value of the merchandise carried. In the by-gone days it amounted only to the thousands of dollars, now to millions; but nevertheless, the smaller business was as essential to that day as the larger is to this.

The first men who ever conceived the idea of trading with the Spaniards, were the Mallet Brothers. Little is known of them except that they reached Santa Fe in July, 1739. The next man

to reach this place was probably Baptiste La Lande, a French Creole, who was an agent for William Morrison, a merchant of Kaskaskia, Illinois. His route lay up the Platte River to the Rocky Mountains, after which he skirted them to the Spanish settlements, which he reached in 1804. La Lande made a success of the expedition, but as he had a short memory he forgot to return; but stayed at Santa Fe and went into business on his employer's capital. The next year Captain William Becknell organized an expedition of thirty men. They made good progress until they reached "The Caches." There Becknell proposed the idea of cutting across the country that is known as the Cimarron Desert. As there was nothing to guide them they took an irregular course by observations of the North Star. At the Arkansas River they had failed to supply themselves with water enough for more than two days, this being an insufficient supply for the journey caused much suffering, but nevertheless they reached Santa Fe and on his return Becknell in speaking of trade possibilities, stated that wagons costing one hundred and fifty dollars in Missouri brought seven hundred dollars in Santa Fe, and that other articles brought proportionately high prices.

The enmity caused by Pike's trespassing on Spanish territory stopped

the development of trade for a while. In 1809, three men attempted to reach Santa Fe but were never heard of again. Another expedition reached Santa Fe in 1812, but the reception was discouraging. Their goods were seized and confiscated and it was nine years before the men were released from prison. Two years later Julius DeMunn arrived at Santa Fe, but his reception was so cold that it stopped for the time being all efforts to trade with New Mexico. When in 1821, New Mexico revolted from Spain, all American's were released from prison and the doors opened to trade.

At this time the "Santa Fe Trail" was opened as a highway of Commerce. In 1824, the best equipped train yet made up crossed the Missouri River at Franklin. Le Grande the outfitter had eighty-one men, one hundred and fifty-six horses and mules, twenty-five wagons, and thirty thousand dollars' worth of merchandise. He made the trip in four months and ten days. As a result of his sales he returned with one-hundred and eighty thousand dollars in gold and silver and ten thousand dollars in furs. This inspired others and by 1825, trade had increased to such a magnitude that it aroused congressional action. A bill was introduced appropriating ten thousand dollars for the expense of a survey of the trail and twenty thousand dollars for the purpose of buying land from the Indians. The expedition of Augustus Storrs of Franklin, Mo., and his report to Senator Benton concerning trade possibilities stirred up Congress so that this bill was passed. The surveyor selected was J. C. Brown. The work of surveying was carried on under military escort in charge of Major Sibley of the U. S. Army. The surveyed trail extended from Independence, Mo., to Council Grove, Kansas, through a country well settled for that day and where water and food were plentiful. There are still many points of historical interest scattered along the trail; at Council Grove there is a ford across the Neosho River where some think Coronado crossed, as pieces of chain, mail and other relics have been found near there. At this ford is the "Council Oak" still standing under which the

chiefs of the Osage Indians and the United States Commissioners signed a treaty, August 10, 1825, to the effect that the United States was to have the right-of-way for the trail through their territory. Around the "Council Oak" is the "Council Grove," from which the town derived its name. This grove was the last large body of timber before reaching the Rocky mountains and on account of this the freighters would cut logs and string them under their wagons to be used in making repairs. In some cases these logs have been carried to Santa Fe and back again when not needed. There are also some buildings still standing that were used in the days of the trail. After crossing the Neosho, going west, the first building is the old blacksmith shop. This was the last chance to get horses and mules shod. The next building is the hotel built of native oak and walnut. For many years this was the most noted tavern along the route. Almost a block west of this is the pioneer store the last place where neglected or forgotten supplies could be obtained.

West of Council Grove the land begins to change from the pleasant and fertile prairie to the arid plains where the trains were exposed not only to the attacks of the Indians but also the action of the elements, dangers by no means insignificant. The tricks of the Indians were many and very ingenious. In some instances they would stampede the buffalo in the direction of the train so that in the confusion they would be able to rob the train. Some of the tribes had their horses trained so that they would run among the traders' horses and stampede them after which the decoys would lead them to their camp. Two very serious dangers were the lack of water and the great frequency of sand storms, which were not only inconvenient, but a menace to life and health as well. We of today can scarcely conceive of the privations these men suffered walking or riding beside the trains, the sun beating mercilessly on their heads, with no shelter at night save the low, covered wagons and surrounded by wild beasts and wilder men. These conditions must have made their lives one contin-

uous round of anxiety and we can scarcely imagine the joy with which they must have been filled when they again reached the bounds of civilization.

The following are some of the most famous camping places west of Council Grove: Diamond Springs, Lost Springs, Cottonwood and Turkey Creeks, and Cow Creek, at the mouth of which is now situated the town of Hutchinson.

The next place of historical interest is Pawnee Rock. The territory around this rock was common ground used by all the Indian tribes to hunt buffalo. This rock was of sandstone, about twenty feet high and about two miles from the river. It was, for a long time considered the most dangerous point on the trail; because the Indians could hide to such an advantage, and swoop down on the traders. This rock is no longer to be seen as the railroad and the people round about have used the rock for the foundations of water tanks in the one instance and of houses and barns in the other.

Still continuing west, we come to the Cimarron crossing where the trail divides; one part continuing up the Arkansas River and the other going across the country. The one branch after reaching Bent's Fort turns almost directly south to Raton, New Mexico. At this place a private toll road was built, at a great expenditure of money and energy, by "Uncle Dick, who to reimburse himself charged a fee of two dollars and fifty cents for each wagon. This fee was not always easily collected. From Raton this branch ran to Fort Union where it joined the other branch, after which it continued to Santa Fe. Here the trail ended at the old adobe hotel, which still stands on the border of the Plaza.

As early as 1849, a stage coach was started from Independence, Mo., to Santa Fe. As there were many skirmishes with the Indians, the coach had to be guarded. There were eight men who acted as guards, each armed with two revolvers and a rifle so that in case the stages were attacked, they would be well defended.

When the stage line was first established it ran once a month. Later the service was increased to once a week, then to three times a week, and, after the travel demanded it, daily stages were run. The fare to Santa Fe was two hundred and fifty dollars, the baggage being limited to forty pounds, for all that the traveler wished to carry in excess of this, he must pay a fee of fifty cents for each pound.

The people of to-day traveling over this route in the Pullman palace car can scarcely realize the inconvenience of travel in those early days; but it was necessary that those privations be endured that this country of ours could be developed for the coming generations.

It is a good thing for the generation of to-day to study the hardships endured by the men who lived in by-gone days, in order that we may appreciate what it has cost to bring this country to as perfect a civilization as we now possess. These hardy frontiersmen must have had a far look into the future, and been filled with the realization that they must endure their hardships bravely for the benefit of an unborn posterity. How well they succeeded we may now see by taking note of the wonderful manner in which the western plains, once an arid desert, are now developed, and the commerce of the old trail now taken care of by a modern railway.

It is also a good thing and a commendable one for the Daughters of the American Revolution to spend time and money in marking this trail, that the memory of the men who braved dangers and privations to bring about these results may be preserved. For the coming generations should know about and praise them for their great enterprises and courage in helping to make possible such glorious conditions as now surround us in the great and growing west.

There still remain great deeds to be done in the cause of humanity, new trails to be discovered, and we of the present generation must be up and doing if we would equal the courage and enterprise of those who have gone before.

When I Enrolled. A Reply to the Seniors.

Helen McGrath, '11.

When I enrolled, the table opposite mine was occupied by one or more belated Seniors, who were obliged to enroll on Freshman day. Though I did not know their pretensions, something in their manner attracted my attention. They seemed to be ill at ease, possibly in pain. I felt sorry for them and must have looked it, for their glances rested scowlingly upon me, as if I were responsible for their condition. Poor things! I afterward learned that they were Seniors, and that they were suffering from what Mrs. Wiggs would call "information of the brain." The effort of maintaining a superior air in the presence of Freshmen caused these paroxysms.

Being a Freshman, I did not know what was meant by Seniors but was told that they were three year old Freshmen, who for some unaccountable reason looked with scorn upon their earlier conditions and disdainfully upon those who had similar ambitions. How ungrateful, I thought. They forget that, "Our deeds still travel with us

from afar,

And what we have been makes
us what we are."

After I enrolled I called myself a Freshman and I wondered why others in a condescending tone chose to style me "Freshie." Both terms are good

and wholesome. They suggest youth, vigor and energy. The term fresh in its varied applications carries with it merit. As applied to sweets, fruits and flowers, it is the highest commendation. Its brand upon the average product means a guarantee of merit. When it defines the first year students whether termed Fresh, Freshie or Freshman, our confidence in their success is established, and rightly so for here in, possibly are hidden the attributes of which great Seniors are made.

The worst that might be said of the name as applied to ourselves would be the inference that we lack knowledge and experience. Well, that's no disgrace; the condition has a remedy, and we are here to demonstrate the fact. "Can't none of us help being Freshies," but we can help remaining so.

While this condition of a Freshie is not altogether a romance, neither is it a tragedy. Pluck and perseverance should be our watch word. Let us profit by these object lessons, handed down to us by the progressing Freshies, who are not dead but gone before investigating the realm of Sophomorphism. Juniorism and Seniorism, being guarded as we progress lest our multiplied knowledge should produce, as in the case of the belated Seniors whom we met on enrollment day, "information of the brain."

A Train of Subjects.

Emmet Russell, '09.

We boarded the Excelsior train at Propville on the Geometry division of the road. When the conductor called for tickets we were able to give the day's theorems correctly. (No half fares or passes were allowed on this road.) The train ran along smoothly enough until it rounded a curve and ran into an open switch crashing into a wayfreight from Proof Creek, wrecking both trains. Some of the passengers were doctors so the injured were well

cared for. Finally part of the train, with another engine, got under way.

Soon we arrived at Rome, where Caesar came aboard. It was necessary for him to reach the Alps quickly, so the engine put on full speed and soon arrived at Geneva. Several subjunctives and other explosives were sighted on the track, a few miles out of the city. The passengers helped clear these off in order that the train might proceed. After many detours we reached the

British Channel, Caesar giving much valuable information along the route. Instead of taking ship over this we went through the new tunnel much to Caesar's surprise. He expected to see a host of barbarians on the English side but was much disappointed.

Here we found the composition train from Rhetoricton. While going through England we nearly had Ma-

cauley killed in the wrong year, and almost forced Bacon to write Shakespeare's plays.

Returning to London, we made a pleasant tour of Europe on the Medaeval train. After many adventures, such as almost having the wrong nation beat in a war, we found ourselves in the assembly hall with Excelsior still ahead.

A Trip Through the Lakes of Northern Wisconsin.

W. Cushman Farnum, '08.

To those who have spent any time in Northern Wisconsin on those grand lakes and in those dense pine forests, any description that the ablest wielder of the pen could give of the beauties of these wilds, would be totally inadequate to express his feelings, when enjoying such gifts of nature. Far be it from me, then, to attempt to elaborate on the beauty of this region. If one will examine a detailed map of the northern part of the state, he will see that there is a good fourth part of this country covered with water. This part of Wisconsin is studded with beautiful lakes of all sizes, nearly all connected by channels, or "thoroughfares," as they are called. Some of these connections are marshy in the greater part, but even then, there are channels through the marsh large enough for a boat. By means of these thoroughfares and by the aid of short trails called "portages," from one lake to another, a person can make a trip through the whole lake region in a canoe. The lakes are beautified by dense pine forests which usually extend to the water's edge. In some places, fires and injudicious lumbering have marred the beauty of these forests, but not their picturesqueness. The waters of the lakes are cold and clear as crystal; both of which characteristics make them the home of the best and the gamest of fish. These lakes extend from the town of Tomahawk, on the south, to Lake Superior, on the north, and from Lake Michigan, on the east, into Minnesota, on the west. The whole state of Wisconsin, in fact, is full of beautiful lakes, but these others are not of interest in my story.

This explanation may add some in-

terest to my story but I have said sufficient. My father and I, in company with two of my uncles left Chicago over the Chicago, Milwaukee and St. Paul Railway one night in July. The first stop we made was at Minocqua, a small town entirely given over to trade with sportsmen and lumbermen, who make it a stopping place to get supplies and in which to have a good time. Sportsmen who are new to this part of the country and who also present a green appearance to the natives and guides, are dubbed "tourists," a name not relished by its possessors. This town is a typical trading place, such as one is sure to find in all northern, undeveloped forests. At Minocqua, we put up at a hotel and that evening engaged a guide to show us the best fishing grounds. Contrary to general beliefs, these guides are very seldom Indians. The Indians of this part prefer living off of Uncle Sam on his reservations, to engaging in any work, necessarily as hard as guiding. We had good fishing here and in our stay of a little more than a day we caught enough to ship a large box of black bass, pickerel and one or two muskellunge, home. To my father belongs the honor of catching our first "muskie." Muskie is an abbreviation of muskellunge. This one was not very large, however, weighing only about five or six pounds. The muskellunge is a species of the pike family and is the largest and gamest member of that family. It has a long body of a greenish-gray color, mottled, especially on the under side. A full grown muskie is a dangerous fellow, having extremely large and powerful jaws and very sharp teeth, as any one

who has been bitten by one can testify. This fish has been known to reach the size of eighty pounds, one having been caught in a net by the Government Fish Commission near Minocqua of that size. Still, when a fisherman has caught one weighing twenty-five or thirty pounds he considers himself lucky. The muskie is an exceedingly game fish, and it taxes the skill of a fisherman to the utmost to land a good sized one.

After our short stay here, we left in the morning for the terminus of the line, Star Lake, where we were to meet a Mr. Langley of the logging firm of Langley and Alderson. Upon our arrival, we found Mr. Langley at once, and were rowed across Star Lake by two of his loggers. From the landing place, we took a blazed trail through the woods, for about three-fourths of a mile, to the main camp of the firm, situated on a small lake, called Lone Tree Lake. This was not a logging camp but a supply station of the company's. This was the headquarters of the different foremen and the logging engines and equipment were kept here. Mr. Langley had a fine little cottage here in which he lived and also had his office. The loggers call this sort of a camp a "Wangun" camp because of the "wangun," or supply store situated there. As we arrived late in the afternoon and all were quite tired, we lay around camp that afternoon and evening swapping lies and listening to tales, whose marvelous incidents would testify to the great imagination of the loggers.

The next morning, in order to get a good start we turned out at two-thirty, and after a breakfast at the cook-house, we took our two boats on flat cars, and with a puffy, wheezing, logging engine, started for another camp. This camp was situated on the Manitowish River, about thirty miles from the wangun camp. To one who has never enjoyed the experience of a ride on a flat car, covered with bark from the logs, drawn by a logging engine over a rough track laid with as little grading as possible, such a ride as we had can not be appreciated in its fullest enjoyment. This particular morning was especially suited to such a trip, the weather be-

ing ideal. The trees on the side of the track were so close to it that we could almost touch them as we rode along. We arrived at Boulder Lake in about two hours, and here we had to unload our boats and row through the lake and down the Manitowish river about five miles in order to reach our destination. The logging road was being extended to the camp but was not completed when we were there.

This was a typical logging camp and was an institution in itself. There was a long, low, log house, in one end of which was the cook-house and in the other, bunks arranged three in a tier. In the center was the supply shed for the cook and it contained every conceivable thing necessary for the kitchen. Another log house was used as an office for the foreman and was fitted up very well for being so far from civilization. In the latter house was also a store containing tobacco, gloves, shoes, socks and such things as the lumber-jacks required. Connected with this office was a sleeping house, even better furnished than the other. This last named house was used by our host and he placed it at our disposal. We were given the best food they had, but which was no better than all of the loggers received, and we also ate with them in the cook-house. Mr. Langley and all of the managers ate with the men and made no discriminations.

For our fishing we would row up into Boulder Lake, and we had excellent luck. Our best fishing was when we found a place near some "dead-heads" that was filled with pike. Dead-heads are logs that have become water-logged and float upright, showing a small part above the surface. These pike were those called "Yellow-bellys" and were about the finest I have even seen. In less than an hour we caught over thirty of these and none weighed less than two pounds.

We enjoyed such sport as this for a few days and one evening at eight o'clock the crew of the logging train came for us and we left over the same road by which we came. The experience of this particular ride through the darkening forests, the air laden with that invigorating odor which is a characteristic of all pine regions, and our

hearts all responding to these beauties, is one which will always remain deeply impressed on our memories. This beautiful ride served as a fascinating ending to our pleasant trip to Boulder Lake, and made our enjoyment of it complete. A practical result of this trip was evidenced by two boxes of fine black bass and pike, well packed in ice and moss. After a short stay at Camp 25, as the wangu was called, we returned to Minocqua and enjoyed more good fishing.

At this last stay at Minocqua we had even better luck than before, and my uncle had the good fortune to catch a ten pound muskie. In the pursuit of my favorite sort of fishing, namely, bait

casting, I added to our catches some fine bass. We then returned home, making a few visits with relatives in the state.

In conclusion, let me say to those, who, like myself, are lovers of the science of angling, and who also enjoy a trip in which "roughing it" plays an important part, that no place is more suited to the full enjoyment of these pleasures than the lake region of northern Wisconsin. Here are combined, fine fishing and hunting, with a climate that is incomparable for the enjoyment of such sports, and a wealth of forest, rarely touched by man, in which to enjoy both.

The Acts of Judge Kyle and Judge Wallace.

Peake Vincil, '09.

Judge Wallace and Judge Kyle were the names given to two roosters that belong to one of my neighbors. It is rather hard to distinguish one from the other on week days, but easy on Sunday. On Sunday Judge Wallace will not eat, while Judge Kyle will work and get all that he can to eat. On Monday Judge Wallace will bring Judge Kyle up before the Grand Jury, which

consists of my other chickens. Then a fight follows and Judge Wallace uses his spurs on Judge Kyle. After the fight is over Judge Kyle brings Judge Wallace up in the Police Court and fines him \$500 for carrying concealed weapons.

The same thing happened so often that at last Judge Wallace was killed, and now Judge Kyle can eat and do anything he wants to on Sunday.

To Manual.

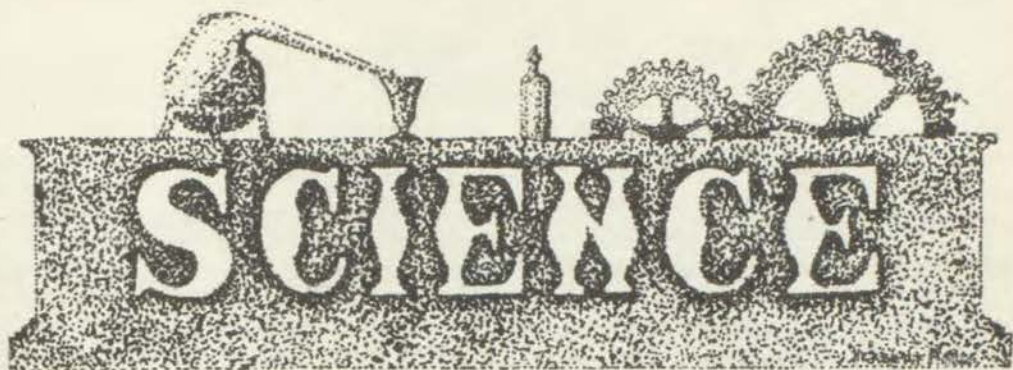
Grace Reardon.

Here's to our dear old Manual,
The school we love so well,
And for our dear old Manual
We'll sing and shout and yell!

Yes, we'll love and praise old Manual
With hearts both kind and true,
And when we're out in the wide,
wide world,—

We shall think, dear school, of you.

And we'll lose ourselves in golden
dreams,
Of the things that used to be,
And at last we'll say with throbbing
hearts,
"Dear school, farewell to thee."



EDITORS

Vera Banks Ross Parker

Brevities

AN AUTOMOBILE may be run with acetylene gas. In case of the exhaustion of gasoline the acetylene gas used for the lights may be used for power by making the connection with the carbureter and supplying the proper amount of air.

MR. SOBLIK, A FRENCHMAN, has perfected what appears to be a successful pneumatic typewriter. The machine supplies a long felt need with its absence of noise and visible writing. Automatic duplication is one of its best features. By automatic duplication the business man may print his circulars and advertising matter in his own office.

THE CLAIM IS MADE that Harry M. Grout, a high school boy of Spencer, Massachusetts, has devised a wireless electric lighting plant. He is said to have operated a dozen incandescent bulbs in different rooms of his home without wire connections.

LOUIS KAUFFELD, AN INDIANA inventor, has produced glass of extraordinary toughness. It is said that water may be boiled in a lamp chimney of the new kind of glass, that the chimney may be used to drive nails and that it may be taken from ice water and thrust into a flame without cracking.

BALLOONING HAS A CURIOUS EFFECT on the vision. The pressure on the eyes decreases and the sense of sight becomes so keen that at an altitude of 6,000 feet a bottle dropped to a body of water below may be observed in detail as it disappears below the surface, over a mile below the eyes.

MOVING PICTURE FILMS ARE PRACTICALLY SPOILED long before their life of usefulness should end, because of the "rain" which blots out the clearness. This injury comes from the continuous winding and rewinding of the film through the machine at the rate of a foot a second, forming static electricity. The electricity attracts all the particles of dust and dirt floating in the atmosphere to the films and, in pulling the film up tight, these particles scratch it and cause the "rain."

THE EXCAVATIONS from the Panama Canal during the months of November aggregated 1,838,468 cubic yards. This amount of dirt would cover 10 city blocks to a depth of 40 feet.

THE FORMULA by which M. Lemone, a Frenchman made what are said to be genuine diamonds has recently become public in London. It is a mixture of 30 parts iron, 55 parts boron and 15 parts charcoal properly blended in an electric furnace.

The Phonograph.

Hester L. Hulse, '08.

One of the most interesting things about the phonograph is the queer way that the principle happened to be discovered. Thomas A. Edison was singing into the mouthpiece of a telephone when the vibrations that his voice set up caused the fine steel point to run into his finger. This attracted his attention and set him to thinking. If he could record the actions of the point and then send the point over the surface again, he saw no reason why it should not talk. He tried it on a strip of telegraph paper and found that the point made an alphabet. Then he yelled, "Halloo! Halloo!" as loudly as he could into the mouthpiece and heard a faint "Halloo! Halloo!" come from the paper. He afterwards said that the phonograph is the result of the pricking of a finger.

The first phonograph which Mr. Edison made in 1877 as a kind of experiment, contained three essential parts: the mouthpiece into which the sound entered; a spirally grooved cylinder, carrying tin foil, and a second mouthpiece; and a cylinder and its axial shaft with screw threads of exactly the same pitch, so that when the shaft was turned by a crank, the cylinder slowly advanced as it rotated. Adjacent to the mouthpiece was a flexible diaphragm with a little point or stylus which pressed against the tin foil. When the mouthpiece was spoken into and the cylinder turned, the stylus traced an irregular path in the tin foil by tiny indentations. In order to reproduce the record the mouthpiece was removed from the cylinder, the cylinder run back to the starting point, and the other mouthpiece brought up to the cylinder. The stylus bore lightly in the path, and as the tin foil revolved its little jagged irregularities set up the same vibrations in the diaphragm of mouthpiece as those caused by the voice. This second diaphragm and the stylus were on the same plan as the first, except that they were much more delicately constructed.

When Mr. Edison had his first rude

phonograph completed, he invited a few friends to come to see a new machine that he had invented. Imagine their astonishment when they were greeted with "Good morning. How do you do? How do you like the phonograph?" in Mr. Edison's voice, but coming from the machine! Many clumsy attempts had been made before to imitate the vocal organs, but they were all unsuccessful. This little machine talked, barked like a dog, coughed, caught cold and sneezed until a doctor in the group proposed writing a prescription for it. In 1878, Mr. Edison exhibited it at Washington.

This is really a development of the phonantograph, invented by Leon Scott, in 1857, to record sounds, automatically, by means of a diaphragm and stylus. The record-making mouth piece of the phonograph is practically a phonantograph, but instead of having the stylus trace on carbon-coated paper as Scott did, Edison used a substance which could translate this into sound again by merely reversing the function of the diaphragm and the stylus. Mr. Edison thought it would fill an important place in the business world for it is a faithful stenographer which makes no mistakes, but it is hard to revolutionize customs and the first machines were so complicated that a busy man had no time to manipulate one.

The greatest disappointment about the early machines was that the records were perishable. After running the stylus over them several times they were not accurate, and, also, they were easily damaged in shipping.

Dr. Alexander Graham Bell, the inventor of the telephone, built the Volta Institute in Washington to study the phonograph and spent many years in improving it. In 1886, Chichester A. Bell and Sumner Tainter got out some patents. They made the first wax cylinder machines which are very familiar to us now as the "graphophone." Soon after this the Columbia Phonograph Company was organized. They have many branch houses in this country and in Europe, and in 1898 one graphophone was produced for every minute

of the working day of ten hours, making a daily output of six hundred machines.

The wax used for the records is a kind of soap which is melted in hugh pots and goes through many processes of refining. Molds are arranged in rows around a horizontal wheel eight feet in diameter, and this wheel revolves while a man is kept busy putting in wax at one side of the room. By the time the wheel has made a half revolution to the other side of the room, the cylinders have cooled sufficiently to be taken out. Many records are made at once in the record room, and there is such a medley that a visitor can hardly distinguish one sound from another, but the wonderful little machine never confuses them. About fifty women, each in a private compartment of glass, test every record before it leaves the factory, to be sure that it is perfect. The diaphragm of the phonograph are of the finest French plate glass and thinner than the average sheet of writing paper. The recording stylus is shaped like a gouge, which cuts out a little shaving of wax as it makes the record. Most of the grooves are about six-ten thousandths of an inch deep while some of the vowels are only one millionth of an inch deep. The consonants make the deepest impressions because of the superior amount of explosive force necessary to produce them. The reproducing stylus has a ball-shaped end so that it can readily follow in the path of the indentations. When they want to efface a record it is turned off smooth on a kind of lathe. The cutting knife used for this purpose, and the recording and the reproducing stylus are all made of sapphire, because of its great hardness.

The flat discs such as are used on the Victor Talking Machine are made of hard rubber, but the principle of making the records is the same as with the cylinders. If each record were an original one, only the wealthy could possess any, because many of the great singers are paid thousands of dollars for a single record. As it is, one record is made, then all the others are made from this one, and some of the original records are capable of giving one

thousand reproductions. These flat discs have some advantages over the cylinders, for they can be easily transported on account of their shape and are not easily destroyed.

Indians are a people who very seldom show any emotion. They always have that set, stoical look on their faces and it takes a great deal to move them. Once, when a chief had been listening to some records on a phonograph, without his knowledge, they made a record of his voice. When he heard his own voice coming from the little machine he fell back, terror expressed in every line of his face, muttering that the voice must have been sent from the "Great Spirit." No amount of reasoning or persuasion could induce him to get near it again, and he always had a superstitious awe of it after that. If Mr. Edison had lived a few centuries earlier and had invented the phonograph, in all probability he would have lost his life, for everyone would have thought he was a wizard. He says of the machine, "In one sense it knows more than we know ourselves, for it retains the memory of many things which we forget even though we have said them. It teaches us to be careful of what we say and I am sure makes men more brief, more businesslike and more straight forward."

The phonograph is used for literary, musical and commercial purposes and there are few inventions which are so many-sided in their usefulness. The phonograph has reached such a stage of perfection that it is almost as pleasing to hear its musical records as to listen to the musician himself. One important function it has is to preserve the mode of pronouncing languages. It is absolutely correct and will always be authority for the time in which the record was made. The phonograph has already proved invaluable in making records of long distance telephone conversations for here is absolute evidence of what has been said and evidence that no one can deny. Perhaps the most interesting use it could be put to would be to preserve the voices of people who are dead. How priceless this would be to the family of the person!

Suppose for instance that instead of reading Caesar, Virgil and Horace we could hear their words delivered in their own voices. It seems almost too marvelous to think about, but there is

nothing impossible about the idea, for if records are made and carefully preserved of people of our age, that is what the future generations can enjoy of our time.

Forestry.

Helen Barnes, '07.

Of the many problems which are confronting the people of the civilized nations of to-day, that of forestry is becoming one of greatest importance. To one who has not given this subject thought or study, it seems trivial; but now, owing to the scarcity of fine trees, forestry has become a science.

No where else are forest problems of more vital importance than here in the United States, and in no other country of similar civilization has so little progress been made in their solutions. Several well-known foresters have prophesied that in twenty or thirty years there will be no trees unless something is done to preserve those we now have, or make and cultivate forests in a scientific way. If a standard system of forestry were introduced, the individual as well as the community concerned would realize the greatest benefits, and at the same time people would become educated to a higher appreciation of the value of forests. Through the teachings of intelligent forestry, ruinous floods and droughts could be prevented in the western part of our country, and surely tree growth is more valuable than the foot-prints of cattle or sheep. 1,100,000 square miles, or 36 per cent of the land surface in the United States is occupied by forests. With this much land, it seems as if more progress should be made by the government.

A few of the states are beginning to take active measures in the making and preservation of forests. Minnesota and Pennsylvania are conspicuous for their fire laws; New York and Pennsylvania for their forest reserves; and Michigan and California for their state

organizations and public sentiment on the question. Some of the large colleges and Universities are also providing chairs of forestry.

The first example of professional forest-making was on Biltmore Estate, in North Carolina in 1891. The first year, the work paid for itself and it has been conducted successfully ever since.

Forestry has been defined as being the art of using the forest continuously to meet the needs of man." It does not deal with the individual tree, but with a collection of trees as they stand together in a forest. There are three important points which a forester must consider; first, the nature of the forest; second, the dangers which threatens it; and, third, the economic conditions by which it is surrounded. Of these three points, the enemies of the forest need most constant consideration and watching. One of the greatest of these enemies is destructive lumbering by man. The grazing animals also harm the young trees and the trampling of horses and cattle tear loose the slender rootlets. Insects and fungi are constantly injuring the trees, while wind and fire are their greatest enemies.

But now foresters have found a way for protecting the trees from these enemies; so it will be with the other dangers of the forests. Gradually the great ideas of our profession of foresters will be put into action, and there the prophecies will prove false. We are grateful, at least, for the start made in the solution of this great problem; and if each one does his part toward making a forest as well as toward preserving one, the United States will soon be noted for its fine trees.

ALUMNI

EDITOR

Leota McFarlin

Extract From a Letter of One of Our Boys in Peru.

I am now with the Cerro de Pasco Mining Co., and have been since Oct. 21, when I was transferred from the Railroad Co.

About two months ago Mr. T. Cox, reputed to be without exception the best mining engineer in the United States, and who draws a salary greater than our President, came down to Peru as "construction engineer" for the Mining Co.

In some way he found out that I had come down to go with Mr. Alford and arranged with Mr. Kerr to let me go with him. I stood to lose nothing and gain everything as my contract holds good, so I decided to go with Mr. Cox.

Our camp is situated in a beautiful country at an altitude of about 9,500 feet with lots of peach, palta, cheranoya, lukamas, apple and orange trees, raspberries and blackberries in abundance. Our tents, of which there are five, are situated on the banks of the Rio Grande River, about equal distances between Uchpachaca and Milchivaba, and about three hours ride from Goylarisquisca, our nearest railroad point.

There is only one other American in Camp besides myself, a fellow named Baker, transitman, and I am running a level. There is also a Peruvian, a very fine fellow named Plata, who was educated at the University of Pennsylvania and who is one of the survivors of the steamship "Columbia."

The trip down here is certainly something wonderful. In Goylarisquisca, the day I came down it was raining and sleeting and an overcoat was very comfortable, and yet in four hours we were 4,500 feet lower with

the finest kind of a tropical day and trees and flowers in abundance.

The reason we are down here, I cannot even tell you yet, but I will say that it is the biggest thing of its kind ever attempted in South America.

Baker, Plata and myself have a tent to ourselves, with low cots and plenty of blankets (we make our own beds), wash in the river, eat in the cook tent, and the floor of our tent is old "Mother Earth." Our usual bedtime is 7:30 or 8:00. We are up at 5:30 or 6:00, leave camp at 6:30 A. M., taking a walk from five to eight miles and get back to camp at 6:00 or 6:30, so you see I haven't much time to write.

Ledwidge Sargent.

Washington University,
St. Louis, Mo.

To the Students of our Alma Mater:

Several articles in past issues of the Nautilus concerning different Universities have been read by us with a great deal of interest and now we would like to tell you something of a real, live University. At present there are only three representatives of Manual in Washington University, but we feel confident that this number would be greatly increased if you who are about to choose your future college could but realize the great advantages offered by this institution and but know its reputation from an educational standpoint.

Unlike the greater number of Universities, Washington is situated near a large prosperous city. Being within

an hour's ride of the business district we are offered both the advantages of the large city and of the small town. Our position is also within a radius of a few miles of the manufacturing district of the city of Saint Louis. This offers opportunities of becoming familiar with numerous problems of all branches of engineering. The beauti-



WASHINGTON UNIVERSITY.

ful homes and imposing structures furnish excellent examples of the different styles of architecture. All this is especially advantageous to the engineering and architectural student as he is thereby enabled to study the practical as well as the theoretical side of his profession.

With well equipped departments of Arts and Sciences (the College and the School of Engineering and Architecture), Law, Art, Medicine, Den-

tistry and Botany, the University affords unexcelled facilities for higher education in all its branches. The twelve buildings situated on the University campus, a tract of 116 acres, lying west of Forest Park in the western outskirts of St. Louis, are of Tudor-Gothic architecture and are constructed throughout of red Missouri granite and Bedford stone. The buildings are two stories in height and are thoroughly fireproof. All lecture rooms and laboratories are large, well ventilated, and well lighted and are equipped with the most modern appliances. Three large and commodious dormitories, two for men and one for women afford excellent accommodation for about 300 students at reasonable rates. Each dormitory has a handsome dining hall in connection and, if you will pardon the expression, the service and food can't be beat.

We can justly say that our gymnasium is the best equipped in the country. Adjoining is the athletic field which affords opportunity for all kinds of outdoor sports, and contains masonry seats for spectators which will accommodate 10,000 persons. McMillen dormitory also has a well equipped gymnasium for women.

Before concluding our letter we wish to remind you, especially the Seniors, of the four Missouri State Scholarships offered by the University to the graduates of accredited High Schools outside of Saint Louis. Manual stands high on this accredited list and there is no reason why all four scholarships should not be won by Manualites. We will gladly give you all the information we can concerning these scholarships or the University.

Hoping that you will take advantage of this splendid opportunity and wishing you success, we remain,

Sincerely,

L. B. Baer, '05,
J. B. Harris, '07,
W. B. Stevens '07.



EDITORS

Mabel Thornton

Paul J. Dodd

The New Cunard Liners.

Arthur C. Perry. '10.

In some of the leading papers and magazines of the world, during the last three or four months, have appeared very interesting articles on the two sister steamships, The Lusitania and The Mauretania, but in spite of this fact it is not likely that many of the students of our city have any idea of the enormous size and capacity of these ships. They may well be compared to great floating hotels. They are considered the greatest triumph of the ship-building art and, are not only larger than the rest of the steamships, but faster and of a different type. Different kinds of engines are installed in them from those of the other ships. These engines are called "Turbines."

The two boats are, with a few minor exceptions, very nearly alike, and an explanation of one will do for both. There is a slight difference in the condensing plants and the Mauretania is slightly the larger, but on the whole they are very similar.

I intend to confine most of my article to the Mauretania, but first will give a few points on the first voyage of the Lusitania across the Atlantic. Her progress was watched by the German steamship lines and although she broke the record of the Hamburg-American Steamer Deutschland, it is thought that she will go still faster, but as it now stands, England and America have been

brought six hours and forty-four minutes closer together by her voyage. She made the trip in four days, nineteen hours and fifty-two minutes, with an average speed of a fraction under twenty-four knots, or nearly twenty-eight miles an hour.

On account of the enormous size and speed of these vessels, if a stone wall were to rise up many miles in front of one of them when going at full speed, the ship could not be prevented from colliding with it even if all the machinery were reversed.

The Mauretania is seven hundred and ninety feet in length over all, and eighty-eight feet in width, and has a draft of thirty-seven feet six inches. The boat displaces forty-five thousand tons of water. It has been compared to our national capital in that the total area of all the decks, seven in number, has twice the floor space of that building.

These boats were paid for partly by the British Government and are therefore official ships and carry mail. The Lusitania on her first voyage brought twenty-eight hundred bags of mail to New York.

The boilers of the Mauretania are arranged in four separate rooms. One forward room has five double-ended and two single-ended boilers and in

each of the others there are six double-ended boilers.

Each double-ended boiler consists of eight furnaces and the single-ended boilers of four furnaces, making a total of one hundred and ninety-two furnaces which occupy four thousand forty-eight square feet of grate surface. There are for draft, four funnels, one for each boiler-room, elliptical in cross-section, and measuring externally twenty-three feet, seven inches by sixteen feet, seven inches; the height from the base of the ship being one hundred and fifty-three feet. A forced draft is used, the fans being driven by a motor, and delivering thirty-three thousand cubic feet of air a minute.

The water supply for the boilers and other purposes is furnished by two complete sets of evaporators. Each set consists of one evaporator for making distilled water and two for the feed supply to the boilers.

Just back of the boiler rooms is the main engine room. There are four shafts connecting the propellers with the engines. Two propellers are at the stern of the ship, while the other two are seventy-eight feet, eleven inches forward and are on opposite wings, or near the sides of the ship. These two wing shafts are driven by the high-pressure turbines, one for each shaft, and the two inner shafts by the low-pressure turbines. The two high-pressure turbines for driving the boat astern are also attached to the inner shafts. There is a partition between the high-pressure turbines in the wings of the ship and the low-pressure turbines thus dividing the engine-room into three compartments.

The turbines which drive the ship are a new feature of marine engines and altogether develop sixty-eight thousand horse-power. A turbine is not a new engine for James Watt had some idea of the turbine when he invented the reciprocating engine; but for some reason abandoned it. The reciprocating engine works indirectly with the propeller, that is, the engine by means of a crank, which moves back and forth connected to a piston rod and propeller shaft, indirectly turns the propeller. In the case of the turbine the propeller shaft is also the turbine shaft. When

the reciprocating engine became so covered with valves and rods that a bewildered man could not tell why it moved, the hour of the turbine arrived.

A turbine is so common and simple that it may be compared to an ordinary water-wheel or windmill, only steam is used instead of water or wind, and as it would cost too much to blow steam into the open air, the wheel is shut up in a steam-tight cylinder. A great deal depends on the shape of the blades, because if they are not the right form much energy is lost.

The turbines of these boats were designed by an Englishman named Parsons. They are composed of a number of wheels strung along in a row. Every other wheel is stationary, and the steam is blown through the wheels at right angles to the direction of rotation. The blades of the stationary wheels are dished opposite to the direction of rotation, while the blades of the revolving wheels are dished toward the direction of rotation. The stationary blades guide the steam as it passes through them downward at the right angle upon the revolving blades, and as it strikes the stationary blades it is guided again, on to next wheel of revolving blades as before and out of the cylinder. Thus the steam literally worms its way through the turbine.

The drums of the high-pressure engines in the wings of the ship are ninety-six inches in diameter and the blades range from two and one-half to twelve inches, while the drums of the high-pressure engines, for going astern, are one hundred and four inches with blades ranging from two to eight inches. The low-pressure drums are one hundred and forty inches in diameter with blades ranging from eight to twenty-two inches. The total weight of the high-pressure rotor is over seventy-two tons; of the low-pressure rotor, one hundred and twenty-six tons; of the astern rotor sixty tons. The diameter of the high-pressure shaft is three feet; of the low-pressure shaft, four feet, four inches; and of the astern turbine shaft, three feet three inches. The length of the high-pressure turbine over all is forty-five feet, eight inches; of the low-pressure turbine forty-eight feet, one and seven-eighths inches; and

of the astern-turbine, thirty feet, one and one-fourth inches.

There are two main lines of steam-pipes connecting the engines with the boilers, the two forward boiler-rooms being connected with the port main steam-pipe and the two aft boiler-rooms with the starboard main pipe. These pipes are each twenty-four inches in diameter.

The area of the exhaust port of each of the high-pressure engines is about thirty-one square feet and connections are made with the low-pressure turbines or direct to the condensing room, and steam may exhaust to either place, these connections being regulated by valves. The valve to the condensing room is sixty inches in diameter, while to the low-pressure engine it is seventy-five inches in diameter. The exhaust to the condensing room passes into another exhaust from the astern turbines which flows into another pipe from the low-pressure engines. This latter pipe goes directly to the condensing-room.

The condensing-rooms are located just behind the engine-rooms. They each have a cooling surface of forty-one thousand five hundred square feet. The tubes of which the condenser is composed are three-quarter inches in diameter and the water which flows around them comes in through an inlet thirty-two inches in diameter. The water passes first over a lower nest of pipes and then upward over an upper nest and is discharged overboard.

Another important feature is the ventilation of the ship. It has been so de-

signed as to enable a change of air throughout the vessel every ten minutes. The flow is controlled according to the wish of the passenger, being warmed in winter and cooled in summer.

The safety of the ship is provided for by tanks in the bottom which run up against the sides and if the vessel should run aground or strike a rock, the entering water would be confined in these tanks.

There are two hundred miles of wire cable used for the electric lighting of the ship and the generating plant is as large as that used for a good sized town. An enormous supply of coal is used. Some twenty trains each hauling over five hundred tons of coal would be required to coal the ship on a single voyage from Liverpool to New York, and of the crew of eight hundred men, three hundred and fifty are required to attend to the coaling of the ship. Two large electric elevators are used to carry passengers while six are provided for mail, baggage, freight and provisions. Telephones connect the staterooms with the office of the chief steward.

On account of lack of space I can only briefly describe the interior decorating; but the boat is richly furnished, much of the woodwork being hand carved. The furniture and fixtures are of the finest type. She will carry five hundred and forty first-class; four hundred and sixty second-class, and twelve hundred third-class passengers, which with a crew of eight hundred will make a list of about three thousand souls.

A Trip to the Candy Factory.

Ada Fulton, '09.

Many a delightful morning or afternoon has been spent on sketching trips for drawing, explorations in botany, field trips in physical geography, and visits to the various millinery stores, but of all none has been so thoroughly enjoyed and appreciated as the two hours the pupils of Domestic Science spent in the Loose-Wiles Cracker and Candy Factory.

We left Manual at the close of the seventh hour, boarded the trolley car and soon arrived at the factory, a merry

crowd of one hundred and fourteen girls. There we were met by the courteous manager who, after greeting us, divided us into three sections and with a guide we went from floor to floor, viewing carefully each part of the many interesting and wonderful processes.

The first process we reviewed was the making of soda crackers. The dough consisting of flour, yeast, water and other ingredients was mixed in huge vats and left for twenty-four hours to rise. It was then pressed under a

roller and reappeared resembling a large white blanket. This was passed between still other rollers which formed it into a very thin sheet. The thin sheet of dough was then stamped into crackers and carried still further where a heavy brush dusted it with salt. Workmen placed the crackers on large tin sheets which were put into a rotary oven resembling a Ferris wheel, and with one rotation the crackers were baked. The cracker sheets were then removed and sent to the floor below on dumb waiters which served as a cooling device.

Following this was the packing, the most interesting part of it all. It was done entirely without machinery. Box after box was folded, packed wrapped and sealed by the nimble fingers of the busy women and girls.

All decorating, for example that of nuts and creams for our small fancy cakes was done by hand, by the means of a pastry bag or by the dipping methods. The cakes, however, which were entirely dipped were coated by machinery and then suspended on racks until perfectly dry.

We were next taken to the fourth

floor. There we found candy of all descriptions, from the big licorice balls which we all used to spend our pennies for, up to the gorgeous red, white and blue sugar flags, chocolate cigars and cunning little brown teddy-bears. We were told to help ourselves to everything and as Manual girls always make the best of their opportunities, we resolved to sample all kinds.

After testing almost every variety of the cheaper candies that have ever been invented, we descended to the third floor where the chocolates and finer creams were made. No matter how much we had already eaten it was impossible to pass by without tasting the chocolates. If ever a crowd of girls could say they had really had as much candy as they could possibly consume we were that crowd. To prove that they were true Missourians some of the girls brought home a few samples of candy to our less fortunate fellow students.

Although a merry, merry crowd, we will never forget to sing the praises of the Loose-Wiles employees and the candy and cracker industry they represent.

A Criticism of Critics.

Robert Peden, '11.

It is thought by some people of Kansas City that the Manual Training High School is not the place for a boy or girl to attend to get an education. They don't realize that "Manual" trains the mind as well as the hands, and that two-thirds of each session is given to study, while the remaining one-third is for the manual work.

In the first place, we do not expect as graduates to be able to fill mechanics' places in a shop or factory. This is not the purpose of Manual, for it would be impossible to accomplish that much in the short time we have to devote to this work.

A boy who keeps his eyes open and wishes to learn, can go from Manual with sufficient training to make of himself, an efficient, reliable, workman, if he will faithfully and practically apply himself.

There is no excuse for any one's graduating from Manual, and not being

able to take hold of the business side of life in such a way, that within a short time he could do work that would be to his credit; for we are taught the practical side of life throughout the course.

Manual is not a school for the boy alone, but for his sister as well. It is just as important that she understand housekeeping as it is for him to be able to attend to business. The girls spend the same length of time in their special line of training as the boys do in their special departments.

As for the mental training or book knowledge gained, the same studies are taught at Manual that are taught at any other high school. It is thought by some that pupils of Manual should not be given such studies. Whoever thinks so fails to understand the value of those problems in algebra, the complicated geometrical propositions, the exercises in Latin to be translated, the weekly composition of a definite length

and many other such studies that are to be mastered, before our course shall have successfully ended. The trained hand must have a trained mind back of it, if it is to do the best work. Manual trains both, and thus makes the pupil complete. Either mental training or manual training by itself, is but half training, and hence they always belong together. We, therefore, see the wis-

dom of the plan and method of Manual in giving the practical and theoretical at the same time to the same pupil.

Let those who criticise these things, first, devise a better plan for equipping the boy or girl for practical life, and then they may have some excuse for such criticism, but until then, let them be careful what they say.

The Intellectual Effect of Manual Training.

Jeanne Kohler, '10.

What stimulates and quickens the intellect more than manual training? Is it not true that boys, who begin to construct things, are led at once to think and to reason and to conclude for themselves? Manual training is just as scientific as the study of chemistry, physics, or electricity. It leads to investigation on the part of the student. The fondness of the student for such work is evidence of its scientific nature. There is a great fondness for it, else why would the Manual Training High School be so crowded as to make double sessions necessary? A school of this kind that does not, by its work, inspire thought and give rise to investigation, does not fulfill its highest calling, but the school that accomplishes its intellectual training through training the hand is the one that will eventually succeed.

It has been said and proved that boys who spend one-half the day at their books and the other half in a laboratory, have progressed intellectually, as rapidly as those engaged the whole

day at their books. We have proof of this in our own school. Our pupils who spend one-third of their school time in the laboratories, are winning and have won in intellectual contests over the pupils of Central High School who give all of their time to the study of textbooks.

It is certainly true that the students receive some benefit from hand-craft, in helping them to determine what trade or profession they will follow as well as in giving them some knowledge and some skill in the useful arts. It also serves as a school of experience. By working with material things, the students' minds are balanced and their reasoning becomes more logical, thereby, insuring better work in their other branches of study. Then, if the manual training student gains all this from his laboratory work, at the same time keeping with other pupils in intellectual progress, it is evident that the students trained in handcraft are far ahead of those who have not this training.

Get Your Tickets **NOW**
FOR THE
Inter-Society Contest

Price 25c

Friday, April 24

SOCIETIES

MANUAL SOCIETY OF DEBATE

January 24.

Resolved: That the government should own and control the railroads.

Affirmative	Negative
1st speaker, Cushman Farnum	1st speaker, Harold Evans
2nd Russell Dudley	2nd Lewis Nofsinger
3rd Paul Baker	3rd Robert Mann
Oration	"Edgar Allen Poe" Paul Dodd.
Oration	"Alexander Hamilton" Harold Evans.

January 31.

Resolved: That the negro be disenfranchised.

Affirmative	Negative
1st speaker, John Arthur	1st speaker Marcy K. Brown
2nd George Crawford	2nd Russell Dudley
3rd Kenneth Bailey	3rd Thomas Erwin

February 14.

Resolved: That the United States government should place a guarantee fund on bank deposits.

Affirmative: Roy Hanna	Negative: James Schwab
Resolved: That the United States is in no condition to go to war.	
Affirmative: Kenneth Bailey	
Negative: Harold King	

February 28.

Resolved: That co-education is desirable.

Affirmative: Ross Parker	Negative: Cushman Farnum
Resolved: That all nations should unite in adopting the same monetary system and that system should be gold.	
Affirmative: Marcy K. Brown	
Negative: Paul Rauch	

Oration	"Yellowstone Park" Marcy K. Brown.
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March 13.

Resolved: That the Monroe Doctrine is impractical.

Affirmative	Negative
1st speaker, Arthur Perry	St. Clair Mendenhall
2nd Edward Murphy	1st speaker, Harold Wing

ION SOCIETY.

January 24

Debate: Resolved: That in case of war with Japan, the U. S. navy would be a more important factor than the U. S. army.

Affirmative: Ernest Elliott	Emmet Schooley
Negative: Vernon Campbell Allan Craig	
Extemporaneous Speech . . . "Clearing House"	

Paper	Arthur Eadie
"Examinations" Frank Shields.	
Current Topic. . . . "Recent Murders" Robert Marley.	
Oration "King Oscar" Loy Shrader.	

January 31.

No program. Practiced for open session.

February 14.

Entertained by the O'ita Society.

February 28.

Current Topic. "The Noiseless Firearm"

Oration	"Abraham Lincoln" Ernest Elliott.
Essay "Fraternal Spirit" Frank Shields.	
Essay "The Santa Fe Trail" Lewis Buxton.	

Reading	"Pigs is Pigs" Rolland Montague.
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Talk	"Republican Convention" Jay Ross.
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Reading	"A Maddened Quill Driver" Loy Shrader
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March 6.

Entertained by the Ionian Society of the Kansas City, Kan., High School.

March 13.

Debate: Resolved That cremation should take the place of burial.

Affirmative:

Arthur Eadie Frank Shields

Negative:

Ralph Perry George Sperry

Paper....."The Initiative and Referendum"

Fred Breisch.

Current Topic...."The Panama Canal"

Emmet Schooley

Reading....."King Carlos"

William Simms

O'ITA SOCIETY.

January 24.

Play read. No program.

January 31.

Impromptu debate.

Affirmative: Ruth McGurk

Negative: Aileen Leavitt

Essay.....Eleanor Keith

Lecture.....Agnes Meyer

February 14.

Meeting of the ION Society.

Piano Solo.....Pauline Fort

Recitation.....Ruth McGurk

Piano Solo.....Mary Oldham

Early Life of Shakespeare...Willrose Carson.

Recitation.....Georgia Riley

February 28.

Study of King Lear.

Plot.....Agnes Meyer

Character Sketch of King Lear....

Irene Preston

Character Sketch of Daughters....

Juliet Banks

Criticism of the Play...Jeanne Koehler

March 13.

A Lecture on Mexico...Prof. Deister

AMERICAN LITERARY SOCIETY

January 10..

Declamation.....Henry Ackerman

Translation.....Vera Banks

Debate..... } Bret Boright

} Myron Witters

Extemporaneous Speech.....

Ethel Brotemarkle

Essay.....Zelma Burke

Declamation.....Otis Grant

Recitation.....Bertie Hawes

Current Topics.....Irene Neal

Biography.....Fred Thilenius

January 24.

Extemporaneous Speech..Vera Banks

Book Review.....Bret Boright

Argument.....Ethel Brotemarkle

Debate..... { Zelma Burke

{ Amos Wood

Extemp Speech.....Helen Harrison

Essay.....Edward Luce

Oration.....Gratz Shelby

Oration.....Fred Thilenius

Extemporaneous Speech..Enid Smith

Jan. 31—Feb. 14—Feb. 28.

Working on open session.

March 13.

Jack London.

Life of Jack London.....Zelma Burke

"The Sea Wolf"—Book Review....

.....Roy Guettler

"Before Adam"—Essay...Zora Evans

"The Call of the Wild"—Book Re-

view.....Helen Harrison

DEUTSCHER SPRACH VEREIN

D. 24. Jan.

DIE ZEIT DES VERFALLS.

1. Recitation—*Volkslied*.....

.....Gladys Gaylord

2. Aufsatz—*Die Schwachen der Zeit.*

.....Mary Burke

3. Aufsatz — *Luthers Bibeluebersetzung*

.....Marie Lampe

4. Synopsis—*Die Possen des Reinike*

Vos......Richard Summers

5. Anekdoten—*Die Schuldbuenger.*....

.....Walter Berkowitz

6. Aufsatz—*Die Abenteuerromane*....

.....Egmont Betz

7. *Ein Komisches Trauerspiel.*.....

.....Estelle Berkowitz

D. 31. Jan.

DIE NEUE ZEIT.

1. Namen beantworten mit einem Ereignis aus der Neuen Zeit.

2. Biographische Skizze—*Bodmer und Gottsched*..... Pearl Zacarias

3. Recitation—*Die alte Waschfrau.*....

.....Benj. Messing

4. Lied—*Das Muehlrad.*...Marie Lampe

5. Aufsatz—*Klopstock*....Ethel Riley

6. *Chamisso und seine Werke.*.....

.....Helen Pursley

D. 14. Feb.

Lessing.

1. Namen beantworten mit einem Citat von Lessing.

2. *Lessing's Leben.*...Agusta Busekruse

3. *Lessing's Dramatische Werke.*.....

.....Leora Brink

4. *Inhalt von "Nathan der Weise"*...
Miss Von Unwerth
 5. *Lessing's Kritische Werke*.....
Lucile Kellerman
 6. *Fabel von Lessing*..Dorothy Stevens
D. 28. Feb.

KOMISCHES PROGRAM.

1. Pantomime—*Orchester Komika*....
Mitglieder
 2. *Ein lustige Geschichte*.Fred Hammil
 3. Pantomime—*Ein Lied mit Begleitung*
 Helen Pursley, Marie Lampe
 4. Posse—*Schafschur*.....
G. Bowles, Benj. Messing
 5. *Eine Kuenstler Rede*.....
Walter Berkowitz
 6. Pantomime—"Ballspiel" Mitglieder
D. 13. March.

- Aufsatz—*Sturm und Drang*.....
Lucile Kellerman
Wanderer's Nachtlid...Helen Pursley
 Biographische Skizze—*Goethe*.....
Marie Lampe
Goethe als Lyriker.....Pearl Zacharias
Vortrag der Zauberlehrling.....
Estelle Berkowitz
 Lied—*Das Veilchen*.....Marie Lamp
Goethe als Dramatiker.....Mary Burke
 Vortrag—*Monolog aus Faust*.....
Henry Lohman
Goethe's Prosa Werke.Richard Summers
 Lied—*Heidenroeslein*.....D. S. V.

EDISONIAN SOCIETY.

January 24.

- "Crude Oil".....Oliver Walker
 "The Camera Obscura" Joseph Liersch
January 31.

- "Corn Syrups".....Walter Blakeslee
 "Dyes".....John Thomas
February 14.

- "Sodium Chloride" ..Arthur Atkinson
 "Iron".....Paul Byrd
February 28.

- "The X-ray".....Albert Segur
 "Flying Machines" ..Foster Summers
March 13.

Working on open session.

DAPHNE SOCIETY.

January 24-31, February 14.

Working on Open Session.

February 28.

- Life of George W. Cable.....Maude
 McLevy.

- Review....."The Grandissimes"
 Georgie Stephenson

- Domestic Science Paper..Ada Fulton
 Game....."Priests of Pallas"
March 13.

- Life of Chas. Egbert Craddock..Alma

Slowers.

- Review—"The Prophet of the Great
 Smoky Mountain"
 Annette Robinson.

- Debate: Resolved: That trade schools
 are better than Manual Training
 High Schools

Affirmative:

- Elizabeth Zeigler Georgia Stephenson
 Negative:

Mary Scarce Elizabeth Donohue

GIRLS' ATHLETIC ASSOCIATION

January 24.

Extemporaneous Speeches

Edith Snyder. Olive Yost

- Piano Solo....."Valse Caprice"
 Pearl Ruemer.

- Recitation....."Commencement"
 Ethel Madick.

Basket-ball Practice.

January 31.

- Roll Call—Quotations on Physical Edu-
 cation.

- Essay....."Respiration"
 Gladys Dancy.

- Song—Selected.....Olive Yost
 Essay..Physical Education of Ancient
 Greeks

Bly Floyd.

Basket-ball Game

Seniors vs. Sophomores.

February 14.

- Roll Call—Quotations on Physical Edu-
 cation.

- Reading—"The Influence of Gymnas-
 tic Dancing on the Physique"

Hettie Shumway

February 28.

- Roll Call—Quotations on Physical Edu-
 cation.

- Debate: Resolved: That the child
 raised in the country has the advan-
 tage over the city-bred child.

Affirmative:

- Henrietta Ortmann Hettie Shumway
 Negative:

Jennie Elliott Bessie Lukin

Basket-ball Game

Seniors vs. Sophomores.

March 13.

- Roll Call—Quotations on Physical Edu-
 cation.

- Essay—"Per Henrik Ling—The Found-
 er of Swedish Gymnastics."

Olive Yost.

- Essay—"Friedrich Ludwig John, The
 Father of German Gymnastics"

Henrietta Ortmann.

Basket-ball Practice.



EDITORS

Mary Louise Topping

Bret Boright

Basket-Ball.

The basket-ball season opened early in the year and great interest has been manifested in this safer and saner game of strenuous athletics.

About 30 candidates responded to the call of the coach and from that number two excellent teams and subs were picked. Our second team is one that ranks as well as nearly any other high school team in this vicinity. They are organized and elected Ralph Powell as captain with Mr. Wesley Elmer as a manager. They have not had so many games on their schedule but every time they have been called on they have given a good account. They have worked and given the first team a good practice every day. Such work as this can not be praised too highly as it takes such a second team to make a good first team.

Our first team this year is composed entirely of tried veterans. Each member of the five has had one or more year's experience, and it is through this experience that they have accomplished so much. Robt. Gibson is captain of the five, this being his 3rd year at the game. At the opposite guard is found Donald Wheelock, last year's captain, who for all around playing is probably the best of the five; and as he has worked opposite Gibson for two years, they make a pair of guards that are hard to score on. At center is seen Koenigsdorf, this being his second year at center. He plays a first-class game. As forwards we have a pair of

players, High and Mayberry, who are the fastest players and most accurate goal-shooters that have represented Manual for some time. Their playing at times is marvelous. Much credit should be given to Dr. Hall for his faithful work with the team and to Mr. Swanson for his excellent management.

The first game of the season opened in a blaze of glory for the crimson. Convention Hall was the scene of battle and Manual was arrayed against the tried band of Haskell Indians. This game was claimed by many to be the fastest game seen here in high school circles for some time. It possessed a great deal of clever playing, team work, and accurate goal shooting was much in evidence. The score at the end of the first half was 11-18 in favor of Haskell, but by hard, consistent playing Manual was at the post with a score of 27-26 in her favor at the end of the game.

Our team took a trip, leaving here Feb. 13, and playing that evening at the Haskell Institute in Lawrence, Kan. The game was lost not due to the poor playing of Manual but to the superb playing of Haskell. The Indians had the good luck omen with them, but their court was a great help in landing the game for them. This is the only scheduled game that we have lost during the season and hence do not feel sad over its loss.

The next day we journeyed to the

capital of Kansas—there we met and trimmed the High School boys of that capital little burg. This game was fast and cleverly played. Manual showed excellent ability at passing the ball and at shooting goals. The final count was Manual 36, Topeka 34.

These were the only two games on our trip. The next game was at home and Topeka High was again the victim. Smarting from their defeat of the previous week, they were out for revenge, but, sad to state, they were doomed to disappointment. In the first half of this game the score was kept very even, but in the second Manual seemed to get into her best stride and won in an easy fashion. Again Manual's "quintet" showed that they were old heads at the game. They played together as a unit and it was thus that their showing was so good. The score for this game was Manual 39, Topeka 25.

Lawrence High was to have been our next victim but they were compelled to call their game off so that our next game was with St. Joe High. Really we expected a hard fought game, but at the end of the first half the score stood Manual 35, St. Joe 4. Manual knowing she had an easy thing did not lay down but played a very fast game working hard all the time never once giving up. The score at the end of the game was Manual 62, St. Joe 12.

The next game on our schedule is the Wesleyan University at Cameron, Mo., on March 13. The next week we journey to St. Joe.

We meet our old rivals from Central High on April 1-2-3, and not in a boasting, but in a friendly way we will say that we will try never to lower our colors to them.

Robert Gibson, Capt. '08.

Base Ball '08.

The prospects for a pennant-winning team this season are very flattering, and it appears that Manual will have a team worthy of her name. Although five members of last year's team were graduated, and one has gone to William Jewel, it will not effect this year's team as much as one might think, or as it would probably some other year; because we are fortunate in having a good supply of excellent material to fill the vacancies.

The catching department will be stronger this year than ever before with Robert Gibson, last year's star catcher who has made a reputation in several branches of athletics. Don Wheelock, one of the basket-ball stars, with Gratz Shelby, will try for sub. catcher. In case of emergency Robbins or Brammell could be used to good advantage, as both have caught before; but they will probably play other positions this season. At 3rd base Ressler, last season's substitute, ought to perform in

true Blacker style, as he has had experience in this difficult station. James Robbins, who has proved to be an all around player and has caught for the '05 and '06 teams, should be a valuable old head for a new line-up; at short-stop H. Lewis, the heavy-hitting left fielder of the '07 team, should play a good game at 2nd base; and Brammell will captain the team from 1st base, a position not altogether new to him. In the box, Hamilton, a Pittsburg, Kan. boy, happens to be at Manual, as is also a left-hander, named Steinhorst. Otis Grant and Baltis will make strong bids for either in-field or out-field positions; and Harley High, a promising candidate, Montgomery and Osgood, both subs. on the '07 team, will be available for out-field positions and others that will also be available are Pemley, Stoll and Ludlow.

Aside from the new line-up there will be a change in the management. Mr. Elmer will take Mr. Small's place and he will fill the position efficiently.

The Missing Duplicate.

Geo. H. Bowles, '08.

To refer to Reynold Weis simply as a quarter-miler would justify referring to John D. Rockefeller as a wealthy man. Reynold had been on the track for Colburn three years, and had won an enviable reputation as an athlete. He was rather small of stature, slender and using a poetical reference, "as fleet as the winds." He was considered a faster man, by several seconds, than even Joe Braylin, his running mate.

"Say now! If I was youse, I'd cut out all dat funny bizness and get to work on yer Latin, so youse can run, see?" And Jimmy, the little house helper made a dive into the hall just in time to escape connection with a large penant pillow.

"Well, I guess the kid was right, and if I want to run Saturday, I've got to pass this exam Wednesday. Gee! and this is Monday. I've got to pass that exam! Rulney said I couldn't run unless I did. Oh, well—here goes," and Reynold, with a sigh, plunged into a mass of case forms and rules.

"Well Reynold, what's doing? Oh, Latin eh? I guess you do need all you can get from now on to pass Wednesday. Latin always was your poorest study anyway and Rulney said no man will be allowed on the track who flunks. Lets see, you and I take the exam in Rulney's study in the afternoon. Well I wish you luck old fellow."

The speaker was a rather tall, dark youth of perhaps twenty years. His eyes were somewhat small and shaded by long scraggy eyebrows. The mouth was drawn down slightly at the corners, which together with the arched nose, gave the speaker a suspicious or maybe a skulking appearance. Joe Braylin had never been an idol at Colburn, as his braggart airs and actions were not to the liking of the student body as a whole. True, no one had anything in particular against Joe, or could recall anything against him, yet nothing could be said for him, except his qualities as an athlete, but as Colburn was, as McGowan, the trainer expressed it, "a great hero factory," Braylin was not really unpopular.

"Its funny," McGowan had after-

ward remarked, "how dippy some of these students and swell dames get over a man simply because he's got the makin's in him of a good athlete, whether he's got the sense 'hind his words or's only fly with a lot of bum language. These girls and students lamps or as the de faculty says 'those obnoxious cigarettes,' is enuff to put any young man on the has-been shelf—as far." McGowan had added as he tilted his derby, "as brains and athletics is concerned."

The duel between Wellington and Colburn was to take place on Saturday on Colburn's field. Much rivalry had been shown and school spirit ran high, as the victors would be considered the champions of the college association. Everyone looked for a close score and little else but the relative merits of the contestants was discussed for two weeks previous.

* * * * *

"I hope that you two boys have thoroughly prepared for this Latin, for you know my stand in regard to eligibility. You, Reynold, take that desk to the far side of the room and you, Joe, the table here behind the door. Now boys, I must leave you for the time being. Here are your questions."

"Gee whiz!" and Reynold gave a low whistle of surprise, "just what I reviewed! never struck so much good luck before in my life. I think I'm just about perfect in these questions, so here goes for a number one paper," and with this he cocked his feet upon the chair's rungs after having deposited his coat upon the back of the chair and separated his cuffs from his wrists and further widened the gap between his trowsers cuffs and his ankles.

The allotted time for the test was one hour and thirty minutes but Reynold finished at least ten minutes before Mr. Rulney returned to announce time up. Naturally, the crack quarter-miler was in jubilant spirits, for he was, as McGowan had said, "in the pink of condition and ready to run the race of his life." Reynold loved to run and now with this dreaded interference out of

the way, he looked longingly towards the field and wished for the day when he would match brain, courage and muscle with his opponents.

* * * * *

Saturday was a day beloved by athletes. Just warm enough to limber up trained muscles and a track that had been made almost perfect by a light shower the evening before.

Reynold arose at eight and after a light breakfast, he indulged in a light exercise to limber his muscles and keep them in trim. He confidently believed himself capable, with Dame Fortune's co-operation or ever neutral standing, to land first place in the quarter.

"Why, hello Jimmy! what's up?" Reynold exclaimed as the boy came running into the room.

"A note for youse Mr. Weis," he answered as he drew a sealed message from his pocket. "Mr. Rulney and de main squeeze handed it to me and says, 'Say, Jimmy, please deliver this message quickly to Mr. Weis,' and here I am.—Say now, what's de matter wid youse? you look like youse has got em! Kind a batty lookin. Nothin wrong is dere?"

A sudden change had indeed come over Reynold. His pleasant face of a moment before, had changed to one of almost dismay. He dropped into a chair and sat staring at this message:—"Mr. Weis:—

We have been forced to bar you from the track this afternoon. Please do not attempt to enter. We do not wish to discuss this matter with you at present, as we are pressed for time; so do not attempt an interview until asked.

Signed,

R. A. Rulney, Inst. of Latin,
S. A. Florey, Principal."

"What de dickens is wrong, anyway?" again demanded Jimmy.

"Nothing Jimmy," Reynold at last managed to say, "only I'm not to run this afternoon. But don't say anything about it to anyone. Do you understand Jimmy?"

"Well, what d'ye know about that!" Jimmy left the room with a puzzled expression clouding his face and his eyes wandering as if he had been stunned.

"Why, what can it mean?" argued Reynold aloud. "What have I done? I know I passed that exam or I would have been told Thursday, and I must not find out until it's their time to talk with me. Well I'll go now! No—I guess it will be best to do as they bid," and he flung himself despondently upon the sofa, to brood over this new, seemingly unconquerable catastrophe. At last sleep claimed him and proved a soothing ointment to his troubled brain.

* * * * *

"Last call for four-forty yard run, all men on track," the starter bellowed through a megaphone and five white clad figures emerged from five gaudy blankets and proceeded to prance and pace in a way that did credit to any thoroughbred on the turf.

"I wonder where Weis is," someone was heard to ask. Then as he did not appear, confused calls of "Weis" came from the crowd. But Reynold was not on the track.

"Get your places," and again the megaphone rumbled its command.

Five young men moved up to the mark. They were just getting set when a figure wearing Colburn's red darted out from the shelter.

"Weis! Weis, Weis!" came the cries.

"Get set"—and the starter held his pistol nervously in the air. Crack! Six crouching runners shot out from the line. It was a glorious sight, as they left their mark, like trained dogs cut loose from leash. Six contestants were anxious to win, yet five must necessarily be disappointed. Who would be the lucky one? That one must indeed be good to beat out his five opponents.

Now every eye was on the track. Brightly colored banners of red and blue were flouting and waving in the air. Cheers and college yells were mingled with the beating of sticks, the thumping of feet and the tooting of horns. It was truly an inspiring sight for the fleet runners.

Just one hundred and twenty yards had been covered. A hot pace was being set and it was evident that the former record would be broken if it could be kept up.

One-half of the quarter had now been

left behind. Those white-clad figures were still bravely keeping up the pace. Each one was gallantly keeping his stride, and what excellent ones some had developed. Legs moved regularly, rhythmically in perfect time. To the casual observer, it meant little, but to the trained eye it told more—months of training and drudgery, helped along by stories of perseverance.

Now two-thirds had been covered and the runners' positions were changed. Braylin was running first with one Wellington man, a close second and another third. Reynold was fourth. It looked now as if he could not place. Cheer after cheer arose for him. He was not doing as was expected. It seemed to give him courage and as if stimulated he passed his opponent. But fifty yards remained. Braylin was still first with the Wellington's man now second.

It was indeed a supreme effort that Reynold put forth. Perhaps this was necessary to overcome the drawback caused by his nervousness and worry of the morning. But he was not to be denied. The mechanical movement of his legs increased and he passed his second man. Braylin but five yards ahead seemed aware of the successful effort of Reynold, for he too tried to quicken his pace. But it was too late. Reynold was making a magnificent spurt and had passed him. This seemed to sap the vitality from Braylin for he dropped back to third place. The crowd was now wild with excitement and Reynold crossed the line as cheer after cheer reached him. But the strain had been too great and he dropped unconscious into the arms of McGowan.

* * * * *

"Yes I guess he's alright now. Probably the worry and disappointment caused in the morning completely unnerved him and caused his collapse. Ah, there's Joe Braylin." Mr. Ruiney turned to speak to the visitor.

All seemed confused to Reynold, who was slowly returning to his senses, to find himself in bed in his room. Why was he in bed and who was talking? Ah, yes, the race. How it all came back to him—how he had won. Then after

that everything was blank. He had probably swooned.

"Oh, you've come to your senses, have you Reynold?" said Mr. Ruiney smilingly, as he interrupted Reynold's train of thought. "My boy," he continued, almost gravely, "I want to beg your pardon for my action of the morning, but Mr. Braylin has something to say."

"Reynold," began Joe seriously, "I dare not ask as much as Mr. Ruiney. I only ask that you hear what I have to say and only hope you will not judge me as seriously as you perhaps should. Reynold,—I did not play a square game with you Wednesday—I wasn't on the square. I don't blame you Reynold," he continued as Reynold involuntarily clenched his fists realizing that in some way Braylin had caused his trouble, "for it was a dirty trick. For the last week I had been shirking and neglecting latin and I was afraid of that exam. When I accidentally found a duplicate copy of answers left unknowingly by Mr. Ruiney, during the test, I was tempted to use it. Then a better but meaner plan entered my head. I knew I could not win that quarter Saturday with you in the race, yet I wanted to win more than I wanted anything in the world. My parents were to be there and I wanted their praise as well as the schools'. I knew that you had been rather weak in Latin, yet I knew that you had faithfully reviewed, and when I heard your exclamation of surprise and your low whistle, I was sure you had struck it lucky. Then I copied just enough to pass, reasoning that as I had always been strong in Latin and you weak, my medium work on the test would simply show a lack of reviewing, while your excellent paper might show more,—especially if the duplicate answers were found by your desk. Mr. Ruiney, as I expected, suspected your cheating when he found your excellent work and the nearby duplicate. At the last moment he regretted his hasty suspicions and sent for you to run the quarter and now—I can truthfully say I'm glad you beat me for we won the meet by one point and you deserve much credit. I needed to have my knavery defeated.

But I hope I may some day prove that I have gained the manhood I guess I never possessed." With a choked sob Joe Braylin quickly left the room.

"Why that's too bad, if I'd only known how it stood with him I almost believe I'd have let him win. Yet I suppose it's best that I didn't," and

Reynold gazed sorrowfully towards the open door, where the figure of a boy who had found his manhood had passed but a moment before.

That evening a west-bound train carried a young man to the beginning of a career which proved both honest and successful.

Songs and Yells.

SONGS

Tune—"Just One Girl."

Manual,
Only Manual,
There are others, I know,
But they're not so swell;
Sun or rain,
She will win the game.
I'll be loyal for ever to
MANUAL.

Tune—"The Tale of a Kangaroo."

Oh Central, you are beaten,
We tell you now 'tis true,
We like you boys, but somehow
We're feeling sad for you;
You came to-day to beat us,
But you have met your fate,
We Manual boys are hustlers,
You've found that out too late.

"GLORY FOR THE CRIMSON."

Tune—"John Brown's Body."

Raise the Crimson ensign to the place
it held of yore!
In the loyal spirit that shall live for
evermore!
The sun will set in Crimson as the sun
has set before!
For this is Manual's day!

(Chorus.)

Glory! glory for the Crimson!
Glory! glory for the Crimson!
Glory! glory for the Crimson!
For this is Manual's day.

Tune—"Marching through Georgia."

Hurrah! Hurrah! we're going to
win the game,
Hurrah! Hurrah! we rally
'round our team,
Just so we down the White and Blue,
our prestige we'll redeem,
While waving our bright Crimson
Banners.

Sung to the tune of
"Dats de way to spell chicken."

M, we are going to win
A, if we don't it's a sin
N, we are the best in the land
U, we are not lacking in sand
A, can't you hear us yell,
L, our grit is going to tell,
Well, M-A-N-U-A-L, dat am de way
to spell Manual.

Oh.....! (Hold out long)
More work for the undertaker
Another little job for the casket maker
In the local cemetery they are very
busy
On a brand new grave!
No hope for Central!

MANUAL YELLS.

I yell! You yell! All yell! MAN-U-AL!

Razzle dazzle, hobble gobble,
Sis, Boom, Bah!

Manual Training High School,
Rah, rah, rah!

Easy, easy, easy!
Yes, yes, yes!
Concentrated hot air!
C. H. S.

Boom-a lack-a! Boom-a-lack-a!
Chow! chow! chow!

Chick-a-lack-a, Chick-a-lack-a!
Wow, Wow, Wow!

Boom-a-lack-a, Chick-a-lack-a!
Sis boom bah,

MANUAL! MANUAL.
Rah, rah, rah.

Rah, ru, rah.
Sis, boom, bah!
Hip zoo, rah zoo,
Rickety, Rackety,
Hul-la-ba-loo.
Hip city, I ki.
MANUAL.



EDITORS

Estelle Berkowitz

Rolland Montague

"Dragon," Greenfield, Ohio—You have a very good paper. Your story "The Blood Red Symbol," is very good, indeed.

The February issue of the "Elm" is one unusual texture. The cover is very well suited for the Freshman. The idea of dedicating an issue to the Freshman is very clever.

About time for a new cover "Review," Gohnertan.

We see our name misspelled so often that a public correction seems necessary. "The Forum," St. Joseph is the latest to designate us by the euphonious name of "Mantilus." "The Record" from Sioux City, calls us a Normal Training School. Whether this is due to poor penmanship or inability to read a perfectly legible title is a question open for debate, since all Exchanges arrive properly addressed to The Nautilus Manual Training High School.

Again we thank our numerous exchanges for their kind and constant remembrance of us. The holiday issues of most are at hand and such artistic covers and contents as they exhibit are a source of great pleasure.

Especially attractive is "The High School Times" from Dayton, Ohio, though its appearance would be benefited by a more stable binding.

We offer our felicitations to "The Comis" for its splendid and unsinged condition; in fact, it seems to have im-

bibed most of the brilliancy of the fire it so narrowly escaped.

The letter of an Alumnus, published in the February "Forum" is a beautiful bit of description.

The initial volume and number of "The Piasa Quill" deserves hearty congratulations. If, however, the fearful and wonderful bird on the cover, could be given a less glaringly prominent position, the beauty of the remaining design would be more evident.

"The Wind Mill" from Manlius, N. Y., might be materially improved, if a table of contents were prefixed, since various articles are merely thrown together helter-skelter with little method in the arrangement. The quality of the paper, however, is far better than many of our exchanges.

The mid-year commencement number of the "Takoma" is beautiful; especially clever are the class pictures and witty remarks concerning each member of the '07½'s.

The majority of our exchanges contain an overproduction of juvenile love stories, which are not justified by the limited number of them printed.

It Wasn't Her Visitor!

"Bridget, did you hear the door bell?"

"Yis, mum."

"Then why don't you go to the door?"

"Shure, mum, I don't be expecting anybody to call on me. It must be somebody to see yoursilf."

? ? ?

Do ships have eyes when they go to sea?

Are there springs in the ocean's bed?
Does the jolly tar flow from a tree?

Does a river lose its head?

Are fishes crazy when they go in seine?

Can an old hen sing her lay?
Can you bring relief to a window pane?

Or mend the break of day?

What sort of a vegetable is the copper's beat?

Is a newspaper white when it's read?
Is a baker broke when he makes the dough?

Is an undertaker's business dead?

Would a wall paper store make a good hotel

Because of the borders there?
Would you paint a rabbit on a bald man's head

Just for a bit of hair?

If you ate a square meal would the corners hurt?

Can you dig with the ace of spades?
Would you throw a drowning lemon a rope

Just to give the lemon aid?—

The Atchison Globe says a school teacher of that vicinity felt that one of her boy pupils was not as clean as he ought to be so wrote his mother to have Willie take a bath, as he did not smell very good. The mother wrote back as follows: "Willie ain't no rose. Don't smell him. Learn him."

Pat and Mike were looking into a window full of jewelry, watches, etc., when Pat said:

"Moike, how would ye like to have yer pick?"

Mike replied: "I'd rather have me shovel."

Launch party,
Black cloud,
Big hug (not allowed),
Moon out,
Folks stare,
Wrong girl,
Boy swear.

An Easy Case.

From Harper's Weekly.

"Yes, doctor, one of Harry's eyes seems ever so much stronger than the other. How do you account for that?"

"Knot-hole in the baseball fence last summer, most likely, madam."

A fluff,
A frill,
A smile,
A thrill,
A ring,
And look:
She's now
A cook!—Ex.

Conceited party with small dog—
"Aw, I say, must I—aw—take a ticket for a puppy?"

Ticket clerk (meditatively)—"No! You can travel as an ordinary passenger."

"Why, Bridget," exclaimed the housewife, "I can write my name in the dust here!"

"Deed, mum," replied Bridget, admiringly, "thot's more nor I can do. There's nothin' loike education, afther all, is there, mum?"

First Boy—"Your father must be an awful mean man. Him a shoemaker and makin' you wear them old boots!"

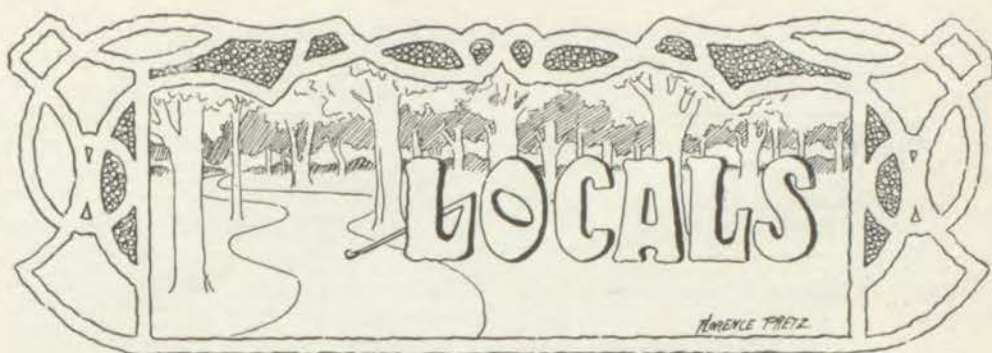
Second Boy—"He's nothin' to what your father is. Him a dentist, and your baby only got one tooth."—Ex.

Village Schoolmaster (explaining "biped" and "quadruped"): "Now, Jones, what is the difference between me and a pig?"

Jones—"Couldn't tell you, sir."

A German was riding on a crowded Milwaukee Avenue car the other day and a woman's rights female was sitting alongside of him. She said: "Why don't you get up and give that lady in front of you your seat?"

Whereupon the German broke into a loud laugh and said, "Dot is a joke on you; dot ain't no lady. dot is my wife."



EDITORS

Ruth McGurk

Donald Wheelock

Queer Advertisements.

"Furnished apartments, suitable for a gentleman with folding doors."

"Bull dog for sale. Will eat anything. Very fond of children."

"Wanted a clerk to be partly outside and partly behind the counter."

"Lost near Swope Park, an umbrella, belonging to a gentleman, with a broken rib."

"No person having ever tried one of these coffins will ever use any other."

Music Teacher—"What comes after Do?"

Pupil—"Bread of course."

Harold—"Where are you going?"

Marcy—(Who had slipped on the icy sidewalk) "Going to get up."

Miss Van Metre—"Mr. Riley have you ever been moved to write a song for Manual?"

Riley—"Yes, but I have kept my seat."

History Teacher—"Do you know anything about a prayer book, Otis?"

Otis Grant—"No, I never used one."

Witters: In Public Speaking Class. "I do not know what to talk on."

Mr. Cowan—"Talk on the floor."

Miss Gilday—"What was Henry VIII's chief characteristic ability?"

Thomas E.—"Getting married."

Juliet B. made the statement that the whole race of boys were a "Chinese puzzle" to her.

Agnes Meyer—"I never will marry a man with bald hair."

Robt. Marley was engaged in making a few remarks to himself in an undertone, which caused Mr. Cowan to remark: "Give that calf more rope."

Miss Steele—"Now I didn't make these grades, you're the ones that did it."

Mary Louise—"Yes, she's a recorder of deeds."

Robt. Mann announces that every triangle has 180 degrees whether it goes thru college or not.

Cecil Allen—"Oliver Goldsmith was destined for medicine."

John Franciscus—"Was he sick?"

Mr. Deister (correcting French sentences)—You have your pa (pas) in the wrong place.

Edna—"What is the matter with Mary Louise?"

Mabel—"She's appalled (a-paul-ed)."

Mr. Davis—"What is a minor?"

Alma—"A man who works in a mine."

Mrs. Case suggests this motto for her seniors—"Tis better to have bluffed and failed, than never to have bluffed at all."

Rolland Montague says he is so bright that his father calls him Sun.

Miss Van Metre says to look at a story as a (w)hole, then we will be sure to see through it.

Helen—"Why does room 10 remind you of the country?"

Reba—"Because it has a cow and a woods in it."

Census Taker—"Madam, how old are you?"

Madam—"I'm not old at all, you horrid old thing!"

A Freshman innocently asked, "Why do the boys chalk the ends of the pointers at the board?"

Marie—"What would be the hardest thing for Augusta to do, if she were running?"

Aileen—"To stop, short, I suppose."

Economics teacher—"Do you believe in taxing the breweries?"

Student—"I do, to their utmost capacity."

"NOT YET BUT SOON."



Paul—"Its meat and drink that's depriving many a family of food."

Miss Drake—"Give me Bryant's story in which little Eva figures."

Hathaway—"Uncle Tom's Cabin."

Mrs. McLaughlin—"I have seen a century plant in bloom two or three times."

Amazed student—"Not the same one?"

"The inhabitants of Paris are called Parasites."

Mrs. McLaughlin—"When did you get your season ticket?"

Absent minded pupil—"500 B. C."

Mr. Gustafson—"We have before us the luminous flame of the Bunsen burner. How may we destroy its luminosity?"

Paul Byrd—"Blow it out."

"PET" Expressions of our Teachers.

Miss Fisher—"Such is life."

Mr. Stigall—"I want to call your attention to this."

Mr. Page—"Soak it in."

Mr. Kizer—"Just leave that go."

Miss Gilday—"Great scotts and little fishes."

Miss Lyons—"Now my little girl."

Mr. Cowan—"Do you think it is warm in here?"

Mr. P. B. S. Peters—"There's a funny story that runs like this—"

Mr. Swanson—"He that knows and knows he knows, is wise."

Mr. Gustafson—"DO IT NOW."

Miss Elston—"Such ward school ways."

Mr. Page (testing a thermometer in class and being annoyed by the pupils talking). "I wish you people would stop talking as the hot air thus generated will decidedly change the accuracy of the readings."

TO LATIN.

Ceasar's dead and buried now,
And so is Cicero,
And where these two old gents have
gone
I wish their works would go.

In Miss Fisher's German class, she was trying to teach the pupils the difference between "leben," to live, and "lieben," to love. "Now," she said, 'Lieben, or love is blind' and lieben has only one eye."

Information desired.

Is a girl's last name her (sur) sir name?

ODE TO SPERRY.

Oh! Where is my wandering boy to-night?
I should see him coming his head is so
Light

Miss Drake in English—"What is Drake still noted for?"
Smart Soph.—"F's."

"Parasite, a small umbrella."

"The equator is a menagerie lion running around between the north and south poles."

"The Wish is Father to the Thought."

Mabel was rubbing her cheek, as she talked to Harold Evans which caused him to ask, "Are you making fun of my whiskers?"

Heard in Cooking.

Miss Hazen—"Now, we will start a lesson on serving curried chicken."

Helen—"All the chickens I have eaten have been picked."

In English.

Teacher—"How many commandments are there, Willie?"

Willie—"Ten."

Teacher—"And suppose you were to break one of them?"

Willie—"Then there'd only be nine."

The schoolmaster was trying to explain the meaning of the word conceited, which had occurred in the reading lesson.

"Now, boys," he said, "suppose that I were always boasting of my learning—that I knew a good deal of Latin, for instance, or that my personal appearance was—that I were very good looking, y' know—what should you say I was?" Straightforward Boy.—"Sure sir, I'd say you was a liar, sir."

A man asked for admission to a show for half price, as he had but one eye. But the manager told him that it would take him twice as long to see the show as it would anyone else, and charged him double.

Definitions Given by "Freshies."

"An Oxygen has eight sides."

There was a young lady named Maud,
Who at meals was a terrible fraud.

She never was able

To eat at the table,

But out in the pantry—Oh, Lord!

German girl (just come to this country)—"I give to you this violet in token that I'm glad we met. I hope that we already yet, may once again together get."

A MIXED UP AFFAIR.

I married a widow who had a grown daughter,

My father visited our house very often, and fell in love with my step-daughter and married her. So my father became my son-in-law and my step-daughter my mother, because she was my father's wife.

Sometime afterward my wife had a son; he is my father's brother-in-law and my uncle, as he is the brother of my stepmother.

My father's wife, namely my step-daughter, has also a son; he is, of course, my brother, and in the meantime my grandchild, for he is the son of my daughter.

My wife is my grandmother, because she is my mother's mother. I am my wife's husband and grandchild at the same time, and as the husband of a person's grandmother is his grandfather, I am my own grandfather.

Dangerous Inflation.

Fat Man (to dentist)—Are you going to give me gas?

Dentist—Certainly, sir.

Fat Man—Then better anchor me down first.

—From Judge.

Great-Grandmother Goose.

Little Jack Horner

Sat in a corner

Eating a Commons pie,

He put in his thumb

And pulled out a match, four nails, a railway spike, two dice * * *

And said: "What a smart boy am I."

Papa: "I'm surprised that you are at the foot of your class, Tommy. Why arn't you at the head sometimes, like Willie Bigbee?"

Tommy: "You see, papa, Willie's got an awful smart father, and I guess he takes after him."

The High School Student.

He looked very calm and serene,
Out under the roof of thatch,
As he stood among the daisies green
The color seemed to match;—

Freshman.

He looks a little more dignified,
While he paces the long school hall,

His manner is most cut-and-dried,
And he scorns the freshman all;—

Sophomore.

A meerschaum he now calls his,
He's still more dignified,
And he is clean chuck full of "biz,"
By some society he's been tried;—

Junior.

Now lo,—a wonderful change has come,
He is strong and learned and wise,
Of knowledge he's rapidly gaining some,
While the wisdom shines in his eyes;—

Senior.

There is a thing whose name is F,
And with its sickle keen,
It cuts your grade from P clear down,
With not a plus between.

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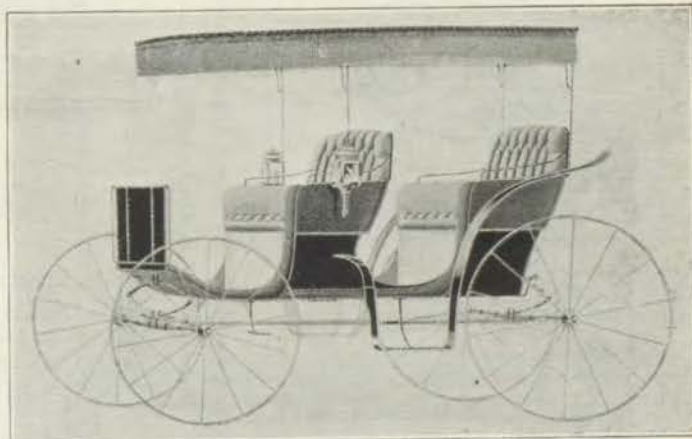
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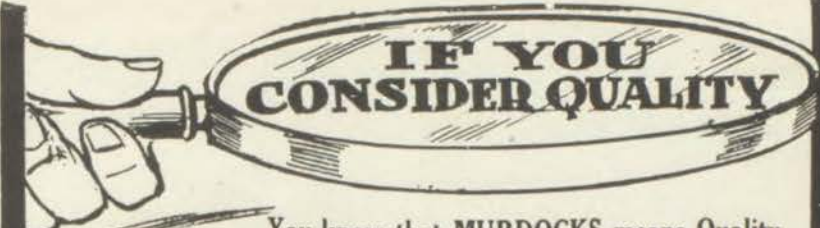
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NAUTILUS

ANNUAL

1908



PAPA H. BAKER



VOL XI

NO 4

MANUAL-TRAINING-HIGH-SCHOOL

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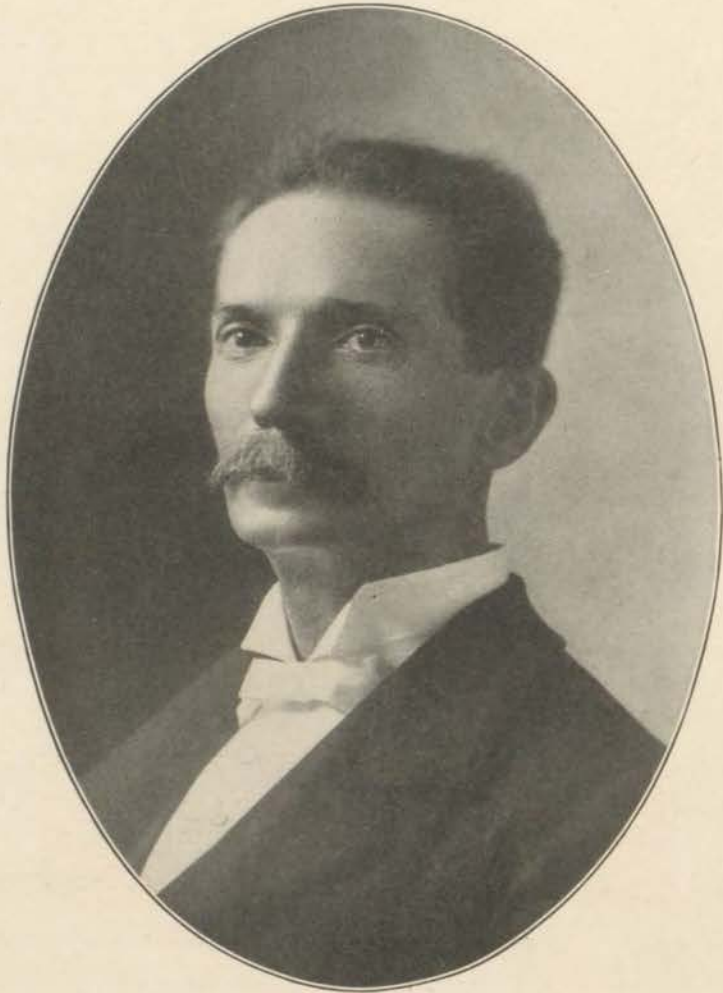


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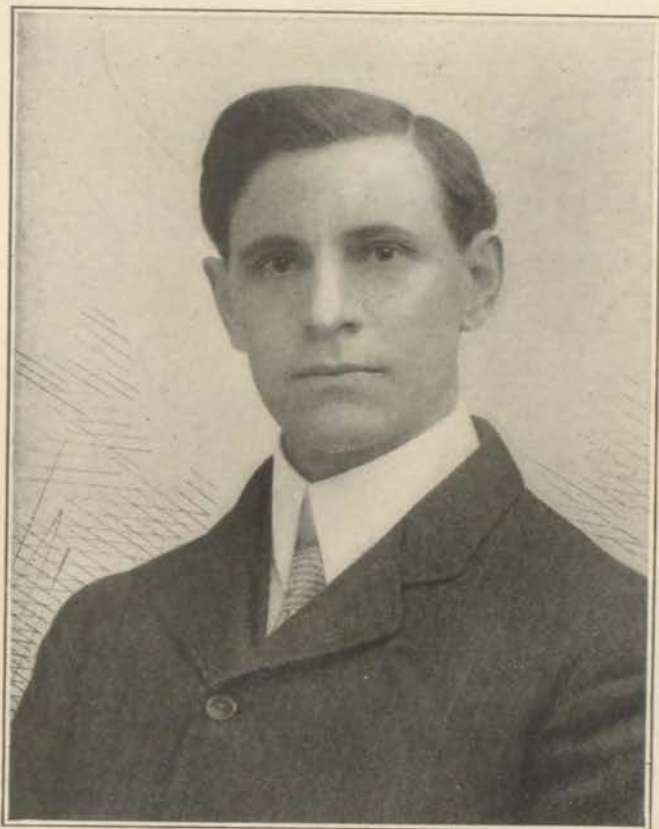


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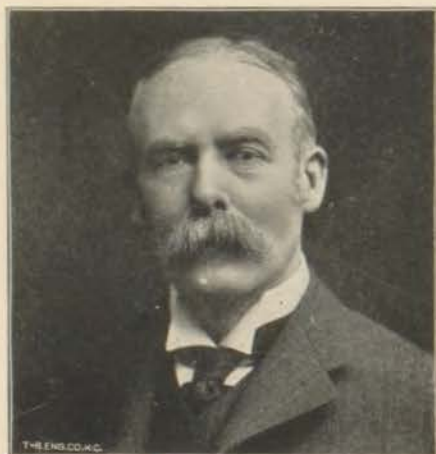
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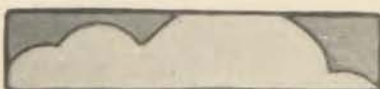
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ALPHA.



THE NAUTILUS



Build thee more stately mansions,
O, my soul!
As the swift seasons roll;
Leave the 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*

ENTERED AT THE KANSAS CITY, MO., POSTOFFICE, AS SECOND-CLASS MATTER.



It is gratifying to note how the interest is growing among pupils of the art department in competition for the Wm. Smith prizes for best Nautilus Annual cover designs. Nineteen creditable designs were handed in and among a goodly number of these competition was keen. The committee was composed of Mr. Howard E. Huselton of the Kansas City Star, Mrs. Lura W. Fuller, and Manual's artist Alumnus, Mr. S. Herbert Hare.

Our Annual Cover Design

The judges awarded the first prize (a check for \$20.00) to Mr. Paul Baker;

the second prize (a check for \$5.00) to Miss Lillian Trumbo; and "Honorable Mention" to the Misses Agnes Meyer and Crescence Clay.

The design chosen for the commencement issue is very appropriate for the occasion, being characterized by *beauty, simplicity and strength*.

Its most conspicuous feature is a well drawn figure of a pretty high school girl artistically placed in a side panel and suitably adorned with her student's cap, gown and diploma.

The judges were surprised at the high order of excellence of the designs submitted, and were delighted to discover

such good lettering and such resourcefulness in the scope and fitness of materials, as well as talent and skill among Manual's art pupils.

The Nautilus congratulates the teachers of the Art Department on the excellent results they are securing in the line of decorative art.

When it was learned that the young ladies of our school disliked some features of the original medal for the girls, Mr. Phillips with his characteristic disposition to please all parties as far as possible, invited our young artists to submit new designs, and the beautiful conceit worked out by one of our Art teachers, Miss Cornelia Topping, was unanimously adopted. As seen by the accompanying cut, it is a charming work of art. Nothing could

**The New
Inter-Society
and School
at Large
Contest
Medal**

have been more appropriate than to place upon the obverse of the medal the beautiful face of America's most beloved historic artist—*Mary Anderson*.



The elliptical medal of modest size is encircled with a dainty border of Cedar sprigs and berries to emphasize the significant motto of Cicero,—“*Digna Cedo,*” or worth keeping.

The Nautilus wishes to thank the following pupils of the art department for their efforts to make the “Annual” “a thing of beauty and a joy forever.”

**A Note
of Thanks.** Mary Searce, Paul Baker, Hester Lauman, Frank Mitchell, Clara Leaman, Ethel Haley, Edith Hunt, Alice

Hendee, Dorothy Diamond, Paul Rauch and Willa Cloys. Agnes Meyer, and Henry Ackerman, our staff artists, have done unusually hard work, on this Annual.

About a year and a half ago, Miss Florence Pretz, an '03 “grad.” of Manual, brought a funny little idol down to school. He was odd; He was not handsome but he made everyone wish to laugh.. He was dubbed “God of Things as they ought to be.”

Miss Campbell encouraged her to have a mold made and cast some to sell. In a couple of days orders were taken for 28 and more orders followed. In last year's annual we printed his picture and it made every body happy. Last winter Miss Pretz went to Chicago to study. There her creation was an instantaneous hit. The modelers were kept busy supplying the demand. Marshall Field has ordered 2500.

The little God is called “Billikins” now but he is still “God of the Local Box,” and Miss Pretz is still the modest, retiring Florence who was Staff Artist in '02.

In behalf of our school we wish to thank the National Supply Co., Chicago, Ill., for the two

**Recent
Gifts
to Manual** oil atomizers which they have given Manual. These useful gifts are valued at \$50. We

also thank Mr. Thomas Ridge for the valuable collection of specimens and minerals and the handsome case which he has presented to the Geological Department.

May 2nd., was High School Day at M. S. U. Our track team did not go, but our representatives in the intellectual contest were, Mr. Paul Dodd and Miss Will-rose Carson. They both

did excellent work but failed to capture scholarships. Manual feels that she owes no apology for her representatives, who, though not victorious, did

so nobly on May 2.

Through the efforts of our principal, Mr. E. D. Phillips an Inter High School Glee Club Contest is about to be established. In this glee clubs from all over the state compete at a special Musical Festival.

The Elocution Department furnished a very interesting program for the school on May 14. In the morning the program was as follows:

Elocution Day
 Oration.....Mr. Marcy K. Brown, Jr.
 Recitation.....Miss Ina Donnelly
 Oration.....Mr. Harold Evans
 Recitation.....Miss Ruth McGurk.

The afternoon program was:
 Recitation.....Miss Gladys Baldwin
 Oration.....Mr. Francis Riley
 Recitation.....Miss Mabel Thornton
 Debate.....Mr. Paul John Dodd

Thursday, April sixteenth we again enjoyed a program given by one of the literary organizations of our school. This time the "Debaters" entertained us with a distinctly original and highly enjoyable sketch entitled "Selling Space." Debating, for which the society stands could scarcely be expected in a play, yet so cleverly was the plot of this sketch arranged that for half an hour we listened eagerly to a debate, quite unaware of the fact until informed of it later. Harold Evans, Marcy Brown, Harold Wing and Paul Baker—were the participants in the arguments, while Paul Ranch was the "hit of the day," as a "young lady." One feature of the entertainment was the program in the form of a book, upon which the Debaters are to be highly complimented. The entire sketch was a success and in no way fell short of our expectations.

Selling Space
 On the night of April 24th, was held the fourth Inter-Society and School-at-Large contest. Nearly every seat was taken and every one listened eagerly to the excellent orations and declamations which the contestants rendered. The race was close with both the girls and

the boys but when the points were counted it was found that Mr. Paul Dodd, Manual Society of Debate, had been awarded the gold medal on oration, while Mr. Fred Thilinius, American Literary Society had taken the silver trophy.

In the declamation, Miss Frances Canny, School-at-Large, was given the gold medal while Miss Leota McFarlin, Oita Society, was awarded the silver one.

PROGRAMME

Chairman of the Evening,
 Hon. Frank A. Faxon,
 Member Board of Education.
 Grand Entrance of the Contestants.
 MUSIC—GRAND MARCH.....Selected
 MISS GRACE ALESHIRE
 ORIGINAL ORATION....."Patriotism"
 MR. RAYMOND FRITTON, *School-at-Large*
 RECITATION....."The Boy Orator of Zepata City"
 MISS CORA BELLE GREEN, *School-at-Large*
 ORIGINAL ORATION
 "The Lost Pleiad of America"
 MR. PAUL DODD, *Manual Society of Debate*.
 RECITATION....."Bobby Shaftoe"
 MISS FRANCES TREHEARNE CANNY, *School-at-Large*
 ORIGINAL ORATION....."Benedict Arnold"
 MR. OLIVER WALKER, *School-at-Large*
 MUSIC....."Over the Waters"
 MANUAL TRAINING HIGH SCHOOL GIRLS' GLEE CLUB
 MR. GLENN H. WOODS, *Director*
 RECITATION....."Skimpsey"
 MISS LEOTA MCFARLIN, *Oita Society*
 ORIGINAL ORATION....."Think on Living"
 MR. ROBERT MARLEY, *Ion Society*
 RECITATION....."Skimpsey"
 MISS ZORA EVANS, *American Literary Society*
 ORIGINAL ORATION....."A Patriot Without Honor"
 MR. FRED THILINIUS, *American Literary Society*
 MUSIC. (a)....."The Tar's Farewell"
 (b)....."Samanthy"
 MANUAL TRAINING HIGH SCHOOL BOYS' GLEE CLUB
 MUSIC....."Gloria," Mozart (in Latin)
 MANUAL TRAINING HIGH SCHOOL BOYS' AND GIRLS' GLEE CLUB
 Announcement of the Decision of the Judges and Awarding of the Medals

On March 19, the Edisonian Society appeared before us in an airy little sketch entitled, "Doctor Phulorare's Lecture on Air." The name would indicate a dry 25 minutes but we were agreeably disappointed.

The scene was that of a chemistry lecture room. The bell rang and the students, straggling in took their seats. However, the professor did not appear.

The Inter-Society Contest.
 On the night of April 24th, was held the fourth Inter-Society and School-at-Large contest. Nearly every seat was taken and every one listened eagerly to the excellent orations and declamations which the contestants rendered. The race was close with both the girls and

so the students undertook to perform the experiments and lecture upon them. The play was very interesting and humorous throughout. The "Edisonian Quartette" rendered some original parodies which were fully appreciated. On the whole "Edisonian Day" was thoroughly enjoyed by all who were present and will not be soon forgotten.

The O'ita Society made a decided hit on April 2, in a dainty little sketch entitled "Traumeri."

Traumeri

Not only was the production enjoyed at the time but the beautiful memories serve as a recreation whenever the event is mentioned. It recalls the mysterious portrait in "The House of Seven Gables," but not in the conception of ghostly revelry but in sweet sadness. Miss Eleanor Keith took the leading part as a young artist who was to be married and whose fiance wished her to give up her studio. Miss Georgia Riley was the faithful negro girl and the Misses Leota McFarlin, Ruth McGurk, and Mabel Thornton were the pictures which came to life at the stroke of twelve and told their stories. The Misses Ruth

Reinhardt, Mary L. Topping and Aileen Leavitt were other pictures, while Katherine Campbell was the fairy. The part the pictures played was no small one. It is a greater art to act in repose than to act in motion. After the pictures brought to life by the fairy had returned to their frames a dance was given by the "Watteau Ladies." The whole play was permeated with that daintiness peculiar to everything the O'itas have a hand in.

The German Club in presenting a sketch, work against greater odds than any other society in the school, yet they never fail to interest the pupils and make them wish for more. "Auf

Auf Dem Marktplatz

dem Marktplatz" was a delightfully historic play of the 16th century. It was given entirely in German, but we were able to follow the plot by the aid of the synopsis printed in the program. The costumes, scenery and actions were minutely true to history and were invaluable to the pupils from that standpoint. The sketch was very interesting and fully proves that "Der Deutsche Sprach Verien" is gaining its object—that of promoting the study of German in old Manual.

MANUAL'S ODE.

REBA P. GRANT, '08.

Hail to thee, our dear old Manual
We would sing of thee!
Oh, a fount of inspiration
Thou wilt ever be!

Whether near or far from shelter
Of thy peaceful fold,
Dear old altar, 'tis to thee our
Yearning fancies hold.

Glory, Glory to old Manual!
Blessings come to thee;
Hearts and minds and hands so loyal
All, would honor thee.

Chorus.

Wave the crimson banner proudly
Make its colors glow!
Manual's praises singing loudly
As we onward go!



THE DECLARATION OF INDEPENDENCE.

W. CUSHMAN FARNUM, '09.

(This essay won honorable mention in the Sons of Revolution contest of 1908).

In the Library of the Department of State at Washington there is today an old-fashioned desk. This desk calls up no patriotic feeling to those who are not informed on the part it played in the history of our country. Such persons may ask, "What part could a simple, old-fashioned desk of this unpretentiousness play in the history of such a great nation as ours?" True, this is not an unexpected comment, but if these persons knew more of the history of our nation, perhaps they would not ask this

question. This desk was, almost literally, the cradle of our Liberty. It was on this desk that the immortal document was framed that proclaimed to the world that the people of the United Colonies of America were not to be trod upon without some retaliation. This document, namely, "A Declaration by the Representatives of the United States of America, in General Congress Assembled," was framed and so named by Thomas Jefferson, but is better known today as simply "The Declaration of Independence."

In the Colonies the people, although dissatisfied with the treatment of their

rights by their mother country, were entirely loyal, according to Jefferson, until April 19, 1775. Until this time they did all in their power to effect a peaceful settlement of their difficulties and to bring the King and Parliament to see the matter as they saw it. At this time the people attributed their troubles only to the bad judgment of the King and of Parliament, and not to wilful designs on their part. The Stamp Act, which was great grievances and the Colonists passed in March, 1765, was one of their called Congress together on October 9, 1765, to set their grievances before the King for redress. The resulting document was known as the "Declaration of Rights and Grievances." This was the first concerted action of the Colonies and as such had great influence eleven years later on the decision of the Colonies. A later result of the dissatisfaction of the Colonists was the first Continental Congress, convened in 1774, to set forth their further grievances and to remonstrate with the King and Parliament. This they did in a Bill of Rights which was sent to the King. At this meeting of Congress a second Congress was set to meet on May 10, 1775, to learn and consider the results of this petition.

As has been stated, April 19, 1775, was the first time any real thought of separation was harbored in the minds of the people. Although the injustice of England had made him rebel, the American Colonist was a brave British subject, with grievances, and a wish to have them peacefully settled. But at this time there seems to have been a change in the minds of the people and gradually a new thought came to be considered by many, and this new manner of looking at a settlement was not to be put down easily. Various incidents, documents, articles and speeches served to bring about this change. Mecklenburg County, Virginia, on May 29, 1775, passed resolutions in which they stated that, as the King had seen fit to pronounce them American rebels, they were absolved from all future allegiance. This declaration was a great factor in the change of opinion and did a great deal to bring the people to see that separation was the only thing that could settle their difficulties. During the winter of 1775 a pamphlet was issued by Thomas

Paine, an Englishman, who gathered his facts among the people and used them in his paper. This paper he called "Common Sense," and in it he set forth various reasons why the people of America should be free. This pamphlet had a great influence with many people, partly because its author was an Englishman and one who supposedly should have taken the other view.

Thus when the Second Continental Congress met on May 10, 1775, to examine the results of the remonstrances, the minds of many were prepared to some extent for the great step. At this Congress the report on the silence of the King to answer the petition was made, and also his proclamation declaring the Colonies in rebellion, and his call for troops to aid in compelling the Colonies to submit to unjust taxation was brought up. These measures contributed in no small part to convince the delegates of the necessity of taking a very radical step at once. Some, although believing in their heart the necessity of a concerted action by the Colonies, were not quite prepared to consider the matter so intimately. Others were even decidedly against any action at all, wishing to wait to see any further results which might be forthcoming. The latter, and possibly some of the former, were perhaps influenced by fear and also by a desire of continued friendship with those in England. Benjamin Franklin wrote to a very dear and influential friend in England, Strahan, a member of Parliament, and stated his future enmity to him in a letter which has since become very well known. A latter portion of this letter reads, "You and I were long friends. You are now my enemy and I am yours." Still another group of men were prepared for this step, and it is to these that we owe the good results of the Declaration. When a group of patriots gathered in Philadelphia in 1776 most of the delegates were prepared for the action of the delegates from Virginia. Richard Henry Lee, who was the oldest member of this delegation, brought up the resolution on June 7, "That these Colonies are, and of a Right ought to be Free and Independent States." This resolution was seconded by John Adams of Massachusetts. Therefore, in the first real

step toward liberty, the two leading states, and also those on whom the oppression had fallen heaviest, Virginia and Massachusetts, were the leaders. This resolution being somewhat unexpected at this time by some delegates, and as these had no instructions from their respective states as to which way they were expected to vote on this resolution, the discussion was postponed until July 1.

On July 1, the Congress gathered to take up what was expected to be a momentous discussion. Still some procrastinating delegates did not think that the time to act had arrived and were not prepared to do their part. On this day the delegates from the thirteen states were present and the resolution of June 7 was at once brought up. John Adams at once took the lead among the speakers, and by his eloquence won many a supporter for the resolution. He was indomitable in his speeches and was on the floor as much as was possible for one man to be. The resolution was at first opposed by Robert Livingston, of New York, Wilson of Pennsylvania, and Rutledge of South Carolina. Dickinson opposed it to the last and never signed the Declaration. The question was debated principally among these men. When the vote was taken on July 2, New York was the only state that voted in the negative; Pennsylvania and New Jersey recalling their delegates who were against the resolution and substituting those who would vote in the affirmative. The reason New York's delegates were against the move, was they had not been instructed to vote in favor of Independence by their State. However, New York endorsed the resolution by a State Convention within a week; South Carolina, although not in favor of so radical a step, voted in the affirmative for the sake of unanimity. A committee of five was appointed by John Hancock, the President, to frame and submit a form of the Declaration. This committee was composed of Thomas Jefferson, of Virginia, Benjamin Franklin, of Pennsylvania, John Adams, of Massachusetts, Roger Sherman, of Connecticut, and Robert Livingston, of New York. Jefferson, although hardly speaking three sentences, according to John Adams, during his year of mem-

bership, was chosen for one of the committeemen on account of his fine command of English and his masterful pen. Although quite young he had already written some excellent articles and had become very noted because of them. This committee chose him to draft the Declaration. This he did, and the document stands today almost as he made it for it was so exceedingly well written that but few changes were made by the committee and the general assembly. The drafting of such an important document could not have been intrusted to a man more suited for the honor than Thomas Jefferson, and it is today considered one of the best examples of fine English style by the best critics.

According to Jefferson all the delegates signed the Declaration on July 4, but he made this statement in his old age, and others, who for this reason are considered better authority, say only John Hancock, the President, and Charles Thomson, as Secretary, signed on that day, and that the other delegates signed on August 2.

When the time for the signing of the Declaration came, very few of the delegates had not weighed the consequences of this action very carefully in their minds. Well they knew what the result of this apparently insignificant act would be if the coveted Liberty were not obtained, and yet how many faltered? Only one out of fifty-six. And this man, Dickinson, lived to regret that he had not cast his fear aside. Surely this proof of bravery is a great monument to the courage of our forefathers. John Adams said he took particular notice of the manner in which the delegates signed, and that not every one signed cordially. Some even showed their fear, but as a great compliment to their steadfastness and loyalty they signed without a falter. John Hancock being the first to sign, said, as he wrote his name in a bold hand, "There is my signature where John Bull can read it without his glasses." Although the original document is very much faded his name can still be read very clearly. Showing how trivial matters may enter into the most solemn deeds, John Hancock said, "We must not falter; we must all hang together in this matter." To this Franklin with his ready wit, replied, "Yes, we must all

hang together, or else most assuredly we will hang separately."

When in our time the Glorious Fourth of July arrives, with its booming cannon, its popping crackers and the brilliant display of fireworks to end the day, we may justly look back at the men who fostered our liberty and laud them to the skies. They did not falter; they did not stop for petty fears, they conceived and they executed. Such were the men who were the representatives of our forefathers, and to these men we should

give all the praise and glory to which they are entitled. We should be inspired by their noble deeds, and they should enkindle acts of patriotism and courage in our hearts today. When in our lives it may become possible for us to do some act, or to think some thought of loyalty to our country, we should remember the signers of our Immortal Declaration of Independence, and prove to the world that we have succeeded in following their example.

ALL'S WELL THAT ENDS WELL.

HELEN HARRISON, '08.

John Milburne, president of a well known bank in New York, tilted back in his chair and stared at the self confident young man before him.

"Now look here, young fellow, you have spent a whole hour trying to argue with me that you are absolutely necessary to my daughter's happiness. Can you provide for her as I have? Can you give my daughter the finest home in New York? I tell you there is no use!" To give emphasis, the president's chair came down with a thud and he glared at the young man, trying hard to find some flaw in him. "A nice lot of nerve you have got anyway—a man on a salary with a view of a raise in a month. Why your salary wouldn't be pin money to my girl."

"But my father"—began young Stevens.

"Your father—nothing. You started that story before. I don't care if your father is president of the United States."

"But let me explain."

"I tell you there is no use; I like your spunk, but the man that marries my daughter must be a hustler."

"And I'll show you I am a hustler for you will have to go some to catch up. 'All's fair in love and war'" and young Stevens walked out of the office.

John Milburne was very narrow minded in regard to his daughter. He forgot the days when he had courted Mandy, now the mother of his children. Then he, too, had been a salaried clerk, but they had saved and worked and fortune had smiled on them. His one fear

was that his daughter would be married for her money.

Dorothy was the joy of her father's heart. She was his comforter in times of trouble, his very support on which he leaned. He had been heard to remark that his daughter had more common horse sense than any girl in the country and he would bet a hundred to one on it any day. She was as determined as her father and when she decided to do a thing she usually did it.

Richard Stevens, very much depressed went out to talk it over with Dorothy, who lived in a beautiful suburb. He expected her to feel as badly as he did about it. She in turned hummed a tune and arranged with careless ease a vase of flowers. After a few moments she asked "What did daddie say?"

"Well he as much as called me a fortune hunter. Said I didn't have enough sand and in as few words possible said, 'Nothin' from nothin' leaves you.'" I had about as much luck as if I had spent my time orating to a street lamp. I'm sure things wouldn't have been as cold."

Dorothy laughed merrily and picked up the morning's paper. Dick had never seen her so tormenting or so aggravatingly sweet. She was very interested right at that moment in some article, but there was a mysterious twinkle in her eye.

"Dick did you see that Mary Malone eloped last night with Harold Whitman? His automobile was a better machine than her father's."

Harold fairly jumped from his seat—

"Dot could we—would you"—and he swung her around the room. "What would your father do?"

"Why—I know dad better than he knows himself and if he sees you have outwitted him all will end well."

"Dot you are a dear. Dad is coming to the city tomorrow; we will meet him and take him with us." So it was arranged for the next evening.

So interested had they become that the steps which died away in the distance were unnoticed. Yes, her father had overheard the plot and he decided to show that fellow a few things. He would catch him, and have him arrested.

Promptly at half past six the next evening Dorothy went to call on a friend, at least she started there. She found Dick waiting down the road and in no time they were speeding up the road.

Precisely at the same moment John Milburne was busy trying to make his machine start. After a dozen furious attempts he got started and reached the main road just as the run-aways turned the curve half a mile ahead. Both cars were going at full speed. On and on they flew—they had reached the edge of town proper now, but neither showed slack in speed. Milburne heard cries from behind to stop. He glanced over

his shoulder and saw an officer in hot pursuit. What did he care, if the officer got his number, but just then his car came to a dead stop. Out he climbed in a jiffy but before he could remedy the evil the officers had reached his car and placed him under arrest for scorching.

At first John Milburne was too angry to talk. He simply raved. It took the officer a half-hour to convince him that he would have to go with him to the justice of the peace. Then he only went because the fines were piling up too high.

As he walked in he heard the words, "I pronounce you man and wife," and there stood Dorothy and Richard Stevens. Beside them stood a handsome old gentleman, whom he immediately recognized as a friend of his youth. So interested had they become that the young folks were entirely forgotten. Finally, the stranger turned and said, "Let me introduce my son and his wife."

"Introduce," fairly yelled Dorothy's father, "haven't I chased that young rascal all over the country for running off with my girl?"

Whereupon they both laughed and shook hands again. John Milburne decided the joke was on him and nothing would do but that they go home and invite the neighbors to the wedding feast.





"Pap," said Reggie, drawing a clean knife out of his mouth, where it had been in to the depth of two inches, "does a cat really have nine lives?"

"Yes," said Papa, with a twinkle in his eye. Papa liked to joke with Reggie.

Last week, Papa brought a little Angora cat home to Aunt Milly—a timid little Aunt Milly, who sat across the table from Reggie, and who was very much afraid of Reggie. Aunt Milly fairly worshipped the cat and lavished all her attentions on it. Just now, as it came over to Reggie's chair, Reggie leaned over and stroked its fur.

"Pop," he said, "do you think kitty has had many lives?"

"Well, hardly," said papa. "It is a very young cat."

Aunt Milly seemed a little nervous as she glanced at Reggie, who was deep in thought; but no one noticed her nervousness. People hardly ever did notice Aunt Milly—she was so very timid and quiet.

Meanwhile, many thoughts were surging through Reggie's fertile little brain. If the cat had lived but a few lives, she had many yet to live, Papa had said so. If she should die, she would come to life again and live another one of her lives. Would it be the third, or the fourth, or the fifth? Well, anyway, it would not be the ninth.

Now Reggie was not a mean little boy, nor a cruel little boy, and he very much loved Aunt Milly (although that good little lady did not suspect it). He would not have hurt her feelings for anything; but what he was going to do would not hurt her feelings, he argued to himself,

because the cat had many more lives to live. Reggie was simply a very inquisitive child and was not satisfied until things were shown to him—a true Missourian, indeed. So as soon as he was set free after his morning meal, he went out into the back yard, followed by the cat, for the cat always followed Reggie and never Aunt Milly. His little playmate, Dan, joined him, to whom Reggie soon disclosed his intentions. Dan was very much surprised, and, with wide-open eyes, said:

"Why, the cat'll die, Reggie. It'll just die and that's all, and your Aunt Milly'll feel awful bad."

"Sure, the cat'll die," said Reggie, "but it'll come to life again. This here cat's a very young cat, and a cat has nine lives, you know," he finished, with the air of a person of superior knowledge. So Dan, completely overawed at the wisdom of his playmate, picked up the shovel and meekly followed Reggie, as the latter marched out to the lot behind the barn, with the cat in one bag and some stones in another. I will not relate what took place behind the barn, but when the two little boys emerged from behind it a little later, Dan was in tears, but Reggie wore a look of mingled determination and agitation, with the latter coming out more strongly than the former.

At dinner that noon, nobody, except Aunt Milly, noticed Reggie's agitation as he said:

"Pop, how long does it take for a cat to have another life after it's had one?"

"Oh just a few minutes," said Papa carelessly, laughing, and then continu-

ing his interrupted narration to his wife of the occurrences at the office that morning.

Reggie knitted his little brows at his father's answer, and Aunt Milly noticed it. By the way, Aunt Milly had also noticed that the cat did not come around the table at dinner that day, but no one else, saving Reggie, of course, had noticed it.

About five o'clock that evening, Reggie went out behind the barn and, for the twelfth time that day, looked into the hole; but he evidently was not satisfied with what he saw, for when he came back to the house, he still wore the worried, agitated look.

At supper that evening, Reggie said, in a very shaky voice (which Aunt Milly noticed):

"Pop, does it ever take a very, very long time for a cat to have another life after its had one?"

"Oh, mercy no, child! Just a few minutes," Papa said again, carelessly laughing.

Reggie cast a shameful glance at Aunt Milly, who was looking for her handkerchief.

"Well, Papa," he said, "I—we—I went and—" here he broke down.

"Why son, what is the matter?" said Papa.

"Reggie, dear, what are you crying for?" said Mamma.

Between sniffs, Reggie somehow managed to say, "cause I—I—went and—*killed the cat!*" It was all in one hurried burst at the end.

Aunt Milly was softly crying now, but no one, except Reggie, noticed it.

"Killed the cat!" exclaimed Papa, "Aunt Milly's nice Angora cat? What did you do that for?"

"'Cause you said—that a cat had nine lives and I—I—wanted to investigate—and you know you said—I—I—was an investigator—and I'se gone—and—hurt Aunt Milly's feelings and—and killed the cat." Poor Reggie almost collapsed.

Papa considered a moment, glanced at Aunt Milly, and then said in a low tone to his wife:

"It was all my fault, I should not have led him on." Then in a kinder tone he said, "Never mind, Reggie, I will get Aunt Milly another cat, a sister to the first one. There are plenty more, you have 'investigated' now, and found out whether a cat really does have nine lives."

"I think," said Mamma, nodding to Papa over the teapot, "that you had better not joke with him so much, after this."



IN DISCIPULUM ORATIO LATINE PRIMA.

EMMETT RUSSELL.

Quo usque tandem abutere, discipule, patientia nostra, Quam dia veris febris ista tua nos eludet? Quem ad finem sese infinita iactabit inertia? Nihilne te diurnum praesidium classis, nihil scolae vigilae, nihil timor examinationis, nihil ira bonorum omnium, nihil hic acervus pensorum scribendorum, nihil meum os vultusque moverunt? Paterè tuam conditionem non sentis? Inutilem iam mea scientia fieri dissimulationem taum non vides? Quid proxima, quid superiore,

quid denique omnibus noctibus egeris; ubi feuris, cum te Latine studere oporteret; me ignorare arbitraris?

O tempora, O mores! Classis haec intellegit, praeceptor videt, tu tamen vivis. Vivis! Immoveo etiam in scolam venisti, sis scolae facultatum particeps, notas et designas oculis ad oblivionem unum quodquestudiorum. Tu autem diligens discipule, satis facere tibi scolaeque videris, si meam iram ac linguam vitabis.

YAO—SAN.

MARCY K. BROWN, JR., '09.

The sun was just sinking behind the high and rugged Hizen Mountains and the fairy-like vapors, high above in the azure sky were tinted and colored, as only the clouds of Japan, the land of the cherry blossoms, can be. They seemed to throw their vivid hues upon the huge, grim-visaged rocks and crags along the mountain side and to light up the sombre shades and shadows with somewhat of a cheering glow, which melted away into dark obscurity in the depths of the yawning gorges and defiles. Gradually, as the sun sank lower, the feathery clouds lost their gorgeous tints and darkness ended the wild revel of crimsons and violets.

Up the steep and narrow path leading from Kurume, wearily but hastily, a solitary man toiled. He passed through the borders of the great forest and farther on, came upon a camp on a wooded plateau. Hastily answering the sentinel's challenge he passed on within the bivouac. The smouldering camp fires cast lurid rays upon the stern and anxious faces gathered around them, but the man did not pause; he went straight on to the large central fire and handing the leader a letter, fell to the ground exhausted.

Yamato Sumi opened the scroll and read. Suddenly his hand trembled and the message dropped to the ground. A gray pallor showed through the swarthy hue of his features; but quickly recovering himself he jumped up and shouted, "To arms, my comrades, to the march, there is not a moment to lose. The imperial army has surrounded the island. Saigo and his brave Samurai call for help." This sudden message caused a profound sensation in the group and so great was their love for their cause that without losing a moment, they formed in ranks, turned their faces to the east and marched out into the muffling and sheltering blackness of the night.

For over a month they had been on the defensive in the fastness of their mountain fortress, to which they had repaired at the opening of the rebellion, which was headed by the Satsuma Sam-

urai against the cruel and unnecessary measures taken by the government, for the extermination of their power and influence. So far the Satsuma had been successful. The arsenal at Kagoshima had been captured and success had met them at every turn. But now the army of the Tenno had surrounded the island to keep the rebellion from spreading and the insurgents from receiving aid or re-enforcements, and this is the point at which Yamato Sumi and his Samurai left to join forces with Saigo and his army. The Samurai did not make war upon the emperor, but upon his advisers who were ruining the country by the course they were taking. Self interest was never considered by a Samurai and none in the whole Japanese Empire were more loyal, more heroic, more patriotic or more eager for the advancement of Japan, but when they had to build a new edifice upon the ruins of a still vivid past, it was inevitable that a clash should come between them and the government.

* * *

For three long days Sumi's band marched over the rough and uneven surface of Kiusiu; now under the burning heat of the Japanese sun or again in the blinding summer storms. But no obstacle could stop their onward march, for they were striving for a glorious cause, a cause to them far greater than any hardships or wants could impede.

Through all the last day's march, as they neared Kagoshima, Yamato Sumi was pensive and studious. Permeating all his thoughts were the words, "What will she think, what will she do? By all the gods of my ancestors, I cannot, will not, let her turn from me." And thus he pondered, all the long and weary hours of their onward tramp, until the arrival at the arsenal aroused him from his reverie, to make active preparations for his soldiers' accommodation.

"She," was Yao-San, the daughter of Ito Osaka, the Diomyo of Saikaido. Only two months before had Yamato left her and her father, and the old man's blessing and parting words of ad-

vice were coursing through Sumi's brain now.

"My son, your father was a great leader. Through all his useful life the gods smiled favorably on him. Now that he has departed from us, gone to a well earned rest, and left his riches, influence and power to you, you must use them wisely, my son. Well I know your rash temper, but think before you act! Remember the Emperor is the greatest of human beings. It is inevitable that some time will the Samurai rebel. Act wisely, my son, and if you love your country and want Yao-San for your own, go not against my advice. I trust you."

And now, instead of following the words of the old man, he had gone directly against them. He was no longer welcome at the "Besso" of Ito Osaka. No longer could he ever hope to possess Yao-San. He was an outcast of society, everybody's hand against him and a price set on his head.

* * *

That night was a terrible one. Outside the warm confines of the arsenal the wind blew and the rain came down in torrents. Now and then a bolt of lightning wriggled in jagged fire across the firmament. The thunder rolled as if the chariots of a thousand warriors raced across the dome of heaven. Around the fort the sentinel paced his solitary

steps, but just as he passed the path leading up from the town, a bright flash of lightning revealed for an instant a cloaked figure, painfully toiling up the hill. The figure came nearer. "Halt!" cried the sentry, "who goes there?" "A friend!" came the answer in the soft voice of a woman. Another flash showed the girl, her shawl thrown back and the rain streaming down her beautiful face. The guard stepped back in surprise. It was Yao-San, daughter of the Dramyo. "Don't stop me from seeing him, I must speak to him. It is life and death. The gods will surely reward you." The appealing voice and pitiful face touched the soldier's heart and he opened the door of the fort and with a "wait" left her in the dark chamber. In a few moments the door opened and two persons entered, bearing lights. The sentry quickly passed outside and left the man and woman alone. For a moment neither spoke, then Yao-San broke out in an impassioned voice, "I have not forgotten you, Yamato, and to prove it, I overheard the plans of my father to attack at the east gate near the break of day. Be on your guard! Tomorrow night I will be in the garden—you may come."

"But I,"—she was gone, and Yamato was left alone. Excitedly, he hurried to the general and told of his information. Soon all the fort was astir and all prep-



"A flash of lightning revealed a cloaked figure painfully toiling up the hill."

arations were being made to ward off the attack.

It was a sleepless night for all. The storm passed over and as the moon slowly reconquered her place in the clearing heavens, it showed creeping up toward the arsenal a body of men clothed in glittering steel. Instantly all were on the alert and the Samurai rushed out on the advancing company, surprising them completely. After a short but hard and desperately-fought struggle, in which the old Samurai spirit showed at its best and the Japanese sword maintained its old reputation, the attacking force drew off and the morning sun ushered in the rosy dawn upon a field strewn with the bodies of many brave soldiers.

* * *

After dusk had crept over Kagoshima, a man could be seen carefully wending his way toward the eastern part of the town. He walked hastily, occasionally looking back to see if he was followed. At last, he came to a picturesque "Besso" or country home surrounded by a



YAO SAN

hedge of bamboo. Looking carefully up and down the road, he passed quietly within the circle. As the breeze brushed aside for a moment or two the sombre cloud fold from across the moon's face it revealed a shadow passing across the patchwork of light and shade beneath the maples. The figure glided lightly

across the lawn and tapped softly on a lighted window. Yao-San stepped out on the lawn with her fingers to her lips, motioning him to be silent. "Not a word now," she said, "father and some officers are in another part of the house, you must go now, come back later." "By the Bridge of Heaven, I will not," cried Yamato, "I came to see you and here I will stay." She walked out on the grass and stood under a thick maple. "The garrison is now fast asleep," exclaimed Sumi, "and this might be the last time we ever meet, as we attack the Imperial Army tomorrow. We have received re-enforcements and are going to make the final stroke for life and liberty."

"My father suspects it was I who informed you of the last attack; you are in danger every moment you stay here. If you love me, go," pleaded Yao-San. "After the battle if you are successful, we will go to some far land away from all strife and trouble." The painful flush and twitching muscles warned him that she keenly felt his danger and with a hasty kiss, he turned to go. He stepped back with a gasp of surprise. Confronting him, with drawn swords were eight men, led by the Diamyo. Yamato made no resistance and two soldiers stepped forward, bound his hands and stripped him of the two swords, the insignia of a Samurai. The old Diamyo came forward. "So, young man," he cried furiously, "you expected to carry my daughter off to your accursed rebel camp, eh? but you shall not; you shall die. The gods do not give fortune to such as you."

"That sweet tongue of your is like a good knife; it cuts deep and does not lose its edge. If my death will assist my cause in any way, you are welcome to it, otherwise you dare not take it. The Samurai prides himself on a glorious revenge," replied Sumi haughtily. "My father," interrupted Yao-San pleadingly, "if you have one spark of pity, love or compassion for me or one who was to be your son, let him live."

"Bah, pity is frozen in my heart, he shall die. I—, but wait,—remove the prisoner, guards, I will speak with my daughter alone."

They filed silently out and Yao-San

drew a step nearer her father and bowed her head.

"My daughter," said the Diamyo, "You have given me much cause for grievance, but only on one condition he lives. Tell me the plans of the Samurai, and Sumi, though he should pay the death penalty for his disloyalty, is free."

"Father, would you make me betray a trust placed with me," exclaimed Yao-San. "Not another word, tell me or I give the order to the soldiers," said Osaka in a threatening voice. Yao-San buried her face in her hands and broke into a succession of heart-breaking sobs. Ito moved away and called the guard.

"Wait, I will tell you," she cried, and in a trembling voice, she told of the un-

protected position in which they were now in.

"Go," said Osaka triumphantly, "your lover is free," and he strode off toward the camp of the Imperial Army.

* * *

The night was over. Morning came trembling across the ocean and the newly lighted sun god turned the waters into moving, molten gold. Not a breath of breeze stirred. The junk lay becalmed. On board were two happy hearts, Yamato and Yao-San. Her cheeks were aflame with a crimson glory, that the sun had not kindled and she could well afford to be happy, for all the time her heart was singing his words, "I love you, Yoa-San, and in a new land we will live happily and peacefully."



EVERYDAY LIFE.

AGNES I. MEYER, '09.

It was a busy, bustling little city. The faces of the people hurrying along the street to their work, or play, showed that many of them had reached their goal of success. Only one figure went slowly and falteringly, but it was not because of any dislike for the day's labors, for he carried his small stock of shoe strings in a paste board box under his arm; it was because he possessed a bigger handicap than his fellow men, and he realized that the race for his daily bread and butter was getting too stiff a one for him to run. This man, who walked laggingly while others hurried by him, carried a slender stick in front of him with which he tapped the sidewalk to find the safest path. He was blind.

All morning the stooped figure walked up to each door with renewed hope, only to have it die out at the sharp voice which seemed to inquire what right he had to earn his own living, anyway.

Each time the man's steps came down the walk slower and his shoulders drooped a degree lower than they had been before the fresh rebuff. And, as he came from one of the houses and stopped uncertainly, trying to decide which way to turn, the swish of soft silks and the patter of baby feet passed him. The little feet stopped as the owner turned her sympathetic gaze on the big man's dejected attitude.

"Come, dear," her mother called impatiently from further down the walk. The little girl ran to her mother, but kept her eyes fixed on the object of her pity.

"He's blind, mother, so he can't see. Couldn't I give him"—she glanced at her mother timidly, "a penny?"

Her mother laughed—a careless musical laugh. "Child," she said, "you never can tell what these beggars are. And," as they moved off down the street,

"he very likely can see as well as we can, only he's too lazy to work."

The man did not wince at the not unkindly meant words. He was used to them. He hitched his box up under his arm and, tapping the walk in front of him, passed slowly onward.

The noon hour had arrived. The man, sitting down on the curb stone to rest his tired limbs, smiled rather scornfully at the crooked ways of the world. And he was a hero to be able to smile—no matter how scornfully. He was hungry, and in his pocket there rested for the whole morning's work—one nickel. In the houses along the street where he had tried his luck during the last hour he heard the clatter of dishes and smelt a whiff of an appetizing dinner in progress in the kitchen. This was all he had received except the frown of the lady or maid who had been called away from her gossip to open the door. The man on the curbstone did not notice the big policeman coming leisurely down the sidewalk—not until the policeman patted him, not any too gently, on the shoulder.

"Have to move on," he rumbled. "No tramps allowed loafing on this street. Have to move on," and as the man "moved on" down the street he was followed suspiciously by the eyes of the policeman until he rounded the corner of the next house.

As he stepped on the back porch he heard the shrill voice of a woman preparing the noonday meal.

"And even though she does dress so beautifully, it's my opinion that she is

very stingy. Now I asked her to give me a few dollars for my charity to send to India, but she said—"

Here the man knocked on the door. The woman turned rather startled. He touched his hat and smiled as he said,

"Won't you buy some shoe strings, lady?"

"No-o," she began, but he interrupted her. He was weak and faint from his discouraging labors of the morning.

"I haven't sold but five cents worth all morning, lady. Can't you buy some?" He did not see that she was not listening, and so, for the first time, opened his heart to the woman who sent her money to the poor beggars in India. "I'm trying to earn an honest living, lady, and lady, I'm blind—I can't see."

"Nothing today," answered the woman crisply. "Nothing today."

"Oh, now, lady"—the man's voice sounded queer in his own ears, but the woman murmured to her friend in an undertone, "Fine acting"

"Lady, please,—"

The door closed with a bang.

The man turned and started toward the next house, and as he passed the open window he heard the woman continuing her conversation.

"And she calls herself a Christian when she couldn't spare a cent for those poor heathen in India. I despise such women."

And the man, feeling his way around to the sidewalk, smiled—a scornful smile—at the crooked ways of the world.



BENEDICT ARNOLD, THE TRAITOR OF THE AMERICAN REVOLUTION.

ROBERT C. MARLEY, '08.

The darkest, and perhaps, the saddest episode of the American Revolution, was the treason of Benedict Arnold. The circumstance was dark, because treason at any time, anywhere, and perpetrated by anyone is the most heinous of crimes. But this particular act of treason was sad, for the traitor rightly believed himself wronged by the Continental Congress, and because an unfortunate chain of circumstances seemed to lead him on.

Arnold was injured at Saratoga, and was unable to actively take the field, when he received command of the troops stationed in and near Philadelphia, June 1778. He already felt enmity toward Congress, for having promoted Gates and others to undeserved positions, leaving him, although superior to them in ability, their inferior in military rank. Philadelphia was then the stronghold of the Tory party, whose members constituted the leading class of citizens. They believed the Declaration of Independence to be illegal, but deemed it dishonorable to actively aid the English. They advocated the acceptance of Lord North's conciliatory proposals, and looked upon alliance with the French, their one time enemies, as a foolishly inconsistent and impolitic procedure. It is not known what Arnold's personal views were, but through his lavish entertainments, he became friendly with the Tories and in April, 1779, became engaged to marry Miss Margaret Shippen, who was then the reigning belle in Philadelphia and a member of a leading family of moderate Tories.

With that characteristic of true self-sacrifice which is found in all great men, Arnold declared that his purpose was not so much to shine in history as to be a good citizen. He had decided to leave the army and to obtain a grant of land in Western New York on which to settle for the remainder of his life. Arnold left Philadelphia to negotiate for his land; but, no sooner had his back been turned, than he was openly attacked by one of his most active enemies, Gen. Joseph Reed. Had this man let mat-

ters alone, Benedict Arnold would never have been a traitor and our country would have been spared the saddest event of its Revolution. Six charges were brought against him and the matter was given to a committee of Congress for investigation. Arnold, meantime, abandoning his scheme to retire, and only anxious to safeguard his excellent reputation, returned to Philadelphia. He was found to be entirely guiltless by the committee and matters seemed adjusted. But Reed again attacked Arnold, representing that all the evidence had not been heard by the committee, and the matter was accordingly turned over to a Court Martial. Goaded to a furious wrath by this seeming foolishness of Congress, Arnold became desirous of revenge. About this time he wrote, as "Gustavus," to Major John Andre, Sir Henry Clinton's adjutant-general. He had in mind only his own desertion to the enemy, the betrayal of a fortress being a later development. Meanwhile, he had been acquitted by the Court Martial of all important charges and was sentenced to be reprimanded by Washington for two very trivial ones. But the days at Philadelphia had left their rankling in the heart of Benedict Arnold and he could no longer serve his country as the gallant patriot of Quebec and Saratoga.

After the surrender of Burgoyne, Washington was determined never again to be doubtful of the Hudson. So a strong chain of forts was established, the all important link of which was West Point. Taking advantage of the confidence placed in him by Washington, Arnold applied for the command of this post and it was granted to him. Not long afterward, Andre met "Gustavus" in a thicket in the vicinity of West Point, to make final arrangements for the surrender. The conference being over, Arnold returned to his post, and was at dinner with members of Washington's staff, when a dispatch reached him, stating that an English officer, in disguise and bearing papers which stamped him as a spy, had been captured within the American lines. Having read the letter,

he calmly remarked that he was needed across the river. Very deliberately, he left the room; told his wife that he was a ruined man; kissed his baby boy, who lay asleep, and escaped to the Vulture, an English ship which lay in the Hudson near West Point.

Arnold's old age was one of isolation. He removed to England, but the British shunned him. Wherever he went, the finger of scorn was focused upon him.

In 1801, at the age of sixty years, weary of life and feeling that his moments were numbered, he called for his

old Continental uniform and put it on. Benedict Arnold died—not the overbearing Englishman; not the faltering Tory; not the outcast traitor; but the Benedict Arnold of Quebec and Saratoga, the patriotic American. His lower impulse had been roused and he being unable to quell it, had been ruined by the revolution that followed. His dying words draw from our hearts, pity and sympathy. "Let me die in this old uniform in which I fought my battles. May God forgive me for ever putting on any other."

"BUTTONS, HIS CONQUEST."

WILLA CLOYS, '11.

He was a small atom of humanity, undoubtedly grimy—the grime of frequent contact with such exciting devices as coal-chutes; and dressed, or to use a more literal expression, covered with a limited number of rags of uncertain gender. At present he was occupied with giving vent, through a series of kicks and unearthly howls, to an all-consuming passion. The object of his wrath seemed, for want of a better, I should judge, to be the fourth flight of stairs in one of the many tenements along the water-front in New York.

After taking the usual course, with a few variations, of all such tantrums, the demon within him subsided and the young terrorist collapsed on one of the bare steps, a heap of heaving tatters. The only remaining signs of his recent emotion were his little streaked fists, tightly clenched, and occasional spasmodic sobs. The silence, if the low, continuous hum which pervaded this wretched place might be so termed, was at length broken by a shrill, piping voice issuing from the depths below.

"Hi, Buttons, dare you come down here, hi—"

No sign, save a sudden rigidity of muscles, was apparent to cause one to suppose that the occupant of the stairs was the person addressed by that unusual, not to say novel, appellation; for which there was no evident reason unless it could be a peculiar lack of the aforementioned article.

Again came the derisive challenge:

"You're afraid, that's what you are, I know."

But the spirit and pride of Buttons had been severely tried, and he made no response. Well he knew the weak points of the initiative. Besides, was he not playing his own cards, and with a vengeance?

"You don't know what I've got."

The voice had lost some of its defiance and—yes, several shades of entreaty had crept in.

After a sufficiently impressive lapse of time, Buttons deigned to make reply: "Huh! you don't think I care"—then came the irrepressible "What is it?"

"Oh, if you'll just come down here I'll show you," came back in a voice the very personification of eagerness.

Good! The scheme was working capably. Buttons maintained a stern silence—not without difficulty. He was divided against himself: he had the curiosity of a censor. But what was it to him if—. "I'll let you play with it." Silence. "It's got hair." Prolonged silence. What a martyr he is! "It's alive." O miseries! why is he thus tormented? Why, oh why, cannot—. "It's a—." "Wait! I believe I'll come down."

Who could have guessed by that calm, indifferent tone what a crisis of emotions had been but reached? O, ye rising generation, how diplomatic, how crafty. Vast are your opportunities, but your ingenuity is vaster still.

Never did a general map out his

course with more tact than this little campaigner. He had an object in view, a desire to gratify, and the battle before him. With a little skillful management the victory would be his.

As he labored down the stairs he turned the prospects over in his mind. At the bottom he was met by a boy, slightly larger than himself, gaunt, dull, rawboned, whom he greeted as "Skinny," and—a dog.

Yes, just a common yellow cur, his half delighted, half apologetic little eyes gleaming pitifully now from under the coarse, matted hair. But to Buttons he was beautiful; to him he represented the one desire, the one longing of his narrow little life. It seems to have been a case of love at first sight with both; but an instinct warned each to restrain his impulse.

Buttons stood silent for a moment on the lower step, then half turning, with

a well-feigned expression of thorough disgust, he exclaimed:

"Well! Is that all you have to show me?"

And Skinny, vaguely feeling the necessity of an apology, but vastly more, the great desire for companionship, began, somewhat uncertain of his ground:

"I—I—he's really awfully cute, and" (a sudden inspiration) "maybe you'd like to see his tricks?"

Of course, it would be but a waste of time, and he was very busy now, but—he would stop a moment; and somehow, during the next half hour, the dog grew remarkably insignificant and below-the-ordinary in the sight of Skinny; indeed, he was almost ashamed to claim such an inferior article. Then it was that Buttons with grand magnanimity offered to relieve him of his burden, and—exit Buttons, secretly triumphant, staggering under the weight of his precious, hard-won trophy.



"IT"

WINE IS A MOCKER; STRONG DRINK IS RAGING.

MARGORIE L. MORTON, '09.

The Doctor and I were walking about the grounds of the insane asylum, discussing the many phases of insanity. I was engaged in writing a book on that subject, and had been kindly invited to inspect the institution.

"I have noticed," said my friend, "that when insanity is caused by a certain incident, the illusion in the mind of the one affected generally has some connection with the cause. Now here, for instance, notice this patient coming toward us, and mark his behavior."

When the person mentioned neared us, he turned his face to us. As I live, I never want to see another such face. It was like death, livid, the skin was drawn, and he looked as if he were being slowly starved to death. His hair was white as snow, and his eyes had the saddest, most appealing, frightened look I ever saw in any human's eyes.

The moment the poor wretch saw us he threw up his hands and dropped to his knees, screaming all the while:

"Oh, don't take me, don't take me! I tried not to drink it, why don't you stop following me? It was your fault, you made me drink it, why can't you rest in your grave and leave me in peace?"

The poor creature was so frightened, so wild, and the sight was so heart-rending that I begged the Doctor to send him away. This he did, and turning to me said:

"All this was caused by one glass of vile, deceiving wine. I was a close friend to his father, and consequently know his story. If you like I will tell it to you."

Of course I assented and the old gentleman began at once, in a voice shaken with emotion, for he as well as I, had been deeply affected by the sight.

"Some years ago that young man was one of the most promising boys of my acquaintance, until he fell in with some young fellows who were sowing their wild oats. He began by taking a glass of wine now and then, and although his mother pleaded with him as only a mother can, the craving for liquor grew upon him so, that he could go only a few days without the stuff. Finally at his moth-

er's death-bed he promised her to cease drinking.

The boy made me his confidant and told me of some of his struggles. He would go blocks out of his way to avoid passing a saloon, and sometimes when the thirst was strongest, afraid to trust himself alone, he would come to me and force me to lock him in a room where there was no possibility of escape.

These terrible desires would always leave him in a very weak condition, though while experiencing them he was often so violent that I was compelled to give him an opiate to quiet him.

Gradually, however, he seemed to gain confidence in himself, and the thirst seemed less intense. He began to give himself more liberty, and as his health had been utterly shattered by the strain, I persuaded him to go to a little health resort very near, intending to join him later. The rest of the sad story I had from an eye witness.

One evening while with some young fellows, he entered a billiard room. After playing several games, one of the party proposed ordering drinks. I have told you, I think, that my friend was very weak willed, and though he had no intention of drinking at first, he was quite confident that he could do so without craving more.

When the drinks were brought out, the boy refused to touch the wine, and in consequence was greeted with jeers and jibes. He held out for a long time. But, alas—he could not stand ridicule, and at last was persuaded to drink.

No sooner had he taken the first glass than the old craving came to him. Again and again he drank, until his behavior became so wild that the boys were alarmed by it.

"Ha"! cried one of the boys, who had imbibed too freely himself, "seems to me mother's boy didn't need much coaxing to cut his apron strings after all."

The words were hardly out of his mouth before he was knocked to the floor, senseless. My poor boy was sobered as soon as he realized what he had done. Seeing only the other young fel-

low lying there so white and still, he thought he had killed him.

Rushing from the place he ran wildly toward B——, his home. He was followed until lost in the darkness.

Nothing could be learned of his whereabouts until three days were past. On the morning of the fourth day, a pedestrian passing through the cemetery on the outskirts of the town, was much startled at hearing screams and pleadings for forgiveness.

Following the direction of the sound, he came upon this poor fellow, lying across his mother's grave, a raving maniac. Perhaps it had been better, had the

boy perished from weakness and hunger, as he came so near doing. Instead he has lived to be a horrible example to the tempted and weak."

And as the Doctor concluded, those lines of Lowell came suddenly into my mind.

"Once to every man and nation comes
the moment to decide,
In the strife of Truth with Falsehood,
for the good or evil side;
Some great cause, God's new Messiah,
offering each the bloom or blight,
Parts the goats upon the left hand, and
the sheep upon the right."

THE CATHEDRAL OF LUND.

ARTHUR BRADY.

In Lund, a city in the southern part of Sweden, stands a large and beautiful cathedral, built about A. D. 1100. This massive structure, which is built entirely of granite, is in a perfect state of preservation, and is used for a church today. In the interior, the pillars and ceiling are magnificently carved and sculptured, making it beautiful, to the highest degree. The altar is made of carved stone.

Like all old structures, it has a strange tradition connected with it. As I have said, it is constructed of granite, a thing which is not found within many miles of Lund. At the time it was built, most of the Scandinavian people still believed in Mythology. When they saw this structure, its building was attributed to the giants rather than the Gods, because it was built for the worship of Christ, and they thought the Gods would not help in promoting this. They never thought humans had built it.

The legend runs like this:

A bishop came to this vicinity, but had no church. A giant came to the bishop and offered to build him a church. In payment, the bishop was to give the giant his eyes, provided he could not guess the giant's name before the church was finished. The bishop gladly accepted the offer, whereupon the giant went away,

picked up a mountain, brought it back and broke it up into pieces and started to build the church.

The church being nearly finished on the second day after the contract, the bishop began to think seriously of losing his eyes. He was walking in a park outside of Lund, when he heard a low mumbling. He stopped and listened, and it seemed that somebody was singing under the ground, "Sleep, my baby, sleep; tomorrow you will get the bishop's eyes, for the bishop will never guess your father's name is Finn." The bishop quickly ran back to the church, where the giant was just putting the last stone on one of the towers in place. He called to the giant, "Come down! come down! for now I know your name is Finn." The bishop then went into the church and started praying. The giant came down from the tower, and was in such a rage that he went to shake the thing down again. He rushed into the basement, but as he was about to tear one of the pillars from under the building, the bishop pronounced the name of our Lord in his prayer, and the giant was immediately turned to stone. And today, the statue of the giant may be seen in the basement of the cathedral, carved out of stone, in the act of pulling one of the massive pillars down.

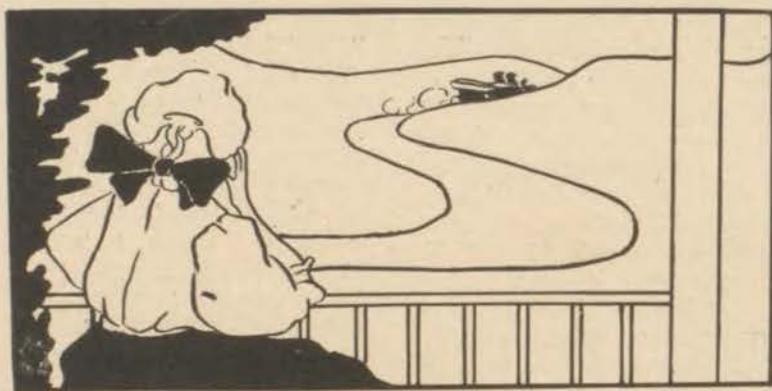
MY FIRST MOTOR CAR RIDE ALONE.

JULIET BANKS, '09.

Well do I remember my first experience with a motor car. I was visiting my invalid aunt at her summer-home on Lake Michigan, not far from Dalton, where the annual country fairs are held. That morning, as I watched the jolly crowd of boys and girls set sail for Dalton, how I wished I were one of them! And I should have been had I not sprained my ankle the week before while playing tennis by moonlight. It was to be a lonesome day for me. I tried fishing on the dock but the sun was hot—so was my temper. Then I tried reading on the veranda steps, but my thoughts were only with my friends at the fair and the good time I knew they were having.

Soon I heard the frog-like croak of a

the fresh breeze was to my burning forehead. Could anything be nicer? Then what I had done came back to me. I tried to stop the machine but its speed seemed to increase. It was all I could do to guard the wheel, much less the spark. The trees and telegraph poles were hazy before my eyes and the dust was flying in all directions. Would the thing never stop or slow down? I could not turn the machine at such a speed and every minute took me farther away from my aunt's home and the doctor. What would he think? While these awful thoughts and others arose in my mind I realized for the first time I was on the main road to Dalton. If the car could only last out until Dalton and then break down I knew I should be able to find someone to take



motor car horn which I knew was that of my aunt's physician. The car had stopped but still the car's jarring purr, like that of some huge cat, could be heard distinctly. The doctor came hurriedly up the walk and with a cheery greeting passed inside to see my aunt. The "chuck-chuck" of the car was music to my ears that morning. With the aid of a cane I limped down to the machine and before I knew it was upon the driver's seat. Only the day before I had been reading "How to Drive a Motor-Car," and could repeat the first few paragraphs. Bending forward I advanced the spark; while the chain fell clanking and the car shot out. I had ridden fast before but the speed I was now making was past my understanding. How cool

me home. I was fast nearing the town and was I merely imagining the car to be going slower? The trees seemed farther apart and the sky bluer. Was good fortune to be mine in this hour of need? Suddenly the car lurched forward, then stopped. So unexpected was this that I should have fallen had my grip on the wheel been less. A passer-by's attention was drawn toward the abrupt cessation of the motor's pulsing and he came forward, asking what the trouble might be. While I told him what had happened he looked the machine over carefully and found the trouble to be a clogged valve. It took only a few minutes for him to adjust the valve, during which he told me that it was he who had given the doctor his first lessons in mo-

tor-driving. Imagine my happiness upon hearing such news! He seemed willing to take me home and said he would explain everything to the doctor. The car was cranked, the throttle opened and the car moved again. But I did not occupy the driver's seat this time, but sat in the tonneau thinking of what was to come. We did not return in the style I had come, but it was not long before my aunt's house was reached. The doc-

tor came to us with finger to his lips, saying that my aunt must never know what had happened. After telling my experience in subdued tones, my new-found friend helping along, the doctor's face again dimpled as was its wont. With the promise that his next leisure hours be spent in teaching me to drive a motor-car, he started his machine, leaving his would-be chauffeur gazing longingly after the departing trio.

THE IDEAL HIGH SCHOOL BOY.

STELLA FRANCES JENKINS

You may think there is no such paragon as an ideal high school boy. But there is. He has been discovered. He is in the Manual Training High School. Indeed there are several of his species. These are the earmarks.

In stature, he may be tall or short, but in either case he carries himself to his full "proud height;" there are no rainbow backs and concave chests for him; he may be of the Jack Falstaff type in girth or the scrawniest of the scrawny "Squeers' School" kind, but he does not carry himself as if he were in imminent danger of falling to pieces at every step; there is a litheness of movement that gives the impression of compactness of figure; his eyes may be any color that nature can blend, but they are sure to be frank, honest, keen, observing; he does not require that a teacher should be always before him pointing out the things he should see; his feet may be large, but he never drags his heels; his hands may be out of proportion to his body, but they are well-kept and they never rattle ink-wells, or pencils, or keys in his pocket; if he is a freshman, he is almost sure to be awkward, he is so uncomfortably conscious of these same hands and feet; but this need not disturb him; it is a fault that will pass with time, if he observes the good manners of the seniors and makes them his own; his clothes may be inexpensive, but he wears them as a lord.

In the halls of the building, he is often the center of a fun-loving group, but at the whirr-r-r of the class-bell, he is the first to scurry away to class;

he is even known to have entered the class-room, before the "dread summons," to consult with a teacher on some abstruse problem or question; he makes friends of his school mates without waiting to look up their pedigree of wealth or family; his own fine personality gives him sufficient pedigree.

In the class-room, his pleasant "Good-morning" expressed either by voice or eye sets the day better doing for his teacher; his manner of gallant chivalry is a joy; he is quick to do the courteous thing; he is one of the first to see and appreciate a joke and one of the first to quit laughing when all of the fun has been laughed out of the situation; this ideal boy is never tardy, at least from carelessness, and seldom absent; if he is absent, his "admits" read "absence excused," not "absence pending," when he returns; he attacks his lessons with some of the vigor and enthusiasm of the "Spirit of '76"; in some of his studies, to be sure, he makes only "M"; in others "G"; in others "E", but in them all, he can be counted on to help make and keep the class standard high; in them all he is steadily acquiring habits of study and perseverance that insure his future success; he is the soul of honor and he does his work on time.

He abounds in school spirit and carries off his full share of athletic medals or prizes—literary contests; he has pride in his own work and in the name of his own school; he adds fame to his school by his own record.

instead of trying to shine in the reflected greatness of school.

He does not reserve the use of his full, sonorous voice for the athletic field, where even the weakest voice can be heard for blocks, but he recites in a voice loud enough to be heard by teachers and class-mates, without his teachers having constantly to say,

"Beg pardon, I did not hear you. Please repeat."

The ideal high school boy does not soak himself full of tobacco; he waits until he becomes a big full-grown man before he is guilty of such foolishness. All in all, he is just a boy, big-hearted and wholesome; he has in his composition all of the essential qualities of the big stalwart, ideal man.

THE SENIOR'S FAREWELL.

O Manual, down whose spacious halls,
I oft' with books have strolled;
O deep and peaceful is that love,
Which my sad heart doth hold.

Now, saddest of all time has come,
When from thee I must go,
And seek my fortune in the world
Now here, now to and fro.

Adieu, adieu, my heart doth throb,
My eyes are full of tears,
O, long shall in my memory last
The joy of thy four years.

Fair knowledge, in thy gracious arms
To me did much unfold;
Oh, long shall I remember thee
Thy name forever hold.

Farewell, farewell beloved school,
Thy portal folds shall ever shield,
The proud and noble ones,
That thou wilt ever yield.

Now, I must leave thee, I must go
And my heart from thee must sever,
But O, thy great illustrious name,
Shall live with me forever.

—Henry Nagel '08.





HENRY ACKERMAN

AGNES I. MEYER

THE VALUE OF FREEHAND DRAWING.

Art is one of the most refined of human accomplishments. It is classed with poetry and sculpture. That branch of art called freehand drawing forms the basis of many things allied to art. This form of culture is also very useful to man in numerous other ways. The question might be raised as to the utility of freehand drawing. It might be said that architecture is more beneficial to the world than freehand drawing. But what is architecture? It is, not only designing, computing and draughting, but a large part of it is of a freehand nature. Without freehand drawing the architect,

when making some design, would be at a loss; for it might be entirely impossible to obtain his object by mechanical methods. Without it the beautiful capitals, friezes and other fine ornamentations on our modern buildings would be well nigh impossible.

Freehand drawing is most necessary in all branches of draughting except in the plainest geometric forms. It trains the eye to see form and forms, to judge and appreciate them, and to represent correctly proportions where accuracy in measurement is unnecessary. It is the next best thing to the camera for

representing objects as seen by the eye.

It is not only the architect who designs buildings who uses freehand drawing but the engineer also. Many times machines have one or more of their parts broken by accident or strain. In such case the whole machine, if it is large, cannot be removed from its foundation except at great expense and inconvenience. The machine can be dismantled, the broken parts easily removed and freehand sketches of them can be made on the spot. These sketches are then taken to a machinist who duplicates the parts, which are taken back to the machine, mounted in place and the machine put in operation with very little expense and small loss of time. This could be done provided the draughtsman who sketched the parts could see their form and put it on the paper correctly.

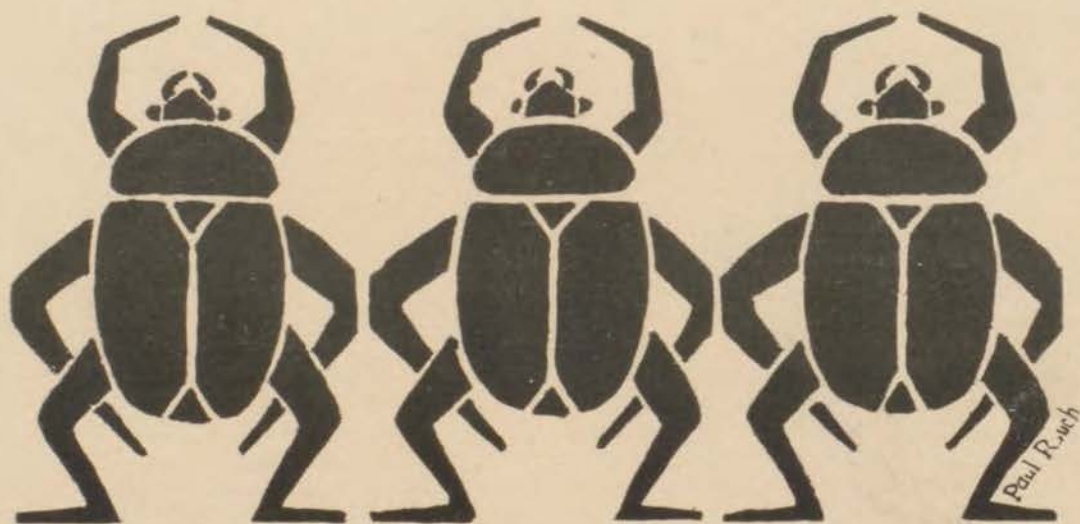
Thus we see that is useful not only in the finer branches but also in the very practical branches. We understand also that it is indispensable to the architect and engineer. There are many boys in Manual studying mechanical drawing in the several courses and intend to pursue the study further. At the present time there are only three years of mechanical drawing. Great benefit could be derived if the fourth year were spent in the freehand class. In both of these departments we have very good facilities and very competent teachers. Boys whose courses permit them are strongly advised to follow this course and we are sure they will profit by it. Our mechanical drawing course has been recently enriched by the introduction of a few practical exercises in free hand drawing.

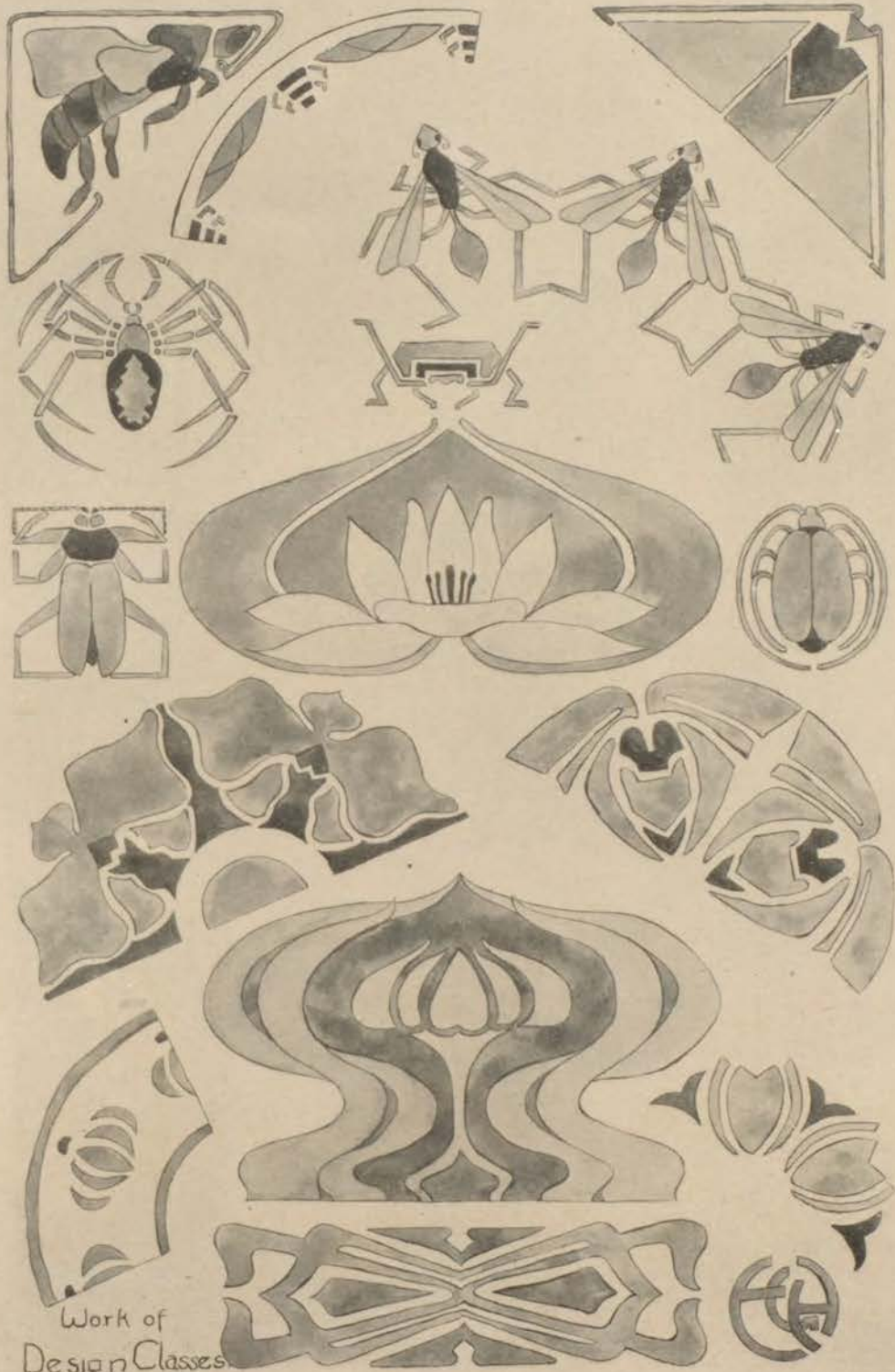
COPPER WORK.

This year marks the birth of a new art at Manual. It is that of copper-beating. The design classes have taken up this work and have been very successful with it. Some exceptionally pretty designs are worked out on trays,

coffee-pot stands and many other useful as well as artistic articles.

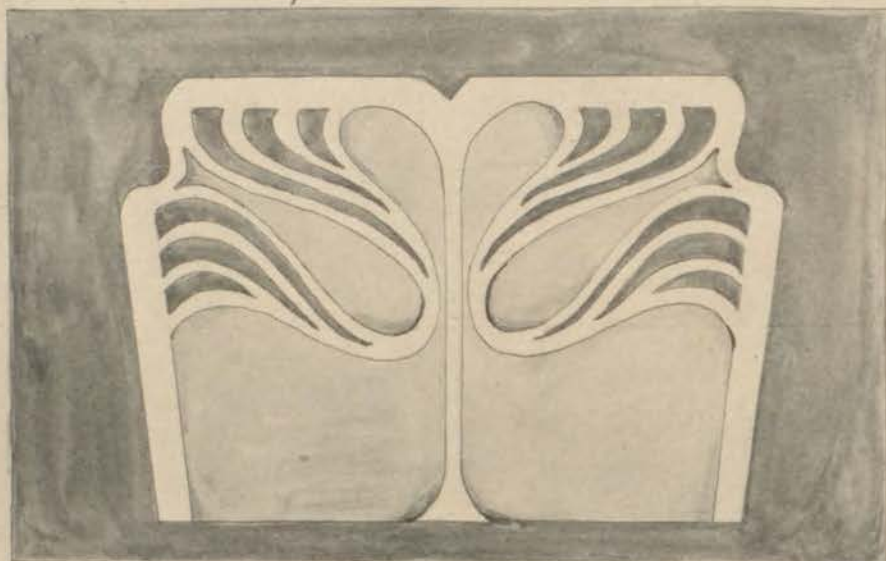
We hope this branch of fine art will continue to thrive here. It shows again the success of Manual students in anything that they undertake.



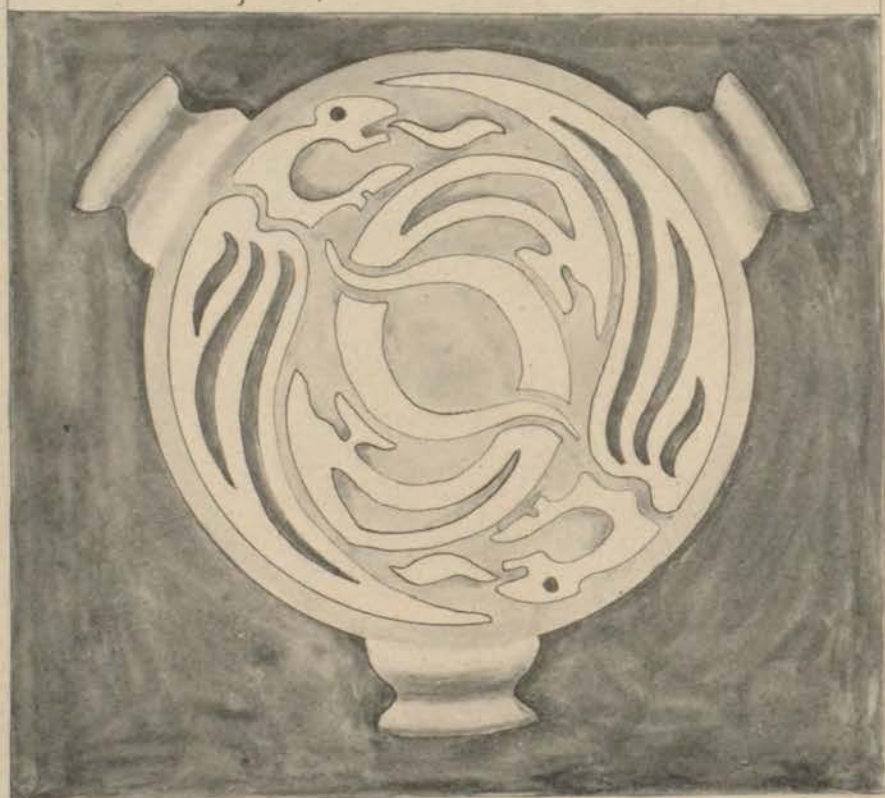


Work of
Design Classes

Design for Book End



Design for Tea-Pot Rest



Alice J. Hendee.



UNIVERSITY OF MISSOURI.

Among the resolves that a fellow makes in high school is generally one that when he has been graduated, and is a stranger in the places that were once so familiar, he will not shove himself into prominence with a long-winded "Alumni" letter, which interests nobody. But when he picks up a "Nautilus" and sees that old friends have been doing that thing, and often boosting schools he knows are inferior to his own, he grabs a pen, writes a little apology, and goes ahead, all resolves to the contrary.

The correct way to begin to advertise a college is to describe its educational advantages, since the studious element selects a university on its showing in this line—though if the studious element isn't any larger than it was in '02-'06, I am talking to a small audience.

Being in a small town gives an opportunity for real college life, student atmosphere, and seclusion that is not possible in a large city—a fact instanced by all the larger Eastern universities, and by Missouri and Kansas as against Washington in the West.

It would be useless to deny that until recently Kansas has been in the lead among schools in this part of the country. Missouri was a good second, and Washington, owing to her location and her raw newness, could never be more than third. But recently large appropriations have enabled Missouri to forge ahead, and there is no doubt of her equality with Kansas, to state it very conservatively. She offers courses in Engineering, Law, Agriculture, Arts and Science, Medicine and Pedagogy, besides a chair of Journalism just established.

If a man wants to go through school and hasn't the money, he can work his way, as more than half the students are doing now; in fact, one man I know is paying his way and sending money home.

It is conceded that Missouri has the most beautiful campus in this part of the country.

About a hundred Kansas Cityans are among our three thousand students, and there is no difficulty about finding people you knew at Manual. In fact, here in the house we have three Debaters and an Ion, together with a School-at-Large man.

Everyone down here, however, does not concentrate all his attention upon study, and ten fraternities, and three sororities consume much of the student's time.

Missouri's most unfortunate point is football, but she never fails to beat Kansas on the track and usually in baseball. Besides, we're going to win that football game next fall.

There is always something doing here. Things started with a rush. An enormous amount of paddling took place until the freshmen got together and attacked the sophomores. They were defeated, but soon after held them in a three-and-a-half hour class rush—a pretty strenuous occasion. Then the freshmen Engineers painted their numerals on the backstop, according to ancient custom, despite the efforts of the Lawyers. The All-Freshman team defeated the Sophomores, Juniors and Seniors and scored on the Varsity. Hallowe'en a traction engine was placed in the porch of Academic Hall, and a boiler occupied the flower bed in front. St. Patrick's Day the Engineers put on a parade and impressive ceremonies on the Quad, and more recently the Farmers gave their annual County Fair, an accurate reproduction of the real article. Just at present the Pan-Hellenic baseball games are going on between the various fraternities for the cup, which Beta Theta Pi holds at present. It would be hopeless to try to tell of everything that has happened this year, of the "— tail parade," Hobo Day at the Minstrel show, etc.,

but I have tried to mention some of the main events.

But whatever college you go to, be sure and go. Don't make the mistake, especially if you are a boy, of looking for "rapid dividends," "quick action on your money," or good looking opportunities to go to work. You need a college course, whether you look for mere money, or culture, or a professional success, or anything else, save manual labor. That is the only field that cannot be best prepared for by the university, and even in that, the university gives some valuable training. So come to the university, if you have to work your way through.

All the new names in the society list look rather strange to an alumnus, as does the conspicuous absence of the OZO's, who used

to be so important, as was the lamented Art Club.

The remarkably studious programmes given likewise mark the flight of time. Less attention used to be devoted to deciding great affairs of state and discussing classic literature and more to dances and entertainments.

There were many favorable and deserved comments on the last "Nautilus" here, especially on the Local Department; a section that shows that either Manual is more humorous now than it was, or that its Editors are more capable than Leslie Frame and I were in '06. But this letter is already too long, and with the best wishes for old Manual and the Nautilus, I must stop, and sign myself,

COLIN KINGSLEY LEE, '06.

FROM ONE OF MANUAL'S BOYS.

One of the most desirable pupils that Manual lost during this current year is Olin E. Stark, who with his family moved to Chino, California, where he is helping to equip a new ranch. In a recent and intensely interesting letter to one of his teachers at Manual he tenderly refers to his pleasant associations here and laments the interruption of his high school work. Thinking that Olin's own words of regret over leaving us and appreciation of Manual's advantages might be worth the reading by his more fortunate school mates who are permitted to remain in the full possession of these enviable opportunities, we quote the following extract from his excellent letter:

"I suppose that Manual is as good as ever. How smoothly everything runs there. Although there are hundreds of

pupils there is absolutely no waste friction. She is certainly a glowing success. I only fear that there are many pupils who have the advantage of her hospitalities and good will, who do not appreciate them, and who do not know what it is to *desire* an *education* and be cut off from it. They are eating their white bread and butter now, but if they let these opportunities slip past, they will miss them later on and think, O, how foolish I was! It does seem that the things most desired are often the hardest to obtain."

We send Olin our best wishes that he may yet have the privilege of finishing his yearned-for school work in some good high school, and wish that he could return to Manual.

A LETTER FROM ALASKA.

It may interest the present students of the Manual Training High School to hear something from an Alumnus who is spending the winter among the Alaska Indians.

"I am teaching a government school at Saxman, a tiny village on the island of Revilla Gigedo, and, as my pupils are all Indians, most of whom speak little or no English, you may judge that the work is immensely interesting.

However, you will prefer to know about the country.

On three sides of us are mountains,

and on the fourth, the Pacific ocean waters that "fill in" between these islands. As far as we can see, there are just water and islands and snow-covered mountains, and the view is truly magnificent.

The beach, in front of the village is a most wonderful place to one who has always lived inland. There are great numbers of the star fish, clams, crabs, cockles, and many other varieties of shell fish that I know by their Indian names only.

You have, no doubt, read of the

Alaska ferns and mosses, but no words can portray the grandeur of one of these evergreen forests, with the great tree trunks and branches covered with heavy coatings of rich, thick moss.

The ferns, too, grow to the length of a yard or more, and equal in beauty those purchased in the florist's shops, in the city.

You have read, too, of Alaska as a splendid fish country. Yes, the waters are literally full of fish,—red cod, herring, salmon, halibut, etc., and the canneries here pack a large portion of the canned fish that is used all over the United States.

I have seen a salmon stream so crowded with the fish that hundreds of them were forced right out onto the banks, and, in truth, it would have been impossible to have rowed a boat through the masses of fish in the water. It is

well worth a trip to Alaska just to see these multitudes of fish.

The totem poles, too, with their hideous carvings and quaint stories, are a source of never-ending interest to me, yet not more so than the natives themselves, with their strange customs and traditions, and their efforts, more or less successful, to improve their homes and ways of living in accordance with the instructions of the teachers and missionaries.

However, I have written enough for one letter.

Sometime, when you have the privilege of traveling to Nature's most beautiful spots, don't forget Alaska, whose splendid scenery is yearly attracting visitors from all parts of the world."

Cordially yours,

FLORA M. HOWARD.

SUNSET BY THE CLIFF HOUSE.

The day was getting sleepy. Since the sun had wakened it, many hours before, it had been very busy with the flowers, the earth and its dwellers. Now the day wanted the sun out of its eyes so it could sleep.

The beach was buoyant. All afternoon the tide had been sweeping over it, talking and gurgling—often scolding when it stumbled over a shell or rock. Here and there on the beach were icebergs of foam that the waves would swing around in their embrace, never taking them far from home and always putting them carefully down before returning to their ocean. The sun, though, scorned these idlers and never did he give them of the color that was so generously bequeathed to the water and sky.

The sun was travelling swiftly. The waves made many attempts to reach him but he was too high for that and they fell back defeated.

The waves reached the sun at last for he was very, very near then. Far in front of his majesty, the beach, with knolls of foam, was stretching itself to catch all the glory of the van-

ishing sun; scantily covered with water it mirrored all the sun gave it of gold, orange and rainbow tints. Often the waves would come up and erase it but the glory came back, diminished in no way. Back of the low water the waves rose in billowy terraces, the last great breaker rising in grizzly contour like a mountain range.

The sun was near its setting. You could see it touch the water; sink, sink, to half way, quarter way, sink and sink until only an edge remained, and then—only the color of the sun that had been. The color in the water died in the same instant and quiet reigned, momentarily. Then the sky caught up the color the water had lost, but it gave some back to the water. Then the brilliance seemed over the immediate heavens, changing its blue for gold. A stray cloud was caught up and bathed in many colors. Otherwise there was naught but the gold sky, the gray ocean and the brown beach.

The day was resting.

Edna Rogers '06,

Berkeley, Cal.

Crete Nebr. May 15-'08

To the Nantlins:—

It may be interesting to some of you to know that my first attempt at teaching has not been a failure but a success. I had eight classes in Manual Training and two classes in Mechanical Drawing each coming twice a week.

The boys have done some remarkably good work in this department during the past term, some of the boys have made

many nice pieces of furniture such as library tables, typewriter tables, writing desks, and many stools and tabourets of various designs and finishes.

I am well pleased with the position and I expect to teach at this place again next year.

With best wishes of success to Manual and all her friends.

Claude N. Harman, '07.

SPRINGTIME.

J. L. DEISTER.

I.

In the springtime, lovely springtime,
The grass begins to grow and the flowers
bud and blow
In the springtime.
When the brooklets in the meady softly
babble as they run
And the dainty little blue-bell is a-blinking
at the sun,
It is springtime, lovely springtime;
The only pretty season—lovely spring-
time.

II.

In the springtime, lovely springtime,
Fond lovers talk so sweetly and the
maidens dress so neatly
In the springtime.
When the mellow music murmurs of the
busy little bees
And the tender leaves are trembling in the
touch of every breeze.
It is springtime, lovely springtime;
The only pretty season—lovely spring-
time.

V.

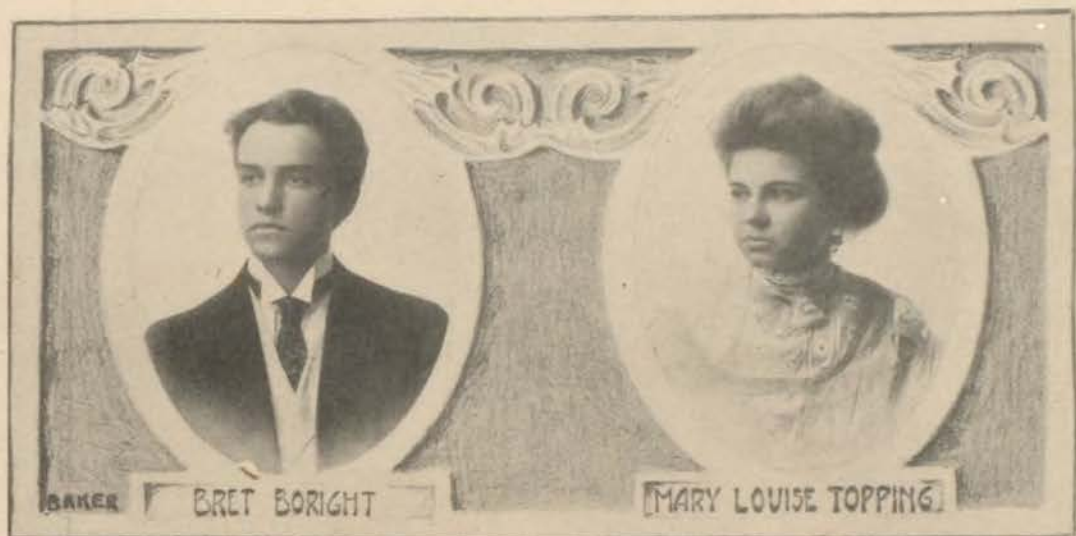
In the springtime, lovely springtime,
The lambkins run and play and the don-
keys buck and bray
In the springtime.
When the hot-tamale man gets to stirring
lemonade
And the thomas cat's a-giving us his nightly
serenade,
It is springtime, lovely springtime;
The only pretty season—lovely spring-
time.

III.

In the springtime, lovely springtime,
We all forget our books and we dream
of lines and hooks
In the springtime.
When the buck-eye blooms are blinking
at the busy bumble bee,
And the lark begins to warble in the sour-
apple tree,
It is springtime, lovely springtime;
The only pretty season—lovely spring-
time.

IV.

In the springtime, lovely springtime,
We hear the cooing dove softly crooning
to his love
In the springtime.
When the monk would don a duster, gladly
doff his swelt'ring cowl,
And the grogger for his lager leaves the
hot and steaming bowl.
It is springtime, lovely springtime;
The only pretty season—lovely spring-
time.



"HONESTY IS THE BEST POLICY."

GEO. H. BOWLES, '08.

Reynold Weis was worried. Yet to say "worried," would be perhaps exaggerating it slightly. "Unrosy," perhaps suits it better. Girl? No, indeed! It may not or may have been just as important. The reader himself must settle that point, and no doubt it will be no uneven affair.

Reynold was in his room, sprawled out upon a sofa by a near window, and frowning uneasily. The cause of this uneasiness was this: One month ago the faculty had announced that a scholarship was now open. The scholarship entitled the winner to take a post-graduate

course of one year, with a purse of two hundred and fifty dollars for expenses. The faculty was to choose the boy from the senior class, rank in studies, in character and in athletics to count in the order named. The decision was to be announced a week before close of school, on the evening of the day set for the championship ball game between that school, Colburn, and Wellington.

"I want that scholarship and I must have it," Reynold muttered doggedly. "I can't go to Harvard next year. I can't afford it, and yet I feel that a P. G. course here would help me greatly in

preparing me to make my living. Everyone as good as knows that it stands between Larry Bolton and me, and I know I haven't much advantage over him at this moment. We rank about the same in studies and I know I'm considered at least as strong as he is in regard to character, but there's that athletic contest. If I don't get on that ball team for the final game, it's going to hurt me. He's captain, and though I won the cross-country and the quarter against Wellington, still I didn't go in for basket ball and he did. I think I ought to make the team, but he doesn't seem to favor me and unless Manager Rulney makes a stand for me, I won't make it," and Reynold slammed a pennant pillow back in the corner and did a back summersault to his lessons.

From appearances there was little to choose between these two boys. Both were well liked and prominent in all school undertakings. Bolton's parents were better off financially than those of Weis and were intending to send him to Yale if he chose to go. But in reality there was a difference between Bolton and Weis. Bolton was captain of the ball team and had equal privileges with Professor Rulney in choosing the team. Whenever a player appeared weak and a substitute showed better form, then the regular was benched and the substitute installed. Now Creton at second base had not shown the form displayed in practice and the students were all of the belief that Reynold could strengthen the team considerably at that point, yet Bolton had, as yet, failed to bring about the change and the championship game with Wellington was but one week in the future. But this matter was destined to soon come to a head.

"See here, Bolton," Manager Rulney had said, "Weis is much stronger than Creton—in every department of the game. You must put him at second now, for we can't lose to Wellington!"

"No, I don't agree with you, Mr. Rulney," was the cool answer. "I will not consent to the change."

"Look here, Bolton, this matter must be settled. Now, I tell you what I'll do. I'll leave it to the other members of the team. Let them decide it. Is that fair?"

Bolton confessed that it was and so

the team voted. The result was that Reynold was duly installed at second and Creton relegated to the bench.

It was with great delight that Reynold heard the news, but he immediately went to Creton.

"Creton, old man, I'm sorry for your sake about this. But you know what it means to me. Please don't let any hard feelings exist between us."

"Oh, that's all right, Reynold. I know you're right. 'Course I wanted to play, but I guess you're better than I am, and, anyway, I want to see you win that scholarship," and Creton extended his hand to Reynold.

"Thanks, Creton! I appreciate your interest. Say,—three o'clock! Gee, we're due on the field for practice now," and with a dash the two students were out of the room and making amazing speed towards the diamond.

* * * * *

Merry Widows! Merry Widows!

Six feet over all!

Colburn! Colburn!

Rah! Rah! Rah!

"Play ball!" The umpire's signal silenced the cheers after this modern yell, bringing the noisy bleachers and grand stand to wonderful attention. Every seat was filled with a howling, or screeching piece of college humanity, properly, or improperly termed students, each gaudily bedecked with Colburn's red or Wellington's blue. Everywhere suppressed excitement was evident, as everyone seemed to realize that a game which was to be remembered as one, hard fought and exciting, had begun. Rucker was to pitch for Colburn with Lyman in the box for Wellington. Colburn won the toss-up and assumed its position. Wellington was quickly retired without a score, not a man reaching first.

"Shoestring, collar button, suspender! Not a score, not a score! Didn't that jar!"

* * * * *

Again the happy student in the Colburn crowd broke forth. But Colburn did little better, getting but one man to second.

The second and third innings resulted in the same way. It was plainly evident

that both Rucker and Lyman were in the best of form and that every man was putting forth his best efforts.

In the fourth, with two men out, Weis singled to left, stealing second. Then Spears sacrificed, Reynold reaching third. But it amounted to nothing as the next man fanned, retiring the side. Not a score was made until the seventh. Then something happened. With Wellington at bat, the first two players singled, the first going to third. Then Lyman knocked a two base hit to deep center, scoring both his team-mates. That ended the scoring. Colburn evened up somewhat by making one tally.

So the score stood 2 to 1 in favor of Wellington until the beginning of the ninth inning. Lyman was up first, and as Rucker threw a fast out, just below the waist, he met it squarely, sending it on a line over the third baseman's head. Fulton, in left, came running in and recovered it on the bound. He quickly threw to Reynold at second, but the throw was inaccurate as Reynold, who had been playing towards first, was forced to pull it down from the right of the bag, towards first. Lyman promptly slid, as Reynold reached down to tag him. But Reynolds missed him, as he had been drawn in too far on the throw. He promptly turned around expecting to hear the umpire declare the play safe. But the umpire had not seen the play, as he had been slow in leaving the box and

Reynold's body had hidden the play. He hesitated, then looking Reynold squarely in the eye, said:

"Did you tag him?"

Before Reynold could answer, Baton exclaimed:

"Why certainly he did!"

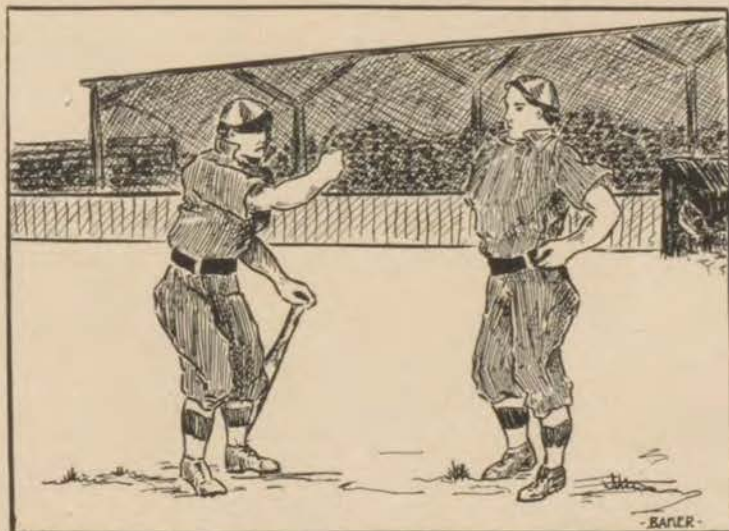
For a brief second, the temptation was great to utter that small word, "Yes." It might prove the saving of the game for Colburn. But it only lasted a second. The thought of the scholarship came to Reynold—the requirements—character—then that old proverb: "Honesty is the best policy." Then he promptly answered, "No."

A few hisses were heard in the crowd, but Reynold promptly turned and took his position. The next batter placed the ball safely in right field, Lyman reaching home. This ended the scoring, leaving Wellington two runs ahead, with Colburn in bat for the last time.

As he came to the bench, Reynold passed Mr. Florey, the principal, who gave him an approving nod. Then Bolton came up. His face was white with anger.

"You mut!" he exclaimed, "why didn't you say yes? No one saw it but I! Now we're probably done for. The only way you can redeem yourself is to win the game by yourself, and I guess you won't do that."

The excitement was intense. The crowd was fairly crazy. Wellington



"You mut, why didn't you say yes?"

was trying to rattle the batter, while Colburn was pulling for a hit. Rucker was at bat and he seemed to realize that it was up to him. Lyman had a self-satisfied grin on his face as he delivered the ball. But Rucker was equal to the occasion for he placed a Texas League over second. Then Bolton came to bat.

"Strike one," called the umpire. The next was a ball—then a strike and then—the ball went bounding to short, was fumbled and Rucker reached second and Bolton first.

Now the occasion was nerve racking. Now gloom fell upon Colburn as two outs came in succession. Then Reynolds came to the plate. The first delivery was a ball, but the next was fairly over. Reynold swung hard and the crack of the bat told that he had met

the ball squarely. Instantly the left fielder ran back. But it was too late. The ball had cleared the fence. Colburn had won, 4 to 3.

* * * * *

That night Reynold was called to the office. Mr. Florey promptly extended his hand, as he said:

"Reynold, I saw your honesty displayed upon the field today and afterwards I heard you criticised by Bolton. Before today, you two were even in regard to the scholarship, but now, well, you've won it."

Silence mastered Reynold as he grasped Mr. Florey's hand, but an old proverb, for the second time that day ran through his mind—"Honesty is the best policy."

HIS CONSOLATION.

ERNEST W. ELLIOTT, '09.

Jack Clements had been fuming and fretting all day because he was confined to his room with a sore throat and could not see the preliminaries for the greatest track event of the year, the Hilton-Brown meet. At the present moment he was consigning colds, sore throats, and everything in general, to a much warmer climate. Just as he hurled his Cicero, along with his choicest maledictions, at the harmless old cat, which was the mascot of the dormitory, the door was pushed open and in stepped a well built young man, wearing a crimson sweater with a large "H" upon it, and his handsome face was now covered with a deep scowl. The young man was Dick Alton, Hilton College's crack miler and the roommate of Jack Clements.

"What the deuce is up, Dick? You look like you have lost your best friend," exclaimed Jack as Dick threw himself into the large easy chair in the corner of the room. "What is the matter, flunked out?—or perhaps you've heard bad news from Miss Dorothy Dixon," he added facetiously.

"The game is up," ejaculated Dick.

"Well, tell me what is the matter, Dick, and don't go to sleep about it."

"Williams beat me out in the preliminaries and I can't run against Jones, of

Brown college, tomorrow, and I've been working two years for the chance to beat him."

"Great scott! Dick, you don't say Williams beat you out? He can't beat forty-five in the mile. If Williams runs against Lewis Jones tomorrow, we'll lose that meet. How in the world did he beat you?"

"Well, it was this way; I was sure I could beat Williams on the sprint so I let him set the pace, as I didn't want to tire myself out for tomorrow. He set about a five-minute pace and, just as we were nearing the finish, that fellow, that blames me for getting him in trouble over that chemistry test, blocked me, and Williams won by about a yard."

"But, Dick, didn't the coach see it?"

"No, he wasn't watching, but Blakesly and some of the other fellows saw it, but I wouldn't kick about it because it would have looked like I was just trying to make an excuse for getting beat."

"For heaven's sake, Dick, why didn't you tell the coach? You know the meet depends on the mile, and even you would have to work like the dickens to beat Jones. Why don't you get over that dogged spirit and kick. Williams, himself, knows that you're the only fellow in school that has the ghost of a show

against Jones. If he has the right spirit he'll back out and let you run against Jones. And—"

The door opened, and in came Blakesly with two other students that occupied the adjoining rooms. Blakesly, who was Hilton's quarter-miler, turned to Dick, and after a hearty handshake, said: "Its hard luck, old fellow, but it will come out all right."

Turning to Clements, he continued, "I guess you've heard the news, you look as if you have, anyhow. The trick of that fellow that blocked Dick certainly was low. But we were talking the matter over in my room and we decided to go to Williams and get him to keep out of the race and let Dick run."

"You'll have a jolly time getting him to do it. He wants to be captain next year, and he means to be if he can possibly get a chance," responded Jack.

"Well, we will see to it that Williams does not run tomorrow if we have to kidnap him. But he has the good of the school at heart and if we get him to see it in that light he will stay out of the race.

* * * * *

It was a bright, crisp afternoon and the great meet was nearing an end. But no longer did the Hilton yell rise from the thousands of Hilton supporters in response to the frantic yelling of the Brown College rooters. No longer were the old men of Hilton hurling their hats into the air, madly waving their banners, or hugging each other, but instead there had settled over their section a deep gloom, for the score was tied and the mile alone was to be run, and Williams could not beat Jones. Many said they thought Alton had broken training or "gone stale." Back of the judges stand Jack Clements and Dick Alton were sitting, Dick being in the utmost despair.

"I wish somebody would shoot that pig-headed Williams," whispered Jack, who had yelled himself so hoarse that he could hardly speak.

"I don't blame him very much, Jack," said Dick. "You see I know what it is to have a chance to run for the school, and it isn't an easy matter to give it up."

"Maybe you don't think I know it, Dick, but this race would mean more to

you than just running and winning for Hilton's sake. I have noticed that Dorothy Dixon has been pretty thick with Jones since he came up last week. She seems to have known him for quite a while."

"Yes, Jack, and the worst of it is she will not say which of us she wants to win the race, that is, she will not tell me, but maybe she tells him."

"Alton! Oh Dick! Hurry up and get out on the track. Williams isn't here," yelled the excited coach.

"Dick grasped Jack's hand, grinned joyfully, and said, "It's up to you, Alton, to win. Run for all that is in you,—for Hilton's sake—"

"And for her sake," finished Jack happily.

* * * * *

In a moment the Hilton section awoke as if from a dream, and the air was again rent with the Hiltonian yell and cheers for Dick Alton, but Dick only grinned.

"On your mark!" cried the starter.

"Get ready!"

"Get set!" and the athletes strained forward over the line for an instant.

Bang! went the pistol, and they were off.

Alton and Jones are neck and neck. They have passed the half mile post. Now they are on the last quarter, and Jones is slightly ahead. Now only a hundred yards are remaining, with Jones five yards ahead. The night of worry is telling on Alton. Would he lose? Now there are only fifty yards and Jones remains in the same place.

"Alton! Alton! Alton!" cried the frantic Hiltonians.

"Jones! Jones! Come on Lewis!" cries the Brown supporters.

"Dick seems to respond to old Hilton's cries for he begins a wonderful sprint. Twenty-five yards are left and Jones two in the lead. Can Alton keep the terrible pace he is running? Ten yards and Jones is one ahead. Five and they're neck and neck. The crowd looks for a tie. Two yards—Dick hurls himself across the line and falls unconscious, a winner by six inches.

* * * * *

The meet was over. Hilton had won, and as the band, followed by all the Hil-

ton supporters, went through the town playing "Hiltonian," the name of Dick Alton was on every lip and Dick was the hero of the college.

* * * * *

Just before the reception, given to the winning team of Hilton, the team met in a room, at one side of the ballroom, to elect a captain for the following year. Coleridge, the old captain, called the meeting to order and arose.

"Fellows," he said, "I am happy tonight, yet unhappy. Happy because we won today; unhappy because I am a senior and must leave you next week. While captain of the team I have worked with you and made many lifelong friends, yet I feel, though I have done my best, I might have done better if I had had more experience. But on leaving you I want to entrust what I call my team, to one whom I know will be faithful, to one whom you all worship tonight, to the fellow that won this afternoon, that fellow, that I nominate for '09 captain, you all know is Dick Alton."

When the applause ceased Dick Alton arose and said:

"Mr. Chairman, although but a junior I will not be able to run next year, or even if I should run, I would not have time to devote to handling the team, so I refuse to be captain, but in my stead I want to nominate the fellow who really

won the meet, a man who forgot himself and thought only of old Hilton's glory, the fellow who kept out of the race that I, who was better trained, might beat Brown College in the mile, and I move that we unanimously elect Mr. Williams as captain of the '09 team."

When the team came into the reception room Williams, now captain elect, was shaking hands with Alton, and Williams had won out in the end.

* * * * *

A short time afterwards Dick was talking to Dorothy Dixon.

"That was a fine race, Dick," said Miss Dixon, only,—well, I wish it had been a tie. You know Lewis worked so hard to win and losing has broken him all up."

"Then you didn't want me to win, did you?" said Dick dejectedly.

"Well, I really wanted you both to win, you see Lewis Jones is my cousin and—"

"Your cousin! ejaculated Dick. "Ah, er,—eh,—and,—well, so Jones is only your cousin. I'm so glad of that."

* * * * *

That night the two principal students at Hilton College were happy—Williams was happy because he had been elected captain; Alton because—oh, well, just because "Jones was only her cousin" and nothing more.



BASKET-BALL.

The basket ball season of 1908 has been a season of interesting and skillful basket ball playing. Manual had a splendid team at the beginning of the year but they were very unfortunate in losing Robert Gibson one of the best performers on the team. Notwithstanding this drawback Manual made an excellent record by winning seven games out of ten. Central's

team was exceedingly strong this year and played well throughout the season winning first honors. The principals on Manual's team were High, Wheelock, Mayberry and Koenigsdorf. Manual has fine prospects for a winning team next year. There will be a large crowd in good training by the time to select the team of '09 and a fast quintette will no doubt result.

THE DANCES OF ANTIQUITY.

BESSIE LUKIN, '08.

Dancers of Egypt.—All the figures on the ancient Egyptian monuments show that every action of life, of those times, was a dance in honor of the Gods. The most curious dance of Egypt, however, was held in honor of the dead. The movements were slow, measured and gliding; the arms raised above the head, and the palms turned outward. Certain women with grease besmeared heads covered with ashes, leaving only their eyes and mouth conspicuous, performed a contorted and convulsive dance. It consisted of strained twistings and slow, well-balanced steps, the dancers keeping their eyes half closed. Each mourner must go through this dance at least once, and the closer related to the deceased, the oftener must she go through it.

The dance of the howling dervish was a very strange Egyptian dance performed by men and boys, from twelve to twenty in number. It was performed at night, all standing in a circle, and repeating the word "Al-lah," with a very strong accent on the last syllable, and bobbing the head while repeating it, each time growing faster, louder and wilder; until it sounded like an explosive howl from a far-off engine. After a while their excitement was so great that it made one feel very uneasy, and it was impossible to tell what the dervishes would not do. Sometimes one of them would almost go mad over this excitement and rush off into the desert, where the others would follow for fear that he might injure himself. After the excitement was somewhat subsided, they would return and start some other phrase, and go through the same ordeal. After that they separated with a great sense of devotional virtue, and wearied with excitement.

In the double dances, those of men and women, the women wore the same clothing as the men, but were distinguished

from them by their ornaments—necklaces, bracelets, anklets, and wreaths of flowers. They were very graceful in their hand movements, and many women were considered as artists in their profession.

Biblical and Later Dances of the Jews.—Possibly no people have as yet had a dance so dignified and so grand, in idea and performance as that of the Hebrews. Their movements were not governed by a hard and fast rule. Their motive was a solemn one—to express gratitude and praise to God for deliverance from their enemy. The dancers, like the music and speech, translated depth of feeling. Most of their dances were of the circular order. The leader of a dance was she who first started it, generally a person of high rank, as Miriam, sister of Aaron. Miriam's was a type of dance still practiced in modern Arabia. It has no rule, but varies according to the imagination of the leader, who improvises as her feeling suggests. It belongs to the open air and wide plain.

At the wedding of the ancient Jews, there were great festivals and rejoicings, the ceremonies usually lasting for eight days. There were games, dances, and music. In the dances, each performer varies it according to her taste and skill. The most admired of each dance would receive a coin and afterwards these coins were deposited in a specified vase and all was given to the musicians on whom the dancers were dependent. At the beginning of a wedding, respect was shown to the guests by two ladies beginning the dance. Each lady would move as she chose, without referring to the other. This dance lasted about ten minutes. Then the dancers saluted, and the gentlemen clapped hands in sign of applause. Then another pair started, and so on until all the ladies had danced.



SPRING ATHLETICS.

At Elm Ridge, May 2, was held perhaps the greatest track meet ever contested between the two rival schools Manual and Central. The track was in excellent condition and previous records were smashed right and left. The interest in the grandstand stood at fever-heat throughout the entire meet, this being due to the remarkably balanced ability of the two teams. Manual held the lead to the very last but was defeated in the broad jumps and lost with a score 57 to 60 in favor of Central. Central's team consists principally of two men, the Woodbury brothers, who did excellently in all the events they entered, scoring 32 points between them. Montague and Richards of Manual did some phenomenal work in the mile and half mile events. Montague running the mile in the splendid time of 4-48, and Richards the half in 2-7. Boright of Manual scored the greatest number of points for his team, winning first place in three events,—the hundred yard dash, the 220 yard dash and the running high jump. Patrick of Central broke the old $\frac{1}{4}$ mile of 53 seconds by covering the painful distance in 51 seconds. Central has very little to crow over in the outcome of the duel meet, as Manual lost by a foul or an oversight on the part of the weight judges in the case of Central's weight thrower, Bowers, who stepped out of the ring in the shot put. But whether this decision was correct or not, the score stands 60 to 57 and Manual is con-

tented to give them a good wallop next year.

Summary:

120 Yard Hurdles—H. Woodbury, Central, first; Shrader, Manual, second, C. Woodbury (C), third; time 16 2-5.

100 Yard Dash—Boright (M), first; Catron (C), second; Patrick (C), third. Time, 10 2-5.

Mile Run—Montague (M), first; Richards (M), second; Pierce (M), third. Time, 4 46.

440 Yard Dash—Patrick (C), first; Campbell (M), second; Koenigsdorf (M), third. Time, 51 sec.

220 Yard Hurdles—C. Woodbury (C), first; H. Woodbury (C), second; Daniels (C), third. Time 26 sec.

220 Yard Dash—Boright (M), first; Koenigsdorf (M), second; Campbell (M), third. Time 25 1-5.

880 Yard Run—Richards (M), first; Patrick (C), second; Montague (M), third. Time, 2:7 4-5.

Pole Vault—C. Woodbury, H. Woodbury, tie, (C), first, second; Andrus (M), third. Height, 10 ft. 8 in.

High Jump—Boright (M), C. Woodbury (C), tie, first, second; H. Woodbury (C), third. Height, 5 ft. 8in.

Shot Put—Kanatzer (M), first; Bower (C), second; Schwab (M), third. Distance, 41 ft. 11 in.

Hammer Throw—Bower (C), first; Schwab (M), second; Koenigsdorf (M), third. Distance, 146 ft. 6 in.

Discus Throw—Kanatzer (M), first; Bower (C), second; Schwab (M), third. Distance, 106 ft.

THE MISSOURI VALLEY INTER-SCHOLASTIC VICTORY FOR MANUAL.

The Missouri Valley Interscholastic Track meet is the one which covers the greatest scope and the one which is most ardently desired and fought for. There were athletes entered from West Des Moines High school, Lincoln, Topeka, Kansas City, Kansas, Central and Manual Training High School. The meet was of intense rivalry and keen competition. New

records were set in several events. Montague of Manual lowered the previous record by running a magnificent race in the splendid time of 4-48. West Des Moines had a fast team, scoring 40 points and winning second place, thus compelling Central to swallow a very disagreeable pill from the sturdy north. Manual's athletes worked faithfully from start to finish and managed



TRACK TEAM

to win first place with an aggregation of 43 points. Kanatzer should be given honorable mention for his star weight performance in this meet as he scored many valuable points for the Crimson. As a reward for this victory Manual received two elegant cups, one a handsome Spalding loving cup and the other a hundred dollar trophy cup given by the Kansas City Star.

On the evening of May 9 of this big track meet at the Coates House was given a grand reception in honor of the visiting teams. All enjoyed themselves immensely and expressed their gratitude for such a novel treat.

As an appreciated courtesy to Manual, our own principal, E. D. Phillips, was chosen by the management to award the 52 prizes, and it was a soul stirring scene to witness the victors as

they were called forth from that surging throng of the brave and the fair, in the big banquet hall, to receive their hard earned and beautiful prizes.

The report of this successful Interscholastic meet would be quite incomplete if it did not give credit to the de-rated officials who were tireless in their efforts to do all in their power to make this splendid athletic tournament a success. The characteristics of this meet were adolescent skill, fair play and harmony.

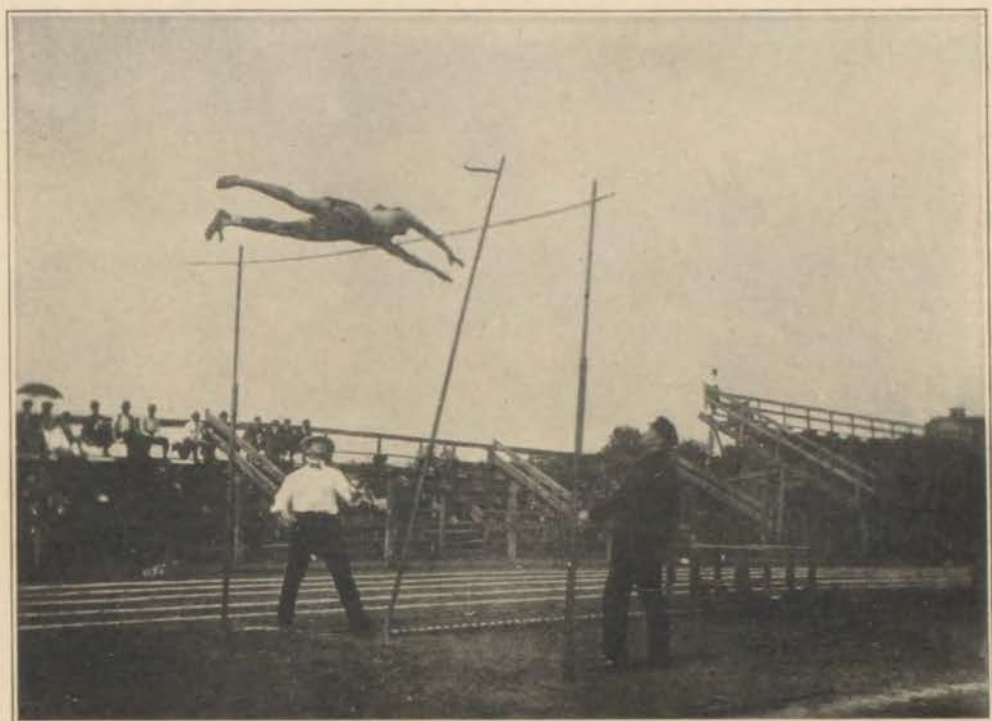
It may be interesting to Manual's students to know that their own Vice Principal, Mr. E. M. Bainter and Principal Jordan of the St. Joe High School were two of the originators of this now popular Interscholastic Track and Field meet.

LAWRENCE TRACK MEET.

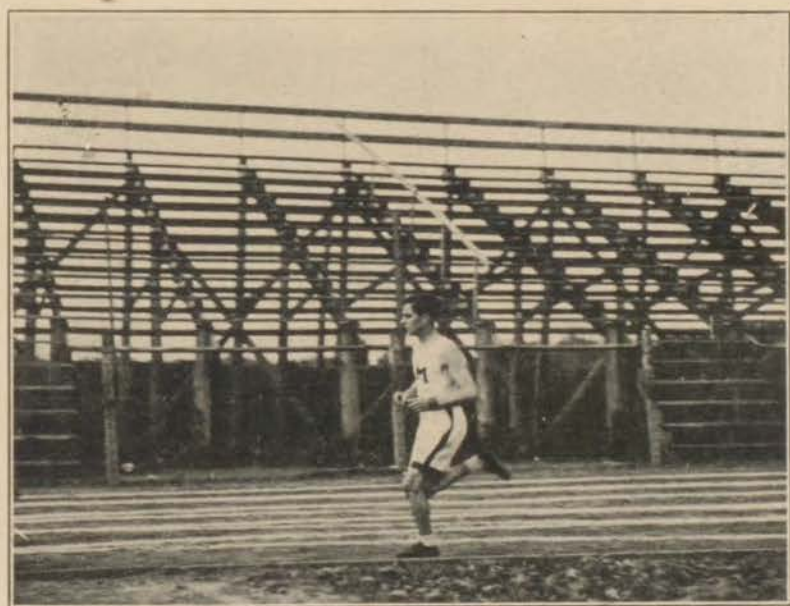
At Lawrence, Kansas, May 16, on McCook's Field was held a very interesting track meet under the auspices of the freshmen students of Kansas University. Central of Kansas City won first place with a score of 41 points and Manual came second with a 31½ point score. It was exceedingly warm and notwithstanding the little track, many excellent records were made. Montague, our miler, won the mile race in 4:39 and Richards the half mile in the excellent time of 2:6. Wyatt was in his usual form taking the 100 yard dash in 10:1-5 sec, but

broke his leg in running his heat in the 220 yard dash and was forced to leave the field. Wyatt of Wentworth is an extraordinary sprinter. Boright of Manual finished a close record to Wyatt in the 100 yard dash but following the foot-steps of Waytt sprained his ankle and was too badly crippled to take his usual part in other events. The most sensational event in the meet was the phenominal pole vault record of Vincent Andrus of Manual clearing the bar at 11 ft. breaking the Missouri Valley Interscholastic record.

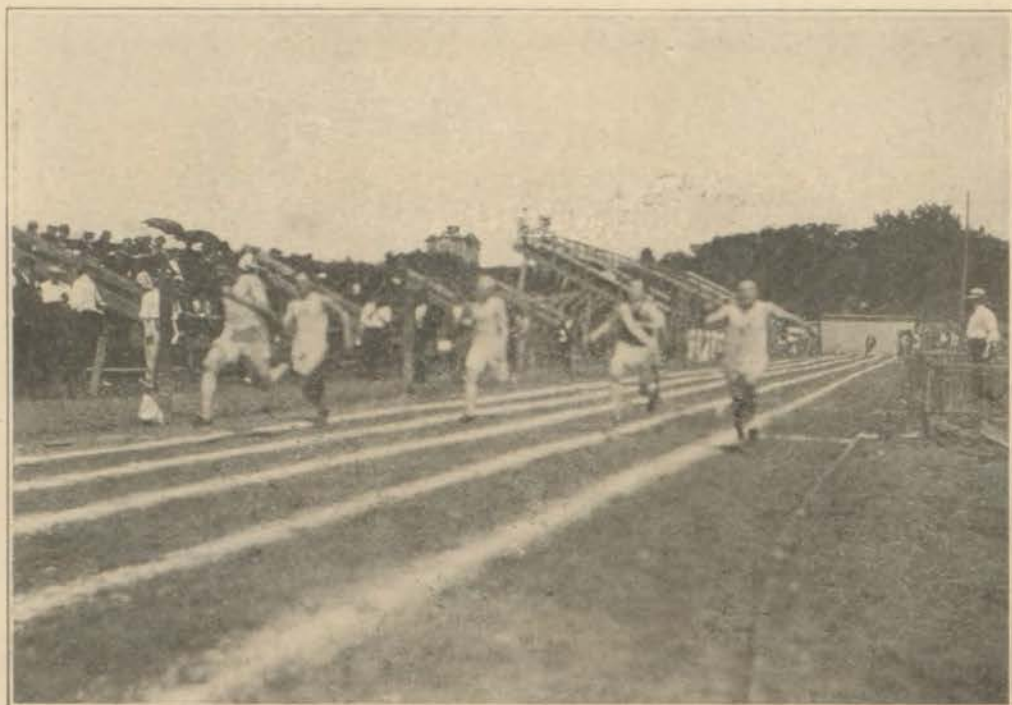
Through the kindness of Mr. Louis Wilhelm, of Lawrence, Kansas, we were enabled to procure the following pictures of our men in action at the meet there.



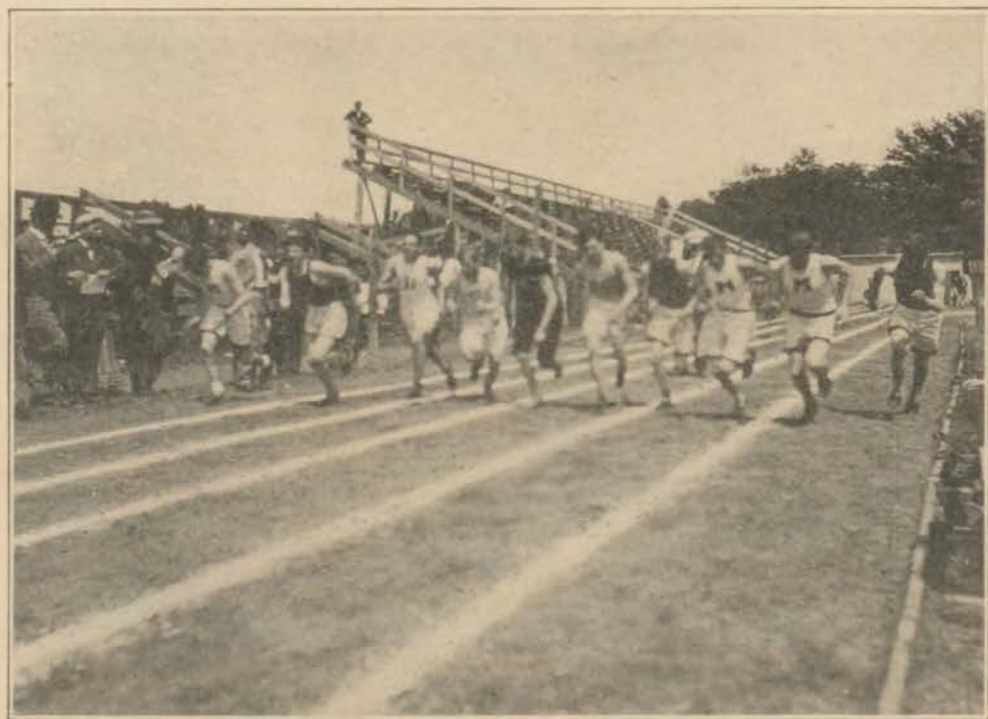
Andrus breaking the record at 11 feet.



Richards doing the half in 2:06.



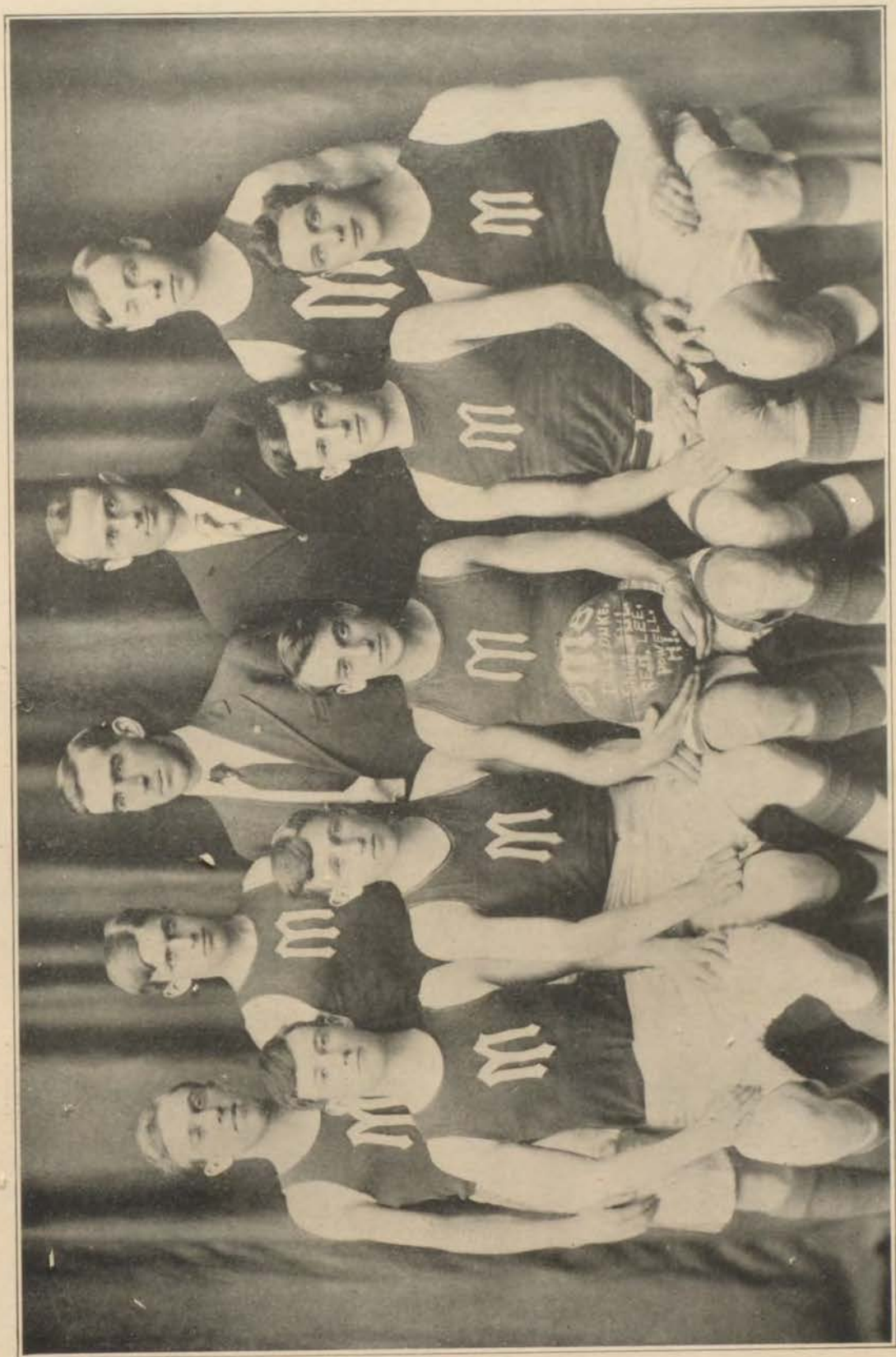
Boright coming in second on the 100 yard dash.



Richards

Pierce Montague

Start of the mile which Montague won in 4:39.



BASKET BALL TEAM

FIRST ANNUAL INDOOR CONTEST.

The 1st annual indoor contest was held in the gymnasium Friday afternoon, Feb. 21, 1908. The purpose and hope in these contests is to stimulate and give a renewed interest in the mid-winter training, which is so essential to the making and developing of athletes for spring sports. All the events were keenly contested and some excellent records were made. Vincent Andrus scored the greatest number of points winning first place in four events. Following is the list and winners of 1st, 2nd and 3rd places with record.

Chest dip (without swing) Vincent Andrus, 1st; Macmillan Hollister, 2nd; Loy Shrader, 3d. 26 times, record.

Standing broad jump—J. Schwab,

1st; Shrader, 2nd; Craig, 3rd. Record, 10 ft.

Dumb bell (73 lbs.) (from chest to full arms, with both arms) Shelby, 1st; Kanatzer, 2nd; Weiberg, 3rd. Record, 23 times.

Running High Jump — Boright, Schwab, tie for first; Koenigsdorf, 2nd. Height, 5 ft. 2 in.

Spring broad jump—Boright, 1st; Hollister, 2nd; Schwab, 3rd. Height, 8 ft.

Pull up—Andrus, 1st; Shelby, 2nd; Boright, 3rd. Record, 19 times.

Shot put (16 lbs.) Kanatzer, 1st; Koenigsdorf, 2nd; Schwab, 3rd. Record, 34 ft. 11 in.

Climing pole (against time) Andrus, 1st; Craig, 2nd; Shelby, 3rd.



BASEBALL.

Manuel's team seems to have traveled a rocky road this year although they managed to pull together long enough to take two out of three from Central, winning the series and championship of K. C., Mo., even though they lost the pennant. Manuel's team was composed of some of the best individual players in the league, but their play showed a lack of team work, which generally wins games, but when they did play together they made good showings.

The first game with Central resulted in victory for Central 8 to 3. The Central team simply had it on us in team work and though Manuel hit the ball hard, time after time, the Central boys would knock down balls that looked like safe hits.

Two base hits—Woods, struck out by Robbins, 2; by Burns, 5; Base on balls off Robbins 7; off Burns 0. Stolen bases—Tilden, Stengle, Carson, Baltis.

Our next game was with Leavenworth at the Soldiers' Home. Both teams played an excellent game except for one inning Manuel let in 6 runs on hits and errors. Robbins and Kermayer both pitched good ball, but Manuel couldn't get hits when the men were on bases.

Struck out by Robbins, 11; by Kirmeyer, 10; base on balls off Robbins, 7; off Kirmeyer, 2; Hit by pitched ball—Stoll. Stolen bases—Kirmeyer, Hannay, Ressler, Robbins, Brammell, Grant 2, High.

Following the Leavenworth game Manuel and Central met for the second time, Central was feeling sure of winning, but Manuel was out for revenge and they got it. We simply put the Central pitchers to the bad while Robbins who pitched excellent ball won his own game with a 3 bagger when the bases were full.

2 base hits Robbins, Lindgrove; 3 base hits Robbins, Stengle; stolen bases, Brammell; sacrifice hits, Ludlow, Brammell.



BASE BALL TEAM

April 18, 1908.

As both teams were tied for the championship of K. C. each was determined to win the deciding game which also gave the victor the privilege of going to Lawrence, Kans., on the 16th of May to play the K. U. Freshmen. Central started the fireworks and it looked as though they meant to win, but they overlooked the Manual hitters who overpowered Burns out of the box, Ressler getting 5 hits out of as many times up.

	1	2	3	4	5	6	7	8	9	R	H	E
Manual	0	0	1	0	0	0	4	2	x	7	12	8
Central	1	0	0	2	0	0	0	0	0	3	7	3

Base on balls off Robbins 2; off Burns 6. Struck out by Robbins 4; by Burns 4. Stolen bases—Bayne, Welch, Barlow.

May 16, Manual went up against the strong K. U. Freshmen team which had a clear record of victories without one defeat. Both teams played an excellent game, for seven innings the score stood 0 to 0. Robbins pitched good ball fanning out 8 men. Both teams give their pitchers good support but Manual couldn't bunch any hits off the Freshmen pitcher. Capt. Brammell's pinch hit in the ninth scored Manual's only run, saving them a shut out.

Struck out by Robbins 8; by Lock 19. Base on balls off Robbins 1; off Lock 4. Hits by pitched ball, Brain, Lovett, 2; base hits, Lovett, Goldberg, Donkle plays Holmes to Walker to Blacker, Persler to Brammell to Ressler. Stolen bases, Brammell, Ludlow, Montgomery, Bran, Lovett.





SCIENCE BREVETIES.

The Birgibahn cable railway is the steepest railway in the world. It is built up the side of a mountain in the southern Tyrol, Austria. The average grade of 66 per cent is taken in perfect safety, as the cars may be stopped in 4 feet without the cable.

A novelty in an automobile engine is a 16 cylinder 2 cycle gasoline engine. The cylinders are set in V shape, 8 to each side. The engine should have no need for a fly-wheel and very little vibration.

Low grade bituminous slack, when burnt in conjunction with a small amount of natural gas, makes smokeless combustion possible. The natural gas introduces the heat necessary to ignite

the volatile gases of the slack. The slack is burned on plain ordinary grates and the gas is introduced through five small jets in the side walls of the fire box, so that the gas flames play over the entire fuel bed. This grade of coal costs only a little over \$7 a ton.

While cutting down a large wild-cherry tree in a cemetery near Crawfordsville, Indiana, it was found that the tree had developed a marble tombstone two feet high and 14 inches wide. The tree was 4 feet in diameter and for many years had attracted attention by its size.

A very peculiar accident happened recently when a motorman on the Winona Interurban Railway was seriously injured by being struck by a rock

while driving his car under a viaduct over which the New York-Chicago 18 hour train of the Pennsylvania Railroad was passing. The suction created by the train picked up a stone weighing nearly a pound and drove it through the glass vestibule, striking the motorman upon the head.

Kansas City has the longest street refrigerating line in the world. The pipe line is over a mile and is connected with a plant equipped with two 175 ton ammonia compressing machines operated by engines fed upon crude oil. The refrigeration system is what is known

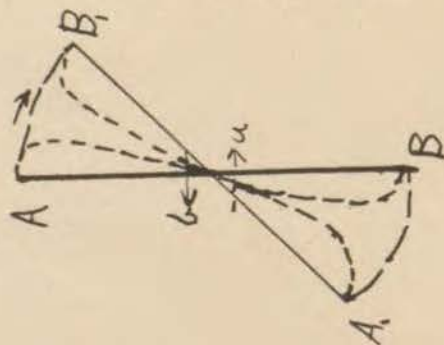
as the three pipe system and is operated by the direct expansion of ammonia. One pipe carries the liquid ammonia to the refrigerators, another brings it back in the form of vapor and the third is a pump out line used for pumping out separate refrigerator rooms or other purposes. The pipe lines are laid in tile conduits with manholes at every street crossing. To provide against strain and leaking, the pipe lines are placed on roller carriers spaced 15 feet apart. It has been found practicable to furnish refrigeration at a cost equal to that of ice at 20 cents per 100 pounds.

THE GYROSCOPE.

EARL DAVIDSON, '08.

It is a common notion that a rapidly rotating body will invariably keep its plane of rotation. This is the popular reason assigned for the steadying effect of the gyroscope. However this is not true, for a revolving body—for instance a top—will fall as fast as if it had no rotation, and so offer no resistance to a change in its plane. Hence it must be explained in some other way. A completed explanation is very complicated, and possible only with an experienced mathematician; so we will take a few simple cases and try to account for the more important forces involved.

We will first take a rotating disc sup-



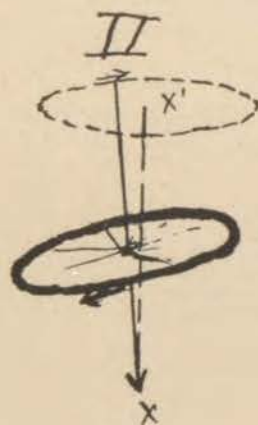
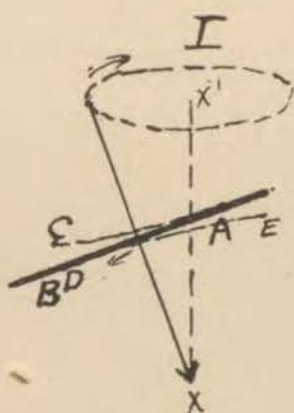
ported at the center of mass and free to turn in any direction around this point. Suppose the part of the rim nearest the observer to be moving upward. Let a force be trying to turn the disc clockwise about the horizontal axis (per-

pendicular to the diagram plane). Let A, B, be the position of the disc after one-half revolution. The point B will have moved in a curved path like that drawn in dotted line B B'. Now, any moving body tends to move in a straight line, but the path of B is curved. It can be seen, then, that the inertia of point B will try to move it to the left. Let A be a point opposite B. It will describe a similar curve (A A') in the rear of the point of support, and its inertia will tend to move it to the right. Then we have a couple trying to rotate the disc about the vertical axis toward the left on the side nearest the spectator. As the disc is mounted so that it may freely turn about this axis it will so turn, but if it were not thus free to turn, there would be no gyroscopic forces free to act.

Now let us study an ordinary top, a rotating disc, supported at a point in the axis below the plane of the flying wheel. Let it be revolving clockwise and leaning to the left when it strikes the floor. Gravity will tend to pull it downward. As the disc turns under the action of gravity, the point A, which would have arrived at C if there had been no turning, is B. But the top is free to turn in any direction, and by rotating about X' X, the perpendicular axis, A will reach C. Therefore it will so rotate. The top moves away from the spectator and takes the second posi-

tion. A point lying opposite A is subject to the same forces, also tending to move the axis of the top in the same direction around $X'X$. Position II will rotate in the same way around $X'X$ and the axis of the top will describe an inverted cone, the direction of the rotation around the secondary axis in this case being the same as the rotation about the primary axis. If the top were suspended from a string, the axis would describe an upright cone, and the rotation around the secondary axis would be opposite to that around the primary axis.

In this compound motion, A, Fig. I, will move to C as stated before, and a point, D, opposite A, will move to E. It will be seen that the diversion of these forces produces another couple,



tending to raise the axis to the vertical, which acts in almost direct opposition to gravity. When the axis has become vertical, and the secondary axis of rotation coincides with the primary axis of rotation, the top is said to "sleep." From this case we may deduce the law: "When a couple or forces tend to produce rotation about an axis—not the spinning axis—the latter tries to move nearer the impressed axis of rotation."

In these two cases, as in every other case, the gyroscope offers no resistance to any motion which does not change the direction of the axis, but it does oppose any force which tries to change the direction of this axis. When a twisting force is brought to bear upon this axis the gyroscope tries to twist around an axis perpendicular to the axis

around which the force tries to twist it, and also to the spinning axis. That is, the spinning axis of a gyroscope, when acted upon by any force, will move in a direction at right angles to that of the applied force. This is the property upon which all its practical uses are based.

There is a top sold as a toy that is useful in the study of the gyroscope. It is a small leaden fly-wheel mounted with needle-point bearings, in a light wire frame. While its marvelous "stunts" are amusing to children, they are still instructive to those more advanced in years. It is through the study of this top that the gyroscope has become a great factor in the modern mechanical world.

It is made use of in the perfections

of gunnery. The best guns have their barrels rifled—that is, spiral grooves are cut inside, which give the ball a whirling motion. The ball then acts as a gyroscope and will not turn sidewise in its flight. It is only through this discovery that long-range guns have been possible.

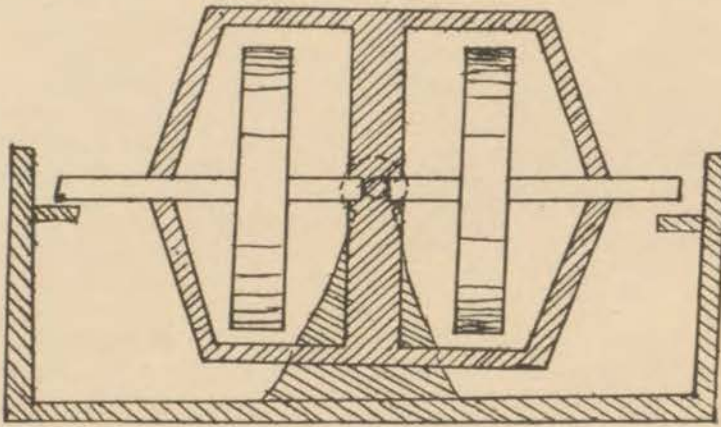
The gyroscope has been used for the mariners' compass and been found to keep true bearings for several hours of hard use. In the same connection it has been used as a horizon finder in rough weather in noting the position of heavenly bodies. In this instance the fly-wheel was carefully mounted in a vacuum. It was set in motion by allowing a stream of air to come in contact with vanes on the rim of the wheel, the vacuum being immediately restored. It ran for thirty minutes, with speed

enough to be exact, continuing in motion for several hours.

Mr. Brennon used the gyroscope in his famous torpedo to keep it in a straight path. It is now an important part in all the better torpedoes. It is used in the form of turbines to steady ocean vessels and maintain an equilibrium for the passengers on their feet and in their diet. In this capacity it proved exceedingly successful, for it is said that the passengers on board the *Lusitania* suffered none from any irregularity in their eating throughout the entire voyage.

Mr. Brennon surprised the world last

frame over a small platform fixed to the body of the car. The wheels are of the same weight and are run in opposite directions, so that the gyroscopic force of one counteracts that of the other. If the car starts to turn to one side, the other side will raise and the platform on that side bears against the axle projection. It does not matter which direction the wheels are turning, but suppose the left one to be moving upward on the nearer side; when the projection comes in contact with the left platform, it will try to roll forward. But this is the same case as the one we first mentioned. Instead of moving for-



spring by announcing that he had devised a car that ran on a single rail by means of the gyroscope. He had been working for many years in this branch of mechanics and had planned many cars with different arrangements of the gyroscope, only to find that he had left some force unaccounted for. The sketch shows a cross section of the balancing apparatus at last devised in a finally successful attempt.

The frame is supported at the center so that it may rock up and down. The axle of each wheel projects from the

ward, the axle exerts a downward pressure at right angles to this force. The downward pressure is sufficient to rebalance the car. So when the car goes around a curve it starts to turn outward on account of its inertia, but the gyroscope is ready with all its force and the car is seen to lean inward when rounding a curve. It has been half a century since the gyroscope began to be studied. It is now just in the first stage of its development, and no one knows what may yet come from it.



CAUSES OF VOLCANIC ERUPTIONS.

BEULAH RITTER, '08.

The term volcanic action includes all the changes connected with the expulsion of heated materials from the interior of the earth to the surface. Volcanoes depend, of course, upon the internal heat of the earth as their chief source of energy. But the means by which this internal heat manifests itself in volcanic action is a problem not easily solved. The action would probably not be caused by the mere presence of a high internal temperature, so it must be assigned to other causes.

To what particular cause, or series of causes, any special eruption may be due is a question to which, at present, no definite answer can be given. But, after much investigation, geologists have decided that some of the many probable causes are (1) the descent of water from the surface, (2) atmospheric pressure, (3) contraction of the outer portions of the earth, and (4) contraction of the hot, inner portions of the earth.

It is well known how invariably steam plays a chief part in volcanic eruptions, issuing in great clouds from the crater, and rising from the molten lava. The quantity of water which descends into the interior must be enormous. It forces its way through the cracks, even through the pores of the rocks, and of the annual rain which sinks beneath the surface of the land we cannot tell what portion is detained. Accordingly there has arisen a belief among geologists that it is to the great expansive force of very hot water finding access to and imprisoned in some of the heated empty spaces at the roots of volcanoes that the explosions and rise of a lava column are due. These spaces receive water from the surface, which cannot escape, but is mostly changed to vapor or retained as a liquid at very high temperature and under great pressure. After a time a weak place in the earth crust is unable to withstand the expansion, so that the crust is broken and the fragments of rock and the clouds of steam are thrown upward. The removal of this crust relieves some of the pressure from the lava, which therefore rises in the opening until it flows out. Then there is probably a period of repose till a re-

newal of the cause brings on another eruption. By such actions it is supposed that new spaces for the accumulation of heated water are formed, from which new eruptions issue.

An attempt has been made to show that the explosions of a volcano are, to some extent, regulated by conditions of atmospheric pressure over the area at the time. In the case of Stromboli, the force within and the repressive effect of the atmosphere without just balance, and the eruption, though not serious, is constant. A decrease in atmospheric pressure would cause a more violent action.

Geologists have also supposed the existence of pools or lakes of liquid lava lying beneath the crust. Assuming that the contraction is greater in the outer than the inner portions of the earth, the effect of this must be to force out some of the internal molten matter through weak parts of the crust.

The influence of contraction as the source of volcanic energy has also been shown in a different way. The theory has been developed that the action is due to more rapid contraction of the hotter internal mass, and the resulting crushing of the outer shell. This results in the crushing of masses of rock, thus producing such an amount of heat and chemical activity as to cause a movement of the elements of the rock—this change sometimes going to the point of actual fusion. But, even then, the rock must come in contact with water, produce steam, and thus cause the eruption.

However, in the inquiries into the past and present actions of the earth, the geologist must keep his mind ever open to receive evidence of kinds and degrees of action which he had not before imagined. Our experience has been too short to allow us to think that all the causes of geological change have been definitely learned. On the earth there may remain for future discovery evidence of former operations by heat, magnetism, chemical change, etc., which may explain many of the strange things with which geology has to deal.

FOREST FIRES.

GEO. L. SPERRY, '09.

In all forests fires occur more or less frequently. Great fires occurred in the Adirondacks in 1903, also in the immense forest reserves in the western part of the United States. Of the latter, those in the Pike's Peak Reserve are the most severe.

The most critical period of the year is between the middle of August and the last of September, when the lack of rain makes the underbrush and leaves very dry. Then it is that every spark from a locomotive or a smoker's pipe, and every camp fire, should be extinguished, for failure to do so may cause millions of dollars' worth of lumber to be destroyed.

There are three kinds of fires, underground, surface, and crown fires, of which the surface fire is the most common.

The underground fires are started usually by some camp fire left unextinguished on some peaty ground, eating its way down through the thick layer of vegetable matter to the bed rock and traveling underground, cooking the roots of trees and bushes.

The surface fires are those which travel on the surface of the ground, burning the top layer of underbrush, leaves, fallen trees, and other material which is on the top of the ground.

These are the most common and the most destructive, as they burn into the tender young trees, causing sores which rarely, if ever, heal. This fire also burns all the fallen trees, preventing their use in lumbering.

Crown fires are usually underground or surface fires fanned into the tops of the trees, and are usually accompanied by high winds which spread the fire with tremendous rapidity.

The cause of most forest fires has been traced to the carelessness of hunters, trappers, campers, sheep herders, and lightning. Locomotive sparks are responsible for not a few fires. Evidence has been found which shows that some surveyors breaking camp merely kicked their fires over greater areas in the hopes that they would go out. In a very short time these scattered embers

had leaped into raging fires beyond the control of everything. Cowboys in rounding up cattle are often compelled to burn a thicket in order to drive out some unruly steer. But this practice is dangerous, as the fire is apt to spread through the adjoining woods.

One fire is said to have been started by the focusing of the sun's rays by a piece of curved glass, like the bottom of a bottle.

Hunters, also, in order to convert a thicket into a grassy spot, thus attracting game, have been known to burn the trees down.

Every large forest town should employ men, at reasonable wages, to watch certain districts of forests to put out all fires left unguarded. A constant patrol of all forests should be kept. In some towns fire wardens are appointed, who must fight all fires in their district. The towns are divided into convenient districts, each of which is guarded by a deputy warden, who may order any able-bodied man out to fight a fire.

Other means are taken to prevent fires by requiring all railroads passing through forests to burn all underbrush for so many feet on each side of the road bed, to equip all locomotives with spark arrestors, and to hire track walkers to patrol the tracks running through the woods; also allowing only so many tons to be hauled through the forest, as the tremendous exhausts of the engine, caused by hauling heavy trains, belch forth clouds of sparks which, if not extinguished, would soon start a terrible fire.

Around saw mills there is always a pile of waste material which, to be gotten rid of, is burned. The law requires that these fires be burned only at certain seasons, when the underbrush is damp.

There are several methods of fighting fires. In a surface fire perhaps the best way is to rake all the leaves and underbrush from in front of the fire in a broad path, completely circling it if necessary. This path serves as a line of defense and should be carefully guarded, no sparks being allowed to

cross. If water is available, the path is thoroughly soaked, thus lessening the danger from sparks.

Another good way, if there be time, is to plow several furrows across the line of fire, and as the fire approaches this belt to beat it out with bushy tree tops, or to dash sand and earth on the fire. In many cases mill owners have provided fire engines and steam pumps for fire fighting.

In fighting an underground fire it is necessary to dig trenches down through the peaty soil across the line of fire.

The fighting of a crown fire is the most difficult because of the intense heat and the rapidity with which the fire approaches. "Back-firing" is the method mostly used in fighting such a fire. This consists in building a small, carefully guarded fire in advance of the main fire and some distance ahead. Care must be taken that the small fire does not get beyond control.

After burning a while, the small fire is extinguished, leaving a broad path of burned ground over which the main fire cannot pass. Often the small fire gets beyond control of the fire fighters, placing them between two fires, from which they escape but rarely.

The devices of man are not the only factors in extinguishing forest fires, as Nature lends her helping hand in the form of heavy rain and snow storms, which usually follow large forest fires.

Forest fires are very destructive. The injury which they do to trees is enormous. Thousands of dollars' worth of valuable lumber is annually destroyed by fire. A fire, attacking a tree, burns the resin blisters which are on all pine and balsam trees, making the hole larger. The resin running out presents a greater attacking surface, each time getting larger until the tree is eaten through, and either falls while burning or when the first high wind comes along.

Forest fires destroy fences, mills, camps, railroad ties and telegraph poles, buildings, animals, and property in general. All the young growth of wood is checked, if not destroyed. Reforestation is prevented, the seeds of coming generation of plants are destroyed, fine forests are converted into areas of thick bushes alternating with grassy patches. Fires, also, to a great extent, weaken the soil of the forest by burning out all the vegetable matter, which is indispensable to healthy tree growth. All, or nearly all, humus is destroyed and the bare mineral soil underlying the thick mass of peaty substance is exposed to the weathering agents. The quality as well as the quantity of the future timber is also lowered.

When a forest is burned the earth no longer acts as a sponge, and instead of holding the water and giving it off gradually, the soil passes the water and melting snow off quickly to the rivers, which in turn swell rapidly and overflow the low lands, causing great damage and suffering.

A fire passing over a shallow stream abounding in fish makes the water so hot as to kill the fish, which require cool, fresh water. Again, if the water is deep, the lye from the ashes runs into the stream and kills the fish.

A fire running through a forest in the fall, when the young of birds and animals are being raised, kills those which are too young and feeble to get away.

The United States is awakening to the fact that its forests are being destroyed, but seems powerless to prevent it. True, restrictions are being placed on lumbering, in the hopes of staying off the inevitable lumber famine, but unless precautions are taken against fires as well as the woodman's axe, the fate of the forest is sealed.



COLOR BLINDNESS.

HAROLD ALLEN, '09.

" 'Tis mind alone that sees and hears,
All things beside are deaf and blind."

This quotation explains color blindness. Really there is no color in the world, as many persons understand it. The grass is not green, and the sky is not blue—it's all in the mind's eye. This is difficult to conceive, but when we say that every person is more or less afflicted with color blindness, we may think differently. Color blindness is almost as inevitable as death.

Professors Gibson and Joly, of Trinity College, Dublin, recently inquired into this subject while perfecting the method of photography in colors, and it was found that one out of every seventeen persons was severely afflicted with color blindness. At this rate there would be four million people in the United States affected with color blindness. When we see the effects of this "disease," we may readily understand why scientists have endeavored so long and determinedly to find the cause, and it is feared that neither Solomon nor the "most wise Debater" could discover it. It is important that painters, dyers, weavers, tailors, chemists, botanists, geologists, physicians, seamen, and railroad employees should not be color blind. If some railroad engineers had not been blind, many railroad accidents might have been avoided. Some persons may be color blind at times, and not at all at other times. This probably was the case with engineers who have had wrecks on account of color blindness, for every railroad engineer must pass a severe examination to prove that he is not color blind.

To illustrate this point, the story is told of a woman who had been sewing for several hours over a red piece of cloth. Her little boy was playing on the floor. She had looked so long and steadily at this piece of cloth that her faculty for seeing red colors temporarily left her, and when she glanced at her boy it seemed to her that he was going into convulsions, because his face looked so white, and she screamed and fainted from sheer fright.

But color blindness has its advantages; also people who are afflicted with total color blindness see the world as though it were a steel engraving. These men are employed by engraving companies because this defect makes them experts in the translations of delicate lights and shades of paintings.

There are many strange things about this phenomenon of Nature. Persons have been found color blind in one eye only. "Green blind" persons are very rare, but "red blind" persons are numerous. Color blindness, in almost all cases, comes by heredity. It usually passes from the father to the daughter, and from the mother to the son, thus crossing in generations.

Many insects have also been found to be color blind. But one need not lament if he be color blind, for he is stronger and sharper in hearing, tasting, smelling, and in intellect. I once knew an old Confederate colonel who, in order to please his wife, bought her a supposedly gray waist. Upon presenting it to her he was confounded to hear her beguile and deride his artistic taste. The waist was pink.



THE BLOSSOMS AND FRUIT OF OUR STREET TREES.

MARGARET RICE, '08.

"Many a flower is born to blush unseen—"

In regard to the blossoms of the trees that line our city streets, how very true is this quotation. How many of us have ever observed that the trees along our streets have blossoms that are as beautiful in color and shape as some of those that are in the florist's windows? Why do we not observe the beauty and fragrance of these blossoms as we do those in the florist's shop? Partly because these are gratuitous, and partly because we have never learned to observe the beauties of Nature above our heads. We, the pupils of Manual, published a list of trees with their date of blossom, for last year. The outsiders who read this list thought all of Manual's pupils must know the blossoms and fruit of our common trees, but how few of us can uphold this belief. To keep our reputation, only,

"Let us come forth into the light of things.
Let Nature be our Teacher."

As we go out in the early spring to let Nature teach us concerning a few of our most common trees, we find that the soft maple or silver maple is the first tree in bloom. The flower is a little creamy white bell with yellow stamens hanging out of it. The flowers grow, with no definite number, in a cluster.



Soft Maple Fruit and Blossom

These clusters, which are protected by little green scales, grow on either side of the leaf bud. When the flowers are dead the maple fruit keys grow out from the little green fruit buds and hang on the tree until the leaves become quite large.

Very close after the silver maple come the well known bluish red, worm-

like blossom of the cotton-wood tree and the blossom of the American elm. The scarlet blossoms of the elm are similar to those of the silver maple. The flowers of both are bell shaped, but the stamens of the elm are shorter, the green scales smaller and different in shape, and in place of growing at the



American Elm Fruit and Blossom

end of the twig on either side of the leaf bud, the blossom grows any place along the twig alternating with the little leaf buds. The little keys do not grow like those of the maple, but out of the green cup at the base of the flower, and hang on for about the same length of time as those of the maple.

When the maple and elm have blossomed and formed their keys, we see some little green threads with tassels on



Box Elder Fruit and Blossom

the ends hanging in clusters on the box elder trees. These are the blossoms of

the box elder, or ash-leaved maple. They grow like the blossoms of the silver maple at the end of the twig on either side of the leaf bud. The scales are more pointed and not so large as those of the silver maple. At the ends of the thread like stems of the flowers is a green cup something of the shape of a half circle out of which grow six little capsules filled with pollen. Keys which grow on separate trees are somewhat like those of the maple, only very much smaller.

After the leaves of the elm and silver maple, and the blossoms of the box elder are out, the little reddish-green buds of the ash grow out longer, and little seed-



Ash Fruit and Blossom

like flowers can be seen. The shields are very simple, like those of the elm, but they naturally are a different shape from any other scales. Like the silver maple and box elder, the flower clusters are on either side of the leaf bud. After the little seed-like flowers are gone, graceful fruits are formed, which are called tassels. A few of the ash tassels can be seen hanging on the trees when all the leaves are gone.

Along about the time the ash blooms, the sugar maple, which is the common hard maple, blooms. The greatest difference between the blossoms of the silver maple and sugar maple, is that the latter's blossoms grow where the former's leaf buds grow and vice versa. The scales around this blossom are very large. Between the flower cluster and the scales are little leaves which hide the keys when they are grown. The flowers are almost the same in shape and color as those of

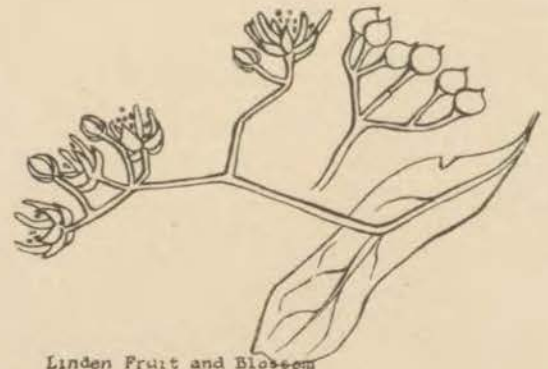
the silver maple. The fruit grows in the same way but there is a difference in its shape.

The catalpa, which we all know by its



Sugar Maple Fruit and Blossom

large cup shaped flowers and long bean shaped fruit, blooms long before the last one of our street trees, the linden. After all the other common trees have bloomed, borne their fruit, and its leaves as well as those of the other trees make a lovely shade from the June sun, the linden blossoms. Last but not least interest-



Linden Fruit and Blossom

ing are the linden blossoms. The leaves from which the stem that holds the cluster of flowers grows, are different in shape from the other leaves of the tree. The flower buds are heart-shaped, but when they open they are shaped like the water-lily. With the exception of the catalpa, the linden has the most advanced blossom of these trees, having distinct petals and sepals. When the bloom is gone, round fruit which looks like holly berries, is formed. Like the fruit of the ash and catalpa, part of this fruit hangs on the tree all winter.

When we have spent some time studying the blossoms and fruit of our most common street trees, we can not help but feel that Nature is a great Teacher,

and resolve that we will not let any flower "blush unseen and waste its sweetness on the desert air," if we are not trying to keep up a reputation.

INCUBATION.

ESTELLE BERKOWITZ, '08.

The words "incubator chickens" usually call up vague ideas of some rare species of fowl from an unknown region, do they not? At least, such were my imaginations till I had the good fortune to learn from the best authority all details of the science and was an eye witness of a most wonderful transformation.

An incubator is a judicious mingling of wood, glass, metal, and heat, and a delicate arrangement of tubes and thermometer. First experiments are often of a startling character, and the amateur may well be discouraged, if after three weeks of careful watching, hard boiled eggs, or cooked chickens are the result. Equally disheartening are half matured chicks, but if a happy medium is reached, then dear, fluffy, little balls of down stagger about among the eggshells, "peeping" melodiously and pecking amiably at each others' eyes, serenely indifferent to their orphaned condition.

Early spring, as every poultry-man knows, is the best time for hatching, for then eggs are most plentiful. An incubator with a capacity of one hundred is the best for a beginner. The eggs are selected, carefully cleaned, and placed in regular rows on wire trays, which are in turn put inside the machine and the temperature raised to 103 degrees. A delicate regulator called a thermostat, is balanced directly over a pipe connected with the lamp, which provides heat. A thin zinc and platinum bar, whose least expansion or contraction causes fluctuations of the thermostat, lies parallel to the eggs and above them. Thus at a glance, the condition of the incubator is evident.

The heating of the machine is an ingenious yet simple device. The heat from the lamp enters a zinc drum, and penetrating all parts equally and instantaneously, assures an even tem-

perature throughout. As for the remainder, two ventilators providing a free passage of fresh air, and a thermometer complete the remarkable invention.

On the seventh day after the incubator has been "set," the eggs are tested and if the contents appear spider-like, the egg is replaced and further developments awaited. Formerly a candle and darkened room were used, hence the term "candling"; but now a lamp having a tall metal chimney and an aperture the size of the egg has superseded the original method with better results. Again on the tenth and eighteenth days the eggs are tested. The second time a half matured, and at the last a well developed chick should be visible. Then from the nineteenth to the twenty-first day, expectancy is on tip toe, for the stronger birds break the shell before the allotted time and are already putting forth tiny wing and tail feathers before their weaker brothers and sisters appear.

Now comes a time of infinite care, for the helpless little birds have no mother to guide them over the stumbling chins of life and depend on Nature to teach them the mysteries of food and drink and the giving of thanks after each swallow. When the chicks are old enough to appreciate a parent's care, they are given to some motherly, old, brooding hen of vast experience, who has raised innumerable families to be prize winners and cocks of the walk. But science has even done away with the hen and "brooders" have been introduced. These are machines resembling chicken houses, being well heated, having a curtained hood which takes the pace of the mother's wing, and containing a large play ground and a practical method for lighting and ventilation. After eight weeks in the brooder, the chickens are ready for mar-

ket and the best of them having been fed almost entirely on milk and a preparation of corn and meal, are remarkably large and desirable. Others which are of a particularly fine stock are kept for poultry shows, and if they possess an exceptional glossiness of feather, beauty of comb and excellence of shape, have been known to win blue and red ribbons and even to have their pictures

published, just like any celebrity.

These prize birds in turn produce others to spread their fame; and so from generation to generation chickens with a common ancestor, the incubator, appear and disappear, retrograde and advance in price and quality, live to a tough old age or die in youth at the hand of the executioner.

FIFTY MILES FROM SEA TO SEA.

E. R., '09.

Stretching from the little town of Colon south to the Pacific Ocean, lies the shortest trans-continental railroad in the world, the Panama railway, now practically the property of the United States. The line is only forty-eight miles long, yet it reaches from ocean to ocean as surely as the lines of the combined Harriman system, with the peculiar difference that the Harriman line extends west and the Panama line runs south to cross the continent, making its way as it does across one of the narrowest parts in the neck of land forming the inverted apex of the North American continent.

Romance, tragedy, failure, and final success, the undoing and the making of men of world's recognition, are threads tangled in the fabric of this railroad's remarkable history. The spirit of Columbus's search for an opening through the narrow isthmus that might lead him to his fabled West Indies lying west; of Balboa, who gazed from its shore into the Pacific and claimed all land it touched for his Spanish master; was that which inspired the building of the railroad and which is to-day leading to the construction of the great canal in which the Panama railroad is playing such a vital part.

As early as 1835, plans for the rail-

road were drawn, but not until fifteen years later was the work really begun. Only the building of the Panama canal has brought out how tragedy attended this mighty work of building a tiny railroad, without suitable shelter, without proper food, and with no sanitation. The men took fever; some died of sleeping sickness, others committed suicide in regimental numbers, while still yet others became mutinous and left as soon as the steamers could take them. But the work went ahead, with superhuman tenacity back of it, until at last the road reached Culebra, and from there extended to the Pacific coast.

Immediately the railroad, being a key to the commerce of two oceans, became the object of international attention and disagreement. The application of the Monroe doctrine alone saved the railroad from falling into foreign hands. Time after time ships were sent to Colon and Panama City to keep the railroad from being ravaged by revolutionists, who tore up the isthmus with their fortnightly revolts. But suzerain control was maintained, until now the road is the property of the United States almost wholly, and although it is small, its value cannot be overestimated.



MANUAL TRAINING



Paul John Dodd



Mabel Thornton

MANUAL TRAINING NOTES.

Joinery.

A beautiful and useful exercise has recently been added to our joinery department, that of a *study lamp*. The lamp is constructed upon the Mission Furniture style and may be used either for gas or electricity. The lamp is not wanting in any way when compared with those made by chandelier dealers. The shade is of sheet brass, stamped with various figures, to suit the artistic taste of the pupils and with the exception of the tubing, and mantel or electric light as the case may be, the exercise is made entirely by the pupil.

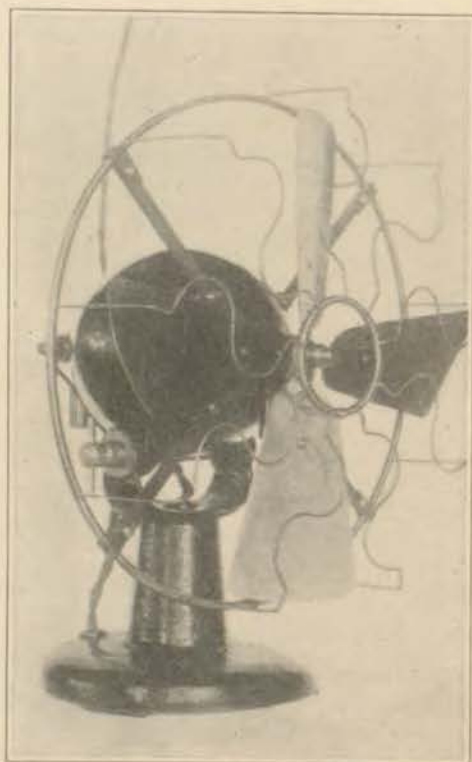
This exercise was designed by our joinery teachers. It not only gives the student a useful souvenir of his years work, but it combines all of the training which he is supposed to have gained during the past year into one piece; requiring him to use his knowledge of planing, angle and scroll-sawing, boring etc.; thus not only acting as a useful article but also as a practical examination for the student at the end of his year's work.

Machine Shop.

It has been the plan of our teachers of Mechanic Arts to do some practical

work in machine construction every year. In the last four years, the pupils of Mr. Cushman, the director of our machine shop, have built two speed lathes, a 5 H. P. gas engine and rebuilt an old engine lathe.

In the past year, their efforts along this line have been almost entirely confined to electrical work. A design for a 12 inch fan motor has been made by Mr. Johnson. It is a 110 volt, direct current machine of the iron clad type; is mounted on a swivel base; carries a 12 inch fan, and has three speeds ob-



Electric Fan made in our Machine Shop.

tained by means of a rheostat in the base. Five of these machines are now being constructed by the students.

Another machine that the pupils have been working on this year is a two H. P., 110 volt direct current, bipolar, shunt motor designed by Mr. Cushman. The

armature including the commutator is completed, and the machine will be nearly finished this year. It will be rated at about 1800 R. P. M., and will be used to drive a lathe in the machine shop.

A lathe apron was built from an original design by Mr. Cushman and was completed last year. The gears are all made from machine steel. The worm wheels and clamp nut being of bronze. There are separate friction clutches for the longitudinal and cross feeds making it impossible for breakage to occur. The tumbler gear reverse is mounted on the head stock end of the bed.

Domestic Science.

The Domestic Science Department has made an effort this year to supplement each section of its work by visits to various factories and other places of interest in the city, thus calling attention to our home products, the methods employed in their production and the observance of the pure food laws.

A trip to the Armour Packing Plant gave each girl a clear idea of the numerous cuts of meats; the many canned meats and soups; the rendering of lard; and the manufacture of various oils and by products. The lesson of extreme economy was observed in the handling of all cattle, hogs and sheep.

Another interesting thing to see was the analysis of milk at the Veterinary College.

Pupils were not only interested but instructed in the milling of grain at the K. C. Milling Company and the baking of breads and cakes at the Smith Bakery.

As a climax to second year work luncheons were given by each class. The girls made all menus, bought all materials, served the meal, and arranged for the giving of toasts.

The Home Department of the Atheneum was entertained at a luncheon given in the Domestic Science rooms by the "Daphne Society," our Domestic Science club. The science work in our department has been revised and many new scientific features introduced.

LINEN.

MARY L. MORTON.

No plant not yielding food is of more value to man than the flax plant. What an important, as well as a wonderful discovery did the early Egyptians make when they found, that from the little flax plant, which one might easily mistake for a weed, they could, by a series of complicated preparations, produce a material of great durability and such fine quality. Pliny, in his Natural History, gives the process which the ancients used for preparing the flax. They first pulled it up by the roots, then tied it in bundles, dried it in the sun, steeped and dried it again, beat it with a mallet or stone, and lastly, combed it with iron hooks.

In Egypt, the use of linen was particularly connected with their religious and funeral services. The priests were forbidden to enter the temple robed in other than linen garments, and the dead were always shrouded in this material.

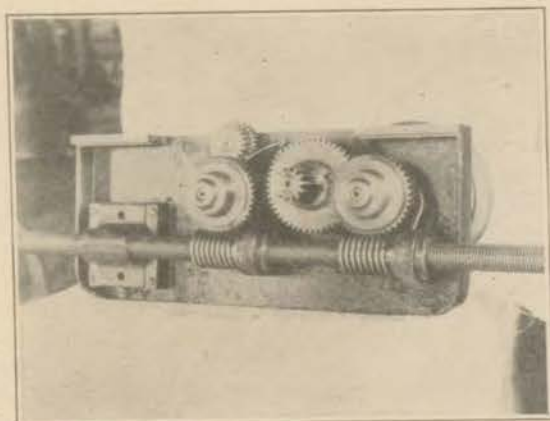
Some of the work of the rude looms of the ancient Egyptians was extremely delicate; and it is probable that the "fine linen" mentioned in Scripture would compare favorably with that produced

by the most perfect machines of the present time. In the British Museum are specimens of Mummy cloths, thin and transparent like the muslins of India.

The Bayeaux Tapestry, which is now in the town house in Bayeaux, France, was made by the Empress Matilda, in the eleventh century. The foundation of this interesting piece of work is linen, and its well preserved condition is another instance of the wonderful durability of the flax fiber.

Ireland, France, and Belgium produce the best linens of modern times; and of these, Ireland stands in the lead.

Flax was brought to America by the Colonists, and in 1834 a mill was established at Fall River, Massachusetts, for the manufacture of linen. In the last few years, a process has been invented in the United States, which shortens the preparation of the fiber; however, this climate's not being conducive to the production of flax, our linen has not attained that degree of excellence for which that of foreign countries has long been noted.



Lathe Apron made in our Machine Shop.

BRICKS.

FRANCIS RILEY, '08.

Bricks are rather hard to write on, but the fact that the Babylonians and Egyptians were quite proficient in this, is shown by their libraries, which inexperienced persons might think were brick yards. The origin of such an ancient and universal art as the ceramic, is not well known, but it is supposed to have been acquired by the Greeks, from the Assyrians in Cyprus, where the two civilizations had a point of contact. In ancient Greece, it was a very extensive and important industry. The Romans, in all probability acquired the art from the Greeks, but the practice of stamping the bricks with the titles of the reigning Emperor was taken from the Babylonians. Since the discovery of the secret of the cuneiform writing, this practice has been of great value, in dating old Babylonian palaces and temples. The bricks manufactured by the latter people were burned in kilns, while those of the Egyptians were sun dried. We learn from the Bible that it was one of the principal duties of the enslaved Israelites, to make such bricks, in which straw was mingled with the clay so as to increase their tenacity and durability. The bricks of today, beside being manufactured quite differently from the ancient bricks, are also of various kinds.

There are four kinds of brick; the common, front, fire and paving brick. Common bricks are made from any clay that may be moulded easily. They are burned to an even red color and are used in walls or places where solidity is important. Front bricks, which are used for fronts and ornamental purposes, are made from carefully selected clays, and are weathered, that is, exposed to atmospheric action, from three to eighteen months. They are often made in different colors and sometimes enameled. The coloring is brought about by mixing different clays. Before burning they are carefully dried. Fire bricks are used where great heat must be withstood, such as the linings of furnaces and chimneys. They are made from carefully selected refractory clays, which should not contain more than 4 per cent impurities. Plastic and flint clays are generally mix-

ed. Banxite and silica bricks are also used for fire bricks, but are not clay products. Paving bricks are made from clay that must stand vitrification, but need not be fire-clay. The finished product should be tough, stand abrasion and impact and be non-absorbent.

The manufacture of bricks, is generally divided into four parts, the working, moulding, burning and drying of the clay. In order that it may not crack when burned, it is necessary to temper it with ashes, sand or other material. Moulding was formerly done by hand, but molding machines are used now. There are three types; the "soft" and "stiff" mud," and the dry clay types. The "soft mud" machine has an upright receptacle of iron containing a knife-bearing, revolving, central shaft with curved arms at the bottom, to force the clay into the press box. In this box the clay is pressed and moves forward in a continuous bar, being cut into the required lengths by an automatic cutter. The "stiff mud" machine, as its name implies, is used for making stiffly tempered clay, which is forced through a die by a plunger or augur. The bars of clay are cut by means of parallel wires of automatic cutters as in the "soft mud" machine. The dry clay machine uses pulverized and screened clay, which is fed from canvas tubes into molds which are pressed by hydraulic power. The bricks are very dense, but the particles are not closely united. Front bricks, are made by this type of machine.

Bricks are burned in kilns, which are divided into two classes, the temporary and permanent. The former is made up of a number of rows of small arches, built from the unburned bricks, and may contain about 40,000 bricks.

Burnt bricks are placed around the outsides and daubed with mud. Fires of wood or coal are started at the ends of the rows of arches, and the doors are sealed. As the fires slowly approach each other, the bricks are burned evenly and thoroughly in this kind of a kiln. Permanent kilns have fixed side walls, but the charges are placed and fixed in the same manner as in the temporary.

Continuous kilns are a class of permanent kilns, made up of a series of connected chambers, which are fixed in succession. The heated gases pass from the first chamber to the second and so on. Filling, burning, and emptying may be carried on at the same time in different chambers. Fire and paving bricks are burned in continuous kilns. Five to six days are taken for burning, and cooling requires

three or four days. The temperatures developed in the brick kilns varies from 1600° to 2300° Fht. Thus we see how great an industry brick making is and the important part bricks have played in the civilization of the world, and although they will never become as important a factor in building as concrete, they will always be used.

FIRELESS COOKING.

HORACE W. WALKER, '09.

Fireless cooking, as the name implies, is the art of preparing food without the aid of fire. It is a method of cooking which has been known for many years, but, only lately, have its true merits become so well known, that it has sprung into popularity and become a fixed institution in many American homes.

The modern application is supposed to be derived from the manner in which the Indians cooked their fish and meat. This was most generally done by burying the uncooked food in the dying embers of a fire and allowing it to remain until it had been cooked by the heat thus given off. The Indian guides of Canada have devised a similar way of cooking, which has been used as far back as can be remembered. A fire is built on several large flat stones, which when sufficiently heated are used in constructing an oven. In this oven the partridges, venison, ducks, or whatever the products of the day's hunt may be, are placed and the stones are entirely covered with moss and soil. The oven is left in this condition until the next day, when upon opening the meat is found to be deliciously cooked. At least such are the testimonials of those who have been so fortunate as to have tasted food cooked in this way.

In Germany cook-boxes are manufactured, which are lined on the inside

with soapstone or some other substance, which retains the heat artificially imparted, and on the outside with felt. In this country an ordinary wooden box is used, which, when covered on the inside with felt or cotton, or packed with straw or excelsior, serves the purpose equally well. The box, however, must be air tight in order to exclude all outside air.

Perhaps there is no better recommendation for these cook-boxes than the success, which the experiments of the United States Army along this line, have met with. In these requirements large cook-boxes, divided into six compartments, were used. When practice marches were to be made by any regiment, the compartments were filled with kettles of provisions, which had previously been heated to start the cooking. The box was carried with the expedition on a wagon and, on reaching the first halting place, was opened and the meal was found ready to be served.

While fireless cooking will never supplant the old method because of the time it requires and because of its limitations, it is rapidly gaining favor on account of its economic value and convenience. It is expected that many new ideas will grow from its present uses and it will become a still more important factor in the already important art of cooking.



PHOTOGRAPHY.

PAUL BAKER, '09.

Photography is the art of producing the appearance of objects and fixing them by means of a light on a previously sensitized surface and the reproduction of the image thus obtained, by various processes, on glass, paper, and other materials.

Among the many conveniences of every-day life of the present day, we think little of the photographic studio, or the amateur's kodak. Yet it seems hard to realize that a hundred years ago it was impossible to get at any price, a mechanical likeness of an object that can be had at such low figures today.

The first photographic camera was in reality a darkened room, to which light was admitted through a single small hole in the window shutter. This was the Camera Obscura of the Italian philosopher, Giambattista della Porta, invented during the last half of the 16th century. When the sun shone brightly a faint inverted image of a landscape could be seen on the whitened surface of the wall. J. H. Schultze, a German, called the "Columbus of Photography," obtained the first actual photographic copies of writing as early as 1727, by placing written characters upon a level surface previously prepared with a mixture of chalk and silver nitrate. The rays of light passing through the translucent paper, blackened the silver compound underneath, except where it was protected by the opaque ink, forming the letters themselves, and thus white copies on a black ground were obtained. Later Professor Charles projected the shadow of a head by means of strong sunlight on a sheet of white paper which had been made sensitive by chloride of silver, and obtained a white profile on a darkened surface, but he was unable to fix the image upon the sensitive paper. To Thomas Wedgwood is due the honor of being the first to produce pictures by the action of light on a sensitive surface. H. Davy discovered that silver chloride was more sensitive than nitrate, but not withstanding his continued investigations, Davy was unable to find a means to prevent the fading out of the picture. Others took up the work, among them Joseph's

Niepec and Daguerre in France and William H. T. Talbot in England. The first mentioned, in 1814, succeeded in producing permanent pictures by a process which he called 'heliography'. In 1824 Daguerre began his experiments, which led to the invention of his celebrated process. He formed a partnership with Niepec in 1829, and ten years later they announced the invention of the daguerreotype process, the principle of which had been discovered by Daguerre in 1832. The process consisted in exposing a metal plate covered with silver iodides for twenty minutes in a photographic camera, after which the plate was transferred to a dark room and exposed to the vapor of mercury, which developed the latent image, later being then made permanent by means of a solution of sodium chloride. Daguerre received a pension of 6000 francs from the French government, in consideration of which the details of his process were given to the world. Information of this process reached the United States through Samuel F. B. Morse, who communicated it to his colleague in the New York University, John W. Draper, by whom the first sunlight picture of a human face (that of his sister Dorothy Draper) was made in 1840. Meanwhile Talbot in England, had been pursuing investigations from a different viewpoint, and on January 31, 1839, he presented before the Royal Society a paper on "Pathogenic Drawing." This he produced by dipping writing paper in a solution of sodium chloride, drying and then transforming the sodium chloride into silver chloride by passing the paper through a solution of silver nitrate. With this paper, which was extremely sensitive to light, he was able to produce a negative, and in turn from this negative, by another exposure, a number of positive prints could be obtained, which were fixed by potassium bromide. Two years later Talbot patented his colotype process in which the negative was obtained by coating the surface of the paper with silver iodides, then washing it over with a mixture of silver nitrate with gallic and acetic acids, after which it was ex-

posed in a camera to the object he wished to copy. Minor inventions and improvements followed the introduction of Talbot's process, among which the most important was the use of albumen, recommended by Niepce de St. Victor, as a film containing haloid salts which he flowed upon the surface of glass.

The development of the modern rapid process of photography may be said to have begun with the introduction of the dry collodion process by Scott Archer in 1851. This process consists in coating glass plates with a film of collodion containing soluble iodides or bromides, which form a sensitive silver compound when dipped in a solution of silver nitrate. The sensitized plate is then exposed in the camera to the object to be taken. The action of the light on the sensitive silver salts changes them in such a way as to produce a latent image on the film, which is then developed; after which the image on the plate is made permanent or "fixed." For the protection of the collodion film it is common to coat the negative with a clear and hard varnish.

The invention of a transparent and flexible film pellicle for supporting the sensitized photographic surface was made by Hannibal Goodwin and his application for patent was filed May 2, 1887, but the patent was not issued until September 13, 1898. The substance itself was entirely new, and the manufactured article consisted of a film support of a dried and hardened celluloidal solution of nitrocellulose. It was a very important invention and has made possible the widespread modern employment of photography by amateurs. The roll holder, by means of which a long strip of film can be carried in a comparatively small space, was first suggested by W. J. Stillman, and has led to the modern hand camera or kodak for films, and later to the so-called system of daylight photography which still further increased and simplified the use of photography by amateurs.

As the wet process required that the plates be prepared at the time of exposure, that process naturally found its most extensive employment for indoor work, and continual efforts were made to devise portable plates. Finally plates were sensitized, washed, dipped in some

organic preservative, such as a solution of tannin, and then dried.

In 1871 Maddox introduced the earliest form of the "gelatin-emulsion," which has since been considerably improved and is now used very largely. Modern plates of this nature are found to be from ten to a hundred times more sensitive than the older wet plates, and have thus made possible the photography of moving objects and of those which are only dimly lighted. They also made possible the flash-light pictures by means of which instantaneous views are taken of a dark interior during the burning of a small quantity of magnesium. A large variety of developing agents are employed with the modern dry plate. Pyrogallic acid in connection with an alkali is perhaps the most common.

The camera consists of a box, either of wood or a frame work of wood with a bellows expanding body of leather, so that when closed the camera may occupy but little space and be conveniently carried. In the front of the camera is the lens and at the back a piece of ground glass on which the image of the object to be photographed may be focused, together with an arrangement for lengthening or shortening the body of the camera. The camera should be placed so as to insure perfect rigidity when fixed, and for indoor work should be strong and steady, while for outdoor photography the camera stand should be made light so as to be easily portable, or the stand or tripod may be dispensed with altogether.

The lens is of very ancient origin. There is a lens in the British Museum which was found in the ruins of Nineveh, and during the Middle Ages the manufacturing and properties of simple lenses were well understood in Europe. In general use now, four varieties of lenses are common; a single lens, a rapid rectilinear lens, a wide-angle rectilinear lens, and the portrait lens.

In photographing an object the camera is set up, and, after the image is properly focused on the ground glass plate, the holder containing the sensitized plates is inserted in the camera and the cover of the slide is withdrawn, exposing the sensitized plate, so that it receives the picture. The shutter is then closed and

the cover of the dark slide placed over the plate, which is later taken to the dark-room for development.

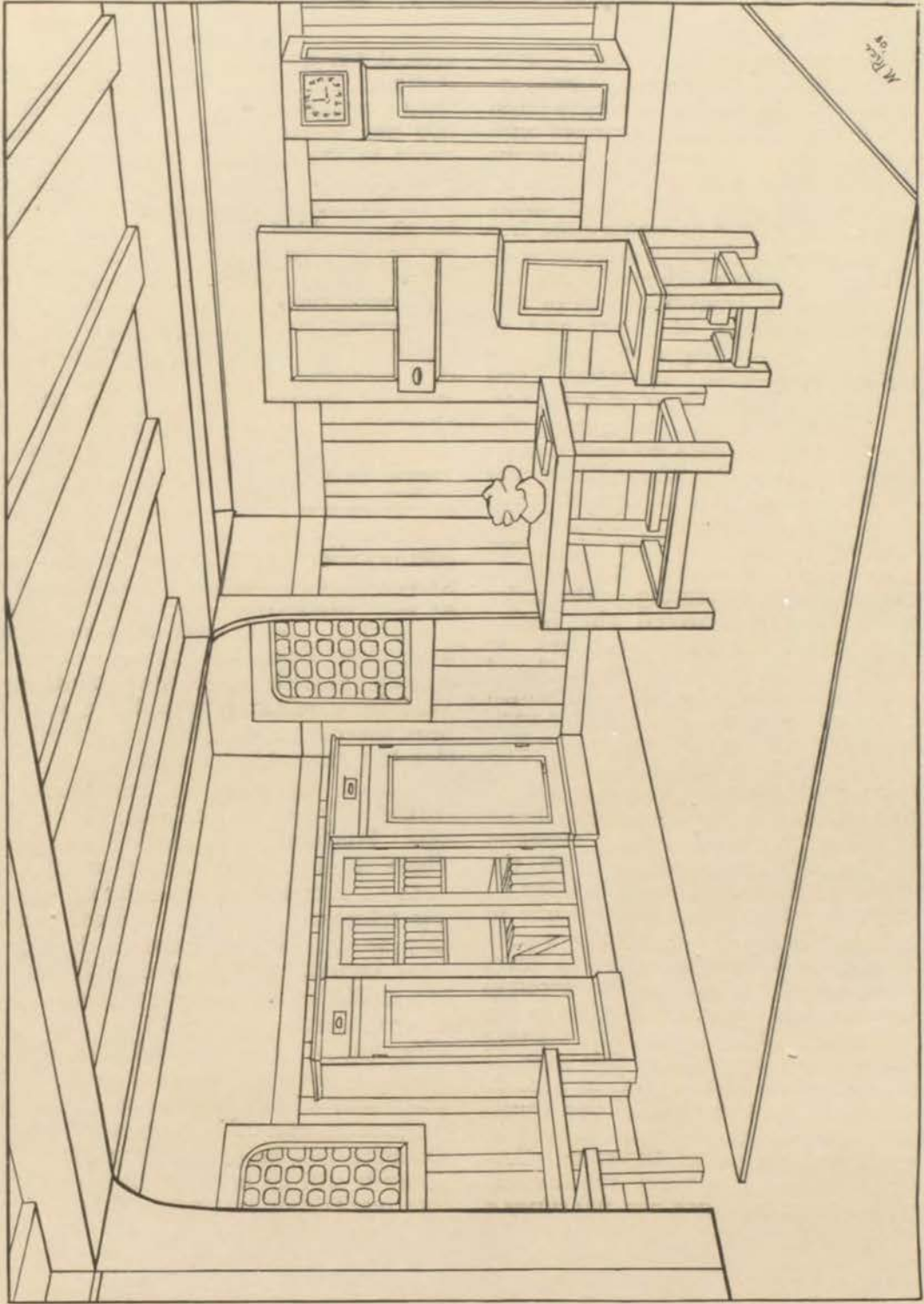
For the reproduction of printed copies from the negative, a sensitized paper is exposed to the sunlight, under the negative. The print thus obtained is toned and then thoroughly washed, after which it is ready for mounting.

The gradual disappearance or fading out of prints made with silver salts, led to numerous attempts to find satisfactory substitutes, and various metallic salts have been employed for the purpose of producing permanent prints. The earliest of these is perhaps the cyanotype or blue-print, first described by Sir John Herschel, and consisting in the reduction of ferric salts by light. This process is employed largely for copying plans by builders and architects. The lines of the drawing appear white on a blue ground. It is popular because of its cheapness and simplicity. In the ferrotype or tintype process a piece of sheet iron is japanned with black varnish and baked, after which it is sensitized and exposed in a camera to the object, then developed and finally covered with some protective coating. The substitution of platinum for silver, originally introduced by W. Willis, has found considerable favor, owing to the fact that the prints are both richer and more permanent than those made with silver salts.

In addition to the production of pictures of persons and scenery, photo-

graphy finds extensive application in reproducing painting, and thus popularizing famous works of art. Photography is further employed in many branches of science. The micro-photographs of minute forms of life have added much to our knowledge of such organisms, and the photographs of the heavens are furnishing innumerable data that will doubtless lead to astronomical generalizations of the greatest importance. The application of photography in legal matters for the purpose of showing forged signatures and establishing facts that were disputed has been of the utmost value. The courts have generally recognized that an accurate likeness of an object or place can be reproduced by means of the art of photography, and photographs are now often an efficient means of demonstrating a fact in the trial of a case. They are admitted in both civil and criminal cases as an aid to the jurors in their efforts to understand descriptions of places and objects which might not otherwise be presented in an intelligible manner. Photographs taken from balloons during the Boer War furnished information that proved of the greatest value. The biographic pictures, in which the effect of motion is produced in consequence of the successive exposure, occupying but a 250th part of a second, has brought about a revision of opinion in regard to many forms of motion, the details of which can now be studied, and the employment of photography is constantly growing.





M. Rice
1921

Interior design by a pupil of the Art Department.

"WIRELESS TELEPHONY."

Fred Wirthman, '08.

When the American fleet of sixteen ships, sailed out of Hampton Roads on that memorable voyage, it was the first navy of the world to be equipped with a wireless telephone system. By means of this, Admiral Evans can speak with any of the officers of the other ships, without the trouble of making the trip by boat; provided the one desired to speak to, is within a radius of ten miles. Information is transmitted with the wireless telephone, at night and in dense fogs, when flag and semaphore signaling would be impossible, and even the searchlight is not of much use.

Unlike the wireless telegraph, the wireless telephone does not need a skillful operator for the transmission and reception of the dots and dashes. Any person can operate the wireless telephone, as easily as the wire telephones in our own city, it being simply a matter of talking and hearing. Alexander Graham Bell discovered the photophone about thirty years ago, in which a selenium cell was placed in the focus of a reflected light, which was varied by a transmitter. The variation of light caused corresponding variation in the resistance of the selenium, with which was connected the telephone receiver, which reproduced the speech. Ever since then, inventors have been busy wrestling with the problem of the wireless transmission of speech over long distances. While in wireless telegraphy, the ether waves are interrupted periodically, to form the dots and dashes; in the wireless telephone, the waves are continuous disturbances, being interrupted about 50,000 times a second and this train of waves, is again interrupted, in accordance with the vibration of the transmitter, caused by the sound waves of the voice, falling on its diaphragm. Currents of such a frequency are desired, for if the interruptions are 500 times a

second, the waves themselves would be distinct, the words being lost, while with the interruption of 50,000 to 100,000 per second, the sensation disappears as the ear is not able to detect waves of such a high frequency. These high frequency currents are obtained by the Duddell musical arc, which is the arc of a direct current in the vapors of an alcohol lamp. This is what the De Forest system, with which the navy is equipped, uses. Another plan used to secure these high frequency currents is Fessenden's, he uses a specially constructed dynamo, which gives 80,000 alternations per second, and with it he transmits speech from Brant Rock, Mass., to Brooklyn, N. Y., a distance of 200 miles.

The receiver of the De Forest system is called the "Audion," a very ingenious device though not so sensitive as the "Electrolytic" receiver, used by Fessenden. While the transmitter of a wireless Telegraph cannot transmit speech, yet with the receiver commonly used in wireless telegraphy one can hear speech, transmitted from a wireless telephone transmitter.

One of the most notable workers with the wireless telephone, is Valdemar Poulsen, a Danish inventor. There were press reports of his intentions to establish trans-Atlantic wireless telephony, but this is most probably at the present state of development impossible. Even now Marconi has much trouble in maintaining constant communication with his wireless telegraph between Ireland and Nova Scotia, owing to electrical and other disturbances in the atmosphere. Yet at the present rate of development, these obstacles will be overcome and in the future it will be possible for us to talk with our friends in Europe.



Rolland Montague



Estelle Berkowitz

We wish to thank the following exchanges for their kindness in exchanging with us during the past year. The Advocate, Lincoln, Nebraska; The Academy, Boston, Mass.; The Beacon, Otumwa, Iowa; The Advance, Arcata, Cal.; The Acorn, Odgen, Utah; The Acropolis, Newark, N. J.; The Artisan, Boston, Mass.; The Beacon, Chelsea, Mass.; The Brown & White, Greensburg, Pa.; The Crimson, Fort Scott, Kans.; The Coral, Greenville, Miss.; The Carnation, St. Louis, Mo.; The Courier, Boise, Idaho; The Cricket, Belmont, Cal.; The Cascadillian, Ithaca, N. Y.; The Comet, Nevada, Mo.; The Cardinal, Portland, Oreg.; The Clarion,

Salem, Oreg.; The Crimson & White, Albany, N. Y.; The Comus, Zanesville, Ohio; The Crescent, Newberg, Oreg.; The Comet, Pittston, Pa.; The Center, Yates Center, Kans.; The Crimson Tatler, West Newton, Mass.; The Clio, Idaho Falls, Idaho; The Courant, Bradford, Pa.; The Central, Pueblo, Colo.; The Delta, Marshal, Mo., The Drury Academy, North Adams, Mass.; The Dixonian, Covington, La.; The Dragon, Greenville, Ohio; The Exponent, Marionville, Mo.; The E. O. H.'s News, East Orange, N. J.; The Enterprise, Petaluma, Cal.; The Elm, San Mateo, Cal.; The Elgin Mirror, Elgin, Ill.; The Echo, Superior, Wis.; The Forum,

St. Joe, Mo.; The Fleur de Lis, St. Louis, Mo.; The Far Darter, St. Helena, Cal.; The Hotchkiss Record, Lakeville, Conn.; The Herald, Denver, Colo.; The Herald, Carthage, Mo.; The Herald, Atlantic City, N. J.; The Helias, Grand Rapids, Mich.; The Times, Dayton, Ohio; The News, Berlin, Wis.; The Herald, Westport High School, K. C.; The Ink Spots, Mason City, Iowa; The Imp, Boston, Mass.; The Jayhawker, Kansas City, Kans.; The Lener, Colorado Springs, Colo.; The Luminary, Kansas City, Mo.; The Gazette, Oakland, Cal.; The Laretto, Kansas City, Mo.; The Oracle, Bangor, Maine; The Olla Pochida, Berkley, Cal.; The Oracle, Oakdale, Cal.; The Oak, Visalia, Cal.; The Quarterly, Dallas, Texas; The Voice, St. Louis, Mo.; The Yeatman Life, St. Louis, Mo.; The Magpie, New York; The Mirror, Indianapolis, Ind.; The Manzanita, Matsonville, Cal.; The Maroon, Tacoma, Wash.; The Mirror, Philadelphia; The Midland, Atchison, Kans.; The Mercury, Milwaukee, Wis.; The Mirror, Rock Springs, Wyo.; The News, St. Louis, Mo.; The Nautilus, Jacksonville, Ill.; The Normal Record, Chico, Cal.; The Nugget, Lead, S. D.; The Northwestern Magazine, Evanston, Ill.; The Nugget, Baker City, Oreg.; The Student, Los Angeles, Cal.; The Palaris, Freeport, Ill.; The Porcupine, Santa Rosa, Cal.; The Pennant, Meriden, Conn.; The Purple & Gold, Huron, S. D.; The Pine Cone, Idaho Springs, Colo.; The Piasa Quill, Alton, Ill.; The Palm, Porta Rica, San Juan; The Spectator, Coffeyville, Kans.; The Student, Oklahoma City, Okla.; The Spirit, Seattle, Wash.; The Sounder, Fort Smith, Ark.; The So-To-Speak, Manitowoc, Wis.; The Student Lantern, Saginaw, Mich.; The Tocsin, Santa Clara, Cal.; The Tatler, El Paso, Texas; The Tahoma, Tacoma, Wash.; The Trumpeter, Lexington, Mo.; The Trident, Santa Cruz, Cal.; The Tempe Normal Student, Tempe, Ariz.; The World, Topeka, Kans.; The Wabash, Crawfordsville, Ind.; The Westminster Monthly, Fulton, Mo.; The Wah Hoo, Allegheny, Pa.; The Windmill, Manlius, N. Y.; The Wa-Wa, Port Townsend, Wash.; The Snap Shots, Green Bay, Wis.

The April issue of the Forum, St. Joe, is not only up to the usual standard, but is the best issue of that paper we have received this year.

The stories in the Herald, Denver, are very entertaining. A few more jokes would help the paper out materially.

We suggest to the News, Berlin, that it have a few more literary pieces in its next News issue. One for a paper like it is hardly enough.

Ink Spots, do you insinuate that the Freshman cannot spell correctly when you misspell principal in your March issue?

The Dixonian, Dixon Academy, is a good paper; but we think it would be much better if decreased in size a little.

The Royal Purple, Whitewater, would be more interesting if a few more jokes were placed in the Locals and Exchanges.

Herald, Carthage, your April issue is not up to the usual standard. We hope your next issue will be much better.

Snap Shots, Green Bay, you are a welcome visitor. Your cover is very neat and the literary work is fine. You are indeed a very neat little book.

Red & Black, Reading, Pa., Your Easter number is a dandy. It is a very neat book from cover to cover and the articles are all well written.

The Helias, Grand Rapids, is another of our best exchanges. The April issue is the best number we have received this year.

In this, the last issue of the *Nautilus* for 1908, we wish to thank most sincerely our many Exchanges who have so kindly and constantly remembered us. It is difficult to give one hundred and twelve High School and College periodicals of varying excellence, equal attention in the four times of The *Nautilus'* publication.

The trials of the entire staff from the chief to the subscription clerk, have so often and so pathetically been dwelt upon, that the Exchange editors shall not burden the reader with any private moan, but are very grateful for the attention, however slight, which is paid this obscure department.

So in this issue some space shall be devoted to tickling the vanity which all

good Manualites feel for their school, and which has plenty of cause for existence. It is most gratifying to read some of the good things said of us by school papers and institutions of equal standing: I say "good things," for no derogatory criticism can be found after a careful examination of more than one hundred publications.

This from "The Herald," Carthage, Mo., "Great literary ability is displayed as usual in the Nautilus."

"Nautilus, we wish to compliment you on the neat and attractive cover of an excellent paper. It affords us great pleasure to receive such a paper."—"Spectator," Coffeyville.

"The Nautilus from Kansas City is again on our table. It is as interesting as ever."—"The Nautilus," Jacksonville, Ill.

"The Science Column of the Nautilus, K. C., Mo., is very extraordinary, but indeed interesting and newsy."—"The Record," Sioux City.

"The Nautilus, of Kansas City, is one of the best school periodicals we receive. The Exchange department is excellent.

The Nautilus is a splendid paper. Its headings are very attractive, and the cover is especially artistic."—"The Lever," Colorado Springs.

"The Nautilus is our best exchange."—"Heraldo," West Denver.

"Nautilus, you have put in an appearance and a good one too."—"Red & Black," Salt Lake.

Why He Fought.

Magistrate—"Pat Murphy, the constable says you were fighting. What have you to say for yourself?"

Pat Murphy—"Well, your worship, Oi had a clean white shirt on an' Oi was so mighty proud av it that Oi got up a bit av a row wid a man so as Oi could take my coat and wescot off and show it."—London Tid-Bits.

Dining.

I shot a sparrow in the air:
It fell to earth. I know not where
But, judging from this quail on toast,
Here is my sparrow or its ghost!

—New York Sun.

Skate, and your skates roll with you,
Slip! and you sit down.

Pat stopped before a window where a basket of cocoanuts were displayed. He entered and asked of the storekeeper, "How much do you ask for those potatoes with hair on them?"—Ex.

The home of Joseph Jefferson at Buzard's Bay was not far from the Wareham road. Some years ago, when certain ladies affected the bloomer costume when riding bicycles, Jefferson came upon a lady in such garb who had evidently mistaken her road. As Mr. Jefferson approached she asked:

"Will you kindly tell me if this is the way to Wareham?"

"Well," said Mr. Jefferson, "I'm sure I don't know; it's the first time I've ever seen any."

Timely Announcement.

From the Chicago News.

"Ah wish ter annaunce befoh de collexshun am taken up," said Parson Snowball, "dat Ah has totally convalescated from de cold dat Ah had las' week. Derfor hit will not be necessary foh de congregashun ter put no moh cough lozengahs in de contribushon box dis mawnin'."

Did He Mean It?

He: Your sister has a face like a cherub's.

She: The idea! You never saw any cherub's face, but a painted one!

—Yonkers Statesman.

"Wilt thou take her for thy pard,
For better or for worse:
To have, to hold, to fondly guard,
"Till hauled off in a hearse?"
"Wilt thou let her have her way,
Consult her many wishes,
Make fires for her every day
And help her wash the dishes?"
"Wilt thou comfort and support
Her father and her mother;
Aunt Jemima, Uncle John,
Three sisters and a brother?"
"And his face grew deadly pale,
And it was too late to jilt.
As to the chapel floor he sank,
He sadly said, "I wilt."—Ex.

Make a Note of It.

From Life.

A fellow from Detroit wants to know the scientific name for snoring.

"Sheet music," John.

The Great Tioux Dioux.

There was once a noble young Sioux,
 Who lived upon whisky and stioux,
 When he went to church,
 He walked with a lurch,
 So they thrioux him out of his pioux.
 This enraged the lawless young Sioux,
 Who told them it never would dioux,
 Two Deacons he thrashed,
 The preacher he gashed—
 And policemen took a hand, tioux.
 Amidst all this hullabalioux,
 (In which there were hurt quite a
 fioux)
 The Sioux ran away,
 And now they all say,
 To a foreign country he flioux.

The Next Door Neighbor.

Down by the stream where I first met
 Miranda,
 There's a hammock for two on a shady
 veranda,
 Sings that rasping graphophone
 With a wheeze, a sigh, a moan,
 Grrrr—bzzzz * ! ! ! x—zzt—help! !
 —Harvard Lampoon.

A Deficit.

Teacher—"Wait a moment, Johnny.
 What do you understand by the word
 deficit?"

"It's what you've got when you
 haven't got as much as if you hadn't
 nothin'."—Ex.

Oo-Oo-Oo!!

"I love to sail," quoth gentle Jen
 To Bashful Theodore;
 "But ain't it naughty when the boat
 Begins to hug the shore?"—Ex.

He—Had an odd experience the other
 day. One morning my breakfast boiled
 egg had an inscription on it. It said:
 "The finder may write to me," signed
 "Mary Smith."

She—What reply did you get?

He—The postmaster replied. He said
 that Miss Smith died of old age several
 years ago.

Swift and straight as the flight of a
 crow,
 Softly as the April snow,
 Lightly as a word when spoken
 Melts a V when once broken.

Arthur: "I went to a deaf-mutes' ball
 last night."

Jerome: "Is that so? What was it
 like?"

Arthur: "Like taking gymnastic
 exercise."

Jerome: "How's that?"

Arthur: "Oh, swinging dumb-belles
 all evening."

Mr. Microbe—Horrible catastrophe!
 Ten million lives lost!

Mrs. Microbe—Goodness gracious,
 Mike! What happened?

Mr. Microbe—The First National
 Bank, without a word of warning, steril-
 ized a dollar bill!—Ex.

Her head was pillowed on his breast
 and looking up in a shy way she said:
 "Do you know, dear Bob, that—"

"You mean Harold, I think," he inter-
 rupted.

"Why yes, to be sure; how stupid of
 me, I was thinking this was Wednes-
 day evening."

If a cat leaped out of a window,
 And it killed her when she lit,
 Would the jury decide
 That the animal died
 In a cat-a-leap-tic fit?—Ex.

The Clergyman: "Well, little boy, do
 you go to church every Sunday?"

Little Bobbie: "Yes, sir; I'm not old
 enough to stay at home yet."

It must be easy, after all,
 When it finds the waves asleep,
 For a spanking breeze to bring a squall
 From the cradle of the deep.

Patient—Do you think raw oysters
 are healthy?

Physician—I never knew any to com-
 plain.

Forever true and tender, too,
 Is Alfred's manly heart,
 And gentle Nell loves him as well—
 Yet they are kept apart.

No, it is not that dad got hot
 And plied his foot with zest,
 But merely that she bought a hat,
 And—well, you know the rest.

At the Minstrels.

"Mr. Johnson," said Mr. Haines, as the two eminent end men settled into their chairs, "I have a puzzling interrogatory to propound."

"Indeed?" asked Mr. Johnson, pulling up his collar and smoothing his wig; "indeed? You have a puzzling interrogatory to propound, have you, Mr. Haines?"

"Yes, sir."

"Then," suavely said Mr. Johnson, I would suggest that you proceed with your propounding."

"Very well. What, sir, is the difference between a girl who always drops the letter in the mail-box at the corner and a girl who faints seventeen consecutive times in one day?"

"What is the difference between a girl who always drops letters in the mail-box at the corner and the girl who faints seventeen consecutive times in one day?"

"That is the query I have advanced."

"That is too easy," observed Mr. Johnson, carelessly thrumming upon his tambourine.

"The girl who always drops the letters in the mail-box is looking for someone to write her, and the girl who faints seventeen consecutive times in one day needs someone to right her."

"Not so," declared Mr. Haines; "not so. You haven't guessed it."

"No? Well, there's another answer. One is a mail-dropper and the other is a female-dropper."

"Wrong again."

"Tell it then," sniffed Mr. Johnson.

"One posts the mail and the other pales the most."

There was a rumble of the drums while a fan-fare of trumpets indicated that Mr. Jonathan Jingles, the world-renowned tenor, was about to sing, "Susie's teeth were filled with gold and sunny was her hair."

All Right.

There is a wide difference of opinion as to the number of apples eaten by Adam and Eve in the Garden of Eden. Some say Eve 8 (ate) and Adam 2 (too), total 10; others, Eve 8 and Adam 8, total 16; others say, if Eve 81 and Adam 82, the total is 163; if Eve 81 and Adam 812 the total is 893; if Eve 814 Adam, and Adam

8124 Eve, the total is 8,938; if Eve 814 Adam, and Adam 81242 oblige Eve, the total is 82,056. Still wrong. Eve, when she 81812 many, and probably felt sorry for it; so Adam, to relieve her grief, 812. Therefore, if Adam 81814240fy Eve's depressed spirits, they both ate 81,896,864 apples.

A Summer Cycle.

A boat and a beach and a summer resort,
Man and a maid and a moon;
Soft and sweet nothings and then at the real
Psychological moment a spoon.
A whisper, a promise, and summer is o'er,
And they part in hysteric despair,
But neither returns in the following June,
For fear that the other is there.

Old Verse Revised.

There was a crooked man who rode a crooked mile,
Spoke on a crooked stump with a crooked sort of smile;
But the people wouldn't believe that he had a crooked nature,
So they sent another crook to a crooked legislature.—Chicago News.

Tough Boy—Go it, kid. I can't stop you.

Horatio (of Boston)—Proceed, child, in the way you have started. Nothing within my power can be done to retard your progress.

Her rosy lips were near to me;
To kiss her were the best of jokes,
And yet I did not try, for she
Was just a dummy made for cloaks.

Teacher—"What animal is satisfied with the least nourishment?"

Brilliant Pupil—"The moth. He eats holes."—Ex.

She was leaning on the rail,
And was looking deathly pale.
Was she looking for a whale?
Not at all.
She was Papa's only daughter,
Casting bread upon the water,
In a way she hadn't oughter.
That was all.

In Disguise.

The Storekeeper at Yount, Idaho, tells the following tale of Ole Olson, who later became the little town's mayor.

"One night, just before closin' up time, Ole, hatless, coatless, and breathless, come rushin' into the store, an' droppin' on his knees yelled, 'Yon, Yon, hide me, hide me! Ye sheriff's after me!'"

"I've no place to hide you here, Ole," said I.

"'You moost, you moost!'" screamed Ole.

"'Crawl into that gunny sack then,'" said I.

"He'd no more'n gotten hid when in runs the sheriff.

"'Seen Ole?'" said he.

"'Don't see him here,'" said I, without lying."

"Then the sheriff went a-nosin' round an' pretty soon he spotted the gunny-sack over in the corner.

"'What's in here?'" said he.

"'Oh, just some old harness and sleigh-bells,'" said I.

With that he gives it an awful boot.

"'Yingle, yingle, yingle!'" moaned Ole."

Unreasonable.

Not long ago, in a Western market town, I chanced to observe an Irishman with a live turkey under his arm. The turkey was squawking and gobbling in a distressed way, a racket to which the Irishman did not at first pay particular notice. Finally, however, the disturbance got on the Celt's nerves. Giving the bird a poke in the side, he exclaimed:

"Be quiet, you! What's the matter wid ye, anyhow? Why should yez want to walk whin I'm willin' to carry ye?"

Doctor (to Mrs. Briggs, whose husband, after being given up, makes a wonderful recovery)—"I think your husband can get up a little now, Mrs. Briggs."

Mrs. Briggs—"He canna get up, doctor. When you guv' 'im up we sold his claethes."

The Limit.

"I have cut off my nephew without a shilling," whispered the dying magnate. "I wish there were some way of doing even less for him. When you telegraph the news of my death to him, please send the message collect!"—Cleveland Leader.

Thus spoke an old codger from Me.,
Who walked with the aid of a ce.

"In ve, I comple.

Of the pe. I suste—

It surely will drive me inse."

Counsel (to Irish witness)—"You're a nice sort of a fellow, you are!"

Irish Witness—"I'd say the same of you, sir, only I'm on me oath."

"My supper's cold!" he swore with vim,

And then she made it hot for him.

A trolley collided with a milk wagon and sent the milk splashing on the pavement. Soon a crowd gathered. "Goodness!" exclaimed a man. "What an awful waste!" A very stout lady turned and glared at him. "Just mind your own business," she snapped.—Ex.

A little piece of rubber,

A little drop of paint,

Make a bad report card

Look what it ain't.

A Dutchman was relating his marvelous escape from death when thirteen of his companions were drowned by the upsetting of a boat and he alone was saved.

"How did you escape their fate?" asked one of his hearers.

"I tid not go in te boat," was the Dutchman's placid reply.

He: "Your teeth are like the stars—
(The maiden's face grew bright)

He: "Your teeth are like the stars—
They all come out at night."

Customer: "Give me ten cents' worth of bird seed."

Freshman (clerking during vacation): "Now, smarty, don't try to plague me. I know birds grow from eggs and not seeds."



It is with a feeling of regret and joy that we surrender the ruins of the Local Department of the Nautilus. Joy in the fact that the labors we have been assigned have now been completed and we can go through this world looking everyone square in the face and not expecting to hear, "Why didn't you put that local in?" or "Where is the point to this local."

It is with regret that we bid adieu to our readers. We have derived a great deal of pleasure from getting the idea some people had of a joke but the best of times must end and hoping that we have made nothing but friends by the material published we bid you a fond farewell.

Teacher.—"Did you learn that poem?"
Ralph.—"No'm, I didn't know this was the last day."

When Dr. McGurk gave his talk to the Oita society, he said "Every girl should have a chaperon, even if she has not a chap of her own."

Hanna says that young people grow rapidly when they are in love. It increases their sighs (size) immensely.

Harold—"I haven't eaten anything since yesterday. I'm fasting."

Mary Louise—"You're getting fastidious, aren't you?"

Miss Steele, "When I go past a restaurant, I always look in to see what kind of men there are in it."

Mr. Deister (speaking of the peculiar salutations in different countries) "The Chinaman says 'Have you eaten your rice?'"

Florence (sotto voce) "They ought to say 'Have you eaten your rats?'"

Florence—"I went down stairs in the fire-drill on Miss Ferguson's skirt."

Juliet—"Oh, you rode on the train, didn't you?"

Helen (telling story of Tam O'Shanter) "And the witch hung on to the horse's tail and pulled it off."

Riley—"That was a very important detail."

An Englishman and an American were conversing on the subject of the English language.

Englishman—"It is disgraceful the way you Americans abuse the English language."

American—"How is that?"

Englishman—"You answer a question and ask another one in the same sentence."

American—"We don't, do we?"

Ralph B.—"Have you noticed the phenomenon which occurs when a boy enters the cooking room?" The girls all turn to powder."

He thought she was a peach
When they were engaged to wed,
But alas! to his sorrow,
She was a lemon instead.



Two Extremes.

Miss Gilday—"Who was Hannibal?"

Pupil—"I don't know."

Miss Gilday—"You don't know! Well! What do you know? What are you going to do when you get up to the Golden Gates and St. Peter asks you how you got up there? Are you going to tell him you don't know? Like as not he will tell you to go to the other place until you can find out."

Pupil (aside to neighbor)—"I wonder if she has had experience."

Miss Drake—"Now, will anybody buy a Nautilus?"

Rauch—"I'd rather decline it. It is second declension—Nautilus, natuili, nauilo."

Miss Drake—"Sir, it is fourth declension. This is the Annual. You haven't bought a Nautilus yet." (Laughter at Rauch's cost.)

Freshman—(After being told by his nurse that he musn't be afraid to go to sleep by himself, because God was with him, and she was going out in the other room.)

"Darn! O, Darn! You come in here and let God go out in the other room."

Freshie, correcting a sentence in English: "Our flat top desks are suitable for teachers having closed backs and top rails and made both single and double sided."

Frank—"Stevenson invented the first Railroad to run on the land."

Mr. Holiday (in Physiography)—"How may a stream be prevented from passing from youth to maturity and old age?"

Bright Soph.—"Cut it's head off."

Why is the bridegroom more expensive than the bride?

Because the bride is usually given away, but the bridegroom is sometimes sold.

From Senior Essay:

"The Board of Education has resolved to erect a new building large enough to accommodate 800 students with fire escapes."

"I have heard of blockheads," but I never before knew that they shed regularly," said a girl when she saw shavings lying all around a sophie's desk.

Mr. Gustafson (7th Hour) "What is the principal use of the diamond?"

Bright Senior—"To seal the compact."

Freshman (in bookkeeping):—"Have I my right cents?"



Heard in History:—"Charles X never learned anything and didn't forget it."

Miss Sublette—"Now, give me your attention, please."

Ed. W.—"I wish you would hand it back at the end of the hour. My next teacher wants it."

Willrose—"Have you seen my new Italian watch?"

Mable C.—"No, let's see it—Is that an Italian watch?"

Willrose—"Yes, of course, if you look at it you can see the day go (dago) can you not?"

Mr. Stigall (In Physiology): "Is the mouth cavity large?"

Margaret, "That depends entirely upon the individual."

Miss Stull, "How long was the next century."

Helen (on seeing a crowd of girls around the sink in the Matron's room) "My, this must be a fashionable watering place."

Miss Gallagher, "All who are absent may come up and have their excuses signed."

A Leap Year Proposal.

"Wont you be my husband?
I will try so hard to please you, I'll tell
You all I know dear, of a leap year's
ABC's.
I have a merry widow, that is big enough
For two, so wont you be my husband
I wont let it rain on you."

The Merry Widow.

I would like to see the budding and the
blooming of the trees.
I would like to watch the birdlets as they
float adown the breeze.
I would like to watch the sunlight on the
hills and on the flats,
But the girls obstruct my vision, with
their Merry Widow hats.
When a girl would enter doorway people
view her with alarm,
For she has to go in sideways, with her
hat beneath her arm.
When two maidens take a ramble,—one
on either side the street,—
They are widely separated, but their
Merry Widows meet.
Ah, the sorrows of the husband who
would kiss his only, own,
For he has to do his kissing by long dis-
tance telephone.
In the church the merry women with
their Merry Widow tiles,
Drive their melancholy husbands to the
middle of the aisle.
In the home, the weeping father seeks
the cellar's quiet gloom.
For upstairs the Merry Widow headgear
takes up all the room.
There he's joined by all the neighbors,
who unite in crying "Rats"
When their conversation touches on these
"Merry Widow Hats."
—One of the oppressed.

In Ion Meeting.

Montague (hearing the O'itas dismiss
across the hall) "I move we adjourn."

Buxton, Elliott and Marley (in con-
cert) "Second the motion."

Robert, "I went roller skating last
night."

Cush, "Did you have any trouble?"

Bob,—"No, but my shadow fell and
hit the floor."

Miss Van Metre, "Florence, your
penmanship is good, but you do not
write well."

Two tramps put their heads through
the window in the telegraph operator's
office, and said, "Report two empties
going south."

A certain Manual girl who had wit-
nessed an accident of a car running into
a horse and wagon, was asked to fill out
the following paper, which she did:

Give your name, in full: *Mary Jane
with the last name like father's.*

Where do you live? *Most of the
time on the street cars.*

What is your occupation? *German.*

Your age? *I do not know.*

Did you see the accident? *Why of
course!*

Where were you when the accident
occurred? *Sitting next to my sister.*

Where did the accident happen? *On
the street in front of the Car.*

Was the car in motion? *Yes, he was
ringing the bells.*

Were the bells ringing? *We weren't
near a church.*

Who do you think was to blame for
this accident? *Both horse and wagon.*

Do you know of any one else who saw
the accident? *Yes?*

If so give name and address. *The
horse, don't know his name.. Address,—
in front of the wagon.*

Give full account of the Accident as
you saw it, showing no partiality to
either side: *For further information
regarding this matter, address Mary
Jane in care of the Nautilus. But in the
meantime I would suggest medical at-
tention for the horse and a new fender
for the car as the old one was badly in-
jured.*

SIGNED: MARY JANE.

Forethought.

Mr. Page speaking of the great heat
of Mars, said: "There may be people
living on Mars but they must be con-
stitutionally used to an enormous heat.
It would be a good place for some of
you to prepare for what is to come."

Mr. Cowan—"Where are all the boys
today?"

Riley—"Miss Gilday's classes all went
to court."

Mr. Cowan—"Oh, so they court in the
day time do they?"

Miss Van Metre's classes were giving
reports on reading. Loy came into the
room, blew up a paper bag, and popped
it, making a good deal of noise.

Myron—"Is that your report, Loy?"

Miss Fisher—Translate—"I know my lesson."

Richards—"I cannot tell a lie even in French."

Witters—"I don't know whether I can remember my speech or not."

Mr. Cowan—"Too bad."

Witters—"Yes its bad, but its short."

Ruth Davis: "Pastureized milk means that the cow that produced the milk had been kept in a pasture and that the water mixed with the milk was taken from a brook which ran thru the same pasture."

Helen—"What race of people have the shortest courtships?"

Lucile—"I don't know, which one?"

Helen—"The Irish, because they no sooner 'meet' than they 'mate'."

Estelle (Translating German) "But he has sent the monk after the knight before."

Mr. Chace in algebra, "In a quadratic equation you are getting along nicely when you get a zero."

We, the girls of the Manual Training High School, in order to form a more perfect toilet, establish pompadours, in sure color in our cheeks, provide for the necessary ornaments, promote the general appearance and secure the blessings of beauty to ourselves and our gentlemen friends, do beg and implore Mrs. Lavine to return our mirrors. (Signed) The Fair Sex.

Doctor (in answer to the bell) "Who's there?"

Irishman—"Misther Car."

Doctor—"Take the next."

A FRESHMAN went into a meat-shop the other day and said to the proprietor:—

"How much is three pounds of sausage at sixty cents a pound, four pounds of butter at thirty cents a pound, five pounds of rolled corn beef at forty cents a pound?"

Proprietor:—"That will be five dollars. Do you want to take them with you?"

Freshman:—"No, dat's my 'rithmetic lesson fer tomorrow."



"Manual-Central Track Meet."

A Sad Story in Verse.

Waiting maid,
Crowded hall,
Soon he came—
Then the squall.
Little pin
O'er his heart,
With it now
Boy must part.
Smiles spread o'er
Each young face,
Then they part—
Haughty face.
Now a frown
On each face:
Tears come then—
Love so base!

A Word of Warning.

Mr. Holiday,—“Why does the moon never get rich?”
Mann,—“Because it always spends its quarters getting full.”

In Junior Meeting.

Lohmann—“Mr. President, I rise on a point of order.”
Evans—“Sit down on that point.”

In “Poly Con.”

Shumway—“I'm going to take the penal institutions for my topic.”
Mr. Davis—“You won't have time to go through the jail will you?”
Shumway—“I've been there already.”



Mr. Davis (explaining fire-drill):
“Girls, if your partners are boys be sure you get them out safely—never mind about yourselves. If you have a pocket-book take it—I haven't any.”

Miss Elston (reading aloud) “The weary sentinel leaned on his gun and stole a few minutes sleep.”

Jane—“I bet I know where he stole it from.”

Miss Elston—“Where?”

Jane—“From his “nap” sack.”

Miss Fisher's extemporaneous poetry:
“Giggle, giggle, little Grace,
Every time I see your face.”

Willie (at his lessons)—“Say, Pa, what is a fortification?”

Pa—“A fortification, my son, is a large fort.”

Willie—“Then a ratification is a large rat.”

A Drawing Teacher's suggestion: “If you can't afford to throw your little pieces of charcoal away, eat them, they are good for indigestion.”

Miss Jenkins, “I am going to be an angel when I die.”

Julius, “Are you going to be an English teacher when you are an angel?”

Q. E. D. Nit.

MANUAL PRIMER.

THE OFFICE.

What is that room, where so many pupils are going at noon time? That is the office. What makes the pupil look so frightened? He has been interviewing the principal and the clerk. It is enough to frighten even the Senior to be called to the office. For the principal talks to the pupil about his bad habits and his failures. Whenever anyone is naughty he goes to the office and when he comes out he feels like somebody had walked on him.

THE FRESHMAN.

See the small child! He is crying. Has some one hurt him? No he is only a Freshman and all the pupils frighten him. Who is holding him by the hand? That is his nurse and she is afraid the small child can not take care of himself. But the wise Sophomore will take care of him and not let any one hurt him.

THE SENIOR.

Hush! Do you hear footsteps approaching? Somebody is evidently coming. Ah! He stops by the poor frightened little Freshman. He walks with a ponderous step, because forsooth, he has many points and much knowledge in his head. He thinks that every one should bow down to him, because he is old and dignified.

THE BOYS' GLEE CLUB.

What a deafening noise there comes from the basement! Has the boiler in the engine room broken? No, do not be alarmed, that is the Boy's Glee club singing. They are practicing, "When all my trials and troubles are o'er" for Commencement. Now they have stopped. If you hurry, you can get past before they begin again.

THE CUSTODIAN.

Who is that standing at the entrance? That is a custodian. What does he do? He will not let the girls or boys get out of the building after the bell has rung. The pupil says he was detained by a teacher but the custodian is wise and

knows that the pupil is a prevaricator. They also break locks for the girls lockers when the girls lose their keys and can not find a mirror anywhere else.

THE LIBRARY.

Be quiet and do not whisper! This is the library. It is a room where there are many books, for reference. No one must come into the library unless he has something to look up. If anyone whispers or giggles, the librarian will send him to the study hall. Why is the library full on Fridays? Because the societies and glee clubs meet then and the members have many things to study.

THE NAUTILUS OFFICE.

Why are so many freshmen standing by the south stair? They think that funny thing there is a cage for some animals. But the Junior tells them that is the Nautilus office and the occupants are the editors of the Nautilus. He says that they can feed them because, sometimes they do not have any lunch and if they get up very late, they do not have time to eat their breakfast. The editors like fudge and peanuts. The freshmen need not be afraid. They will not be bitten.

THE LOCAL BOX.

Some people think the little box, with the slot in it, is a mail box. But it is not. That is the LOCAL BOX, but evidently the students do not know it. The local box is a place in which to put *funny* jokes and slams on the pupils; but the students do not put locals in there. They put apple cores and powder rags and things that the editors do not want.

SOCIETY MEMBERS.

Who are these celebrities approaching? These are society members. Everybody thinks they have exaggerated ego, but they have not. It is only a small attack of the swelled head. They are harmless and very nice on nearer acquaintance. Some of them dislike each other very much. Sometimes they have cases and act very silly. But that is seldom.

The Printers' Angel or the Perfect Type.

Sweet Ermytrude Jones has two beautiful eyes,
Their color is azure, the same as the skies.

Her Eyes: $\smile \smile$

Pure Grecian, her nose, and molded with grace,
And never was nose more in keeping with face.

Her Nose: $>$

Her lips are so soft, and as rich as red tulips,
And the breath they emit has the scent of mint juleps.

Her Lips: $\sim\sim$

Her teeth are as pearls, and I take them to be just as good
As the best that comes out of the sea.

Her Teeth: WW


Like the bright burnished gold of Aurora her hair is,
And twiddles in curls like a Fay's or a Fairy's.

Her Hair: SSSS

Then her wee shelly ears—Oh! how graceful each turning—
But hush, or I set these appendages burning.

Her Ears: ()

Oh, could I the wealth of the Indies command,
I'd forfeit it all for sweet Ermytrude's hand.

Her Hand: 

Stung.

She—"I suppose if a pretty girl came along you wouldn't care anything about me any more."

He—"Oh, nonsense, Kate, what do I care for good looks; you suit me all right."

Agnes Meyer: (speaking of etching a copper plate)—"I ate the whole copper design but it didn't go down very well."

Brown—"He told me something I didn't know."

Farnum—"How did that happen?"

Max Pierce—"When ignorance is bliss 'tis—" pausing unable to finish.

Miss Van Meter—"How blissful Max must be."

Mr. Page—"Did you ever see, a streak of lightning with a jag on it?"

Freshman in Ancient History—"Caesar went over into Italy and conquered all the wheat fields."

Mr. Davis—"What is the meaning of the word Minnehaha?"

Paul—"Laughing water."

Charlie—"What is the word for weeping water?"

Paul—"Minneboo-hoo."

Mr. Ellis (to Sperry, who is working on his tongs) "You next work down your jaws."

"Republican, a sinner often mentioned in the Bible."

Walter in English "For if thou diest, my love, I know not where to go."

Miss Van Metre. "That's good, Walter, it would be well to remember it. It might come handy."

Loy Shrader, "I find it hard to express my thoughts."

Chick—"The express companies do not carry small packages."

Mary O.—"Say is Harold Wheelock Don's sister?"

Miss Murphy (giving a talk in drawing and speaking of the liberties American girls have in comparison with Oriental girls)—"Now, *Paul Baker* could go to school there, but the rest of you girls couldn't."

Walk, Walk, Walk,
Up and down in the Halls
O See

And I wish that I might
Know the reason,
Of this wasted energy.
O well for the track team boy
O well for the baseball lad
For no one would dare to say him nay.
But why should charming girls
March unceasingly thru the hall?
Talk! Talk! Talk!
It goes with the walking, I see,
For they seem to think it a shame to
lose

This grand opportunity.

This will be interesting to those in Machine Shop.

Earl Ayer walked up to the tool room and asked for a parting tool. When handed a comb, he did not comprehend the joke till two days later.

Florence (looking at her O'ita pin) "Mine isn't very pretty, but I got it in hopes that I wouldn't have to wear it."

No difference between a grass-hopper and a grass widow; they both *jump* at first chance.

Walter May when asked why he did not run in the Senior election said he might have to run for the door.

Mr. Burnet (Explaining passage in Virgil) "Yes, this is Purgatory."

"Yea verily, Doctor, we go to Hades and back every day—"

Mr. Cowan—"Marcy, take the floor."

Farnum (sotto voce)—"Be sure to bring it back."

Fillmore—"I'll take two tickets to the contest."

Mr. Cowan—"You better take three."

Fillmore—"No, we don't need a chaperon."

King—"I *think* I'll take two tickets to the contest, I'll tell you later."

Mary—"Why, Grace, how did you make your eyebrows grow so thick?"

Grace—"Oh, be still; don't talk so loud. Don't you know I wear a rat under them?"

Why is the Glee Club compared with a fish?

Because its members do nothing but practice the scales (fishy things).

"My love" said he, "is like the ocean"

The maiden made answer quick,

"I am afraid 'tis true" said she,

"For they both make me sick."

Willrose—"I just couldn't eat the hole of that doughnut."



A Bachelor's Idea.

Do not marry a blonde,
 For after you're wedded,
 You'll have to acknowledge
 Your wife is "light-headed."
 A brunette you must shun,
 For its certainly true
 Nature will never allow her
 To be "fair" to you.
 A girl that is fleshy
 Don't marry in haste,
 For soon you'll discover
 She's given to "waste."
 Beware that she hasn't
 A mouth like a rose
 For a rose that once opens
 Never will close.
 And a "peach of a girl,"
 It's well to observe
 You'll find it not easy
 To keep or "preserve."
 Oh, beware of the girl
 Of all faults bereft
 For if always "right,"
 You're sure to get "left."
 Don't be caught by a voice
 That is silver or gold,
 Or its sixteen or one
 That you will be "sold."

Mrs. Case—"Who was Pomona's
 bridegroom?"

Robt. D.—"Her husband."

Miss Steele, in Anc. History,—

"Alaric said, 'The thicker the grass,
 the easier to mow it.'"

Bright Pupil—"I guess Alaric didn't
 cut much grass, then."

Miss Gallagher. "How is it you pro-
 nounce your name?"

Student—"Busekruse."

Miss G.—"Well, that's easy, but you
 will have to change it some day."

Senior—"What happens when you
 lose a pin?"

Freshie—"I don't know."

Senior—"You lose your head and can't
 see the point."

Sophie—"What happens when you
 find a pin then?"

Senior—"Good luck."

Sophie—"No, you get a head a point."

Willa: (Drawing a block head) "I'll
 be on my ear soon, is my neck straight?"

Miss Stearns—"I think I should not be
 there when I got off, if I ever rode on
 one of those loop-the-loop-cars."

Miss Gilday (Looking for a copy of
 Julius Caesar.) "I don't know where
 Caesar went to—do you?"

Era—"When is a hat not a hat?"

Bly—"When it is a 'Merry Widow.'"

1st Mother—(Receiving a letter from
 son at college.) "My son's letters send
 me to the dictionary."

2nd Mother, "My son's don't; they
 send me to the bank."

Mr. Cowan—"There is an art in
 using the lips. You should develope it."

Mr. Holliday, "What is a joint? I
 refer to those in rocks and not the K.
 C. K. variety."

Schwab—"Some girls are so easy to
 catch, that they're just like an epidemic."

The Freshman who burst into tears
 has been put together again.

"What's that?" said a fond father to
 his son who was wearing a Manual
 sleeve band. "Only a school 'M' blem",
 replied the lad.

Junior in test: "That question must
 be a mistake, I can't tell how much that
 fish weighs if it hasn't any scales."

A girl is horribly fond of onions and
passionately fond of boys.

Every little dog hath a way
 That is why Harry Hathaway.

The farmer drills for water but the
 school boy drills for fire.

Mr. Cowan—"Baseball players aren't
 usually tea-room men."

Evans—"No, they're ball-room men."

Mr. Phillips—"A fool never changes
 his mind. I am going to change mine."

Edward Luce says that every time he
 sees a girl with lots of waves in her hair
 it makes him seasick.

AND IT CAME TO PASS IN 1950 THAT IT WAS THUS.

Royal Fillmore—Traveling with Barnum and Bailey's circus as the world renowned fat-man. He is making a collection of precious stones, the Ruby being his favorite.



-BAKER-

Ross Parker—A prosperous merchant in Hick, Minnesota. A deacon and pillar of the Baptist church.

Harold King—Dean of the theological seminary, endowed by his friend, John D. Rockefeller. He is greatly beloved on account of his piety and kindness.



-BAKER-

Myron Witters—He is canvassing for ladies toilet articles. The firm counts him their best agent, on account of his fluency and persistence.

Henry Lohmann—An eminent musician, Director of Lohmann's orchestra and composer of Lohmann's Sonata.

Loy Shrader—Barker for a wild west show. It is said that since his connection with the show, they have had greater crowds than ever before.

Paul Dodd—A noted physicist—He has made an immense fortune from the sale of his text book on Physics and Chemistry.

Rolland Montague—A crusty old

Bachelor. He was disappointed in love and has become somewhat ruthless. He founded a home for destitute spinsters.

Henry Ackerman—A prune peddler. Nothing definite can be learned about him, as he is very erratic.

Bret. Boright—A politician—Ran for Mayor of his town, but was defeated by socialists. He is to be tried for bribing a street car conductor to let him ride free.

Estelle Berkowitz—It is commonly supposed that she is the "Chaperon of the Kansas City Star. She is the author of the renowned "Berkowitz Book on Etiquette."

Mabel Thornton—Cook in a large downtown boarding house. At the earnest solicitation of her friends, she took the position of "President of the Cook-ladies Union."

Donald Wheelock—End man in a minstrel show, cracking the unpublished jokes that he took from the local box, the points of which are just being discovered by the aid of a powerful microscope. He ekes out an existence by selling, during the intermission, curios taken from this box. He is a roaring success in his line.



-BAKER-

Lewis Buxton, } They have grown
Leota McFarlin } fabulously wealthy, conducting a dairy farm, which supplies the city of Dodson. Leota raises chickens for a passtime. Their mansion on the out skirts of the city is the center of Dodson's fashionable society.

Lucile Phillips—Married a wealthy old widower she gives most of her time

to society, being much in demand as a chaperon.

Mary Louise Topping—She is still living in single blessedness and is proprietor of a fashionable Millinery store in Harlem.



Vera Banks—She was very happily married and spends most of her time in travelling about the country, speaking on Woman's Suffrage. It is rumored that she is to be the next national candidate for the presidency.

She had asked me,
Would I help her
With her Latin,
'Twas so hard;
Would I help her
Conjugate that
Mean irregular
Old word
Disco. She just
Kept forgetting
The subjunctive
All the while
Pretty lips so
Near, so tempting
Tended strongly
To beguile.
Thought I'd teach her
By example
Didicessem?
I should smile."

Hanna—"First our gas meter had gas-trick fever, but now I believe it has galloping consumption."

"And Solomon wasn't in it."
Mr. Cowan—"What is the first step in articulation?"
Riley—"Open the mouth."

Agnes Meyer—A world famed clairvoyant and spirit medium. Her palm readings and futures are guaranteed never to fail. She was called to Washington to tell the President whether he should have a second term.

Ruth McGurk—Immediately after her graduation, she had a long spell of brain fever, which left her a raving maniac. She is now in a state institution for the insane, where she spends her time repeating and laughing hysterically at the jokes which appeared in the Nautilus of '07 and '08. issue.



Mabel—"The fruit trees are all loaded for 'bear'."

A man may have one foot in the grave and still do a lot of kicking.

Juliet—"Mabel, did you go to the picnic with Bob?"

Mabel—"Yes, of course."

Mamie (to pup on a chair) "Get down' Loy."

Leota—"Helen and I have the same things for Easter."

Marley—"Then I'll know what you have."

Harold Wheelock (translating laboriously in German) "And by degrees—"

Miss Fisher—"Well, you sit down by degrees."

Marley—"I'm not afraid of any girl."

Mr. Cowan—"Well, let us hope you never will be."

Pauline Fort came into Senior meeting just in time to vote on the motion to adjourn.

CAUSE



B.F.K.

E.D.



A.C.G.



R.A.D.



J.A.C.



C.F.G.



H.M.P.

EFFECT

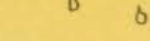




I flunked



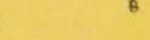
Same here



Ditto



Likewise



P.F. 05

Manual's A. B. C's.

E stands for Excellent, and means a good deal;

Means you work your dear block off, then over you keel.

G stands for Good—just a notch below E;

It comes from the big-head after getting that E.

M's for Mediocre, or medium for plain;

There's no use of working, for what is the gain?

P denotes Poor, translated means Punk;

Work harder, dear pupil, to save you this flunk.

F means you fail, that you've flunked in your work;

You're ruined, a dark fate before thee doth lurk.

Somebody heard Florence tell John that he would have to get the preacher. We knew it was leap year, but—oh, my!

Velma—"Willrose, if you gave a boy a lady-finger like that, he would never ask for your hand."

On the day of the O'ita play, Paul Baker was absent.

Miss Steele—"Does Paul belong to the O'itas too?"

Blake—"Pretty near."

Miss Berger—"I had my room papered in pink and I look like a watermelon seed in it."

Julius Koenigsdorf—(Speaking of a committee to buy flowers for the oratorical contest)—"Me, him, and two other girls."

Florence—(In American History)—"Well, you see, Henry Clay was left over from the Civil War."

Paul Dodd (speaking of class picture)—"This one costs the most and we get it for the same money."

The Roaster Dance must be connected in some way with the Barn Dance.

Can a lover be called a suitor when he does not suit her?

The Philosophic Remarks of a Languid Englishman.

This world's a hollow bubble, Don't you know?

Just a piece of painted trouble, Don't you know?

We come on earth to cry,
We grow older and we sigh.

Older still and then we die, Don't you know?

We worry through each day, Don't you know?

In a kind of sort of way, Don't you know?

We are hungry—we are fed,
Some few things are done and said.

We are tired—we go to bed. Don't you know?

It's all an infernal mix, Don't you know?

Business, love and politics, Don't you know?

Clubs and parties, cliques and sets,
Fashions, follies, cigarettes.

Enough to turn a chappies' wits, Don't you know?

Business—oh that's beastly, Don't you know?

Some things lost or something made, Don't you know?

And we worry and we mope,
And we hang our highest hopes.

On the price, perhaps of soap, Don't you know?

Love—O yes, you meet some girl, Don't you know?

And you get in such a whirl, Don't you know?

That you kneel down on the floor,
And you plead and you implore.

And it's all a beastly bore, Don't you know?

Politics—just a lark, Don't you know?

Just a nightmare in the dark, Don't you know?

We perspire all day and night,
And after all the fright.

Why—perchance the wrong man's right, Don't you know?

So there's really nothing in it, Don't you know?

We live for just a minute, Don't you know?

For when we've seen and felt,
Eat and drunken, heard and smelt.

Why—all the cards are dealt, Don't you know? —J. L.

A Rule Without Exception.

The deportment of a pupil varies inversely as the distance from the teacher's desk.

Harold Wheelock—"What shall I do to preserve my voice?"

Roland M.—"Why, sing into a phonograph, of course."

Miss Van Metre (as Mr. Raney enters the room):—"Now pupils notice this in particular,"—Exit Raney.

No matter how hungry a horse is, he cannot eat a bit."

Miss Sublette (after having a trial 40 minutes with a stupid class):—"I believe that you have heard that fish is a good brain food. Some of you should eat a whale steak."



Maid one

M is for Montague, a miler of fame,
He's fast on the track, though Ruth
R. says he's tame.

T is for Thilenius, an orator bold,
No, girls, we can't sell him, he's
already sold.

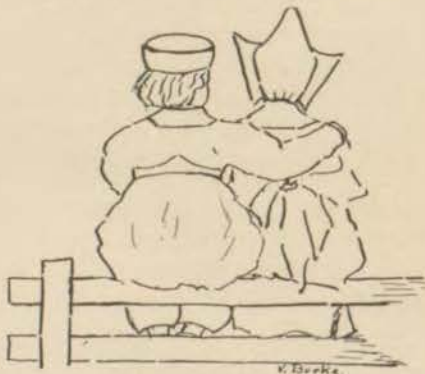
H recalls Hammil—that lean lanky
chap;
His shadow's real sore, but he cares
not a rap.

S is for Sperry, who blondines his
hair;
The girls all adore him because he's
so fair.

Mr. Davis, "The Chinese are very
Pacific."

Velma, "The Japanese ought to be.
They are surrounded by it."

William—"Sagiumtum is an alley
(ally) of Rome."



MAID WON

To make Schwab short, touch him for
a five spot.

"Manual, Manual, you're the school
we love so well,
Victory's the word to spell with
Manual.

Wisest maids, strongest men, know
you'll play to win again;
Victory we will cheer then for Man-
ual."

"Merry Widow" hats;
Sasy little Manual Girls,
Six and thirty inches wide—
Look like front door mats.

Francis Bates in Elocutioa—"I
can't get those two women, Mr.
Cowan."

Mr. Cowan—"You only need one of
them."

Think of the money he had lent!
Think of the money he had spent.
His heart was sad as he homeward
went;
He was not broke, but merely bent.



Made one.

Mr. Kiser, "People used to boast of
alabaster necks but now its rubber."

She—"I don't see how the freshmen
can keep their little caps on their heads."
He—Vacuum pressure."

Little drops of learning,
Little grains of spunk,
Help the mighty Senior
To pass without a flunk.

John (at door of locker room)—"Say,
King, what is that smacking noise I
hear in there?"

King—"Oh! That's only Mr. Dodd
putting on his rubbers."

Teacher (to Junior class).—You are
old enough now to read the papers."



BUSINESS



Henry Lohmann



Myron Wilters.



Lou Shrader.



Lewis Buxton.

BUSINESS REPORT.

The business management of The Nautilus wishes to thank its advertisers for the hearty support they have given us throughout the year. We wish also to thank those pupils who have obtained "ads" for us. We hope that our successors will have the same loyal support that you have given us.

To give some idea of the financial status of The Nautilus, we will furnish a brief report of our expenditures. Thanks to last year's staff, we started out with a balance of \$113.27 in the bank. The total cost of our first issue, the November, was \$181.35. Then the bank failed, leaving us \$181.35 in debt. We had about \$70 in cash not yet deposited and about \$80 in uncollected "ads." Through the active efforts of our loyal principal, donations were obtained to the amount of \$56, and also a loan of \$25. With this we paid our debts. The January issue

was paid for almost entirely by advertisements at a cost of \$192.60. By the time the "Easter" issue came out, the bank had reopened and we found ourselves rich. The Easter issue cost \$215.50 and \$5.70 was paid for envelopes. This brings us up to date with an expenditure of \$595.15. This issue, the annual, will cost \$600, making a total for the year of \$1,195.15. We will leave about \$200 for next year's staff.

In regard to our advertisers, few persons realize the importance of the advertisements as a factor in our paper. We *must* have *advertisers*; for without them a paper cannot exist. *Read* the "ads." *Read* them carefully. They are full of interesting notes and, when you have occasion, patronize those who have made it possible for us to issue a High School paper which has no superior.



OUR
SOCIETIES
19 AND 08



LIBRARY



Agnar J. Meyer



MANUAL SOCIETY OF DEBATE.



Organized December 1898
 Colors—Crimson and Old Gold

OFFICERS.

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 Vice-President. John Arthur
 Secretary. Harold King
 Treasurer. Robert Mann
 Librarian. Roy Hanna
 Reporter. Royal Fillmore
 Sergeant-at-Arms. Ross Parker
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 George Crawford
 Paul John Dodd
 Russell Dudley

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 Donald Fitch
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 Harold King

Robert Mann
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 St. Clair Mendenhall
 Lewis Nofsinger
 Ross Parker
 Arthur Perry
 Ralph Powell

Vernon Penny
 Paul Rauch
 James Schwab
 Donald Wheelock
 Harold Wheelock
 Harold Wing
 Edward C. Wright, Jr



ION SOCIETY.



Organized November 1901
 Colors—Olive Green and Crimson

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 Critic. Robert C. Marley
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H. Loy Shrader	Arthur Eadie
George Sperry	Stanley Wingert
Frank Shields	Don Wilkerson
Emmett Schooley	Lon Starling
William Simms	Hal Surface
Peake Vincil	



THE A. L. S.



Organized November 1901
 Colors—Pink and Green

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 Critic. Martha Nelson
 Sergeant-at-Arms. Frank Blauw
 Sponsor. Mr. P. B. Burnet

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Henry Ackerman	Edward Luce
Frank Blauw	John Neal
Bret Boright	Fred Nelson
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Myron Witters	Zora Evans
Amos Wood	Bertie Hawes
Ethel Jones	Lucile Hutchison
Helen Harrison	Harrie Keneister
Vera Banks	Martha Nelson
Ethel Brotemarkle	Irene Neal
Zelma Burke	Emid Smith



*THIS PHOTO
BY
J. S. REYNOLDS*

O'ITA SOCIETY.



THE O'ITA SOCIETY

Organized March 1902
Colors—Old Rose and Silver

OFFICERS.

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Secretary. Helen Craig
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Joatamon. Aileen Leavitt
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Willrose A. Carson

Nina Coyle

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Kathleen Milburn

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Lela Stearns

Edna Dunn

Pauline Fort

Marie Hedrick

Eleanor Keith

Augusta Kleeman

Agnes I. Meyer

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Edna Ross

Ruth Reinhardt

Mabel Thorton

Mary Louise Topping

Irene Preston.

Ruth Vanlandingham

Grace Heardon



THE D. S. V.



Organized 1905
 Colors—Black, White and Red

BEAMTEN.

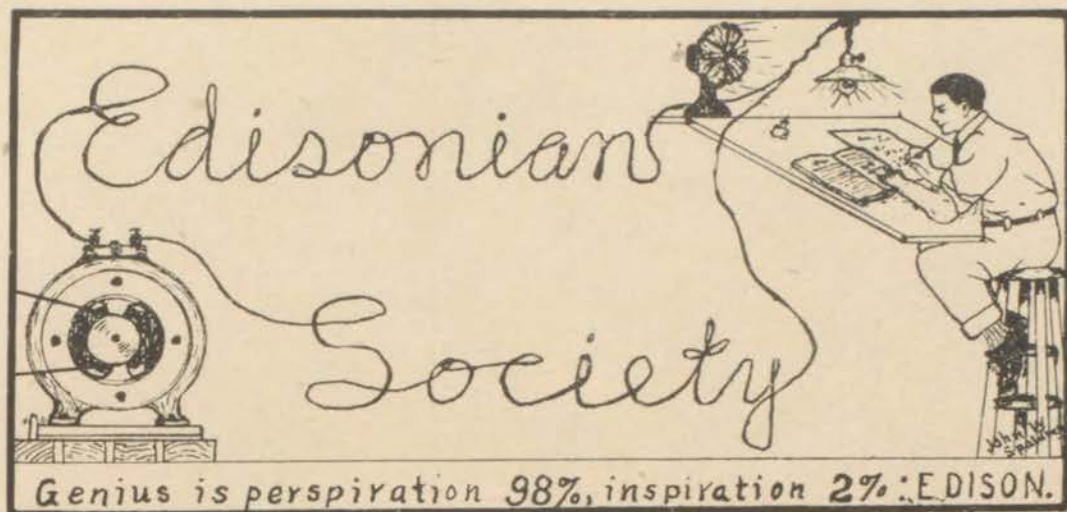
Praesident.....Guryne Raymond
 Vize-Praesidentin.....Helen Loeffler
 Sekretaerin.....Leora Brink
 Schatzmeister.....Walter Berkowitz
 Kritiker.....Eldon Henry
 Tursteher.....Egmont Betz
 Sponsor.....Frl. von Unwerth

MEMBERS.

Augusta Busekrus	Gladys Gaylord
Leora Brink	Lucile Kellerman
Estelle Berkowitz	Marie Lampe
Mary Burke	Ethel Lewis
Irene Farrar	Helen Loeffler
Anna Friedman	Marie Munz
Bertha Fellbeck	Sarah Marcuvitz
Lucy Norton	George Bowles
Helen Pursely	Raymond Fritton
Ethel Riley	Fred Hammil
Dorothy Stevens	Eldon Henry
Pearl Zacharias	Henry Lohmann
Egmont Betz	Benjamin Messing
Walter Berkowitz	Guryne Raymond
Richard Summers	



EDISONIAN SOCIETY.



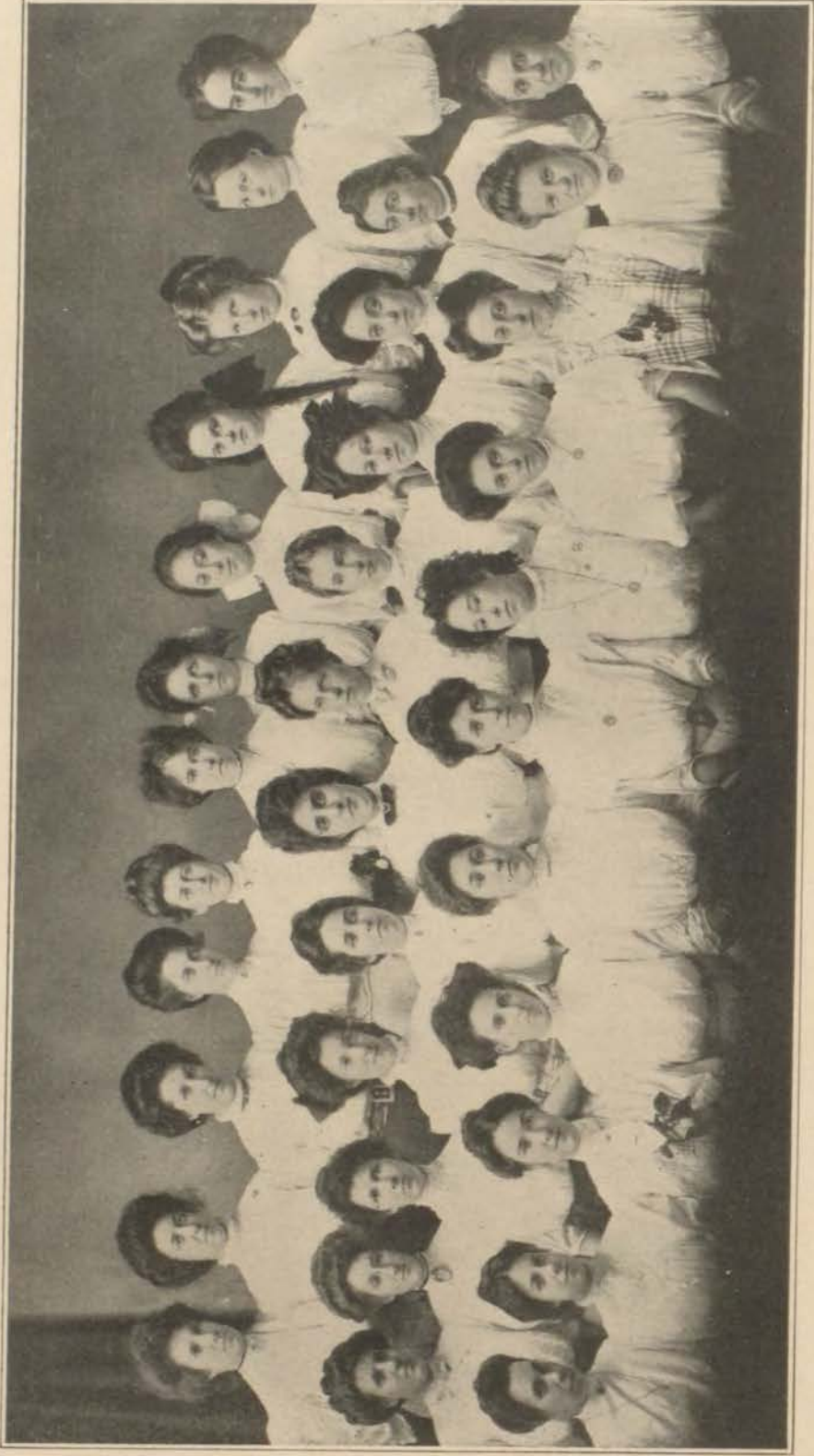
Organized 1906
 Colors—Gold and Purple

OFFICERS.

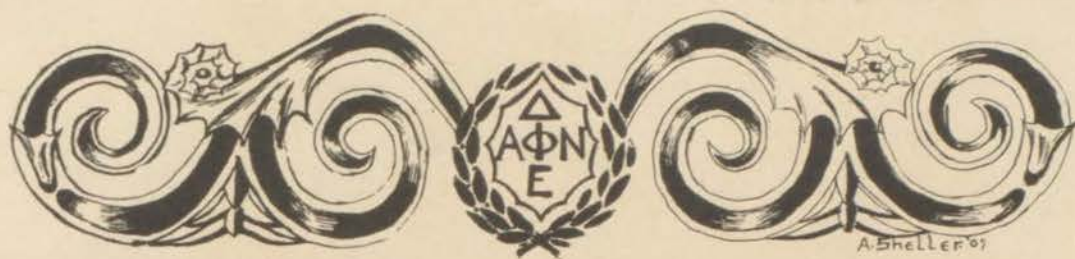
President. Francis Riley
 Vice-President. Paul Byrd
 Sec. and Treas. Arthur Atkinson
 Critic. Oliver Walker
 Sargt.-at-Arms. Cecil Allen
 Sponsors. { Mr. H. M. Page
 { Mr. C. F. Gustafson

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Cecil Allen	John Garrett
Harold Allen	Albert Grant
Arthur Atkinson	Ralph Hallet
Walter Blakeslee	Joseph Liersch
Dean Bush	Thomas Moffett
Paul Byrd	Paul Raymond
David Caleb	Donald Ried
Francis Riley	Foster Summers
Ray Robinson	Ambrose Langworthy
Chester Rowland	Cloy Shambaugh
Emmet Russell	Harlan Thompson
Albert Segur	Oliver Walker
Clifford Seibel	Fred Wirtman
Gale Shryock	Dennis Steele
John Spalding	Roy Steele



DAPHNE SOCIETY.



Organized 1907
 Colors—White and Purple

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 Treasurer. Elizabeth Ziegler
 Cor. Secretary. Maud McLevy
 Secretary. Ada Fulton
 Sergeant-at-Arms. Annette Robinson
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MEMBERS.

Virginia Brainerd	Era Darnell
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Frances Carey	Maude Himoe
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Winifred McCarty	Jessie Stephenson
Maud McLevy	Alma Stowers
Winifred Poindexter	Lessie Todd
Lucy Risley	Louise Worthington
Annette Robinson	Blanche Wilhelm
Edna Rose	Augusta Walsh
Elizabeth Ziegler	



GIRLS ATHLETIC ASSOCIATION.



GIRLS' ATHLETIC ASSOCIATION

Organized 1907
Colors—White and Gold

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Vice-President. Bly Floyd
Secretary. Ellen Peters
Treasurer. Hildur Rudin
Sergeant-at-Arms. Bessie Lukin
Business Manager. Gladys Dancy
Sponsor. Miss Hoernig

MEMBERS.

Pearl Anderson	Bly Floyd
Hallie Carter	Helen Horsfall
Bertha Dunham	Bessie Lukin
Olive Yost	Clara McNeill
Gladys Dancy	Henrietta Ortmann
Jennie Elliott	Ethel Madick
Lucile Peiser	Hildur Rudin
Hazel Purnell	Helen Snow
Ellen Peters	Hettie Shumway
Beulah Ritter	Edythe Snyder
Pearl Roemer	Imogene Wilson



BOYS GLEE CLUB.



THE GLEE CLUB

M. E. Simpson

OFFICERS.

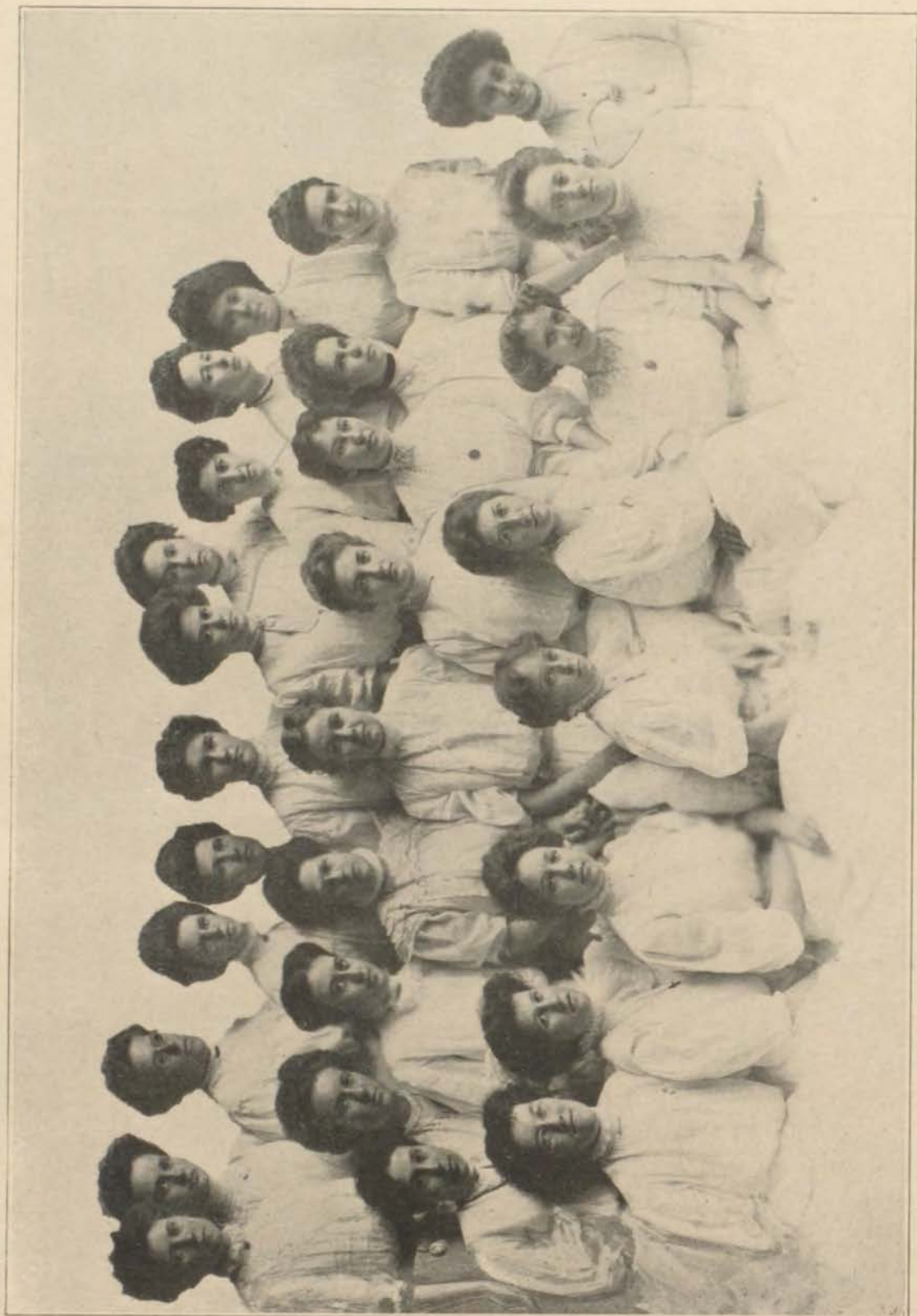
President. Robert Marley
 Vice-President. Henry Ackerman
 Secretary. Henry Lohmann
 Treasurer. Donald Wheelock
 Librarian. Fred Breisch
 Serg't at Arms. Gratz Shelby

MEMBERS.

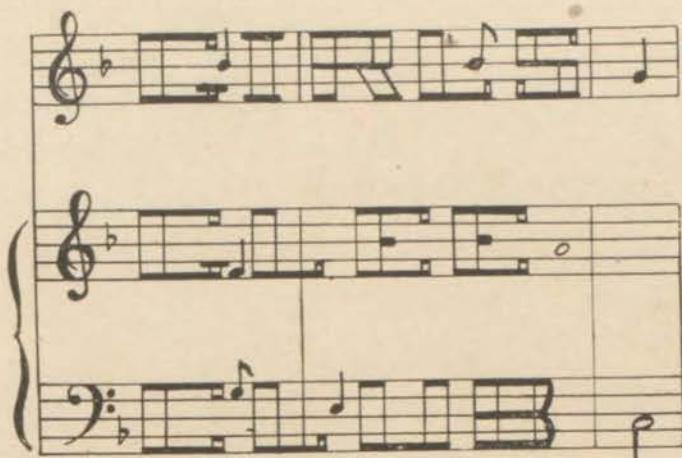
Henry Ackerman
 Earl Ayer
 Chester Bell
 Guy Bingham
 Frank Blaum
 Thomas Bancroft
 Lewis Buxton
 Denver Davidson
 Ottis Fann
 Royal Fillmore
 Gray Gorton
 John Franciscus

Ralph Perry
 Paul Rauch
 Junius Rawlings
 Howard Ridgway
 Alexander Rieder
 Francis Riley
 Ray Robinson
 Temple Robinson
 Gratz Shelby
 Loy Shrader
 Roy Shumway
 Carl Smithy
 Myron Witters
 Amos Wood

Warren Heath
 Oscar Hofflander
 Alanson Kidd
 Julius Koenigsdorf
 Ralph Lichty
 Henry Lohmann
 Robert Marley
 Joseph Mead
 Eugene Miller
 Dave Moore
 Fred Nelson
 St. Clair Mendenhall
 George Speery
 Edgar Stern
 Richard Steinhort
 Lloyd Taylor
 Frank Thayer
 John Walker
 Frank Wells
 John Weston
 Donald Wheelock
 Arthur Weiberg
 Will Weiberg
 Harold Wheelock
 Herbert Ziegler



GIRLS GLEE CLUB.



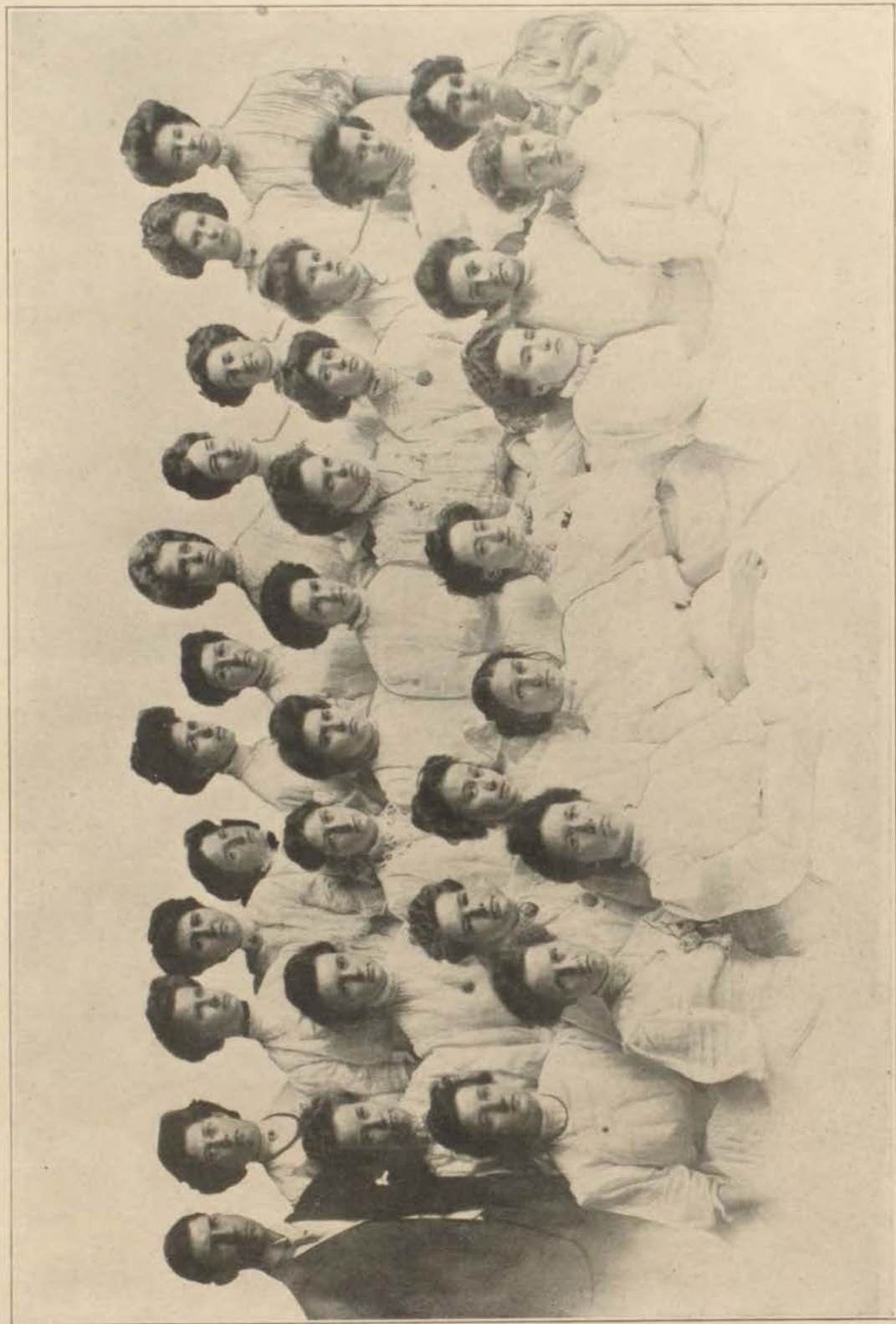
OFFICERS.

President Reba Grant
 Vice-President Eva Potts
 Secretary Gladys Baldwin
 Treasurer Mabel Lee
 Librarian Grace Barber
 Accompanist Grace Allshire
 Director Mr. Glenn H. Woods

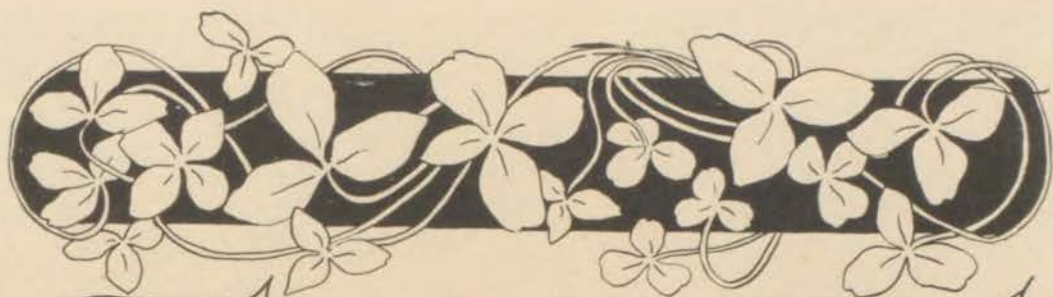
MEMBERS.

Anna Arthur
 Lettie Ball
 Gladys Baldwin
 Helen Barnes
 Grace Barber
 Hazel Berky
 Bessie Bigler
 Hazel Cantomwine
 Marianna Chase
 Cresence Clay
 Claire Crouch
 Katharine Donohue
 Katharine Darnall
 Erma Denny
 Lorraine Herrim
 Augusta Humrock
 Allie Hulse
 Carrie Hulse
 Blanche Landenberge
 Mabel Lee
 Angela Leonard
 Vernese Link
 Helen Lord
 Mary Maloney
 Marjorie Morton
 Lillian Meuller
 Marie Murphy
 Lillian Nichoalds
 Jessie Whitley

Ina Donnelly
 Vida Dozier
 Lillian Edlund
 Margaret Eichenaner
 Lora Farber
 Bertha Funk
 Leland Glover
 Ruth Goodrich
 Reba Grant
 Katharine Graham
 Cora Belle Green
 Edna Gussman
 Rachel Hartley
 Ariel Herring
 Gladys Orem
 Eva Potts
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 Elizabeth Schwaesdall
 Teresa Slocumb
 Lillian Skinner
 Alma Stone
 Bee Sperry
 Ruth Sweeney
 Nina Timmons
 Ethel Trumbo
 Bessie Tippet
 Fannie Veash
 Ethel Weber
 Margie Whitley

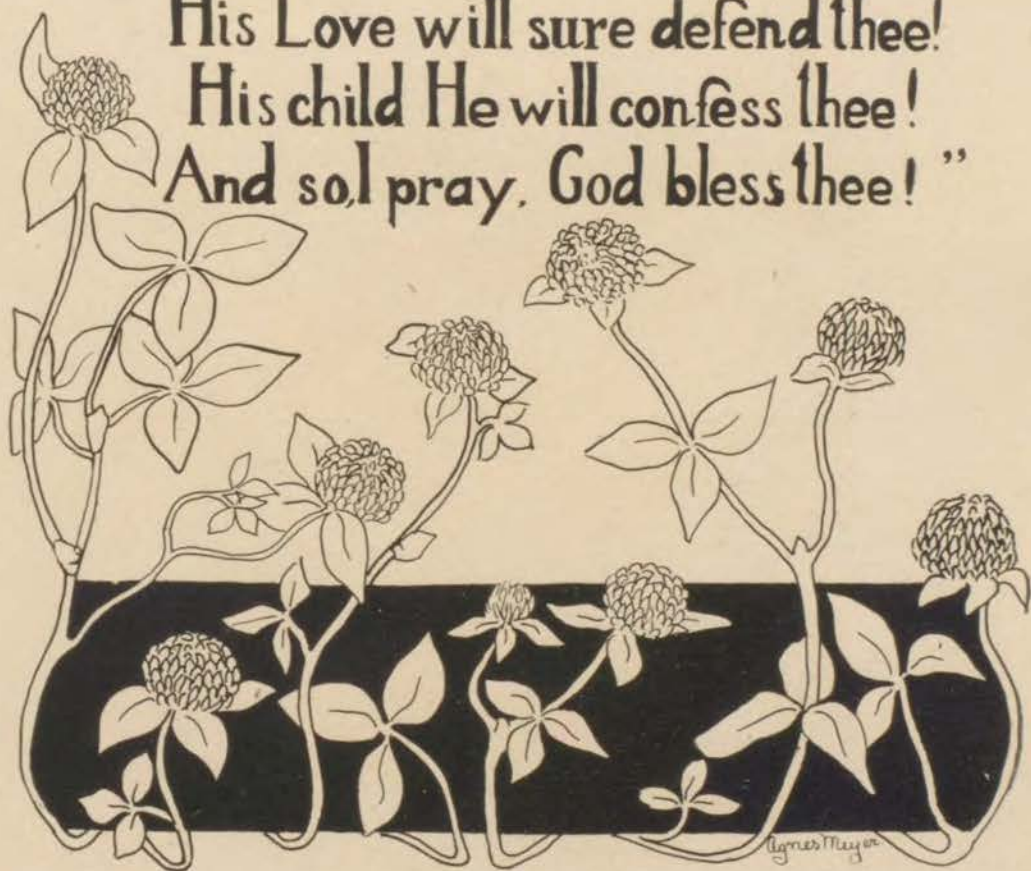


GIRLS GLEE CLUB.



SENIORS

“To Him I do commend thee..
His Love will sure defend thee!
His child He will confess thee!
And so I pray, God bless thee!”





JOHN GARRETT
TREASURER



ROBERT MANN
SERGEANT-AT-ARMS



MADDEL CLEMENT
SECRETARY



MYROM WITTERS
PRESIDENT



ELEANOR KEITH
VICE-PRESIDENT



GEORGE BOWLES
REPORTER



ESTELLE BERANITZ
GIFTOARIAN

SENIOR CLASS OF '08.

MYRON WITTERS.

The four years which are required to finish our course at Manual are drawing to a close. Spring has bedecked herself in her most beautiful colors to welcome us in our triumph. Like the sun which takes its course majestically across the heavens and seems to pause a moment before it sinks from view; so the class of '08, after completing its course, now stands forth in all the glories of its achievements. There have been clouds, but now, as in a sunset, we shine forth in all our varying tints of individuality. A few moments more and our sun will have set, leaving only the after-glow, not, however for oblivion, but to rise again to light new worlds as yet to us unknown. Such is the poetical or formal significance of the terms *senior* and *commencement*; but in reality they mean something very different. They mean sitting for hours on the stage with a stiff shirt and a wilting collar, wielding a dainty fan for his fair partner's sake; listening to one's fellow geniuses, or geni, solve the great problems of state, or those of happy living; receiving a store of valuable advice; and finally receiving the coveted "sheepskins," while fond, doting parents look proudly on. The proof of our greatness will be tested by Thomas A. Edison's proverb that "Genius is perspiration and not inspiration."

The virtues of the class would fill volumes. We were never known to loiter in the halls or to slide down the bannisters. We seldom used the elevator and never wrote our own excuses until

after we had taken forging. Some of us have been known to get "E" on all our cards (in department). We have ever been kind to our teachers and laughed whenever they cracked a joke, even if they had told us the same joke several times before. We always clapped in assembly hall when we were told. We enrolled as freshmen in the same year in which the jury wheel was installed in Manual. It is needless to say that many of us were mistaken for seniors and thereby much trouble ensued. These are but minor points of our greatness. We have several poets whose verses rival those of Homer. For four years we have crammed faithfully and now our school toils are at an end.

But when we think of saying farewell we see things in a different light. As we think of saying good bye, perhaps for a last time to our associates, as we see for the last time our teachers standing patiently beside their doors, they who have guided and helped us, they who have encouraged us in our high hopes and youthful dreams, and brought out the manhood and womanhood in us; as all these thoughts crowd themselves upon our minds, a feeling of unutterable sadness takes possession of us. Then we realize, possibly for the first time, that we have grown to love Manual.—her faculty, her pupils, and her very walls. Wherever our paths may lead us Manual will always remain one of the fondest pictures in the sacred hall of memory.



A LIST OF THE GRADUATES OF THE MANUAL TRAIN- ING HIGH SCHOOL.

1908.

Boys.

Ackerman, Henry C.*
 Allen, Roy Cecil
 Andrus, Vincent Richardson
 Arthur, John M., Jr.
 Ashbaugh Ray
 Ayer, Earl Jerome
 Baltis, Frank Denzil
 Bancroft, Thomas J.
 Bartlett, George Thomas
 Berkowitz, E. Bertram
 Blake-lee, W. A.*
 Blauw Frank H.
 Boright, Bret*
 Bowles, Geo. H.
 Brammell, Chas. Harrison
 Buxton, Lewis A.*
 Byrd, Paul
 Chick, Henry, Jr.
 Cline, Richard Earl
 Davidson, Wm. Earl*
 Davis, Claiborne W.*
 Denny, Robert Cary
 Dodd, Paul John
 Drollinger, Clyde F.
 Eichenauer, John Carl
 Erwin, Thomas*
 Ferguson, Robert O.
 Fillmore, Royal*
 Fisher, Elmo Sherman
 Forsythe, Lawrence G.
 Francisers, John W.
 Franke, Peter H.
 Fritton, Raymond J.
 Garrett, John McClure
 Gorton, Clarence Gray
 Gray, B. Morton
 Hallett, Ralph K.*
 Hammil, Fred W.*
 Hanna, Roy J.
 Jaccard, Walter B.
 Jones, Elias
 Kerlin, Gilbert L.
 King, Harold W.
 Liersch, Joseph
 Mann, Robert Stanley*
 Marley, Robert C.
 May, Walter Henry
 Mayberry, Ivan Djalma
 Montague, Rolland A.
 Moore, David Harrison
 Myers, Lawrence Newton
 Nagle, Henry G.*
 Parker Ross I.
 Philgreen, Ernest Philip*
 Ragan, Thomas M.*
 Ressler, Herschel C.
 Riley, Francis H.
 Robinson, Ray
 Roche, John R.
 Rowland, Chester J.*
 Segur, Albert L.*
 Shields, Frank*
 Shrader, Harlan Loy
 Shumway, Roy W.
 Stern, Edgar J.
 Summers, William Forster
 Summers, Richard E. J.*
 Surface, Hal

Thilenius, Fred*
 Walker, John Milton
 Walker, Oliver*
 Webster, Harry J.
 Wells, Frank N.
 Wheelock, Donald Lawrence
 Wiberg, Eddie August
 Wirthman, Fred George
 Witters, Myron*
 Wood, Amos Parker
 Talbot, Lee J., Jr.

Girls.

Acton, Florence
 Baker, Lucie M.*
 Baldwin, Gladys Irene*
 Ball, Lettie M.
 Banks, Vera Mildred*
 Barber, Grace Rider
 Beck, Amelia
 Beery, Richie L.*
 Berkowitz, Estelle L.
 Bigler, Bessie Belle
 Bower, Leontine
 Bowman, Juanita Marie
 Brainerd, Virginia Earle
 Brink, Leora E.*
 Buchanan, Grace
 Burke, Mary J.
 Burke, Velma Elnora*
 Burkhardt, Edith May*
 Canny, Frances Trehearne
 Cantonwine, Hazel V.*
 Carey, Frances A.
 Carson, Willrose A.*
 Chambers, Nellie M.
 Chesney, Anna Louise
 Clay, Cresence Garrett
 Clement, Mabel A.*
 Coie, Mary Jane
 Craig, Helen Miles
 Crawford, Lou Eva
 Darnall, Era Steele*
 Donohue, Katherine M.
 Donohue, Elizabeth Marie
 Dunham, Bertha M.*
 Elliott, Jennie Gertrude
 Ellis, Olive Cornelia
 Excell, Alice I.
 Farrar, Irene*
 Fellbeck, Bertha C.
 Fellbeck, Elsie Caroline*
 Floyd, Nellie Bly
 Fort, Pauline
 French, Winifred Jane
 Friedman, Anna
 Funk, Bertha Elizabeth*
 Gibbins, Winona F.
 Gleason, Nellie E.
 Grant, Rebecca Powell
 Gussman, Edna C.*
 Harbordt, Henrietta S.*
 Harrison, Helen Joy
 Hess, H. Blanche*
 Hickman, Florence A. Hyatt
 Himoe, Maude Frances
 Hirsch, Frances J.
 Hobart, Nellie Grace*
 Horsfall, Helen*

Hulse, Allie Catherine
 Hulse, Hester L.*
 Jahr, Helen Millie
 Jewell, Pearl
 Johnston, Mamie E.
 Keaton, Jessie Rhoda
 Keith, Eleanor Margaret*
 Keneaster, Fannie Leon
 Kleman, Augusta J.
 Koogler, Clara Grace
 Lampe, Clara Marie
 Leavitt, Aileen*
 LeBow, Maydelle
 Lee, Mabel
 Leonard, Mary Angela*
 Lewis, Ethel A.
 Link, Vernese Ethiel
 Lipsis, Alice R.
 Loeffler, Helen*
 Lord, Helen Sabra*
 Lukin, Bessie
 McFarlin, Leota Lavina*
 McGuire, Mabel Clare
 McGurk, Ruth
 McKee, Mary
 McLevy, Maude A.
 Marcovitz, Sarah B.*
 Middlebrook, Ruth A.*
 Moore, Ray
 Morey, Dorothy
 Moss, Alice Randall
 Murdock, Katherine
 Neal, Irene Sterling*
 Nichoalds, Lillian A. M.
 Piper, Martha Louise
 Platt, J. Beatrice
 Potts, Eva May
 Preston, Irene Marie*
 Purnell, H. Hazel*
 Pursley, Helen*
 Reinhardt, Ruth Gladys
 Hicc, Margaret Jane
 Ritter, Beulah*
 Robinson, Annette
 Robinson, Mabel C.
 Schloss, Jeannette Leo
 Sexton, Frances Josephine
 Shepherdson, Florence
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 Stephenson, Georgie
 Stephenson, Jessie N.
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 Summerson, Kate
 Timmons, Nina Mildred
 Walsh, Gertrude Augusta
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 Weber, Ethel Minnie
 Wilcox, Grace
 Wildrick, Stella Edna*
 Wilhelm, Blanche
 Wilson, Alyne H.
 Wing, Neva Eleanor
 Yost, Olive L.
 Zacharias, Pearl
 Ziegler, Elizabeth C.

*Pupils who have never failed.

PROGRAM
OF THE
ELEVENTH ANNUAL COMMENCEMENT
Manual Training High School

JUNE 10, 1908

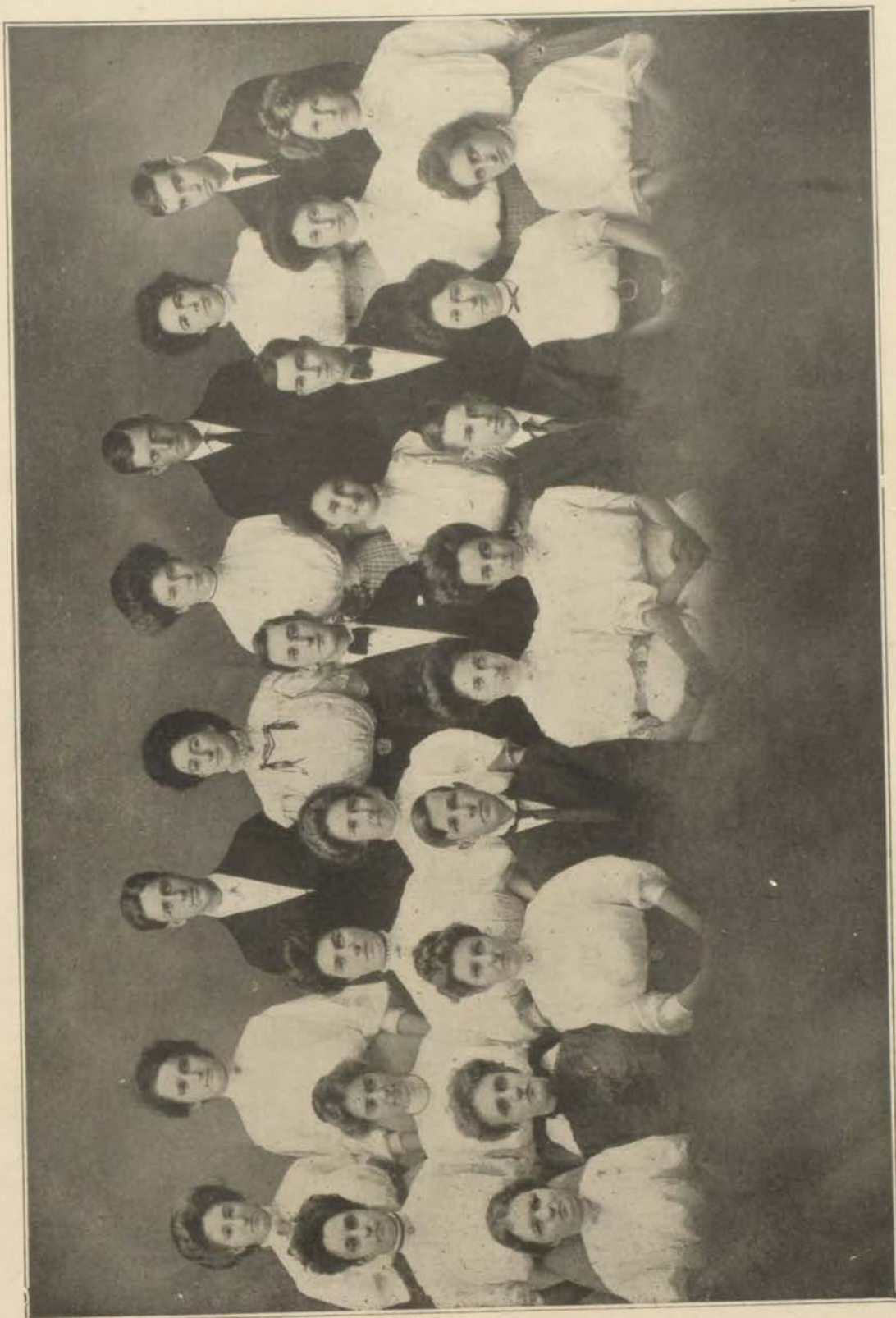
1. Invocation—Rev. Geo. H. Combs, Independence Ave Christian church
2. Music—"Wanderer's Night Song"—Rubinstein (Imitation by Wellerly). Manual Training High School Girls' Glee Club
3. Oration—"John Brown" Mr. Thomas Erwin
4. Essay—"The Sixth Sense". Miss Aileen Leavitt
5. Violin Solo—"Le Carnival Russe", Vieux Temps, Mr. Bret Boright
6. Oration—"The Ascendency of the American Inventor," Mr. Francis Riley
7. Essay—"The Delusive Charm of the Remote" . . Miss Willrose Carson
8. Music—"Battle On"—"Joan of Arc" A. R. Gaul
Manual Training High School Glee Clubs.
9. Oration—"The Lost Pleiad of America". Mr. Paul J. Dodd
10. Recitation—"Bobby Shaftoe" Miss Frances Trehearne Canny
11. Class President's Address Mr. Myron Witters
12. Vocal Solo, "Spring" Miss Helen Joy Harrison
13. Presentation of Class of '08 to the Board of Education
. Principal E. D. Phillips
14. Presentation of the Diplomas to the Class of '08 on Behalf of the
Board of Education. Hon. Hale C. Cook
15. Music—"Gloria" (Mozart) Manual Training High School Glee Clubs
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Mr. Fred Thilenius, Mr. Robert Mann, Mr. John Garrett, Mr. Earl Ayer
Winners of Washington University Scholarships.



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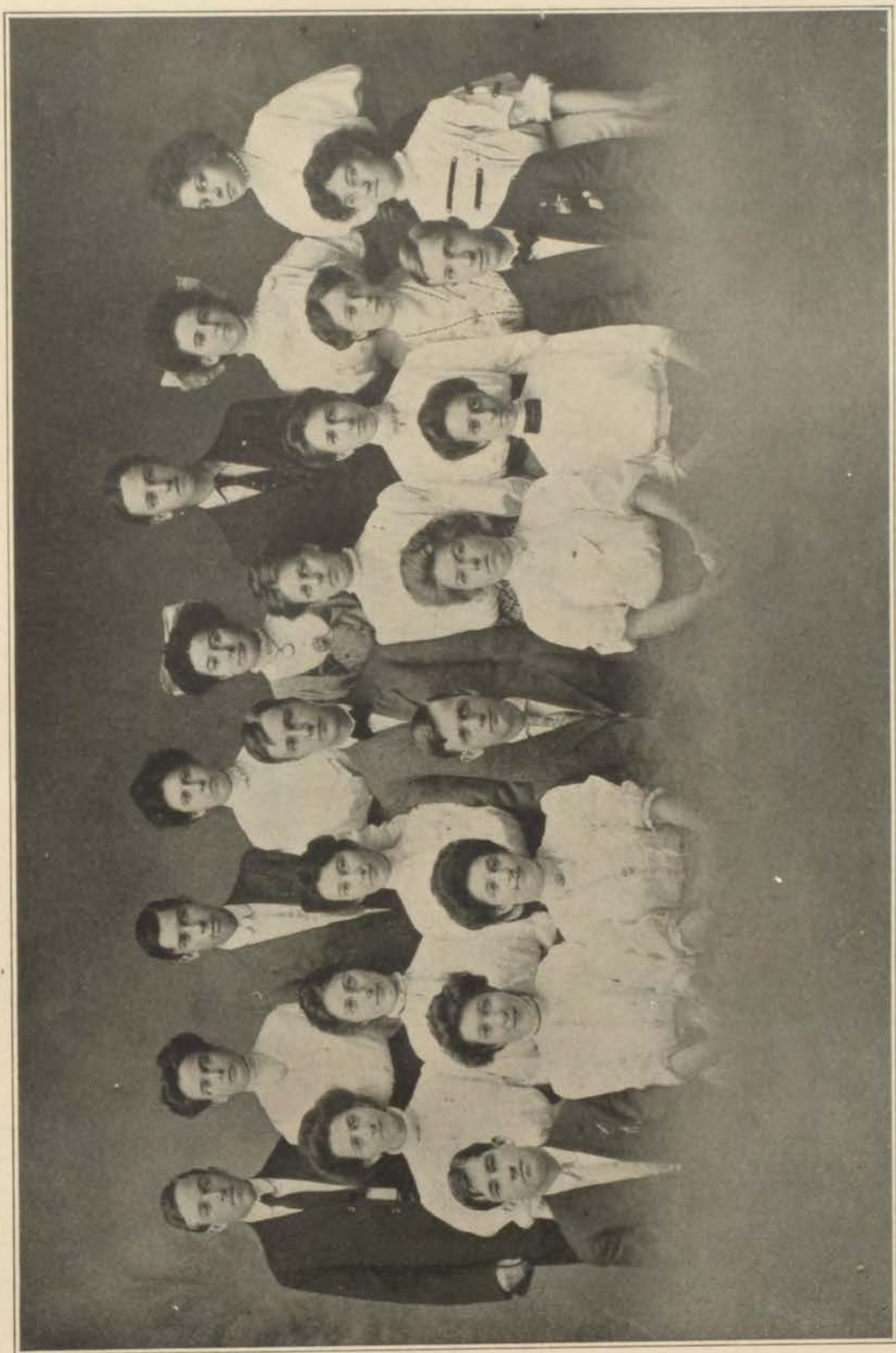
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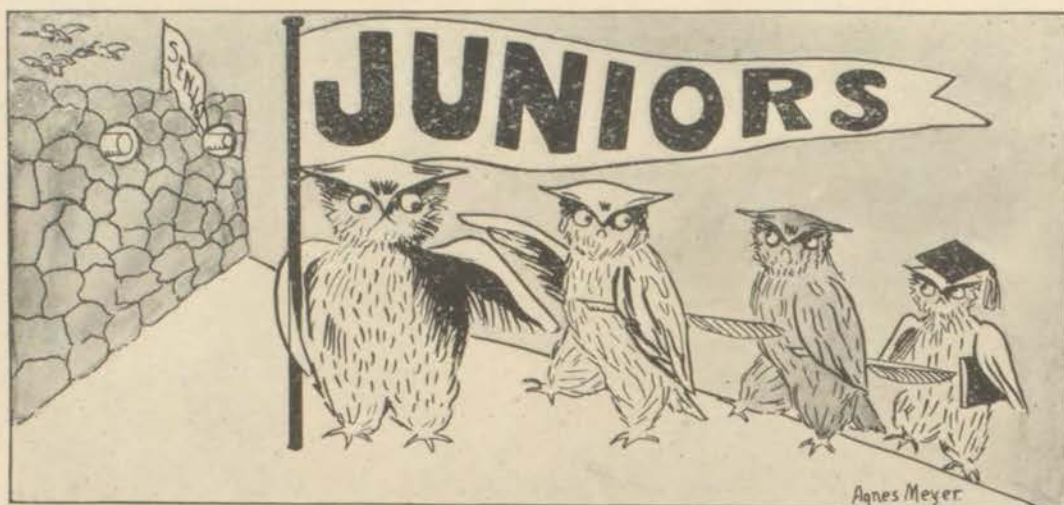
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THE JUNIORS.

As we look back upon the many classes that have passed away from Manual, we observe a general tendency to follow in the footsteps of their predecessors. But the class of '00" comes into existence, not as a relic of the past, endowed with arrogance and vanity, proclaiming their virtues, and shouting their praises in laudable epithets, but an excellent specimen of originality, imbued with modesty and meekness, scorning to flaunt our merits, and exemplifying our worth by silence. Consequently, to present the most striking contrast, we are forced to condescend and compare ourselves with the class of '08", for as we watched the expression of satisfaction upon the faces of those seniors who participated in the famous and awe-inspiring "Grand March of the Contestants," we realize that it must have been a pleasure, "devoutly to be wished," to have the opportunity of publicly impressing the most prominent characteristics of their Class, namely, self importance, haughtiness and pride.

It was not long after our organization before we began to realize the enormous quantity and high quality of aggregated talent which existed within us. It was apparent that this extraordinary energy would find an unusual outlet. It came in the most marvelous proposition ever conceived by a Junior Class. It was proposed that we issue a publication to contain matter to represent the original genius, the unrivalled radiance and the remarkable precocity of the Class of '09. But no sooner was its success assured than the news of the project reached the Seniors. Immediately we could discern among them signs of anxiety and worry ripening into frantic apprehension. And in all fair-

ness to the Seniors let it be said that their solicitude was not on account of a possibly uncomplimentary comparison of their book with ours, but because they doubted our ability to succeed. Fortunately for them our hearts were filled with compassion and tenderness, and for this reason alone the school cannot be the recipients of a product of the most brilliant class that graced the Halls of Manual.

But in order that we may not appear as conceited as the Class of '08, we acknowledge that we do have a monopoly on originality, for it is obvious that there exists among the Seniors a few distinct features characteristic of that class alone. They have departed from the former custom and elected for their President one who, if a member of the fair sex, might be accused of using hydrogen peroxide. Even more unusual was their action in refusing to comply with the time honored policy of selecting a representative of the athletic department as Sergeant-at-Arms and deliberately chose a real "Mann" for that important position.

We have just acknowledged that the Seniors possess some merits, which is a consolation to us, for next year we must condescend to occupy their position. Mentally, we conscientiously believe that we will be able to amply fill the place; but, materially speaking, we expect to find ourselves "Selling Space." Nevertheless they have been worthy predecessors and as they are about to depart from old Manual forever, we wish them a "Royal" success in the future and "HERE'S TO YOU."

HAROLD EVANS.





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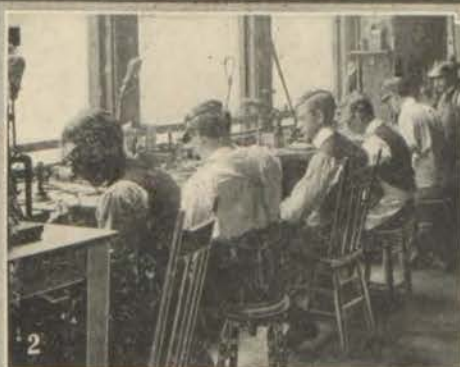
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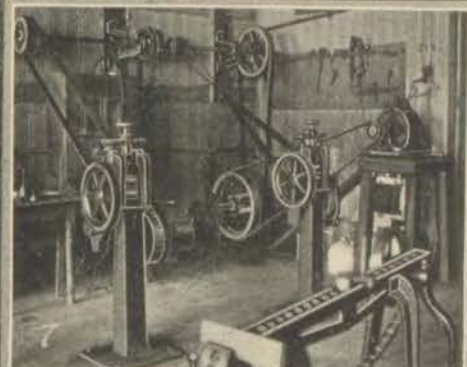


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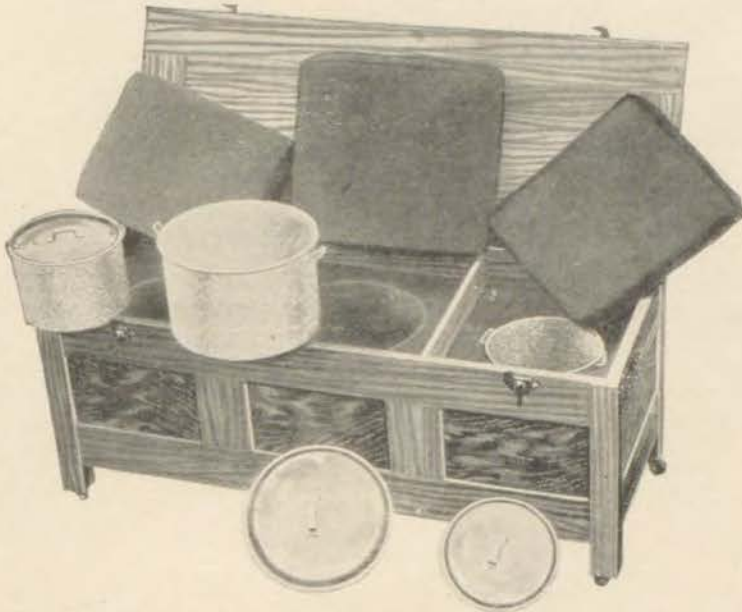
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