THE NAUTILUS

THANKSGIVING NUMBER

MANUAL TRAINING HIGH SCHOOL

KANSAS CITY, MO.

VOL. 8. NO. 1.

DIRECTORY

ART CLUB

President.....Theo Nettleton
Vice-President.....Watt Webb
Secretary.....Helen Crandall
Treasurer.....Eugene Young
Sergeant-at-Arms.....Mamie Stoller
Critic.....Lottie Williams

MANUAL SOCIETY OF DEBATE

President.....Stephen Luckett
Vice-President.....Foster Palmer
Secretary.....John Sherrod
Treasurer.....Howard Scott
Sergeant-at-Arms.....Roy Hannah
Librarian.....Ralph Mann
Critic.....Edward Van Buskirk

OZO

President.....Sara Moffatt
Vice-President.....Louise Campbell
Secretary.....Elizabeth Nofsinger
Treasurer.....Margaret McCrum
Sergeant-at-Arms.....Margaret Mitchener
Critic.....Julia Gleason

ION

President.....Ashford Lang
Vice-President.....Glen Harnden
Secretary.....Edwin S. Pierce
Treasurer.....Victor Charpiot
Sergeant-at-Arms.....Earl B. Mill

A. L. S.

President.....Joe Lyons
Vice-President.....Harry Jenkins
Secretary.....Trent Boyer
Treasurer.....Edward Lyons
Sergeant-at-Arms.....Frank Bruce
Critic.....Grace Gowan

O'ITA

President.....Leslie Frame
Vice-President.....Donna Lawrence
Secretary.....Nellie Carroll
Treasurer.....Helen Filley
Joatamon.....Ethel Richardson
Critic.....Hesper Kirkpatrick
Sergeant-at-Arms.....Mabel French

BOARD OF EDUCATION

Jos. L. Norman, President
W. E. Benson, Secretary
Gardiner Lathrop, Vice-President
E. F. Swinney, Treasurer
J. M. Greenwood, Superintendent

Milton Moore
F. A. Faxon
J. S. Harrison
J. C. James

Faculty

E. D. PHILLIPS, *Principal* E. M. BAINTER, *Vice-Principal*

ENGLISH

B. F. Kizer
English

Mrs. Sarah G. Elston
English

Bertha Elston
English and Librarian

Sara Van Meter
English

Stella F. Jenkins
English

Nina Drake
English

Eva W. Case
English

Miss Mary Lyons
English

MATHEMATICS

A. A. Dodd
Director of Mathematics Course

E. M. Bainter
Mathematics

B. T. Chace
Mathematics

E. R. Morse
Mathematics

Chas. Morse
Mathematics

Jean Shaefer
Mathematics

Horace C. Small
Mathematics

Gus J. Haut
Mathematics

E. B. Dennison
Mathematics

NATURAL SCIENCE

B. M. Stigall
Botany

Jennie Sublette
Zoology

Leslie E. Paull
Physiology

Laura M. Stearns
Physiography

F. E. Holiday
Physiography and Psychology

HISTORY

Anna C. Gilday
History

Abner Jones
History

O. R. Davis
History

Sarah E. Steele
History

PHYSICS

Herbert M. Page
Physics

CHEMISTRY

C. F. Gustafson
Chemistry

FOREIGN LANGUAGE

A. Rambeau
French, German and Latin

Mary Fisher
French and German

Della Drake
Latin

J. L. Deister
French, German and Latin

Gertrude Von Unwerth
German

DOMESTIC ART

Josephine G. Casey
Sewing Instructor

Jessie L. Griffith
Sewing Instructor

Corinne Bone
Sewing Instructor

Martha Rouse
Sewing Instructor

Edith Welch
Sewing Instructor

Lena M. Lindsay
Sewing Assistant

Emma Humfeld
Sewing Assistant

Nettie Humfeld
Sewing Assistant

DOMESTIC SCIENCE

Bertha H. Bacheller
Cooking

Mabel Hazen
Cooking

Belle Stewart
Cooking

Della Kahn
Assistant in Cooking

MECHANICAL DRAWING

Barry Fulton
Mechanical Drawing

C. C. Sampson
Mechanical Drawing

Ivan Hayes
Mechanical Drawing

Albert C. Carpenter
Mechanical Drawing

FREE HAND DRAWING

Alice Murphy
Free Hand Drawing

Floy Campbell
Free Hand Drawing

Ada M. Rapp
Free Hand Drawing

Sarah Heyl
Free Hand Drawing

Edith M. Hill
Free Hand Drawing

Mrs. Maud Maple Miles
Free Hand Drawing

MUSIC

Glenn Woods
Music

BOYS' PHYSICAL CULTURE

E. M. Hall
Boys' Physical Culture

GIRLS' PHYSICAL CULTURE

Lena Hoernig
Girls' Physical Culture

Grace Slocomb
Assistant Girls' Physical Culture

ELOCUTION

John A. Cowan
Elocution

MANUAL TRAINING DEPARTMENT

Geo. Arrowsmith
Turning

Frank Barry
Assistant in Turning

Marshall Myles
Joinery

Wesley Elmer
Joinery

Frank Cushman
Machine Shop

Joseph Stadler
Tool Boy

G. H. Donham
Forging

James Ellis
Assistant in Forging

J. M. Kent
Steam and Electricity

BUSINESS DEPARTMENT

P. B. S. Peters
Bookkeeping and Stenography

W. B. Claflin
Bookkeeping

Eva J. Sullivan
Bookkeeping and Typewriting

Leonora Rackerby
Typewriting

Mrs. Ada G. McLaughlin
Study Hall

Mrs. A. C. Lavine
Matron

Mary Canny
Chief Clerk

Maud Neal
Assistant Clerk

Wm. Raney
Head Janitor

VOL. VIII NO. 1 KANSAS CITY, MO. NOVEMBER, 1904

Entered at the 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.

MISS MURPHY'S AND MISS FISHER'S RETURN FROM EUROPE

It is a commendable and useful custom for Manual's teachers to take a leave of absence for a year or two for the purpose of visiting foreign lands and pursuing advanced courses at high grade institutions of learning. It is needless to say that Manual derives great benefit from the excellent returns her teachers make from their travels.

Miss Fisher has spent her year of absence in sunny Italy, where she made a special study of the mother tongue of the Romance languages, familiarizing herself with the classical literature of Italy, and incidentally studying also the art, architecture and social life of the people of Virgil and Dante.

For two years Miss Alice Murphy, the directress of the art department, has been diligently sketching and studying during her travels through France, Holland, Germany, Italy, Northwestern Africa, England and Spain. She spent the winters in studying the life models in the art schools of Paris, while she devoted the summers in sketching outdoor life in Holland, part of last summer being spent under the eminent teacher of painting, Mr. Wm. M. Chace of New York, who conducted a large class in London. For the best all-around work in this class Miss Murphy was offered a free scholar-

ship in Mr. Chace's school of Fine Arts in New York City, and she was honored by having one of her paintings—"The Peetinelle"—exhibited in the American Society of Art and in the Paris Salon of 1904.

OUR NEW GYMNASIUM

It was with no small delight, at the end of last year, that we hailed the good news that the Board of Education was going to allow us to have a new gymnasium. Never was a message more favorably received.

Only the boys who have been taking physical discomfiture in our old pyramid-shaped "roof garden," running around hurdling the big I-beams that project upward about ten inches above the level of the floor, and stubbing their toes on the iron pipes that lie around promiscuously, will be able to fully appreciate the value of this new addition.

The new gymnasium, too, can be heated and ventilated, and it will no longer be necessary to bandage an athlete's head with cracked ice while he performs in the "gym" in the hot weather nor to thaw out his fingers with hot water if he happens to hold to the bar too long in the winter time.

But the crowning feature of the new addition is its accompaniment of a shower-bath and, as "cleanliness is next to godliness," it is more than probable that Manual will raise some saintly athletes in the future.

The "gym" has already cost more than $2,700.00 and it is to be hoped that the pupils will appreciate it as they should. Hurrah for the new "gym!"

CHANGES IN OUR FACULTY

Three of our teachers have received leaves of absence to do post-graduate work. Mr. McCurdy is studying at Harvard; Mr. Shields is enjoying a scholarship at Columbia University, New York; and Miss Tudhope is taking a course in domestic art at Minominee, Wis.

Never before did we have so many new faces in the faculty at the beginning of a school year.

In the cooking department *Miss Mabel Hazen*, a graduate of old Central and of Mrs. Rohrer's cooking school, and *Miss Della Kahn* are aiding Miss Bacheller.

Prof. E. M. Bainter, formerly of Central, is our worthy Vice-Principal and conducts classes in mathematics. *Mr. G. F. Haut* came to us from the Carthage High School to assist in the department of mathematics. *Mr. Gustafson*, who fills Mr. Miller's place in chemistry, came to us from the Kansas University.

To the sewing department have been added *Miss Edith Welch* and *Miss Nettie Humfeld*, who finished her course with the class of 1904.

In the mechanical drawing department *Mr. C. C. Sampson* of Armour Institute is filling Mr. Burr's place. To the history department have been added *Mr. Abner Jones* of the Missouri State University and *Mr. O. R. Davis* recently of the Kansas City, Kansas, High School, who is filling Mr. Shield's place during his absence.

Mr. Donham from the Massachusetts Institute of Technology has charge of the classes in forging, and *Mr. Frank Berry*, one of our own graduates, is Mr. Arrowsmith's assistant in the turning shop.

The new director of the language department is *Dr. A. Rambeau*, who left the Massachusetts Institute of Technology to take charge of our language department. From the Missouri State University we secured *Mr. J. L. Deister* as an instructor in the language department, while *Mr. Leslie Paull*, formerly of the Manhattan

Agricultural College, but recently of the agricultural department under the U. S. Government at Washington, D. C., fills Mr. McCurdy's place, while the latter is doing post-graduate work at Harvard.

In the free hand drawing department *Mrs. Mabel Miles*, who had charge of the study hall last year, is now a regular assistant in the art department, and *Mrs. Addie Greenwood McLaughlin* presides efficiently over the study hall this year.

The Manual faculty of regular instructors now numbers 72 to care for 1615 pupils, while the Missouri State University has 266 professors in charge of 1600 students.

One of the best indications of the high tone and spirit of the last NAUTILUS election was the universal disposition of the speakers to commend their candidates for standing high in their classes, for doing well in their studies. While this is not the only qualification for eligibility to THE NAUTILUS staff, it should be considered one of the indispensable prerequisites for such a school honor. It is putting a premium on the legitimate work of the school and making it the basis for school honors.

THE WHEREABOUTS OF OLD FRIENDS

We are glad to note so many old Manual students at the following universities:

MISSOURI STATE

Mr. John Richardson	Mr. William Bott
Miss Nellie Hewitt	Mr. Victor Stewart
Miss Elsie Waddell	Mr. Henry Eyssell
Miss Dottie Hewitt	Mr. Stewart Clark Knight
Mr. J. Lee	

ROLLA SCHOOL OF MINES

Mr. H. Trowbridge	Mr. Neally White
Mr. Walter Eyssell	Miss Matilda Eyssell
Mr. Egbert Schenck	Miss Anna Norris
Mr. Arthur Hallam	Mr. Ralph Benedict

KANSAS STATE

Mr. George Hunt	Mr. Omar Miles
Mr. Norman Sooy	Mr. Lee Henson
Mr. Bert Satterlee	Mr. Ross Stewart

ANN ARBOR

Mr. Winfield Bowman	Mr. George Stadler

ILLINOIS

Miss Grace Phillips	Mr. Rudolph Hogue

WISCONSIN

Mr. Darwin Delap	Mr. Chas. Thwing

BOSTON TECH

Mr. Alfred Hertz	Miss Constance Jaccard
Mr. Herman Henrici	
Mr. Ben Lindsay	Mr. Edward Mansen

CORNELL

Mr. John Woods

WASHINGTON

Mr. Herbert Poor

PURDUE

Mr. Wm. May	Mr. Harold Beard
Mr. E. J. Beard	

NEBRASKA STATE

Miss Sarah Birchall	Miss Beula Goodson

CHICAGO

Miss Grace Mills	Mr. George Dose

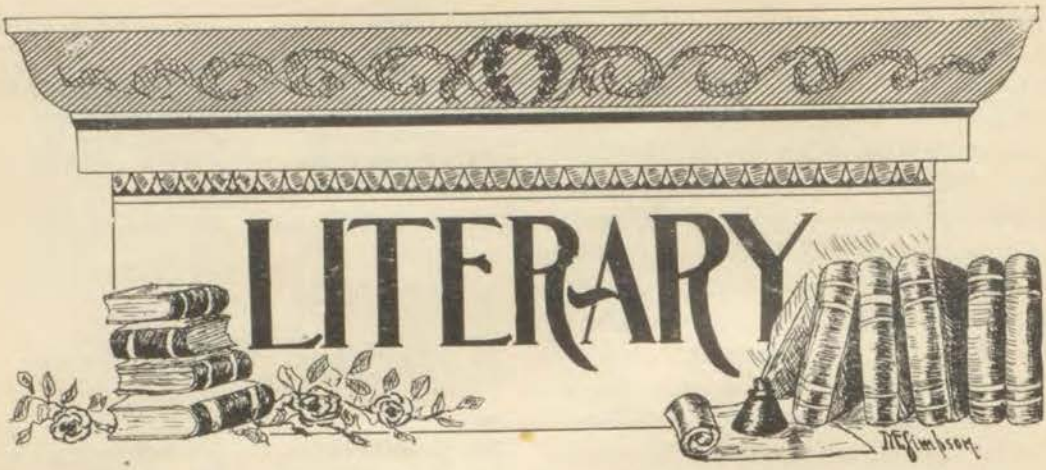
COLUMBIA (D. C.)

Mr. Fred Michaelis

MISS HUNT'S DEATH

It is with much sorrow that we receive the news of the death of one of our Manual students, Miss Bernice Hunt.

Miss Hunt was the daughter of Mr. Alfred B. Hunt of the Campbell, Hunt & Adams Commission Co. She died at her home at 3804 East Tenth street, on October 1st. She was a quiet, hard-working pupil and was very highly esteemed by her classmates and highly regarded by her teachers, because she was always regular and faithful with her work, always setting a good example to those who enjoyed better physical health than did she, and only those who were personally acquainted with her will be able to realize what her loss means to the school.



WHAT BECAME OF "OLD BLINKS"?

A Tale of 1950

The room was unusually quiet. The pupils were diligently striving to solve some difficult problems in electricity. Blinks, the instructor, was himself hard at work puzzling over some of his crude drawings, and industriously reading, now and then, from "Electric Phenomena," an exceedingly large volume containing the most up-to-date and advanced electrical ideas.

The professor was only thirty-five, but had from a boy taken an extraordinary interest in electricity. He passed with highest honors in that subject at the polytechnic school from which he graduated, and decided to make it his life study. He had kept the pupils in his room for nearly two hours, and still showed no sign of dismissing, causing them to carry on whispered conversations. When all of a sudden "Old Blinks" leaped to his feet and, shouting "Eureka," rushed from the room. It is needless to say that the pupils were astonished, and more so when he did not return the next day, nor for a month.

* * * * *

A new teacher was in his place, when "Old Blinks" again appeared in the classroom. The faculty, understanding his ways, had made the installment only temporary. He hardly noticed the new teacher and addressed the class somewhat as follows:

"Students and pupils, as the case may be: I believe I have the most wonderful invention to be imagined. Here in my hand I hold an instrument which in time will revolutionize the whole world. But it has caused me a month of agonizing and unremitting toil. To all outward appearances, it resembles a kitchen clock, except the figures on the dial and the hands. This large pointer indicates the work, and the small hand, the force. You will notice the 'O' at the top. When both hands point to that it means the machine is at rest. On the left we have placed the word 'Up'; on the right 'Down'; underneath 'Up' we have 'St.' and 'Wk.,' meaning strong and weak; corresponding to it on the left we see 'Rev.,' meaning reverse; and on the bottom 'H.,' meaning hold. This cylinder at the back contains both primary and secondary coils and contains about five hundred miles of thin wire. If you will just step outside, I will illustrate its use."

When they had again assembled, he continued:

"I suppose you will remember my telling you that all lightning does not come toward the earth, but as much rises as descends, and an equal amount darts off in other directions: also that all lightning does not come from the clouds, but from the earth as well. This shows that electricity is not restricted by gravity, and that the air is full of electric atmosphere. With that in view I have made this invention. Watch."

He pointed the small hand to "St." and the instrument began to vibrate so that it was almost impossible for him to hold it. He then turned the large indicator to "Up" and he almost instantly shot up in the air and out of sight.

The witnesses stared blankly at the sky which had so suddenly swallowed up the inventor. After some moments he became visible only as a small speck, then gradually took the form of a man, and finally stopped some feet over their heads, lying on the air with no apparent exertions. At their astonished faces, he laughed and turning the indicator, descended into their midst.

"The principle of the thing is this," he continued, as if there had been no interruption. "These two little balls at the top condense the electric atmosphere around this vicinity and convey it directly to the coil. When I set the indicator, it breaks the lines of force which hold us, and then repels itself from the earth. It may be held in one position in the air, by neutralizing all the acting forces. This is done by turning the large hand to 'H' and the small hand to 'O.' Now, if you will notice, I will turn the hands to 'Up' and 'Wk.'"

Suiting the action to his words, he slowly began to rise, stopping about twenty-five feet from the ground. Calling down, he said: "I will next place the indicators at 'Wk.' and 'H.'" After which, he slowly moved forward, guiding himself by pointing the whole instrument in the direction he wished to travel; he also reversed the action and he journeyed backwards. And again he descended into their midst.

"The reason," he explained, "that I went no higher or lower is that it equalizes the forces automatically; i. e., it used enough repulsion to keep that height, but still did not use enough to rise higher, as the air has less volume the farther up we go. Now, besides all I have shown you, this device is equivalent to a permanent battery in that, as no electricity is made or lost, it is constantly supplied by what it gives out. If the invention was strong enough, it would give perpetual motion. By the aid of these binding posts at the bottom, we can convey enough power to run a two hundred volt motor with ease, and might light a small town. Although the wires are exceedingly small, the resistance is so little it amounts to nothing. Their composition is a secret to myself. With this I shall investigate to see how far this electric atmosphere extends—whether it belongs to the earth or extends through all space. I am in no danger of dying for lack of air, as this will sustain the heart's action for many months, since 'electricity is life,' and not be one day nearer my death. Of course one could not live always, as he would gradually waste away even in space. When you first saw me rise I ascended so high that I must have been able to see both oceans. In fact, I saw the Pacific, but as night was on the Atlantic it was all dark. It now being five-thirty, we will disperse for the night; but those who

wish to see me depart on my exploration of space, be here tomorrow at noon."

* * * * *

The next day, long before noon, a mammoth crowd had assembled, and promptly at the hour Blinks addressed the people somewhat as follows:

"Fellow-townsmen: In the interest of science, and incidentally of my purse, I am about to explore a greater expanse of unknown than did Columbus when he pushed out upon 'The Sea of Darkness'; and what is more, I have no definite place to reach, and it is more than probable that I shall never return. I have placed my plan of this invention in a worthy student's hands, so it may not be lost, but he is not to use it inside of five years. So I bid you farewell."

Barely had he finished speaking, when he rapidly disappeared from sight, and that was the last ever seen of Oliver Mayborn Hicks Blinks, B. E.

Scientists say, or at least think, that when he reached the other belt, he became unconscious and is now traveling and wasting away in space, unless he came in contact with one of the planets; however, he has never returned. The pupil to whom he left the plan of his wonderful invention, has remarkably disappeared, but it is thought that some day he will return with its duplicate.

If you doubt this, the first time you come to town ask some one about Blink's "Space Annihilator and Perpetual Dynamo."

GEO. F. GREEN, '05.

THE DAUGHTERS OF THE AMERICAN REVOLUTION

"Men's monuments, grown old, forget the names
They should eternize, but the place
Where shining souls have passed imbibes a grace
Beyond mere earth; some sweetness of their fames
Leaves in the soil its unextinguished trace,
Pungent, pathetic, sad with nobler aims,
That penetrates our lives and heightens them or shames."

"To perpetuate the memory and spirit of the men and women who achieved American Independence"—this is the genesis of the Constitution of the Daughters of the American Revolution. What true American can read these words without thinking with pride of the many sublime characters that grace the pages of American history, and of the many noble deeds which go hand in hand with our American heroes?

"Breathes there the man with soul so dead,
Who never to himself hath said,
This is my own, my native land?"

The Daughters of the American Revolution may boast of a membership of fifty thousand in the twelve years of their organization. Although the work of the Society is supposed to be mainly historical, it does not neglect the demand on its national sympathy made by current events. The misfortune of any state, town or city is alleviated by the Daughters with splendid energy and efficiency. Nor is their work confined chiefly to preserving Revolutionary land-marks. The objects of the Society in brief are: To cherish, maintain, and extend the institution of American freedom; to foster true patriotism and love of country; to keep forever before the public the memory and deeds of our ancestors, by the acquisition and protection of historic spots, and the erection of monuments; by the encouragement of historical research in relation to the Revolution, and the publication of its results; by the preserva-

tion of documents and relics; also to promote institutions for the general diffusion of knowledge. In Washington a museum is now being built, under the careful direction of the Daughters of the American Revolution, where one may at any time see relics of the buried past.

When we visit Mt. Vernon, when we step into the grand old hall, and from there wend our way to Martha's and General Washington's room, and there see the quaint old bed, the straight-backed chairs, and even the desk of our colonial ancestors, we almost expect to see Martha and George emerge from some hidden recess and, dropping us a courtesy, bid us welcome. In our mind's eye, we can even see Martha's pet cat, as it leisurely strolls in and out the opening made for its special benefit in its mistress' bed-room door. Why does our imagination call up such a picture? Because the Daughters of the American Revolution, that most worthy body of women, have reproduced and preserved this historical spot for the benefit of the present and future generations.

The splendid monument erected to the memory of Lafayette is the work of this praise-worthy organization. Upon the monument is this inscription:

"This tablet is a tribute of the National
Society of
The Daughters of
The American Revolution
To the Illustrious Memory of
Lafayette
The Friend of America, the Fellow
Soldier of
Washington
The Patriot of Two Countries"

Loyalty and patriotism being the general aim, the organization acts as a whole, and its patriotic efforts are, as expressed by one of the members, "occasioned out of love for the work." It does not matter whether a man "paint the petal of a rose or the chasm of a precipice, so that love and admiration attend on him as he labors, and wait forever on his work." The door of entrance to this Society is most carefully guarded. Strict lineal descent from an ancestor of undoubted Revolutionary record is the open sesame; no consideration of wealth, position, influence, on the part of any candidate, causes the slighest deviation from this rule.

MARY KOOGLE.

SUNSET ON POPOCATEPETL

"I will lift up mine eyes unto the hills."—Psalms 121-1.

I had spent the greater part of the afternoon upon the housetop, gazing at the grand old volcano, Popocatepetl, and its sleeping companion, and now as Apollo neared the end of his golden drive, each moment gave a new aspect to their snow-crowned peaks. They caught the ruddy glow from the departing sun and every crystal of snow sent back myriads of dancing lights until the entire mountains seemed surrounded by a quivering halo of glory.

I had heard the story of these twin mountains, Popocatepetl and Ixtaccihuatl, the latter of which the more prosaic, possibly with good reason called the "Old White Woman." The tale runs in this way:

At one time the "Old White Woman" had been the wife of that stony, snow-capped stoic, Popocatepetl, and she had died, leaving the poor husband alone. At the time of her death the mountain, in his rage and grief, had shaken the whole country with his explosion of wrath, and

then, spreading a sheet over the form of his wife, he had sat down in moody silence to watch by her tomb. Since then he had spoken no word, and no one has ever scaled the side of the mountain, Ixtaccihuatl, to desecrate that tomb by means of man's making.

But, as I watched these two bathed in all the glory of evening, now pink like two blush roses, now shining with a crown of gold, now dressed in robes of purple so royal that kings might well have coveted them, I thought that the spirit of the wife must have descended, to be received with a glorious welcome by her lonely husband.

But now the sun has gone, the spirit has fled, and the cold mountain resumes his silent watch by the side of his wife's shrouded form. There is no more warm radiation and the change to the cold marble white makes one shiver. The silence surrounding these two still guardians of the valley beneath caused a feeling of awe to creep over me and I was glad I was alone. The lofty, noble expressions of these monarchs, raised my thoughts to Him who is the creator of all this grandeur, and wonderful beauty, and I longed to be like these mountains, as pure and noble in my life as they were in appearance.

VIVIAN SPERRY

THE RUSSIAN COSSACK

The Cossack is the pride and hope of the Russian people. He has never failed them, as often as he has been tried, and their faith in him is unbounded. Nor is this faith groundless, for he has indeed proven himself a friend to Russia. He grew up during the fifteenth and sixteenth centuries on the steppes wasted by the Tartars, and since that time he has been a power in Russia, both in peace and in war. He has gained for Russia much of her territory and has guarded that territory from all invaders. Yermah, a Cossack, conquered West Siberia in 1582-83 and presented it to the Czar; the Cossack trader, fur-hunter and explorer then pushed on founding Omsk, Tomsk and Irkutsk in quick succession and in 1689 restored Amur to Russian power. Again in our own time it was the Cossack who overran Manchuria in 1900. These are only a few of the many conquests carried out by the Cossack. Now he is fighting bravely and boldly to hold that last acquired land, Manchuria, and were all the Russian army as invincible, these reports of crushing defeats would be stopped, perhaps reversed; for the Cossack has proven himself superior to the Japanese cavalryman in many instances. There are about 300,000 of these Cossacks in all Russia: they are divided into eleven so-called armies, five of which are stationed in Russia proper while the others are marshalling lands and people comparatively recently acquired. In these lands the Cossack lives in truly a conquerer's style, living off the people, domineering over them and intermarrying with them. It is due to this mingling of races and the necessity for continual vigilance that the Cossack is what he is—the craftiest, sturdiest, and strongest race of Europe.

In disposition, the Cossack is kind and good-natured at heart, yet gruff and warlike in his general aspect. He may be said to be of a war-caste living in a semi-tribal state; vigorous, fierce, and relentless in war, but indolent and shiftless

in times of peace. The Cossack is a hardy fellow. He can endure any kind of weather and exist on any rations. When on an excursion his endurance sometimes seems almost superhuman, going for days at a time with scarcely anything to eat and in the roughest kind of weather. However, when the raid is successful, he drinks, feasts, and makes merry on the booty captured. All these privations and hardships he endures without a murmur, even willingly and joyfully, for war is his delight. It is by the Czar's command that he undertakes these expeditions and the will of the "little father" is his will, and his orders are to be obeyed without question or hesitation. The Czar in his spiritual as well as temporal head, which mingles the obedience and love he bears for a temporal ruler with the reverence and respect he bears the head of his church. Yet all the Cossacks are not Christians; about twelve per cent of them are Pagans. But whether Pagan or Christian, the Czar is their ruler and they obey him implicitly.

The chief occupation of the Cossack in times of peace was formerly fishing and hunting, and among some of them to use the plow meant death, so great was their animosity towards agriculture; but things have changed since then and his life differs little now from that of the ordinary Russian peasant.

The Cossack is a superb horseman, for he is practically reared on a horse's back. From the time that he can barely cling to a horse until he reaches manhood, his chief ambition is to become an expert horseman. The youth who is most proficient in the saddle, the one who can pick up a coin from the ground while going at full speed, ride standing on his head or with a companion on his shoulders, or together with another rider rescue a wounded comrade without slacking speed, is sure of a good position in the Cossack army with equipments all furnished. Thus his horse becomes a part of his life; he loves that faithful animal better than anything else and has christened him "little brother." They are comrades and companions on many a lonely vigil and many a long journey. The Cossack soldier has been known to endure privations and hardships to spare his horse. And yet it is a homely animal, small, shaggy and ungainly, but gentle, intelligent and faithful; easily trained and the personification of endurance. Reared upon the steppes, never knowing the warmth of a stable or the taste of oats, it rustles for itself, finding sustenance where even a goat would starve. It is indeed a fitting companion for the strong, sturdy, hardy Cossack.

And this is the man and his horse in whom Russia places so much confidence, trusts so implicitly and looks up to with an unfaltering hope when her safety or honor is at stake.

THE CHAMBERED NAUTILUS

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

—*O. W. Holmes*

Terrace Hall, Washington, D. C.,
October 1, 19—.

My dear Lucy:

It was lovely of you to write to me so soon. Your letter came on the most dismal afternoon imaginable and, to use a very hackneyed simile, it was as good as sunshine. Nine-tenths of the girls were staring openly in the direction the postman comes, and the rest, who I suppose have been taught like myself, how undignified it is to expose their griefs to the world, were making desperate attempts to study. But I blush to confess that even we were so forgetful of our training as to move with unseemly alacrity when Miss Florence brought in our mail.

The days are pleasanter now and my first homesickness has worn off. I am intensely interested in my companions, and observe them with the care that befits one who is to follow a literary career.

My roommate naturally comes first. So far, my only hope is that appearances are deceptive, for since I do not intend to follow in the footsteps of Bertha M. Clay, she will be of no use to me as a character study. In appearance she is pink and white and pretty, and has not had to rely on her mirror to discover it. Her clothes are what are described as "swell" in some circles. This adjective is applicable also to her pompadour, for it is very much inflated and with her flounces and frizzes to care for, she gets very little rest, and neither does any one else in her vicinity.

Of course Miss Barbara Allen thinks I am certainly a Boston "prig," but there is the sweetest little Southerner across the hall who really likes me, I think. Her name is Katherine Cress. She has the most wonderful gray eyes, and the prettiest brown hair! She is not very forcible, but her roommate has energy enough for both. Margaret Merriwether is from "way out West," and as might be expected, she is a trifle unconventional. She and Katherine would work up beautifully in a story. They make such excellent foils for each other.

The rest are just like all boarding school girls. Tall and short, plump and scrawney, gay and solemn—all are religiously being "finished." The tall ones fence to cultivate grace; the short ones exercise in order to grow tall; the plump ones starve and the thin ones stuff (I know this is a horrible word, but it makes a fine antithesis)—all in order to reach the desired perfection.

But though they have so many varying interests, at present one topic seems

to occupy the mind of every girl in the school to the exclusion of all others, and that is the coming of Louise Rothsay. Miss Florence told us the first thing, the girls discuss it during recreation, and my charming roommate discourses on it by the hour after "light's out." "Louise Rothsay is the only child of *the* Rothsays of New York, and has *any amount* of money. She wears Paris gowns exclusively, and has hats galore." This much I gleaned from the enamored Miss Allen; also that Miss Rothsay has been educated in France, and has a "perfectly exquisite accent."

You may suppose that I am enthusiastic over her advent. Of course she will be conceited and vain, and she and Miss Allen will be dearest friends. That, by the way, is my only hope, for then Miss Allen will be so wrapped up in the heiress that she won't have time for me.

I am sorry to close so abruptly, but there is that bell, which summons me to my duties.

Very sincerely, your friend,

JEAN DOUGLASS GREY.

Terrace Hall, Washington, D. C.

My dear Gertrude:

You poor, blessed dear! Oh, I think it's such a shame that you had to get sick just before school opened. We're awfully sorry that you didn't like Washington better, for we're trying our best to make it interesting—especially for our teachers. I hope you are very much better by this time. As you didn't get to meet many of the girls I'm going to tell you about some of them.

I guess I'll begin with my roommate. Her name is Margaret Merriwether, but all the girls call her Peggsy, which suits her better. She is a funny little thing—no, she's big, or rather broad; that is to say, she's not a daughter of the gods, "divinely tall and most divinely fair," or "slim,"—which is it? Oh, well, never mind, I never could give quotations just right. But Peggsy is so funny and seems so young that I always call her little, though some people might say that she is bigger than I am (of course, though, they would be mistaken). Her eyes are brown—which I love, her hair is auburn, she is fat and noisy, and never keeps a single thing where it belongs; but still I'm going to love her, simply because I can't help it.

The only other girls that I have seen very often are the two who room together just across the hall. And, by the way, I'm afraid they're not going to enjoy each other very much. One of them is perfectly beautiful! She has golden hair, big blue eyes, a beautiful complexion, and is very tall and graceful. There! Didn't I catalogue her good points nicely? Oh, I forgot to tell you her name. It's Barbara Allen, and I think it's just as pretty as she is.

Then the other girl is Jean Douglass Grey and, oh, she's so clever! Really I feel even more stupid than usual when she's around. Positively, she knows every single thing about her lessons that anyone could ever learn. I'm afraid she's a little sarcastic, but there, she's so brilliant that I think everybody will excuse the touch of sarcasm. I'm sure I will.

You are probably tired of hearing all these details, but nevertheless I'm going to burden you with one more and that is this. A new girl is expected next week whose name is Louise Rothsay. She has created quite an excitement even before her arrival and I suppose it will be worse after it. Everybody seems to look for great things from her. She is very

wealthy and quite a society girl. Barbara seems most interested in her and hopes to find her a congenial friend. Well, for my part, Barbara may have her, as I'm going to be busy helping Peggsy out of her scrapes.

Peggsy just came in looking "awfully" pretty. She has been playing tennis and has gotten the prettiest color in her cheeks! Really, I'm afraid that I am going to lose my reputation for being a good (?) student, simply because I can't keep my eyes off her dimples long enough to study.

That reminds me that it's time to study now, so good-bye "my own true love." Write soon to your loving

KATHERINE.

Terrace Hall,
Washington, D. C., Oct. 3, 19—.

Dearest Elizabeth:

I am in raptures, my dear, really I am. At last there is coming to this school some one whom I can call my equal. You know I never have felt at home because, of course, I couldn't be the chum of a girl who was beneath me. But now I am perfectly happy. I do hope she's pretty, but she must be or her parents wouldn't be sending her to be finished off. I hear that she's rented the bridal suite in the Delmonte, so I suppose she's as well off as she is reported. Of course the faculty are wild about it, but they aren't in the state of inexpressible delight which envelops me. If she would only come and room with me I think it would be perfectly fine, don't you?

But the roommate I have! Oh, my dear! You can't imagine how her presence shocks my delicate sensibilities! She is a typical Bostonian, my dear, and you know what that means! She is tall and thin. She has sharp, steel-blue eyes and wears spectacles—yes, my dear, spectacles! Not eyeglasses—those I could stand; but her specs, oh, dear, they drive me wild! Her hair is really pretty, or would be if she'd fix it any way except the way she does. My dear, imagine! She parts it in the middle in front and plasters it down close to her head; then she does it up in a Psyche in back. She'd be quite graceful if she'd only wear becoming clothes. As it is, she wears white shirt-waists and a blue serge skirt. It is always the same one, on week days; and on Sundays she puts on a green silk waist and a black skirt. It gives me the fidgets to see her. I always know what she's going to have on.

I've had to squeeze my clothes almost to pieces to get them into half of the room that I've always had before. I wish I hadn't told Miss Florence that I'd let Miss Jean Douglas Grey—that's her name—have half of my room. My blue chiffon dinner gown is almost ruined and you know what a beauty it is. Which reminds me that I have on now the sweetest tea-gown you ever saw. It is baby-blue crepe-de-chine, trimmed with real lace and the most adorable forget-me-nots that were ever seen. Altogether, with a blue bow in my hair and my blue silk slippers, I guess I make quite a fetching appearance. I hope so, anyway, because the girls across the hall are coming over in a little while.

I must tell you about them. To begin with, one is a dear and the other a tomboy. I wouldn't have asked the latter to come if I hadn't been afraid of offending her roommate.

The sweet one, Katherine Cress, is the handiest girl in school. She is like a mother to all of us, although she's been here only two weeks. She don't seem to mind how many buttons I take in for her to sew on. She is quite pretty and she dresses in good taste, which is an unspeakable relief from the severe attire of Jean Douglas Grey and the reds and blues of the tomboy who has red hair. Of course, Kitty doesn't have things as nice as I'd like, but she's so much better than the other two that I think I'll have to be good to her until the new girl comes, whose name, by the way, is Louise Rothsay.

The tomboy, Peggsy Merriweather, deserves her name, awful as it is. As I said before, she has red hair. Her other possessions are brown eyes, a great many freckles, a pug nose, big feet, and a perverted taste of color which prompts her to wear bright reds and light blues. She is extremely stout and has no figure to speak of and is always running into something or falling down. I don't know whether there'll be much left of my room after she leaves or not, but as I hear her coming I'll hurry this out of sight lest by chance she should see and be dissatisfied with my description of her. So au revoir.

From your devoted

BARBARA.

Terrace Hall,
Washington, D. C.

Dear Emily:

Please don't faint from sheer surprise when you read this, for I have finally arrived here! I thought I never should, but at last, after tumbling over all the porters and lesser trainmen that I could find, and seriously shocking several old ladies by calling them grandma, I tumultuously burst in upon Miss Florence, the Principal, and I presume from the looks of her face, shocked her outrageously.

My roommate is a dear, and she's pretty, too. She acts and looks sweet, is plump, has grey eyes and the most beautiful wavy brown hair. But it's a mystery to me how she ever manages to keep it as smooth; for, as you may possibly—just possibly—imagine, keeping my hair smooth is not my strongest point. I love Katherine—that's her name, Katherine Cress—but I'm afraid she can't stand me for a whole year. The other evening when I came in and commenced, as usual, to adorn the room with my headgear she, very sweetly and calmly, marched over and, still calmly, put it where it most properly should have been.

Oh, yes! There are two other fairly decent girls across the hall, although one gives me the shivers and the other is, at times, very, very unspeakable. One knows entirely too much, while the other has entirely too good an opinion of herself. You could recognize at a glance that the knowing one, otherwise Jean Douglass Grey, is a Bostonian. She wears spectacles over the most "piercing" eyes, and the rest of her features are very severe, and very classic, I presume. She yanks her black hair back so tightly I should think it would up and leave her. The other day in history when I simply couldn't think who it was that killed Caesar, she fixed me with a look that should have made we feel sickish clear down to my toes. However, I didn't do any such thing but instead caught my heel in my skirt in sitting down, tore the facing off, performed a few other pleasant little maneuvers, and then sat down presumably in disgrace; but it would take far more than that to disgrace your humble servant.

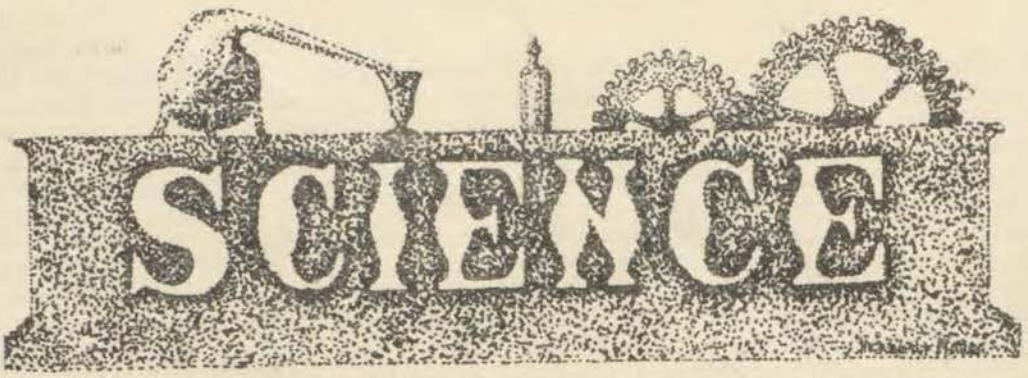
Well, to return. The name of the iceberg's roommate is Barbara Allen. Oh, Emily! Think of having to go through all your days with such a name as that! You can't blame her much for being rather toplifty, as it were. She's awfully—no, I mean very extraordinarily pretty; has light hair, blue eyes, and a beautiful complexion. But I'm rather prejudiced against her, for the other day I heard her say: "If that fat, red-haired girl would not persist in wearing those horrible blues and reds, she might not be bad looking." Ugh! She gives me the creeps! Think of it! Not only calling my hair red, but running down my most beautiful colors! I won't stop wearing them just on her account! So there!

Some kind of a most fashionable performance is going to appear on the scene next week. She's horribly rich and I suppose my lady of the light hair and blue eyes thinks that now she will have some one her equal with whom to associate. The new girl's name is Louise Rothsay. Sounds like she's rich! I think Barbara acts most horribly silly over her expected arrival, but then, what more could you expect?

I am absolutely too sleepy to write a bit more of this trash, so good-night.

Yours till Niagara Falls,

PEGGSY.



THE SINGLE-PHASE SERIES RAILWAY MOTOR

As a Factor in Transportation

The rapid advance of electricity as a factor in transportation has given rise to a great many wild statements concerning the disappearance of steam traffic in its favor. But, as a matter of fact, until a very recent invention came to its aid, electric traction had no chance of seriously competing with steam roads, save in the so-called short-haul business.

The difficulties lay chiefly in the transmission of power from the electric plant to the car, and were caused by the following conditions: When a current is sent over a wire, a certain percentage of the power always disappears in transit. This lost power is consumed in overcoming the electrical resistance of the wire. As this resistance decreases with the increase of the size of the wire, it is obvious that this lost power also decreases the larger the wire is made. The loss, however, increases with the increase in current and length of the line. Electrical power is the product of the voltage and the current, therefore for a given amount of power, to increase the voltage means to decrease the current, and consequently the loss of power. Therefore, on a long line, the engineer has the alternative of increasing the voltage or the size of the wire, to prevent this loss becoming prohibitive. The wire cannot be enlarged indefinitely on account of the cost of copper, and the ordinary railway motor does not operate well on anything above six hundred volts. Thus, long lines were impracticable.

The every-day electric current is divided into two general classes, alternating and direct. The alternating current can be easily transformed from high to low voltage and vice versa, and is suitable for two kinds of motors, the synchronous and the induction. Direct current cannot be easily or economically transformed, but operates very well indeed upon the so-called direct-current motor, one class of which is the series motor, universally used for railway purposes.

The alternating current would be ideal for railways because it could be transmitted at high voltage and transformed to a convenient pressure at some point near the car. Unfortunately, however, the series motor is the only one which exerts a large effort at a low speed. A machine was therefore needed which would run on an alternating current and have the desirable points of the series motor also. This demand has now been met.

For some time a system which has been very widely used to avoid the difficulty mentioned is as follows: The power

is economically transmitted by high voltage alternating current from the far-away power plant to substations near the place of consumption, where it is transformed down and run through rotary converters —devices which change it to a direct current for the cars. This method is costly, however, and entails some loss during the numerous transformations. This is the plan in use in Kansas City.

All this has been obviated, however, by the recent invention several times referred to. It is technically known as the single-phase series motor. Its operation is based on the fact that that an ordinary direct current motor will run upon what is called single-phase alternating current. Its operation is very poor, however, being accompanied by excessive heating, sparking, etc. The heating, it was known, could be overcome by building the field frame of thin plates side by side instead of casting it solid. The sparking, however, gave much trouble, being caused by armature reaction, and the transformer action of the field coils on short circuited armature coils. This has at last been overcome, however.

Technically, the new machine has an armature like an ordinary series motor, but the field frame is laminated and slotted like the stator of an induction motor, a second set of field coils being used to prevent the current in short circuited armature coils. The laminated field is inclosed in a cast-iron exterior, a good deal like that of an ordinary motor. In a second type, small resistances are inserted between the commutator segments and their armature coils instead of the extra field coils, but the principle is the same.

The possibilities of the motor are vast. A transcontinental electric road is no longer impractical. Let us imagine such a road. At power plants perhaps four hundred miles apart alternating current will be generated at say 6600 volts, stepped up in transformers to say 66000 volts, and sent out to substations scattered along every twenty miles perhaps, where it will be transformed down to 2500 volts for the third rail. Transformers on the cars will step it down again to about 500 volts for the motors. No resistances would be used for starting the car as an auto-transformer would fill the requirements.

Such a road, run upon a steam road basis, would probably leave little business for a steam rival. It could furnish rates of possibly one cent a mile against the three cent mileage of the steam road, and its speed would be limited only by the strength of the wheels and road-bed. As for comfort, cars are now being used that equal a Pullman in luxury. It cannot be doubted that a clear view ahead and the absence of cinders are great advantages.

And it might be well to state that this motor, far from being one of the worthless inventions "puffed" in the Sunday papers, has been developed and backed by the General Electric Company and the Westinghouse Company, the two great electrical concerns of the United States. It has been tried and found not wanting, and justifies the expectation of the long delayed rival of the steam lines, a real electric railway system.

COLIN K. LEE.

OUR COMMON SNAKES

Why do we so despise the snake? Is it because it is so decreed in the Bible? Or, because, as Ruskin says, "He glides a bit one way, a bit another and some of him not at all?" You say all of his characteristics denote a creature to be distrusted. This is untrue. Do you know he is one of man's best friends? Is eating worms, bugs, mice, and such things that are pests to farmers a trait that lowers him in your estimation?

You have a hundred and one stories about him to the effect that he employs some charm with which to capture his prey. Some have said that they have seen a snake hypnotize a bird, or whatever his victim might be, until it was within his reach.

Poor little fellow; how you misjudge him! As for hurting you, he could not if he would. For mind, I am speaking of our common snakes; and although the rattle snake and copperhead, which are poisonous, are sometimes found in this country, they are not now numerous enough to be called common.

The farmer has his club ever ready for the snake, though it helps him by eating his enemies of the garden and field. It frequents the plowed fields, searching for grub, worms and mice, all detrimental to the expected harvest.

On the whole, instead of being a creature to be shunned, he is a very interesting subject to watch—especially when he eats. A snake with a head about a half inch thick will catch and swallow a kicking frog no less than an inch and a half thick. This is possible because the elastic ligaments, which hold a reptile's jaws together, give its capacity corresponding elasticity. After swallowing the frog, the snake will take two or three gasps to put his disproportioned jaws into place. Another very interesting thing is its mode of locomotion. The under part of its body is covered with scales. The snake has the power of separating these, of catching them on such particles as are under it and pulling itself along in this way.

Some of our common snakes are black snake, hog-nose snake, spreading adder, ring-necked snake, grass snake, water snake, worm snake and garter snake.

Our little friend, the grass snake, may be found all around this part of the country. His head is small, his back is light green, while underneath he is yellow. He is exceedingly gentle, and makes his meals off of grubs and insects.

The black snake, or racer, is from forty-eight to eighty inches long. It is very strong and easily climbs a tree. It has been known to win in a combat with a rattle snake. Nevertheless, it is a coward. Its food is mice, rats, frogs, toads and birds.

The worm snake is a purplish black above and flesh color underneath. On a field trip taken to Dodson, several of these were found, also a garter snake, a grass snake and a ring-necked snake.

The common garter snake is very prevalent in Missouri. It is a brownish color above and underneath and on the sides is green. It has running lengthwise of its body stripes that are broad but not conspicuous.

The water snake lives about streams, feeding on fish and frogs. It is ill-tempered, but perfectly harmless. Its sides and back are covered with dark brown blotches.

The ring-necked snake is very pretty, being blue-black above and an orange below. It has a distinct yellow ring

about its neck. It is often found under the same rock with the worm snake.

Spreading adder, or hog-nosed adder, is sepia-brown above and yellow-gray below. He has a decided pug nose. When you approach him he flattens his head and body on the ground, hissing threateningly, but he is harmless. He is also hard of hearing. Hence the saying, "As deaf as an adder."

A snake may shed its skin four times a year, which is called exuviation. The skin is shed inside out, and is scraped off by coming in contact with stones and bushes. For a few days before this changing of skin the sight of the reptile is impaired, which causes it to become irritable.

I have now given the many forms of common snakes in this part of the country and have also shown that there is some good in allowing them to live. You will find that it is always a certainty, that if we will only look into the origin of things that we so despise we will find some good in them.

BERNICE EDWORDS.

NEW DISCOVERIES IN RADIATION

Following the great discoveries of the wonderful properties of radium comes the discovery by M. Blondlot of a new form of radiation called by him, N-rays. The different forms of radiation may be classed in two groups. The first group contains the radiations of the cathode-ray family; that is to say, the rays emitted by the cathode of a Crooke's tube. Radium, thorium, uranium, and other such radio-active bodies give emissions of the first group that are, or rather consist, of particles of dissociated atoms charged with electricity. The second group consists of the radiations propagated through the atmosphere by waves. Under the second group are classed the "lumiere noire," or dark light, of Dr. Gustave Le Bon and the N-rays of M. Blondlot.

When the first discoveries in radiation were made by Le Bon, Roentgen, and the Curies, it was thought that a limited number of bodies possessed the power to give off ceaselessly a flood of particles caused by the breaking down of matter into dissociated atoms. Now it is impossible to find any bodies that do not give off certain forms of radio-action to a certain degree. This gives rise to the new form of energy called "intra-atomic." Matter which has heretofore been believed to be indestructible, slowly disappears by its breaking up into these radio-active particles. Matter which has hitherto been regarded as inert, unless some form of physical energy is given to it, has been found to have an immense reservoir of forces that it may give out without any outside help or supply.

Blondlot's rays belong to the second category into which we have divided the forms of radiation and are analygous to ordinary light, and closely similar to Le Bon's dark light. The discovery of these rays bids fair to eclipse both the radium and the X-rays, and it is remarkable what little attention has been paid to them by the public. It has been found that all bodies give off this form of radiation. M. Augustin Carpentier has recently shown that the human body is an immense store-house of the N-rays. They are emitted to a great degree from the

nerve centers of the body. The spinal chord, a contracted muscle, pitch of the voice, or even the act of mental exertion has a great effect on the luminosity of the test object. For this reason M. Carpentier has been able to locate the so-called "motor centers" of the body.

Owing to these radiations from the human and other bodies, Le Bon has been enabled to photograph through opaque bodies by using a sensitive plate that would record the N-rays of the body photographed. He has photographed a candle flame in complete darkness through an opaque body by exactly the same means. An ordinary photographic plate cannot be used in these experiments, so a plate covered with gelatino-bromid is used. All has been made possible by the great penetrability of these rays. They will transverse several centimeters of metal. Even more than has been shown the radium particles will transverse.

Another fact is that compression or bending of a body causes it to emit N-rays. An ordinary tuning fork was held in front of a phosphorescent screen. The glow upon the screen decreased gradually until the vibrations had ceased. Upon being made to vibrate more rapidly than before the phosphorescence was decidedly increased. The best results were obtained with a steel cylinder suspended by two cords and vibrating transversally from the blow of a hammer. The phosphorescence increases on producing the vibrations and decreases when they are stopped. The sonorous body alone is not the only source of the N-rays, but also the air about the body that serves to transmit the vibrations. An instrument called the siren, which has no metal parts, when made to produce air vibrations will cause an increase in the luminosity of the screen. If just enough diffused light is allowed in the room to make objects partly visible, and the disc of the siren is rotated, the disc will appear with a stronger light, but this light disappears immediately when the vibrations cease.

Many other remarkable scientific facts have been explained by these N-rays. One of the most important is the sight of certain nocturnal animals, and what have been heretofore thought to be blind fishes. Another fact explained by the N-rays is the reason for the classes of salt water and fresh water fishes, and why the salt water class will not live in fresh water, and vice versa. It is believed by eminent scientists of the day that many other unexplained physical, chemical, and physiological facts and theories will eventually be cleared up by the use of the N-rays.

SCIENCE BREVITIES

STATIONARY BICYCLE RACE

Bicycle races without leaving the starting place, which are said to be the latest craze in places of amusements in Paris, are described in a recent issue of *The Literary Digest*. "The wheel is fixed in a frame fastened to the floor. When the rider begins to pedal, a belt from the rear wheel drives a small electric generator. The current thus produced is conducted to a motor on wheels and carrying a flag. The track on which the motor travels is marked in distances, and each foot of track requires as much work by the rider as would have carried

the bicycle one mile had it been free to run as under ordinary conditions."

A QUEER ACCIDENT

On Friday afternoon, September 23, near Cumberland, Md., a freight train on the Baltimore & Ohio railroad collided with a wagon hauling a load of eight hundred pounds of dynamite. The wagon was thrown nearly one hundred yards along the track. The terrific explosion totally demolished nine houses and was heard for over five miles. Nevertheless the driver of the wagon was only slightly hurt and the horses sustained no injury at all. The engine was thrown one hundred feet and turned completely around. All the cars were reduced to kindling wood. One brakeman was killed outright and the engineer died of his injuries soon after. The track was torn up for many yards and a signal tower demolished. All that could be found of the wagon was a tire off one of the wheels. It was wrapped tightly about a nearby telegraph pole as if a blacksmith had fastened it there. Taking into consideration the force of the explosion, it is miraculous that the loss of life was not greater.

THE ELECTRIC FURNACE

One of the most prominent electrochemical inventions of late is the electric furnace. But more interesting still are the industries cradled in its crucible. Among the many, the most important are the manufacture of carborundum, calcium carbide, artificial graphite, aluminum, sodium, zinc, manganese, and phosphorus. The carborundum is a new carbon compound, and its use has become so important in the steel industry that the consumption amounts to seventy-five tons a month. The manufacture of calcium carbide is even a greater industry than that of carborundum. The artificial graphite is a comparatively cheap product and this fact enables its use for many purposes heretofore made impossible by its great cost. By this new process, 3,000,000 pounds are manufactured a year. The manufacture of the metals mentioned will have a great effect on the numerous mining industries. The electric furnace is practically new yet, and great strides have been taken by scientists toward attaining greater ends than these by its use.

WIRELESS TELEGRAPHY

Some pessimists about the country have been finding fault with the slow but sure advance of the wireless telegraph. To be more correct, we should say the slow advance as compared to what was promised by many who had no right to make such promises. Newspapers that talked about it said it would change this and that and the other thing until a complete revolutionizing of the electric systems and forces of the globe would be made. Not only the newspapers but other institutions promised much. Notwithstanding all this comment, the progress and use of this invention are wonderful. A system of signals and stations has been installed in the Black Hills of South Dakota for the prevention of forest fires. In Berlin, clocks will be put on the street corners to be run by wireless electricity. Three hundred of them will be made at first and, if the experiment is a success, many more will be constructed. All of us know the value of the wireless telegraph in war. The recent agitation in the Far East has taught us this. The Japanese have used it with the greatest of success in starting land and sea attacks simultaneously. In case a ship is in danger it may locate and call another to its help immediately. To many more uses has this wireless electricity been put.

So many in fact that it is a wonder how any one can find fault with the rate of its advancement.

A NEW POISON

A new poison has been discovered that gives off a vapor which if inhaled will cause instant death. A number of years ago a French chemist, Cadet, combined potassium acetate with white arsenic and produced a fuming liquid, oxid of cacodyl. This oxid of cacodyl has recently been combined with cyanogen, the anion of prussic acid. The resulting compound was called cyanide of cacodyl. It is a white powder, melting at 33° and boiling at 140° Centigrade, which, when exposed to the air, gives off these deadly fumes. It is many times more poisonous than prussic acid.

PLANT BREEDING

Mr. Luther Burbank of California has succeeded in making some very interesting new plants and flowers. He has grown plums and prunes without stones, pure white "blackberries," and daisies four inches across. He has also succeeded in marrying the plum and the apricot, and has named the product "Plumcot." We may be eating this new fruit in a couple of years hence and never stop to think of the labor required to cultivate it. It is said to have an entirely new and delicious flavor that cannot be duplicated in the fruit world. White blackberries have been made by picking the light berries and replanting them. The berries from there in turn have been picked and planted until a pure white product has been cultivated. In order to do this some 25,000 bushes have had to be looked over in succeeding years. The Shasta daisy is a combination of the American daisy and the Japanese species and is the result of eight years of hard work. This is not all of this wizard's magic labors. He has raised a giant Amaryllis, some specimens being ten inches across the flower. This is the result of nineteen years' selection. Among the other things he has done is the production of the first double Gladiolus. He has done away with the disagreeable odor of the dahlia and has given it a sweet perfume. He has made pampas grass grow to a giant height and has grown a so-called hybrid pink on which pink, white and red blossoms all grow on the same stalk at the same time. Thirty thousand dollars was paid for a new carnation of his making. Another success is the production of a new grapefruit, or shaddock, a cross between a kid-glove orange and the ordinary grapefruit. Pineapples and thornless leaves have been grown, which will be a boon to the pineapple pickers. A cherry tree on which fifty or sixty cherries grow in one bunch and grapes without seeds are more things that have been done by Mr. Burbank. From all these remarkable facts one can hardly guess what is in store for us in the near future. The banana has been practically seedless for hundreds of years as well as the pineapple, therefore, why cannot the apple be so?

THE NEW YORK SUBWAY

New York, "the city of the torn up streets," and truly enough for the last four years the streets have been in a wretched condition. All this was a necessary means to an end, and an end truly great in its proportions. Thirty-five million dollars was the contract price for the construction of the New York Subway. The equipment will cost $12,000,000.00 more, which will bring the total cost up to $47,000,000.00. Just four years from the date the contract was let, the Subway will be complete. Nowhere can there be found such a complete work of its kind. It is absolutely without a

rival. There is a stretch of four-track road from City Hall Park to One Hundred and Fourth street, a distance of seven miles. Besides this there are eighteen miles of three and two-track road that go to make up the system. The total length of the line is 24.7 miles—nineteen miles underground and 5.7 miles elevated structure. The express trains which will be run on the middle tracks will be made up of eight cars, five of them motor cars and three trailers. The combined power of the five motor cars will be 2,000 horse power. Steam engines have a maximum of 1,500 horse power and have to haul twice as much as these Subway expresses do. The average speed of the train will be thirty miles an hour, including stops. On a recent test seven miles were made in eleven minutes. The locals will run at an average of sixteen miles an hour. To prevent accidents an elaborate system of signals and switches will be installed. The block system of signals, known as the pneumatic-electric, will prevent two trains from coming within 1,000 feet of each other. Automatic stops will be used to accomplish this. There remains only the tunnel under Broadway and the one under Harlem river, and this wonderful engineering work will be completed.

RADIUM SALTS

When the word, radium, is heard, it must be remembered that a salt, chlorid or bromid, of radium is inferred. No one has yet obtained enough of the salt to reduce it to its metal form. It is not known that the element would possess the radio-activity of the salt. Maybe it would be found that the activity is solely due to the decomposition of the radium salt, and, on obtaining pure radium, that it possessed little or no activity at all. This, although it may be true, is only a surmise. It is possible, just as much, that the activity is solely due to the radium as an element, but as no one has produced enough of the salt to risk reducing it, we will have to content ourselves with these surmises.

MAKING FUDGE IN A FLAT

Virginia Morse was not a little girl who rolled in luxuries, nor was she a very poor child who starved for want of bread. But the Morses were in moderate circumstances. They were compelled to live in a building where twenty-four families breathed and existed under one enormous roof; all had recreation in the same yard, and all joined in each other's sports. On account of this new mode of living, some of Virginia's greatest desires were crushed (perhaps because of so many neighbors).

One afternoon the longed-for desire of making "fudge" was realized. Virginia wished to be alone all afternoon. Now, lest ye who read this tale of woe think Virginia was a selfish girl, let me forewarn you and tell you that she was not; indeed she was very generous. But with so many people near, one does wish to be alone occasionally. Today seemed to be veiled in a great chocolate mist for Virginia. She could scarcely think of anything else during the morning. She ate her luncheon hurriedly and was soon out in the kitchen gazing around and wondering what to do first. She was so happy that she really thought herself the happiest little girl in the city of "Brotherly Love."

Now, Virginia had a cousin who lived in the far-away Western town of Kansas City. This cousin (wonderful in the eyes of our little maiden) attended the "Manual Training High School." She took cooking. Virginia had heard her talk of the shining utensils used. So with her imagination wrought up to the highest point and with Manual's recipe book before her, she began to collect things for fudge making.

A sauce-pan, a pie-pan, a knife and a wooden-spoon were laid on the left side of the table, just as the cooking teacher had told her cousin. Then the ingredients—

2 cups sugar,
1 cup milk,
2 squares chocolate.

A piece of butter, size of an egg, and flavoring—all were mixed together and put on to cook. In exactly eleven minutes the fudge was made and the steaming candy set aside to be beaten. So she beat and beat and beat until the fudge was creamy, then she turned it into the buttered pie-plate. Virginia surveyed the result of her first attempt at making fudge with all the pride that Mother Nature holds when she spies the yellow

heads of the violets as they appear in meadow and by brook.

The happy lass had just cut the fudge into squares when the door bell rang. Her heart sank within her as she tripped lightly to the door. There she beheld the faces of the three winsome little Chinamen from the laundry below. They all cried in one excited breath, "Fudgee, fudgee, we smellee, we wantee." "And you shall have some," said Virginia, although I am sorry to say it was a very deceitful speech. She led them into the kitchen where she fed them her precious fudge. It was an amusing sight. Virginia was enjoying it, but her fudge was going, slowly going. Sad to say, the longed-for privacy was doomed, for in a few moments the front bell rang. "Door bell ringee," cried one little Chinaman. "Some one else that loves fudge," said Virginia.

At the door she was confronted by the tall, gaunt and grave minister. "Oh, sir, how do you do! I am cooking this afternoon," Virginia said, blushing. "May heaven bless you, my child, and may you grow into a good, peace-loving woman, ever making bread for others," the minister said, putting his hand on her curly hair. "Yes, sir, but I was not making bread; I was making fudge," she answered. "Indeed, that is well, child. I myself sometimes eat a small portion of confectionery. How I should like to taste some of yours!" he said. "Certainly, Doctor Jennins," and she hurried into the kitchen. She returned shortly with a plate of fudge and the three little Chinamen at her heels.

"Ahem, my children," began the minister as soon as they were seated, "is your mother in, Virginia?" "No, sir, she went to the city," Virginia piped. "That is unfortunate. I shall tarry but for a short call. Ahem, this chocolate is very unhealthful, very impure and unhygienic. However, I will take another piece." Dr. Jennins talked awhile on common-place topics, helping himself freely to the fudge. Virginia was getting tired of this hypocritical talk. She was disgusted, for Doctor Jennins was eating so much, and all the time talking about the "harmful ingredients." The minister was troubled with indigestion, still he ate a great deal when taking Sunday dinner with one of his members. He was taking his hat to depart when the bell rang again. Virginia opened the door to find her Aunt Amanda there, who had come to tea. She exchanged greetings with her niece and the minister. Aunt Amanda was a typical old maid and very dyspeptic, so of course she would eat no fudge. She began a conversation, spirited and strenuous, with the minister.

She told him of the dear nephew at home—how John was learning the catechism that very day; how the baby, Willie, was committing to memory the commandments. So the minister begged her to take all of the sweets to the children. She consented and put every bit of the fudge into her hand-bag "just so she wouldn't forget."

Virginia's callers kept up such a lively conversation that she and the little Chinamen were not even noticed as they slipped away. The Chinese babies declared that they had a "velly dullee timee."

Virginia got her empty plate, then she went into her mother's room where she burst into tears. She was so broken-hearted, for not one piece had she eaten. She threw herself on a couch and was soon journeying in the land of dreams. But so disturbed were her visions that hymn-books, fudge, Chinamen, old

maids and lastly ministers on the gallows danced before her eyes. At length enchanting notes of sirens quieted her and she slumbered on.

Thus the father and mother found their daughter. The ever-thoughtful mother guessed the story while the father, with his toil-hardened hand, smoothed the fair curls from the tear-stained cheek. In a dream Virginia murmured something inaudible, while her father whispered, "Never mind, dear, you shall try again."

E. WANDA EGBERT, '07.

THE SOCIAL THAT NEARLY WASN'T

"I really don't see how I can get ready for that social and entertain Gertrude at the same time," sighed Mrs. English, "but I did so want to have it."

"Well, Faith," said her husband consolingly, "maybe you can have it yet."

"Anyhow, George, you needn't tell the folks that I can't have it until after Gerty comes and I find out what kind of a girl she is. If she didn't come from the city I might count on some help from her; but I don't suppose she'll know enough to make her own bed, let alone help get ready for a social."

Mrs. English had been planning to have a church social on the extensive lawn which lay in front of her home at the outskirts of the little town of Randolph.

Although Mr. English had prospered, his wife had preferred to remain in the town in which she was born and which furnished little or no "hired help" except the men who worked in the fields.

Of course the people of the church would turn out to help prepare for the social and the whole town would attend it, but the heaviest part naturally fell on the hostess, who, following the saying, "Too many cooks spoil the broth," would allow no one to assist her in the kitchen.

Now the social was but a week off and the telegram, which she had received that day, had stated that her niece, Gertrude, was on the way to visit her and would arrive the next morning.

Gertrude lived in Kansas City and had graduated from Manual that spring. She had had five years of manual training, but her aunt was either not aware of the fact or was not impressed with the value of the course, hence her unsettled state of mind. The next day Mrs. English was in bed with a headache brought on by her worry, so she sent her husband to the train to meet Gertrude with instructions to take her for dinner to the only hotel the little town boasted.

The train was on time, for a wonder, and off the platform of its Pullman stepped a tall, graceful, well-dressed girl of eighteen. Her uncle explained the situation and started to drive to the hotel, but the girl from Manual would hear to no such arrangement, and bade her uncle drive at once to the house.

As soon as Gertrude had put on a gingham dress and one of the aprons that she had used in cooking, she found the way to the kitchen, laughingly ordered her uncle out because he was trying to peel potatoes with the bread knife, and at once began preparations for dinner.

While the more substantial meal was cooking, the girl found time to put some of her lessons on the preparation of invalid's food into practice and she soon

had a dainty tray prepared with the good things which tempt a sick person.

The dinner which she served to her uncle and the hired men astonished them and raised Manual, as well as Gertrude, in their estimation when she told them to what she owed her knowledge.

After that day there was not a word spoken of giving up the social, and Mrs. English was only too glad to let Gertrude assume the responsibility of the ice cream and cake, which were to refresh the visitors and help to replenish the church treasury.

An hour or two every day Gertrude stole away to an unused room which she had fitted up as a sewing room, and from whence the steady hum of a machine could be heard at intervals, and on the day of the social Mrs. English found in her room a new toilette to add to the happiness of the day.

HELEN FILLEY, '06.

MY PROVERBIAL CAMPAIGN

One Friday I had been excused before the sixth hour so that I could take the 11:50 train to my aunt's, about twenty miles from here. (Now please don't think what I am going to tell you is untrue; it is true, very true, or else I was afflicted with temporary aberration that afternoon.) About 2 o'clock, I went upstairs to the room that was always reserved for me, and sat down to reflect on the probable outcome of the physics test we had that morning. My aunt always made it a point to leave a Bible in my room; and, as I sat facing the stand where this Bible was, a very astonishing thing happened. The Bible commenced to grow, and it grew and grew before my amazed eyes, until it opened at the book of Proverbs and out stepped a man.

It was Solomon, King Solomon, right fresh out of Proverbs! I recognized him instantly, for there was a picture of him down stairs, which represented King Solomon standing in his stately robes with a virtuous look in his deep-set eyes and a heavy, uncomfortable gold crown on his head. He looked at me sternly for a moment and watched me tremble—I was dreadfully frightened—then he said, "Aren't you going to Society at 3:45?" I managed to gasp that I had been excused from the meeting. "Excused! Do you think that *you* can afford to miss it? Nonsense! I have been wanting to visit Manual for several years, but I don't like to go alone. We'll do the school first and then we'll do Society."

My courage was returning. "I wouldn't be seen on the street with you in those robes, and you can't get into Society, for they won't let you," I exclaimed indignantly, for I didn't like being ordered about so. "Oh, never mind that," he said genially, and threw a bit of rubber over my head; "now we're invisible to every one but ourselves."

"You see," he continued, "we're invisible by the same force that made the Japs beat the Russians." (We were now in a diminutive glass launch, floating through the air.) "The Japs got some of this rubber and, being invisible, kidnaped Kuropatkin; then the Russians were discouraged because they didn't know how to retreat any more, and so they lay down and died. But I shouldn't have told you that, for it is a war secret and hasn't come off yet. Now just to keep up the conversation, I'll tell you about this launch. Perry built one just like it,

and started again to find the Pole. One day he was whizzing through the air, gazing at the stars, when a crash came and he bounced till he almost hit the North Star. The truth was that Perry's launch, all glass except the flag pole, had sailed against the North Pole. It was utterly demolished; that is, the boat was. The only thing to do was to saw up the chunks of ice to make a new boat, and the only thing that would do for a flag-staff was the Pole. So he cut the Pole down and used it. Oh, here we are at Manual."

We entered all the rooms, mostly by the transoms, and Solomon was more than pleased. Finally, as we ascended the east stairs leading to the third floor, the blended odor of tomato catsup and grape marmalade greeted us. My companion sniffed joyfully. "Heavenly," he exclaimed (and he knows, if anyone does). Then, as we entered the door of room 39, he stood in amazement. Before he said a word, he surveyed the large, light, airy room, the spotless desks, the shining utensils, the well-kept drawers; then he scanned the face of each pupil. Finally, with a long, delighted gaze at Miss Bacheller, he murmured, "This goes the Garden of Eden one better." When I dragged him away into the cooking students' new recitation room, by some mysterious process he got inside a note-book. His face was triumphant when he emerged. Now, I know positively everything, everything. I have added to my knowledge many ideas of proteids and inorganic matter, and ideas of that most splendid—it is too grand for words—cooking-room!"

He attended several of the Society meetings that afternoon, and when we were in the glass launch going home, he remarked, "Verily, my cup runneth over. I know just how a high school's model society is carried on." As the Bible swelled up to admit him, he turned to me, with tears in his eyes, and said, "Now, I am indeed unhappy; for I *know* there is nothing more for me to learn."

RUTH E. HUNT, '06.

ATHLETICS

Alex. Fachs

The football days have come again,
The gladdest of the year.

Not since Manual and Westport have played football has the crimson won such a decisive victory over the blue and gold as it did on Oct. 5. Our team played all around the Southsiders and succeeded in making twenty-three points while our goal was never in danger. The game, though one-sided, was nevertheless very interesting, the Westport team fighting desperately to make as good showing against Manual as they had in former years.

In the first half the playing was slow and fumbling frequent, Manual being able to make but one touchdown.

Westport kicked off to Manual at the beginning of the second half. Sexton, who secured the ball, made the longest run of the game. With excellent interference he carried it back 40 yards to the center of the field. From then on it was simply a march for Manual from one end of the field to the other.

Three days after the game with Westport, Manual won their second victory, by defeating Kansas City, Kansas, at Kerr's Park, by a score of 29 to 0. The game, but for several sensational runs made by Manual players, was slow and uninteresting. As soon as Kansas determined the strength of the Manual team they played for "time." They succeeded very well at this, losing much valuable time by tying their shoes, arranging their shaggy locks and adjusting their paraphernalia.

Clemens opened the game by kicking off for Manual. K. C., K., carried the ball back twenty yards, but soon lost it on a fumble. Ten yards around end by Harnden and several line bucks by Keeler and Porter scored Manual's first touchdown. During the remainder of the half each team had possession of the ball, but neither succeeded in scoring.

The features of the second half were the long runs of Porter and Pauly. Porter carried the ball ninety yards and Pauly fifty yards, each resulting in a touchdown. The excellent work of Edwards, Sexton and Kruse also deserves mention.

On the following Saturday Manual again crossed the Kaw to do battle with a Jayhawker eleven, this time going to Topeka, to play the high school team of that city. Here our hopes for an uncrossed goal were shattered, for we were defeated 34 to 0.

Although our team lost, the few who took the trip have nothing but praise for its playing. Outweighed twenty pounds to the man and seventy miles from home may have been discouraging to some teams, but not so with Manual. At no time did they lose interest in the game and the fierceness of their playing was shown by the fact that Topeka used several substitutes and had time taken out repeatedly while Manual used no substitutes and had time taken out but twice. The feature of the game was the playing of Pauly.

On Oct. 25 the second team defeated the football aggregation of the Prosso Preparatory School. That Manual played a great game is evident from the score, for in twenty-seven minutes they made twenty-eight points. At no time was Manual's goal in danger.

Manual's many touchdowns were the result of the long end runs of Hinsen and W. Harnden and the fierce line charges of Howe, Benjamine and Palmer.

On Oct. 22 Manual defeated the football team of the Paola High School in a one-sided game at Association Park. The final score was 29 to 9. The Paola team was outclassed at every point of the game. They showed lack of training and little knowledge of the game. Their formations were poorly executed and they lost much ground by their miserable punting.

The encouraging feature of Manual's playing was her excellent work on the defensive, being much better than in former games.

Manual's backs, Keeler, Morgan and Edwards, did great work on the offensive and Morgan always plays a star game on the defensive. Harnden at end played an excellent game on the defensive and on a kickoff or punt he went down the field like an arrow. The snappy way in which Pauly ran the team and his fierce tackling are worthy of mention. This was Edwards' first game at half, but the manner in which he carried the ball has won him a permanent place behind the line.

Among the most important organizations in our school is the Girls' Athletic Association, for it is this society which develops the true athletic girl, and which coaches the expert basketball player.

The Association this year is formed with about thirty-five members, all of whom are striving for a position on the Manual basketball team which will be organized soon after Christmas. Our new gymnasium is completed, but still it does not offer accommodations for more than two teams to practice at once. More space is badly needed. With several courts, the whole Association might practice at the same time, and every member stand the same chance of being selected for Manual's first team. The girls give their time and strength to win laurels for Manual, and every advantage should be given them for practice. Outdoor grounds are what they need.

These grounds would not only be advantageous to the basketball team, but to all branches of athletics. The baseball, football and tennis teams could play there and the spectators might in some future time have the honor of sitting on Manual's own grandstand to yell and sing for the crimson.

One of the most interesting events in fall athletics at our school is the annual hare and hound chase. This year, as usual, it will be held on the Saturday following Thanksgiving. This event is

open to all who care to enter. Are you interested? If so, see Mr. Hall for further particulars.

Under the auspices of Central High School, the fifth annual meet of the Missouri Valley Inter-scholastic Athletic Association was held at the Kansas City Driving Club Park, on May 7. First honors went to Blees Military Academy, Warner of that team being the star performer of the day.

The local high schools failed to win a first place. For Manual, Schenck won third place in the quarter-mile and Talbot a similar place in throwing the discus.

With an attendance equal to any high school in the Association and a suitable place to practice, two blocks from the school, there is no reason why we should not win this year. The meet will be held at Macon, Mo. Let us try to carry off first honors.

THAT DAY AT THE STADIUM

"Station 5, Stadium and Physical Culture Field!" Nearly the whole car was emptied of its passengers, as the conductor on the Intramural railway called out these words.

"Is there where the Olympian games are played?" asked a white-haired old lady, bent with years, but still bearing that stately, aristocratic demeanor so beautiful in the old.

"Yes, ma'am. Hurry up. All aboard." The bell jingled and the car sped on.

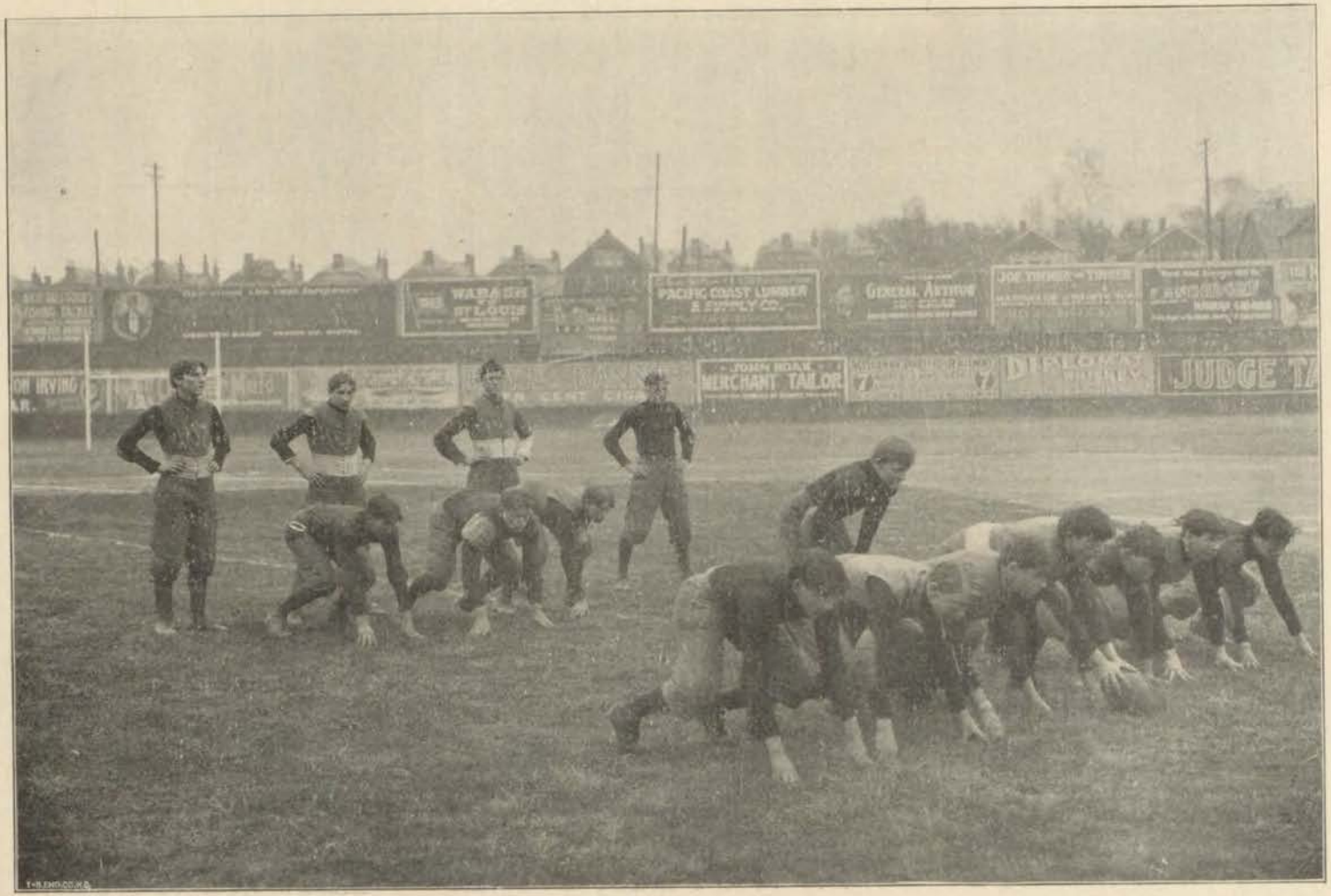
"Oh, wonder which way you go in. I forgot to ask Kermit for—oh, dear, I have lost my map," and she began searching excitedly through her purse and pockets. "I don't care what people say, this World's Fair is wearing on the nerves. It is so big and when one loses one's map, why it is so bewildering and—" She was interrupted by a young girl of nineteen or twenty summers, who extended her hand and smiled contagiously.

"You just dropped this and I thought you might need it. Oh, don't mention it. Yes, we are going to see the Olympian games, my sister and I. Are you all alone? Won't you let me procure your ticket so your seat will be next to ours? Yes, it *is* early, but our brother is in one of the running matches this afternoon and we wanted to be sure to be on time. Your son is, too? Just you wait here with my sister till I get the tickets, then we can all go in together."

She stepped up to the box office, and after a few minutes rejoined them. "Just dandy seats," she remarked. "I got them reserved so that we can see everything that happens. Come on, Lillian, and—oh, but I don't know your name? Mrs. Leslie? Ours is Meridith—Lillian and Madge Meridith. Let me carry your programme and catalogue, won't you?"

"How kind you are!" exclaimed the old lady, as she looked from one to the other of the two very pretty sisters. Lillian was evidently the older, though only a few years, tall, slender, and graceful. But Madge was a typical athletic girl, finely built and beautiful; an impulsive creature, altogether charming and lovable.

"Oh, isn't this splendid?" said Madge, as they seated themselves. "What a large crowd! Just a sea of heads. Oh, here come the boys. They look cool, but I can imagine the high temperature raging behind their masks. Look, Lil-


WABASH
ST LOUIS
PACIFIC COAST LUMBER
& SUPPLY CO.
GENERAL ARTHUR
JOHN ROAK
MERCHANT TAILOR
JUDGE T

lian, there's Norton; do you see him? I wish he would look. Why, who is that tall fellow, bowing to us? Isn't he handsome?"

"You forget, Madgie, that there are others around us that have friends on the field. He is not looking at us."

"Why, he is, too. There, he is waving his handkerchief. I wonder who he is."

"Oh, that's my son. Kermit, Kermit, be careful," called his mother, as she waved her parasol. "He is to be in several of the races, Miss Meridith, but he is an especially fine runner. He holds medals from many cities; however, he wants to win the world record, and he will, too," she added confidently, "but I am always so afraid something will happen."

"How strange!" said Lillian, a little coolly. "Our brother is also going to try for the record this afternoon and we are hoping *he* will win. It will commence soon, for they are all down at the other end of the field." Even as she spoke, the pistol shot rang out and six figures started out with that long, sure, stride that was to carry them twice around the large field. On, on, they came, first one surging ahead, then another. The excitement was intense, for this was the first of the races, only pole vaulting, very tame in comparison, being the first number. All kinds of yells were given as the runners passed the grandstand the first time, not slackening their pace, but continuing in that even, measured step.

"Go it, New York! You're alright; don't give up," encouraged a little man in the fifth row, as one of the racers continued to lag behind and finally dropped out.

"K. C. A. C.! Hurrah! Nort's alright. That's it, Meridith, show them what Manual can do. He's ahead! Whew, it's pretty close! Nort, Nort, Man-n-n-ual!" yelled someone nearby.

"Oh, Norton *is* ahead," screamed Madge, "and he is nearly here. Oh, but there comes that other fellow. They're even! Oh, Lillian—Nort, Norton, don't let him beat you!"

Nearer and nearer they came, two having a decided lead. One was Norton Meridith, Manual, '01, Kansas City Athletic Club, the other, a perfect giant, Kermit Leslie, Cornell, '98, from Chicago. "Rah, Cornell. You're it, Les! One minute more. Leslie, Leslie!"

But as they passed the judge's box Meridith was just a foot ahead and won the race.

"I yell, you yell—oh, Madge, finish it; I am so excited I can't talk," gasped Lillian. But Madge needed no prompting. There she was, standing on her chair, waving her crimson parasol frantically, and alternately shouting, "Norton—Manual—Nort! I yell, you yell, all yell; Manual! Hurrah!" After the excitement had somewhat subsided, the announcement was made in favor of N. Meridith, K. C. A. C.

"Wasn't it great?" asked Madge, joyously, turning towards Mrs. Leslie, but immediately recovering herself, said, "Oh, I forgot. Your son did finely, anyway. In fact," she added, in her sweet, tactful way, "I was very much afraid of him."

"Oh, that wasn't the decisive race," explained Mrs. Leslie. "The one third from this is for the world's record, which heretofore has been held by a Pennsylvania man. My son explained it all to me. It is that race which Kermit will win," she remarked, proudly.

Madge turned to her sister. "I certainly admire loyalty in a family, but I

am equally as certain that her handsome old son won't win that race. Nort won this one and he will get the next, too. I wish all this wasn't on the programme. I can scarcely wait for the fourth number."

"But this is for a world record, too, Madge," said Lillian. "This is very interesting,—the weight lifting. Look at that Greek. And the tug-of-war will be splendid. They are just getting ready for it."

The fourth number was on. The pistol had sounded and this time four started out on the quarter mile run. Once again the same two were ahead, speeding along the track at an inconceivably rapid pace. But the Cornell man seemed to have strength in reserve while Meridith was almost exhausted. He kept even until within fifteen or twenty feet, when Leslie gained and came in first.

"World record! Championship! Leslie, Leslie!" yelled the crowd, but many there were who sat down, disappointed, to discuss the race in forlorn tones, among whom were the Misses Meridith, who gazed on until the formal announcement was made and some of the people began leaving their seats. "My son!" murmured a voice next to them. "Kermit! I knew he would do it. I knew it."

"Allow me to congratulate you," said Madge cordially, though the tears stood in her eyes and her lips trembled. "I shall accompany you to the car or you'll be lost in this crowd."

"No, no, thank you dear. Kermit will meet me right outside. Won't you wait and let me introduce you?"

"We are sorry," spoke both girls simultaneously, Lillian continuing, "but it is late and we are to meet our brother at the Kansas City Casino. Good-bye."

"Lillian, Lillian, don't you feel awful? I dread to meet Nort. Isn't that little, old lady sweet? But I just hate her son! Yes, I know it's wrong, but I simply can't help it. I should like to see myself waiting around to be introduced! Do hurry, girlie, I am nearly crazy."

* * * * *

"Why, Madge Meridith, where in the world do you come from? How fortunate that I should meet you, and there are Lillian and Norton. How long have you been at the Fair? Isn't it wonderful? There is so much to see, and learn, and enjoy, that every one keeps on trotting and going, though he is simply worn out." The two friends met in the Fine Arts Building, and after a jolly chat of ten minutes, the five (Merle Hart and her mother) spent the afternoon together, "doing" the Art Gallery, arranging to dine at the Tyrolean Alps. "Some cousins of ours from Chicago are going to meet us there," said Merle—"Mr. Kermit Leslie and his mother. You know he is the one—"

"Yes, we know all about him," interrupted Madge; "Norton and he have become very good friends, but I have no desire to meet him. Prejudiced? Perhaps, but I should rather not be one of the party. If you will pardon me, Merle, for going back on my word, I shall join the Martins who have already invited me for dinner, and let Lillian and Norton answer for me."

"Madge," said Mrs. Martin, while they were seated at table, "I have a friend whom I am particularly anxious for you to meet. He is a Cornell boy, from a lovely family, and is undoubtedly one of the finest young men I know. He is a great athlete; in fact, he won—"

"Pardon me for interrupting, Mrs. Martin," said Madge, wearily, "but I

know whom you mean. Kermit Leslie, is it not? Very well. By the way, have you been to the Phillipine Reservation?"

"Why do you change the subject, Madge? Have you met him?" But Madge was saved an answer by the approach of some friends.

It was in the Educational Building the next day however, that the inevitable happened. "Discretion is the better part of valor," thought Madge to herself, "and forbearance ceases to be a virtue"; for she saw Mrs. Leslie and her son coming directly towards her. "I almost wish not that I didn't know his little mother. He *is* good looking, but I suppose he has an over-supply of affectatious pills which he distributes free of charge."

"Miss Meridith! I am delighted to meet you again. And this is my son. Kermit, this is the young lady who befriended me so thoughtfully that day at the Stadium."

"I am very glad of this opportunity to mingle my hopes with my thanks, Miss Meridith. I have been hoping to meet you ever since mother spoke so kindly of you, and especially since I have known your brother. We have searched for you and seen you often, but each time we were doomed to disappointment."

"If you but knew—if you but knew," thought Madge, "how every time I have eluded you," but she returned the greeting and though against her will, remained with them till her sister and brother joined her.

After that, the word, "avoidance," seemed to disappear from Madge's vocabulary, but there was still a little word of four letters which Madge felt she must retain after her vehement protests of a few weeks previous. But it must be acknowledged that it was very hard for her to maintain that pretense, until at last she admitted to her sister, "Oh, of course, I don't hate him, but I certainly am far from liking him."

Nevertheless, many more gondola rides were taken than formerly, many more meetings were arranged, many more little parties were given and many more little words were spoken, than Miss Madge Meridith had ever thought possible that day when Kermit Leslie won the race from her brother, Norton.

* * * * *

And in the life race? "I didn't mind so much losing that race, Les, old man, but there's quite a difference when it comes to losing one's sister," remarked Norton, on the day when Kermit came out victorious in this, also—the day which made Madge Meridith of old Manual, Mrs. Kermit Leslie.

ETHEL R. FEINEMAN, 06.

EXCHANGES

THE NAUTILUS extends a greeting to its Exchanges and we wish them a prosperous year.

On account of its being so early in the school year, not all of our Exchanges are in, but those here are all excellent. We will be pleased to put on our Exchange list any new ones.

We regret that on account of the limited space we can do no more than give the names of the Exchanges that have so far come to hand: *The Hand and Mind, The Radius, The Independent, The Jayhawker, The High School News, The Lever, The William Jewell Student, The Daily Maroon, The Midland Purple and Gold, The Ottawa Campus, The Messenger, The Record, The Industrialist, The Cascadillian.*

HOW TO KILL A SCHOOL PAPER

1. Don't subscribe: borrow your neighbor's,—be a sponge.

2. Look up the advertisers and trade with the other fellows,—be a chump.

3 Never hand in a news item or a local, and criticise everything in the paper,—be a knocker.

4. Tell your neighbors that you pay too much for the paper,—be a squeeze.

5. If you can't get a hump on your anatomy and help make the paper a grand success,—be a corpse.

It's a mean pa that'll give a young man a foot when he asks for a hand.

A horse can go a mile without moving more than four feet. Funny, isn't it?

A Senior girl was heard to remark, "Actually this is the best Freshman class I've seen since we were there."

Never run in debt with a shoe store, for then you cannot say your soul is your own.

If Connor has said 'twould be fair,
And you're walking to school from afar,
And the temperature suddenly fell,
And it begins to rain like,—well,
Just run and catch a car.

Jackson—"Augustus cultivated the Roman frontier."

Teacher—"How?"

Jackson—"By planting armies there."

Teacher—"What is the word for death in French?"

Bright Boy—"Morte."

Teacher—"What sort of an accent has it."

Bright Boy—"Grave, I guess."

PONIES

Ponies are divided into three general classes—Cicero, Caesar and Virgil.

It requires great skill to manage some ponies, as they are sometimes frisky and hard to keep in confinement.

Once two little girls had a nice little brown pony, of which they were very fond and with which they had a very good time, until they lent it to a little "gentleman."

The teachers cast envious eyes upon the beautiful little pony and finally took possession of it.

The close confinement was entirely against its inclinations and soon its worst fault became manifest, for one evening when the teachers wished to use it they could not find it and have been unable thus far to find any trace of the missing animal.

He sailed out one evening,
To call on the fair young miss,
And when he reached her residence,
this.
like
steps
the
up
Ran

Her papa met him at the door,
He did not see the miss,
He will not go back there any more,
For
he
went
down
like
this.

Why are young ladies at the breaking up of a party like arrows?

Because they can't go off without a bow and are all in a quiver until they get one.

Mother (who comes to school on complaint of her son) to teacher—"Sir, my son says you kept him in two hours for something he didn't do."

Teacher—"Yes, madam; he didn't do his Latin."

Port Arthur version of Hamlet's soliloquy: "Togo or not Togo; that's the question."

A man occasionally gets a little light upon a subject by scratching his head. A match always does.

Mr. H.—"Cleopatra was a beautiful woman."

Richard—"Well, why didn't Julius Caesar?"

Back street,
Banana peel,
Fat man,
Virgina reel.

"Yes, father, when I graduate, I am going to follow my literary bent and write for money."

"Humph! you ought to be successful. That's all you did the four years you were in college."

Tho' you may change the hide of a "Pony" you cannot change the nature of the brute.

A jolly young chemist tough,
While mixing a compound of stuff,
Dropped a match in the vial,
And after a while
They found two front teeth and a cuff.

"She fell in love with him when she saw him hoeing corn."

"Sort of a hoe-beau, eh?"

Little bits of microbes, little germs galore
Make the doctor wealthy and the patient poor.

A Latin exam. paper was said to have been handed in with merely the words, "Vini, vidi, flunki," written across the first page—nothing more. We hope the examiner had a generous sense of humor.

Old Gentleman—"Boys will be boys. They's the same yesterday, today and forever. I remember when I was at school I came near being expelled for locking up a cow in the chapel, and Johnnie here tells me that Billy Jones, next door, has been expelled for bringing a horse into the examination room."

Two's company, three's a crowd,
And there were three—
The girl, the parlor lamp, and me;
And that's the reason, I've no doubt,
Why the parlor lamp went out.

Junior—"Why is mathematics like counterfeit money?"

Senior (who knows)—"Because it's hard to pass."

A baby is like a crop of wheat. It is first cradled, then thrashed, and finally becomes the flower of the family (?).

School Teacher—"Would you like your son to learn the dead languages?"

Mr. Dolt—"Certainly, certainly. He is going to be an undertaker."

He said, "My darling, adieu,"
At precisely a quarter of tieu;
At half after four,
He made for the door,
At six o'clock sharp he was thrieu.

Senior—"Do you wish me to preserve the margin on this paper?"

Professor—"Certainly; that'll really be the only part of your paper worth preserving."

Swans sing before they die—
'Twere no bad thing
Did certain persons die
Before they sing.

Senior (meditatively)—Let's see now, I have half hour to waste; what shall I do? Ah! I have it. I will work some trig."

Tess—"Oh, yes, I'm so interested in football! I have a cousin, you know, who is on the 'varsity team."

Jess—"Yes? What does he play?"

Tess—"Well, I forget just now whether he is touchdown or punt."

Tell me not in mournful numbers
Cats are harmless little things—
For the man is dead that slumbers
When a cat at midnight sings.

"Young man," said the professor, as he grabbed a frisky Junior by the shoulder, "I believe Satan has got hold of you."

"I believe he has," calmly replied the youth.

"Why was Alexander never alone?"

"Because he was always Alex and 'er."

"Must you tear yourself away?"

"Yes," answered he, struggling to rise, "it begins to look as if I must."

He had been sitting on her chewing gum.

HEAVEN AND OTHERWISE

Oh, joy, to go to bed at night and lie
Forgetting all about the x plus y.

Oh, joy, to sleep and dream in jubilation
Forgetting all about the third oration.

Oh, murder, in the morning, when we rise,
They all appear again before our eyes,

Burke, Wentworth, Shakespeare, Cicero, square roots,
And make us swear while we pull on our boots.

If you don't believe this, work it out for yourself:

1 time 9 plus 2 equals 11.
12 times 9 plus 3 equals 111.
123 times 9 plus 4 equals 1111.
1234 times 9 plus 5 equals 11111.
12345 times 9 plus 6 equals 111111.
123456 times 9 plus 7 equals 1111111.
1234567 times 9 plus 8 equals 11111111.
12345678 times 9 plus 9 equals 111111111.

1 time 8 plus 1 equals 9.
12 times 8 plus 2 equals 98.
123 times 8 plus 3 equals 987.
1234 times 8 plus 4 equals 9876.
12345 times 8 plus 5 equals 98765.
123456 times 8 plus 6 equals 987654.
1234567 times 8 plus 7 equals 9876543.
12345678 times 8 plus 8 equals 98765432.
123456789 times 8 plus 9 equals 987654321.

Teacher—"In what course do you intend to graduate?"

Massey—"In the course of time."

To
our very dear and well-beloved
fellow-pupils
we humbly and gratefully bestow these
stems of thought and blossoms of wit (?).
We consign them
to those whom the present time
boast as their glory, and the future will
speak of with honor (?).
Though we realize that the thoughts
contained herein are far below the usual
trend of such profound minds
as those possessed by our
fellow-pupils, we hope
that inasmuch as
Shakespeare
stooped to write folly,
you to whom these lines are
affectionately dedicated, will not disdain
to read them.

Miss Casey (in millinery)—"Your bow (beau) is so uninteresting."

HEARD AT THE DOOR OF ROOM 25

Miss S.—"Now, after making us write all these problems, he didn't call for them."

Miss M.—"Yes, that is another case of 'Love's Labor Lost.'"

Junior (in English history)—"After Milton married his third wife he wrote Paradise Lost."

Gladys said that Foster smiled at her several times in Latin.

Mr. Paull (in physiology)—"I will now proceed to evaporate."

Woman's suffrage was being discussed in the civil government class when Mr. Jones asked Harry Snyder why presidents are never women.

Harry replied—"Because they will never say they are over thirty-five."

Miss Gilday (quoting Davy Crockett)—"Be sure you're right then go ahead."

How does a fellow know he is right until he goes ahead and tries first?

A QUESTION FOR INFORMATION

Is Mr. Small in such a position that he can state whether two can live as cheaply as one?

The Academy of Music across the street has given way to a home for sick. Are the same victims still there?

"Blessings on thee, little man!—
Football boy with cheek of tan,
With thy padded pantaloons,
And thy merry college tunes,
With they red lips, redder still—
When, perchance, some blood they spill—
With the sunshine on thy face,
Through thy nose-guard's jaunty grace;
From my heart I give thee joy—
I was once a football boy."

The editor would like to congratulate the school upon the goodly number of locals handed in—1-1700 of a local to each pupil.

Freshman—"When do we prescribe to THE NAUTILUS?

According to this Charles Bowman is prescription clerk.

Senior—"We have a good many sports at Manual."

Junior—"How's that?"

Senior—"So many love the Chase."

Compton Hanks was sitting by Miss Gilday at a baseball game when the umpire yelled, "Foul."

Miss Gilday—"Where are the fowls? I don't see any feathers."

Compton—"Oh, this is a picked nine."

Junior—"Why is Mr. Hall a great weather man?"

Sophomore—"Because he can command the shower (bath)s."

Sara—"I think George has a fine voice."

Beardsley (modestly)—"When I sing at home the people begin to move out of the neighborhood."

Sara—"Yes; it's true your voice has a moving quality."

Does Margaret M. foster her love? No; she loves her Foster.

Earl Keeler was standing on the corner of Ninth and Main streets one day during Carnival week when a stranger in the city walked up to him and said, "Little boy, will you please raise your foot so I can see what street this is?"

Mr. Dodd is called a mathematician; why should not Mr. Page be called a physic(ian)?

If offense (a fence) is taken at any of the foregoing locals, please let down the bars easily and take a slow gait (gate). If this is past your (pasture) comprehension, you are as green as grass.

Miss Gilday, looking in at the NAUTILUS office—"I just wanted to see how the animals looked in their new cage."

Miss Fisher—"If anyone is absent, please raise your hand."

Foster Palmer—"Talking about great kickers, you ought to see Mr. Coates kick."

There is a poet among the Seniors somewhere; just listen:

"When I'm sad, I'm sad, I'm sad,
And yet it can't be helped;
But when I'm glad, I'm glad, I'm glad,
So I even things up myself."

Junior—"Why do all the boys like to study palmistry?"

Senior—"Because all the girls like to have their palms read."

Freshman's little sister—"Did you say they ring two bells at Manual for every class?"

Wise F.—"No, sister; they ring one bell twice."

Victor Charpiot (in NAUTILUS Staff meeting)—"A young lady is writing an article for me."

Dorothy Hopkins—"No; she is writing it for me."

Victor—"Well, what's the difference, aren't we the same?"

WORKING OVERTIME

"May I print a kiss on your lips?" I asked,
And she nodded her sweet permission;
So we went to press, and I rather guess
We printed a full edition.

Mr. Phillips (during enrollment time) "Come late and avoid the rush."

Mr. Phillips (after school had commenced)—"Come with a rush and avoid being late."

Pupil(who has lost part of draft)—"Miss Casey, I have lost my back."

Herbert Powell—"My face hurts me." (No wonder that it does).

Emma Murray (sewing on a hat full of pins)—"Oh, girls, I am getting so stuck on this hat."

Howard Pauly—the Oyama of Manual's football team.

Mr. Page—"What is work?"

Frank Bruce—"I don't know. Do you?"

Mr. Page—"I ought to,—I'm married."

Mr. Phillips—"Why do you stay in the cooking room so much?"

Foster—"I like to help the girls put their cakes away."

Lawrence (to a girl with a cat)—"How often does that cat kill a mouse?"

Girl—"Only once."

Visitor (looking at NAUTILUS office)—"I wonder if that is the jail?"

Mr. Kizer (opening the door of room 27)—"Why didn't you come in, John?"

John Van B.—"I couldn't reach the door knob."

"A kiss is a noun, though generally used as a conjunction. It is never declined. It is more common than proper. It is not very singular and is generally used in the plural and agrees with me."

Emily Morgan (during drawing lessons)—"Mrs. Miles, shall I put the features on the face?"

Mrs. Miles—"I wouldn't put them any place else if I were you."

I wonder what Bernard Corrigan would say if he happened to be in the office one morning and saw how many pupils were tardy on acocunt of the cars being late.

"Poor little Willie is absent now,
His face no more we see;
For what he took for water pure,
Was plain H. N. O. 3."

Victor Charpiot (working on equation in math.)—I don't know what to do with these pies.

Havens—"Eat them."

William Fullerton—"Do you mean one page on both sides?"

Earl (to Margaret)—"Meet me at the 'eleventh hour.'"

George Beardsley said to a barber, in joke: "Did you ever shave a monkey?"

"No," said the barber; "but if you'll take a seat I'll try."

If Manual were as high as Masonic Temple how long, after sixth hour, would the pupils on the top floor be held?

If our Seniors knew all they think they know, there would be a small market for encyclopedias.

In Mr. Page's classes explanations don't count,—except against the "explanationer."

Hesper K.—"You're one in a thousand, Colwell."

Colwell (modestly)—"Oh, I don't think so." (How many does he think he is?)

Renee has broken a record (alas, it was only a phonograph record).

The other day a bobbed tailed dog came into room 13. The pupils looked at the dog and laughed. One little Freshman couldn't see anything to laugh at. Finally she said, "There must be a funny story attached to that dog, isn't there?" "No," said her bright neighbor; "only a short tale."

Kindheartedness is better than tact raised to the nth power.

Charles—"Victor, can you trust me with twenty-five cents?"

Victor—"I can trust you, but you will have to wait until I get the twenty-five cents."

Sara Moffatt, while hiding her rain coat in THE NAUTILUS office, was heard to remark that she didn't care a rap (wrap).

Good-will is the cement of school spirit.

If college bred is a four years' loaf
(The *Smart Set* says it's so),
Oh, tell me where the flour is found
For us who knead the dough.

If the size of some of our girls pompadours keep on increasing they will have to climb a step ladder to reach the top of them.

Charles B. (as Victor C. produced a mirror)—"Oh, that's from the World's Fair!"

Victor C.—"No; a young lady gave me that."

Donovan—"Well, that's from 'one' of the world's fair."

PAGE PHILOSOPHY

Mr. Page (in disgust)—"Why don't you think a little bit?"

Donald M.—"I have been thinking for three hours."

Mr. Page—"You would better quit thinking you're thinking so much, and think a little more."

Miss Gilday, in order to emphasize, has a tendency to repeat. This trait developed when she was quite young. One night when she was saying her prayers and came toward the end she said, "God bless mamma and God bless papa, and God bless mamma." Seeing her repetition, however, she looked up and said, "Gee whiz, mamma, I got you in twice!"

In room 13 one morning the windows were open and the breeze being stronger than usual, the pictures on the south wall, which are photographs of some of our presidents, were blown out from the wall. One of the pupils arose and said, "Mr. Bainter, George Washington, Lincoln and Jefferson are having a big blow-out today."

This year there is enough Irish in our football team to make it stand pat.

Mr. Phillips talks like a man up a tree—of knowledge.

Miss Casey says it is no comfort to her to be told that her mouth isn't really as large as it looks.

A SELF-EVIDENT FACT

Mr. Cowan—"Renee, you can handle most any kind of a male—character."

Miss Lyons (while telling of her visit to an asylum)—"How many of you have ever been in an asylum?"

The more lucrative the *income*, the easier it becomes for society to transpose the syllables.

Mr. Holiday—"Why do people weigh more up North than they do here?"

Pupil—"Because they wear more clothing."

Mr. Hall—"While riding my wheel under an electric light I was pelted with bugs."

Pupil—"That was sort of a buggy ride."

Mr. Dodd—"You never know what you can do until you try."

Pupil—"Yes; and you never know what you can't do until you try."

In some ways it would be better if there were no self-deception, but then how would we ever get people to accept THE NAUTILUS offices?

Mr. Bowman is offering a house and lot with each subscription. See him in THE NAUTILUS office concerning other premiums.

Mr. Dodd (to a Senior class)—"This line measures 18 inches. How many feet is that?"

Senior—"Let X equal the number of inches in one foot."

Victor C.—"I don't know what is the matter with me today; I feel perfectly idiotic."

James D.—"Run get a pencil for him, quick somebody, and let him write some locals."

At last Manual is going to have a boys' basketball team.

Pupil (in third year math.)—"A short line is the straightest distance between two points."

Friend (in course of conversation)—"Do you see people make love or hear them?"

Minka—"Both, if the key hole is large enough."

(We always wondered why it was necessary for Minka to wear glasses.)

Mr. Cowan (in elocution class)—"There are two people in this room who are very popular—with each other.

HEARD IN THE HALL AT THE BEGINNING OF SCHOOL

Mary—"Why haven't you been *around* to see me?"

Gertrude—"Why haven't you been *over?*"

Mary—"It was your place to come *down.*"

Gertrude—"Well, come *up.*"

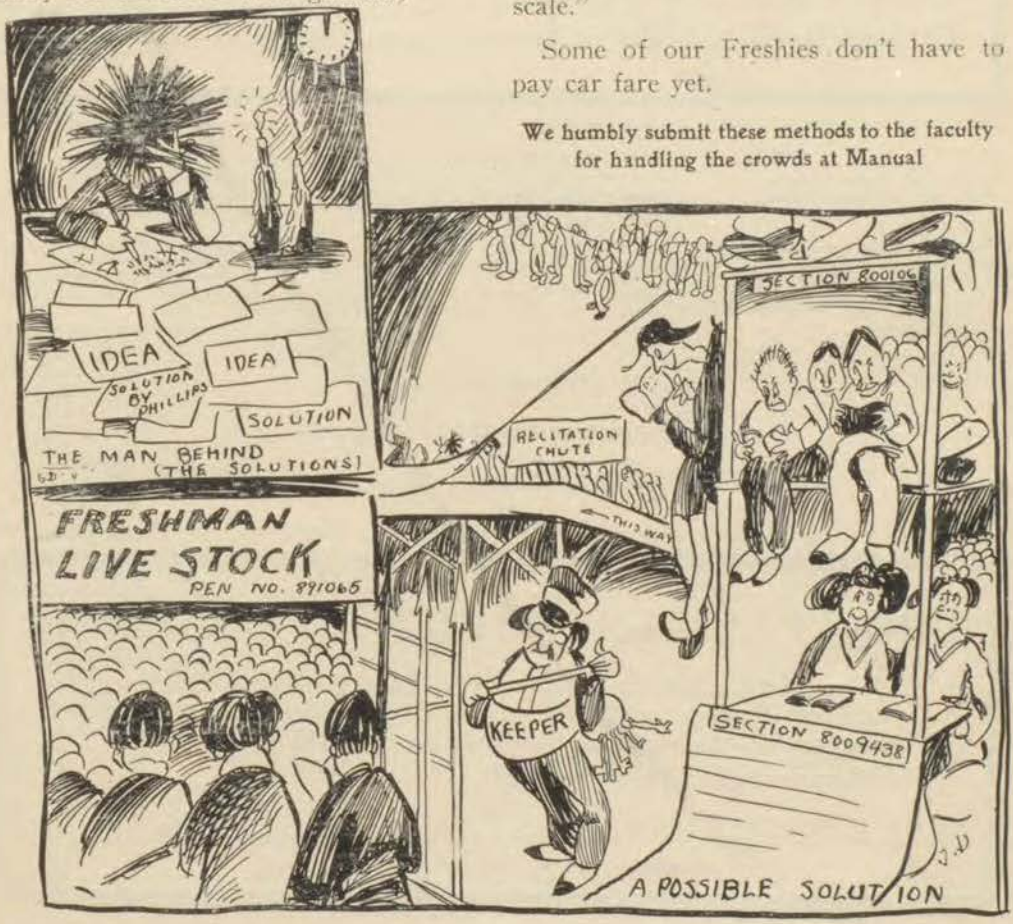
Mrs. Lavine now is established in room 1—for good or ill.

Mr. Kizer—"What do we know of Shakespeare's father?"

Pupil—"He was a butcher on a small scale."

Some of our Freshies don't have to pay car fare yet.

We humbly submit these methods to the faculty for handling the crowds at Manual



STANDARD PRINTING CO. OF KANSAS CITY, 119 WEST 8TH STREET

THE NAUTILUS

JANUARY

MANUAL TRAINING
HIGH SCHOOL
KANSAS CITY
MO.

VOL. 8. NO. 2.

1905

C. M. BAYHA

Faculty

E. D. Phillips, *Principal* E. M. Bainter, *Vice-Principal*

ENGLISH

B. F. Kizer
English

Mrs. Sarah G. Elston
English

Bertha Elston
English and Librarian

Sara Van Meter
English

Stella F. Jenkins
English

Nina Drake
English

Eva W. Case
English

Miss Mary Lyons
English

MATHEMATICS

A. A. Dodd
Director of Mathematics Course

E. M. Bainter
Mathematics

B. T. Chace
Mathematics

E. R. Morse
Mathematics

Chas. Morse
Mathematics

Jean Shaefer
Mathematics

Horace C. Small
Mathematics

Gus J. Haut
Mathematics

E. B. Dennison
Mathematics

NATURAL SCIENCE

B. M. Stigall
Botany

Jennie Sublette
Zoology

Leslie E. Paull
Physiology

Laura M. Stearns
Physiography

F. E. Holiday
Physiography and Psychology

HISTORY

Anna C. Gilday
History

Abner Jones
History

O. R. Davis
History

Sarah E. Steele
History

PHYSICS

Herbert M. Page
Physics

CHEMISTRY

C. F. Gustafson
Chemistry

FOREIGN LANGUAGES

A. Rambeau
French, German and Latin

Mary Fisher
French and German

Della Drake
Latin

J. L. Deister
French, German and Latin

Gertrude Von Unwerth
German

DOMESTIC ART

Josephine G. Casey
Sewing Instructor

Jessie L. Griffith
Sewing Instructor

Corinne Bone
Sewing Instructor

Martha Rouse
Sewing Instructor

Edith Welch
Sewing Instructor

Lena M. Lindsay
Sewing Assistant

Emma Humfeld
Sewing Assistant

Nettie Humfeld
Sewing Assistant

DOMESTIC SCIENCE

Bertha H. Bacheller
Cooking

Mabel Hazen
Cooking

Belle Stewart
Cooking

Della Kahn
Assistant in Cooking

MECHANICAL DRAWING

Barry Fulton
Mechanical Drawing

C. C. Sampson
Mechanical Drawing

Ivan Hayes
Mechanical Drawing

Albert C. Carpenter
Mechanical Drawing

FREE HAND DRAWING

Alice Murphy
Free Hand Drawing

Floy Campbell
Free Hand Drawing

Ada M. Rapp
Free Hand Drawing

Sarah Heyl
Free Hand Drawing

Edith M. Hill
Free Hand Drawing

Mrs. Maud Maple Miles
Free Hand Drawing

MUSIC

Glenn Woods
Music

BOYS' PHYSICAL CULTURE

E. M. Hall
Boys' Physical Cultur

RLS' PHYSICAL CULTURE

Lena Hoernig
Girls' Physical Culture

Grace Slocomb
Assistant Girls' Physical Culture

ELOCUTION

John A. Cowan
Elocution

MANUAL TRAINING DEPARTMENT

Geo. Arrowsmith
Turning

Frank Barry
Assistant in Turning

Marshall Myles
Joinery

Wesley Elmer
Joinery

Frank Cushman
Machine Shop

Joseph Stadler
Tool Boy

G. H. Donham
Forging

James Ellis
Assistant in Forging

J. M. Kent
Steam and Electricity

BUSINESS DEPARTMENT

P. B. S. Peters
Bookkeeping and Stenography

W. B. Claflin
Bookkeeping

Eva J. Sullivan
Bookkeeping and Typewriting

Leonora Rackerby
Typewriting

Mrs. Ada G. McLaughlin
Study Hall

Mrs. A. C. Lavine
Matron

Mary Canny
Chief Clerk

Maud Neal
Assistant Clerk

Wm. Raney
Head Janitor

VOL. VIII NO. 2 KANSAS CITY, MO. JANUARY, 1905

Entered at the Kansas City Postoffice as Second Class Matter

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

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.

OUR FOOTBALL TEAM'S THEATRE PARTY

On December sixteenth our football team was royally entertained at a theatre party given by Mr. Bainter. The boys had an enjoyable time watching the mystifying Kellar perform his marvelous tricks. The entertainment was greatly sweetened by two generous boxes of candy made and presented at our principal's suggestion by the loyal young ladies of Miss Hazen's cooking class. Mrs. Bainter, Mr. E. D. Phillips, and Mr. W. B. Claflin were also guests on this occasion.

THE CHICAGO CONTEST

Although Manual did not carry off first honors in the Chicago Scholarship Contest this year, we have no reason to be ashamed of ourselves.

Our representative, Miss Nettie Gallagher, did very well indeed. Each of the forty odd candidates was given one minute in which to give the judges part of his or her reading, and out of the forty ten were chosen for a second trial. In the second trial each one was given two minutes' time to decide who should enter into the final contest, and out of the ten five were chosen. Miss Gallagher passed through the first two trials with high honor and was selected as one of the five. Although she did not receive the

lapping from one session to another unless absolutely necessary.

The present arrangement is looked upon as a temporary one until the people furnish the Board the means for building another high school, when the present congestion may be relieved by dividing the students and faculty and restoring one session of four or six fifty-minute periods, and dismissing school earlier in the afternoon, as is done at the other high schools.

The new curriculum with its six elastic courses of study gives universal satisfaction because it answers the demands of our pupils and enables them to shape their work better for accomplishing certain ends which the pupils wish to attain. The increase from forty to forty-four points for graduation in every course will tend to make the pupil do his work more thoroughly and to spend more time in the high school.

The present arrangement of the recitation program tends to prevent the pupil from carrying more than six forty-minute periods of work.

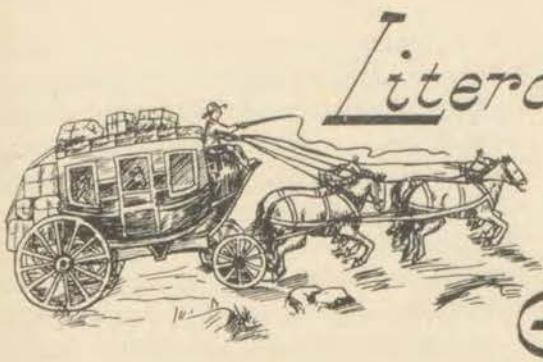
A stroll through the building will reveal many welcome and long-needed improvements. The sewing department has been equipped with new and roomy lockers, in which the girls can safely store their sewing materials.

The cramped waiting rooms on either side of the stage have been enlarged, the one for a roomier library and the other for an annex or recitation room for the domestic art department. The latter will be provided with a demonstration table fully equipped for lectures in cooking.

The machine shop has been completely renovated and reinforced, so that it is now one of the most complete and richest departments of the school, its equipment having cost about $9,000.

But the addition which the students are rejoicing over most enthusiastically now is the new "gym," which will cost over $2,700, and which will be used by the girls and boys on alternate sessions. This new department will be amply equipped with lockers, bath, office for the teachers, and a commodious room for the physical culture classes. This elegant, new room lies in the recess south of the main building and has the following dimensions: Its floor space is 25½ feet by 46 feet, and its ceiling is 18 feet from the floor. This room is lighted with five windows and will be nicely accommodated with all the apparatus that belongs to the girls' and boys' physical culture departments. The boys and Professor Hall will be especially grateful for the new gymnasium, after having been cooped up so long in the inadequate quarters over the auditorium.

The joint use of the new "gym" by the girls and boys permitted the appropriation of the former girls "gym" for both a new matron's room and a ladies' rest room, made by building a partition across this large room.



Literature and History

MY GHOST

Last winter I was staying for several weeks at my uncle's, and one evening I found myself alone, except for the servants. My aunt and uncle having been called from the city for a few days, their two sons were the only ones left to entertain me.

My cousins are very lively and delight in teasing; but nevertheless I was sure of having a good time. Frank, the elder, is a tall broad-shouldered boy whose hobby is electricity. He keeps my aunt in a constant worry for fear of live wires or electric shocks from some of his inventions as he calls them. Horace, the younger, is very mischievous, yet entertaining. He is somewhat of a ventriloquist and has great sport with his accomplishment.

They had both treated me royally and were very profuse in their apologies for leaving me on this particular evening, but a special meeting of their Club made it impossible for them to stay. I was glad of the chance of one quiet evening, for the library was full of books which I had been longing to put my hands on. The boys gave me a box of bonbons to make up for their neglect. When I heard the front door slam behind both of them, I took the kitten on my lap, curled myself up on the Davenport before the fire and with a chocolate in one hand and my book in the other, I settled myself to enjoy "Ivanhoe."

I haven't any idea how long I had read but my eyes began to ache, so putting my book aside I sat studying the design of a peculiar hand-carved chair just opposite me, which I greatly admired. It was mahogany, perfectly plain except for a hideous face with long hair which was carved at the top of the back. It always made me think of "Medusa" with its snake-like locks and malicious grin. I was wondering at the vast amount of patience and toil that must have been expended on it when,—horrors! the thing winked at me. I stared in perfect amazement. First both eyes shone out clear and red and at regular intervals became dark again, then one would shine with a hideous effect.

I felt myself getting weak. If I had wanted to I could not have taken my eyes off of it. Presently in a rasping voice came the words, "What do you sit there gaping at me for?" and here both eyes blinked. On hearing this strange voice the kitten looked up and seeing the

reckon 'is plumage is soft, eh? A delicious black overcoat he has! 'Twould be no better compliment tuh de ole bloke than fer us tuh relieve 'im uf it."

They had spoken in very, very low tones, had these two; and Mr. Jacklaw, being engaged in earnest conversation with a most sumptuous meal, heard not a word.

Presently Pete and his companion rose. They critically examined the coat-rack. Then they settled with the cashier and stalked out unnoticed.

Mr. Jacklaw was possessed of a gormand's appetite, but at length he completed his meal. He rose and he, also, inspected the coat-rack. His examination, however, was of a more minute nature, was of longer duration than that in which the strangers at his stable had indulged. Josiah found his hat, but the search for his overcoat led him from one end of the place to the other. Nowhere could it be found.

"Thet's strange," thought Josiah. "Surely I hung it up thar with my hat. I'll ask ther cashier."

"I have not seen your coat," said the cashier.

"You didn't wear a coat into the place," asserted the cashier's assistant.

This statement of the assistant's Josiah hotly disputed.

"Gosh all hominy!" cried he, shaking his fist in the assistant's face. "D'ye mean tew tell me thet I don't know when I wear a coat, and when I don't? By all the hayricks! I'll hev thet air coat ef —d'ye know who I be? I'm Josiah Jacklaw, I be. Jacklaw! Look hyar," he rattled on, "I'll enjine ye—d'ye hyar? I'll enjine ye frum sellin' another mite in this 'yar pesky place o' yourn! I be Jo——"

At this juncture the cashier and his assistant thought it judicious to squelch Mr. Jacklaw's oratory and eject him from the establishment. Spluttering and fuming, Josiah was cast headlong into the street.

Picking himself up from the sidewalk, he ran down the street, and soon disappeared in the throng of passers-by.

It was the next morning that Josiah chanced upon a newspaper in the office of the hotel at which he had established his headquarters. He read carefully all the murders, all the robberies, and all the latest "gold brick" deals. One story of a robbery particularly arrested his attention. The safe of a Wall Street firm had been looted during the night—the article stated—and the entire contents carried off. The article further stated that no clew as to the identity of the thieves had been found, except an extremely large jack-knife bearing the name of J. Jacklaw, and which had probably been used by the thieves in their work. It ended by saying that detectives were hot on the trail of one Jacklaw.

Josiah threw his paper down and hurriedly searched his pockets for his knife. He had left it in his overcoat, and he knew it. He also knew that New York would soon become so interesting for him that he would need neither his knife nor his overcoat. The truth is, Mr. Jacklaw did not particularly care for either.

"I've got tew git, thet's all," Josiah told himself. "One o' these pesky blue racers'll hev me up afore a four-eyed jedge with more law than brains. Then it'll be 'grand larceny—twenty years in the holdover.' Nope, I've got tew git, thet's all," he repeated.

Josiah procured his grip and flew down the street. He did not run far, however, as he suddenly thought that

this might arouse suspicion. He walked rapidly on, and presently came into Fourteenth street; and then—someone from behind tapped him on the shoulder!

It was only a light tap, but Josiah responded with much alacrity. He wheeled about and met the smiling countenance of a tall, dark-haired man in a black suit of clothes.

"I'm a detective," the man said, thrusting his hands into his trouser's pockets. "City Secret Service," he added, eyeing Mr. Jacklaw with what seemed to that worthy a very peculiar interest.

Josiah thought this was coming straight to the point. He struggled with himself for an answer.

"So'm I," he returned, throwing out his chest. "Ten year on ther service. I employ ther scientific," he added with an exceedingly knowing expression.

Then Josiah suggested that they should have lunch; and accordingly they entered a corner restaurant.

"A cunning old fox, I'll wager," said the detective to himself, as they sat down near the front of the restaurant. "I'll just play him for all he's worth, and then have him up. He's Jacklaw, or I'm not Cranshaw.

Over their codfish, rolls, and black coffee they argued together.

"My name's Jackson," ventured Josiah, a trifle uneasy; "Jared Jackson."

The other looked somewhat puzzled. "And mine is Cranshaw," he said. "You say you have been on the service ten years. I presume it has not been in the city, Mr.—ah—Jacklaw?"

"This ought to land him," he thought.

But Josiah was as cool as the proverbial cucumber. "Jackson," he corrected quietly.

Mr. Cranshaw was taken very much aback.

"Ahem—yes; Jackson. Pardon me, sir; my mind has been overtaxed of late."

"No," continued Josiah, striving to polish his manners, "my field o' work hes be'n limited chiefly tew my own county. Occasionally I hev duties elsewhere. At present I'm workin' on a very peculiar case of—of robbery."

"So am I," put in Cranshaw. "I find it a very hard nut to crack; that is, I've found the principal culprit not a lobster, but an oyster."

"My case is not peaches and cream," observed Josiah.

"You say that you employ the scientific method in working out your clews. I prefer the straight course, based on experience, Mr. Jackson."

"But ef ye be lackin' in experience?"

"Then your course is a narrow one, indeed," pursued Cranshaw. "You find that your ambition to succeed as a sleuth is greatly lessened by the many obstacles which now confront you. You see?"

Mr. Cranshaw, in his eight years of experience, had been successful. He liked to talk of his success; indeed, he liked to hear himself rehearse those events in his career which had ultimately crowned him a "Knight of the Sleuth."

"However," he went on rapidly, "if a beginner be endowed with a touch of cunning and some dexterity, he may succeed in time. But the scientific is nonsense, sir—imbecile nonsense. Bah! It is the idle prattle of fools," he added vehemently.

"Of course thet's your personal opinion," grinned Josiah.

"It is peculiar that you should have the initials of one of the most notorious criminals of the day," said Cranshaw abruptly, ignoring Josiah's remark.

"Yep, very peculiar, very peculiar," returned Josiah. "Don't know 'im though."

"Now this case of Jacklaw is—"

"Hah!" broke in Josiah, with his nose in his coffee-cup. "Hah! I know ther feller—an ill-bred, bandy-legged rascal, sir. He robbed me once—in a restaurant."

"He is every inch a thief," continued Mr. Cranshaw, again lowering his brows upon Josiah. "An impecunious rascal, sir; and I may add that he is more clever than he looks. Now, I have a warrant" —here Josiah pricked up his ears—"a warrant for the arrest of—"

Suddenly Mr. Jacklaw rose with a wild exclamation, causing those in the restaurant to momentarily lose control of their eager appetites. Josiah had recognized something on the sidewalk without —something that he no longer cared to claim. It was his overcoat closely wrapped about the gaunt form of a gentleman who, to Josiah, brought back the fond remembrance of his sumptuous meal on Broadway.

"Look!" he cried, his face radiant. "It is Jacklaw, the Wall Street thief!"

Dumfounded, Cranshaw blindly followed Josiah in his rush for the door.

The detective leaped upon Pete with tremendous force, bearing him to the pavement.

"Draw a bead on 'is coat collar, and be convinced," bawled Josiah.

Cranshaw pulled back Pete's collar. There, inside the band, in large, gilt letters was the name, "J. Jacklaw."

When Cranshw again looked up, Josiah had disappeared. He had been swallowed up in the great throng which now pressed eagerly forward.

"I lost a coat," Josiah told himself as he boarded a train for Westover, "but it saved me a sight uf ther holdover. Twenty years—whew," he whistled. "thet's a long time."

GEORGE FREDERIC PATTON.

AN AUTUMN REMINISCENCE

All of nature's steeped in russet,
Summer's golden days are past,
And the birds are flying southward
To escape the winter's blast.

We can feel the dark days coming,
And the nights of gloom and cold,
But today the sun is shining,
Bringing back the days of old.

So, our youth is steeped in russet,
Golden childhood's days are o'er,
And we drop our youthful antics,
Ere the storms of manhood roar.

We can feel the toils approaching
And the cares of future days,
But today the sun is shining;
Let's return to former ways.

For the sake of good old times
Let's forget our present ends;
In the autumn of our youth
Keep in mind our summer friends.

MELVIN A. THALMAN.

The Taj Mahal

The dawn of the fifteenth century rested upon the Mongols, who dwelt in Eastern India. These were the followers of the great and terrible Genghis Khan, who had come from out of Asia, conquering all that he looked upon, until at last his weary blood-stained hand reached over vast territories far greater than the Romans or Persians ever held. Years passed and the immense kingdom became devastated by the scars of centuries. At last the firm hand of Tamerlane came to hold the crumbling empire. He was destined to build up the powerfully strong monarchy of his forefathers. He, too, loved the wicked. Ah! how his blood tingled, how his eye sparkled when he beheld a vast pyramid of the heads of his enemies rising heavenward. His was a thirst which only rivers of blood could quench. But "death" seized Tamerlane and led him into the shadows to behold his unnumbered victims. After this the remoulded empire fell to ruin until scarce was anything left except some remnants at Delhi and Agra, India, and they are the fairest visions of fallen humanity.

In the city of Agra, India, there ruled the King Shah Jihan and his gentle queen, Noormahal. He loved her with a love that was a worship. They lived in the most perfect harmony of the Orientals. He could not do enough for this woman—his ideal. He reared for her a gorgeous palace, called the Jasamine tower, which comprised the queen's apartments. Here Shah Jihan watched his Jasamine bloom, fade away, and die. Before she expired, the gentle Noormahal called her husband to her couch and begged him to erect a tomb so magnificent that in all the ages to come, love could not conceive anything to surpass its beauty. Then she passed into a long sleep. With a broken heart the old king lived,—lived only to put into execution the dying wish of his queen.

One night as he lay a-dreaming, suddenly as if brought by angels, he beheld a vision; it was his beautiful wife standing in the midst of fleecy clouds. She had come to tell him how to build her tomb, which should be called the Taj Mahal. As the day dawned, the king gave the first directions for the building of the Taj. For twenty years, twenty thousand men were employed toiling day in and day out on the dream of India.

The Taj is "a palace lifting to eternal summer its marble halls from out a glossy bower of coolest foliage, musical with birds." Its perfectness has been described by Madame de Stail, when she said "that architecture is but frozen music."

The Taj Mahal is of the finest marble; its walls are of alabaster, with all the

flowers of Olympus, by Iris, scattered there. Countless verses of the Koran are inscribed upon its walls, decorated with India's rarest treasures. The interior is sparkling with gems and mosaics. In the center of the palace rests the queen in a casket of gold and diamonds, the beauty of which words cannot describe. The octagonal structure rests upon two terraces, one of marble, the other of red sandstone. It is surrounded by a garden which the fairies control. At the four corners are slender minarets warding off any evil. They glisten in the sunlight and glow like silver under the moon. The sunbeams dance on the marble walls while silence and eventide pervade the interior, ever in harmony with the king's sadness.

The sweetest echoes in the world dwell in the Taj, and as those gentle notes float upward and die away, they send back the softest whisperings of love,—man's love for woman.

From behind the bars of a window in the Jasamine tower a tottering and feeble monarch looked upon the gleaming Taj. The aged king was in prison at the hands of the son of the woman he had so adored—his happiness was gone; his kingdom had been stolen and now his life was ebbing out drop by drop. And as the film of death gathered over his eyes, with his thin lips quivering, and his withered hands clasped in earnest prayer, he asked that no temple ever rise to crush the splendor of the Taj Mahal.

E. WANDA EGBERT, '07.

JEAN DOUGLASS GREY—Anne Morrison
BARBARA ALLEN—Helen Filley
KATHERINE CRESS—Effie Dow Hopkins
MARGARET MERRIWEATHER—Dorothy Hopkins

PART II

Terrace Hall, Washington, D. C.,
January —, 19—.

My dear Lucy:

You must congratulate me. My story promises to result beautifully, and I am becoming more and more enthusiastic. The plot is thickening, but the *denouement* is not yet in evidence. Louise Rothsay, of whom I told you in my last letter, arrived some weeks ago, and since then everything, even the most trivial of incidents, seems to arrange itself with reference to her. She is the most talked

of person in the school. I wish I could describe her to you; but that is a task for a Dickens, or rather a Thackeray, since she is of the "Becky Sharp" type. She and Barbara Allen are a second Becky and Amelia Sedley, even in appearance. Indeed Barbara's devotion to her exceeds my expectations. I am afraid Miss Rothsay does not reciprocate this affection, but she is wise enough to appreciate the advantage of so devoted an admirer.

This same affection has already nearly been the cause of Barbara's undoing. I do not know the details of the escapade, but one night when she and "dearest Louise" were together, they managed to elude our vigilant sentries, and thereupon went down town on a shopping expedition, Miss Allen says. It was very late when she returned, and in some manner Miss Florence discovered her, but I observed that "dear Louise" was not found out.

Just at present, Barbara is confined to her room, threatened with expulsion if she talks about the affair with the other young ladies (?), which of course takes away most of the glamour. That in itself is sufficient punishment for a young lady of Barbara's temperament. Think of the joy of elaborating to a circle of admiring school-girls, on her ingenuity, bravery and originality!

Lovingly yours,
JEAN DOUGLASS GREY.

Terrace Hall,
Washington, D. C.

My dear Gertrude:

Well, things are in a muddle generally and I don't quite see how they are going to get straightened out. You remember I told you about the effect of Louise Rothsay's name on the school? Well, the excitement before her coming has changed to a sort of adoration in a good many cases. Some of the girls try to imitate her every action—even her way of doing her hair.

But not everybody likes her. I heard a group of girls talking the other day and, as usual, Louise was the topic. Most of the girls were praising her, but one of them evidently did not agree at all for she said: "Well, for my part, I don't think that she has any better manners than the rest of us, but just because she belongs to *the* Rothsays of New York everybody goes crazy over her. 'What's in a name,' anyway? I think she acts sometimes no better than a serving maid." So you see there are different opinions concerning her. But Gertrude, I'm afraid that girl was right about Louise's lack of high principle, because Miss Brown—our geometry teacher—reproved her before the whole class yesterday because she had copied a proposition from Peggsy on an examination. Louise tried to excuse herself, but Miss Brown was unusually stern and said that one who would cheat in a thing like that was capable of deceit in other ways also. I don't enjoy talking about these disagreeable things, but I can't help seeing them and I don't want to talk about them with the girls here, so I just use you as an outlet to my feelings.

But I'm afraid I haven't done Louise justice, for she is very fascinating to most people. In most of her lessons she is very brilliant, especially in French and history. She likes to lead her classes. Probably it was this desire to be a leader that made her do wrong in that geometry test. She couldn't bear to have Peggsy get it when she failed.

We had a "scrumptious" time on Friday night. We had a feast in our room

and had just lots of fun. One of the girls told our fortunes. What do you think I'm going to be? Just a sweet, nice, commonplace woman with nothing particularly interesting about me. Barbara is to be a college president's wife and most of the others something equally exciting. Louise's seemed the farthest wrong. She was to be an adventuress! Louise didn't like it a bit, naturally. She turned pale and then acted awfully queer. Of course, it was a horrible fate to predict, but still I don't see why it should have had such an effect on her, do you?

Peggsy wants me to help her mend a dress she's torn, so this lengthy epistle will have to cease.

Good-bye,

KATHERINE.

Terrace Hall,
Jan. —, 19—.

My own Elizabeth:

I am in a scrape, my dear—the awfullest scrape I ever was or want to be in. It is terrible! I have been shut up in my room for three whole days. Imagine me, the most sociable creature in the world, shut away from all society save that of the prig and the dearest girl in the world—Louise Rothsay. She and the thoughts of the escapade are my only comforts but, to quote the immortal William, my "overthrow has heaped happiness upon me," so I don't care.

It happened this way. My adored Louise consented to stay all night with me the night of the event. Well, having looked over our lessons we became awfully bored and as Louise is the most original creature imaginable she proposed that we go down town and shop, as Christmas is so near.

Well, we went, using the clothes hamper and the rope-portiers as a means of escaping a chaperon. Of course, I let her down first as she was my guest and I slid down somehow afterwards. I was pretty well banged up when I got down, but I didn't care; I would go through fire and water to be with Louise. Naturally, we went first to a confectionery shop. Whom do you suppose we found there? I guess you'll think it was one of the teachers, but no; it was just like a story book. We found two of the swellest boys you ever saw. Louise knew them and of course she spoke to them. They came up and I was introduced, after which they treated us and then proposed that we go to the theatre. I wasn't dressed fit to go, but Louise looked as if she had just stepped out of a band-box. She always does look like a Parisian doll with her black hair and eyes and her swell clothes.

Well, we went and had a fine time. We had a box and, although I was scared to death whenever the lights were turned on, I had a lovely time. One doesn't go to the theatre with *that* crowd every day. The boys used some rather common expressions, but I suppose most boys do and I just hadn't happened to meet any who did.

After the play we had supper and then the boys took us within a block of the school. There they left us. Oh, now I wish they hadn't! What happened in that block has made me so nervous that I don't know what to do. We saw a man coming down the street but we didn't think much about it. We met him under the lamp, but instead of passing us he stopped, caught Louise's hand, and calling her his "Dear Hortense" said he would accompany her home. Of course she was scared to death and so was I, so, breaking loose, we ran as fast as we could to the school.

We went around under the window *and found the rope gone.* Of course since Louise spends her nights at the Delmont it was of no use for her to get into trouble so she went on home, after swearing me to secrecy about the man, and I went in and got it from Miss Florence. Just as I went in the door I thought I saw a figure join Louise, but she told me the next morning that I was scared enough to take a lamp-post for a man, and I guess I was. When she came she brought me some flowers that those elegant boys had sent. They were beautiful and matched my tea-gown to perfection.

I am still confined in my room, but Louise comes to see me every day and the boys send flowers so I'm not as bad off as I might be. There she is now so good-bye.

Your always adoring,

BARBARA.

Terrace Hall,
Washington, D. C.

Dear Emily:

No, you are mistaken. I have just received your letter, but the Louise Rothsay you have met is evidently a different person from ours. The girl who is making such a splurge here at school is just about the opposite in everything from the one you describe. She is quite petite, with bright black eyes that give a creepy feeling as if they were always watching you. The tall, blue-eyed Miss Rothsay you met and who told you she was coming here, may be a relative of Louise's. I might ask Louise about her, but then it doubtful whether she would reply. She has no use for me. I suppose I am not admiring enough. I don't stand in awe of her toploftyness.

I was telling the girl's fortunes the other day, and just to start them with my audacity, and to show Miss Rothsay that she hadn't squelched me with her daddy's millions, I ladled her out a most disreputable future. She has been as mad as hops at me ever since, and I don't come within her range of vision any more. Katherine says it was very naughty in me, but I don't care. That ridiculous Barbara does make one as tired. She "be-dears" her and "be-darlings" her until I could shake the silly thing. She is as dazzled as a moth before a flame and actually expects her "sweetest Louise" to boost her square into the middle of the Four Hundred.

Barbara's in disgrace now and I am frantic to know what's been doing. But she is shut up in her room and can't tell, and Jean Douglass Grey shuts up her lips and gives you a cold stare if you try to get anything out of her. I somehow feel that Louise has had her finger in the pie, and I sort of smell singed moth. But Miss Florence is as dazed as anyone, being so elated at the prestige which the name of "Rothsay" gives her school, that she overlooks in Louise things for which she would pounce on me in a good fashion.

Don't you notice an improvement in my English? I hardly use any slang now and it's all on account of my association with Katherine Cress. I won't bow down to money bags, but I willingly bend the knee to the queenly spirit of Katherine. I wish you knew her. Goodbye.

Yours awfully,

PEGGSY.

(To be continued)

THE GROWTH OF GREEK GEOMETRY

Although the Babylonians and Egyptians were acquainted with geometry as early as 1700 B. C., it was by the Greeks that it was first brought into prominence for its own sake. The geometry of the Egyptians was to them merely a practical science, by means of which they could survey their lands and erect their pyramids: and they cultivated it only as far as it aided them in this. The Greeks were a people with the natural ability to reason and a love of exercising their power. They were the very ones to take up this science and give it the place among intellectual achievements that it deserved.

Mathematics was probably introduced into Greece during the seventh century before Christ, when Hellas and Egypt became associated in a commercial way. Thales, the first geometer and the founder of the Ionic School, studied in Egypt and discovered a number of our theorems in plane geometry—such as, vertical angles are equal, the base angles of an isosceles triangle are equal, the diameter bisects its circle. Anaxagoras, a later member of this school, which lasted over a century, is known chiefly for his vain attempts to square the circle.

The Pythagorians were a school founded by Pythagoras in the southern part of Italy, about the sixth century B. C. The members were pledged to secrecy in regard to all discussions carried on in the school, a fact which makes it impossible for historians to determine just what individuals discovered the theorems attributed to the body. They usually dealt with areas in their study. Among other theorems they proved that the square of the hypotenuse of a right triangle is equal to the sum of the squares of the other two sides, and that the sum of the three angles of any triangle is equal to two right angles. Philolaus and Archytas were among the last important Pythagoreans.

The Sophists, teachers of Athens, were the next great mathematicians. As a rule all their attempts were directed toward the three problems—to trisect an angle,

to double the cube, and to square the circle. Hippias of Elis, Hippocrates, Antiphon and Bryson struggled with these problems, and in so doing discovered some valuable truths. The study of similar figures was introduced by Hippocrates, the method of exhaustion by Antiphon and Bryson.

Plato, a pupil of Socrates and of Theodorus, founded a school at Athens. He greatly improved the methods and reasoning hitherto used and taught the value of geometry in training the mind and in its connection with philosophy. Besides many definitions and axioms, the invention of analysis is due to this school. The members studied solids, which was still another step beyond the stage reached by their predecessors, and one of them, Menaechmus, invented conic sections. Eudoxus discovered a number of theorems involving proportion, and also several about solids. He proved that a pyramid is equal in volume to one-third of a prism, and a cone to one-third of a cylinder, having an equal base and altitude. The Platonic School produced a great number of famous mathematicians during its existence.

The seat of learning now passed with the decline of Athens to Alexandria. Euclid was at the head of the First Alexandrian School. He collected in his "Elements" the works of the mathematicians who had come before, making great improvements in the style of demonstration and carefully arranging them in logical order. But few theorems contained in his "Elements" are original with himself. Archimedes proved, among other propositions, that the volume and surface of a sphere equal two-thirds the volume and surface respectively of the circumscribed cylinder. He discovered that Π is less than three and one-seventh, and wrote on the "Quadrature of the Parabola," besides making many other discoveries concerning solids. Apollonius of Perga produced a famous work on "Conic Sections," and after him came a decline in Greek geometry.

Of the Second Alexandrian School, Claudius Ptolemaeus, who especially studied spherical trigonometry, and Pappus are the most important members. Theon, Hypatia and Proclus are now remembered simply for their notes and commentaries on the writings of the preceding mathematicians.

The ancient Greek geometers have left as a heritage to the modern world a wealth of productions of thought. Comparatively few discoveries, which were not at least anticipated by them, have been made since their time. As a rule, their proofs were almost perfect in their logic, but their theorems were rather more specific than general. Without a doubt, we owe a deep debt of gratitude to that nation which, once holding the supremacy over all other powers, is now left unnoticed in the background.

EDNA L. MOORE.

THE ADVANTAGES DERIVED FROM THE STUDY OF MATHEMATICS

Mathematics is a science of wonderful and beautiful truths which gradually unfold to the mind of the student. It is the only study which does not change with new discoveries, but remains ever firm. What is once learned will always

be true. The faculty needed most in this world is reason. All the professional and business men need to be able to concentrate their minds on certain problems in order to work them out. Mathematics trains the mind to this very end. Nothing is ever uncertain, but can usually be easily verified. If the arguments are proved correct the result is certain. It has been said that before Abraham Lincoln began the study of law, he studied through Euclid to gain that training in logical thinking which a lawyer must have.

Many of the great achievements of the world are based on mathematical knowledge. Indeed, to do away with all the improvements which imply some principle of mathematics, would take the world back to the very beginning of the ages. It is the key to most of the sciences and is a necessity in physics, chemistry, and all that is known of the heavens in astronomy. The miscroscope, the telescope and all the various useful steam, electric, gasoline or hydraulic engines could not be made were it not for the accuracy and proportions needed and furnished by mathematics, the knowledge of the triangle especially being used. Geometry, chiefly, has been the great power which has built such wonderful edifices as the great pyramids of Egypt. It has bridged the large streams; sent the railroad trains around the globe; supplied great cities with water works and other plants, and has given us the telephone and telegraph systems. It has reached where the eye and the telescope cannot reach—such as tunneling mountains and calculating the distances and movements of the heavenly bodies. In a military way it is used in building fortifications, making arms, and building ships. It is said that in taking Manila, the victory was not due so much to Dewey's commands and plans, as to the mathematical knowledge of the gunners, which sent every shot true.

But even in the minor and perhaps more practical things for us in life, mathematics serves us in many ways. It teaches one to have a reason for everything, to be self-reliant, and plan out a logical course of action. All things should be proved, not taken for granted. It is necessary to know something of mathematics in the manual training our boys take up; in mechanical drawing and the sciences. To the girl, it is useful in dressmaking—first in order to draft a pattern for a garment, and then to plan and cut it out.

The study of mathematics has great moral value also, for it deals with nothing but the truth and is opposed to everything dishonest. Thus a person who studies it learns to be absolutely truthful and shun all that is false. So mathematics is a great unchangeable tool, a means to many different ends, and its many educational advantages make it well worth studying.

ELSA KATZMAIER.

SCIENCE BREVITIES

A NOVEL EXPERIMENT

A novel and interesting method is to be used in proving the case of Kansas against Colorado in reference to the Arkansas river. It has been held that there is absolutely no flow of water during the dry months. The water used for irrigation purposes by Colorado is pumped

from beneath the surface. Colorado holds that this is standing water, while Kansas holds that it the underground flow of the Arkansas. A great deal rests upon this proof. Holes will be bored in the dry bed of the river about one hundred yards apart. These holes will be bored down to the surface of the underground water. Into the one farthest up stream water, colored with analine dye, will be pumped. At the same time, at the other holes, water will be pumped out. If there is a flow, the water pumped from these other holes will be colored. You can see how much the result of this test means to the states in controversy.

RAPID TRANSIT IN NEW FORM

In Berlin, omnibuses are run by electricity obtained from overhead wires. This is the latest stride toward the solution of the transit problem. There is no track for the cars, but wheels on them cannot be blocked by snow or any other impediments. At first thought, this would seem very impracticable, but it is said that the omnibuses are quite a success. In a crowded city like New York, overhead wires must be done away with, so we cannot hope that this trackless trolley system will aid the inhabitants of our metropolis to solve their rapid transit problem.

SCIENCE HAS ITS DRAWBACKS

Recently a young man ran in to see his doctor, exclaiming excitedly, "I've swallowed my diamond pin. I wish an examination to be made."

The doctor remembered that the young man owed him a considerable sum and was not enthusiastic. But he turned on the X-ray, which, however, revealed nothing.

"Likely the diamond was paste and wouldn't show up," said the doctor, sarcastically.

"Look here; I didn't come here to be insulted," replied the young man.

"Perhaps you came around to pay that little bill," sugested the physician.

"I'd pay you if I had the money," said the patient.

"Well," continued the doctor, suavely, "the X-rays did not locate the diamond pin, but they revealed the presence of a silver dollar in your vest pocket. That will pay for this examination."

Sure enough, and, worse still, the dollar was wrapped in a wad of bills, which went the way of the dollar.—Kansas City *Independent*.

A MARINE WONDER

In the American Museum of Natural History is a wonder of marine life in the shape of a gigantic Japanese crab measuring twelve feet, making it the largest crustacean in the world. It is a type of spider crab which inhabits the waters about the islands forming the Empire of Japan. The body portion of this mammoth crustacean is the size of a half bushel measure, while its two great arms could easily encircle the body of a man. Its eight legs resemble huge bamboo poles, and are extremely elastic.

A POISON FOR TREES

Tenants and landlords often hold different views in regard to shade trees. Perhaps a man moves into a house which, in his estimation, is cut off from the refreshing rays of the sun by too many trees. He quarrels with his landlord, with the trees as the bone of contention. It is then that the gardener gets in his work. It has been found that by opening a hole in the bark and dropping in about five cents worth of arsenic, the tree will be brought to an untimely death. After the arsenic is injected nature does the rest. The law will not allow the removal of live trees without the consent of the

owner. You can now see that when the tenant finds that he has too many trees in his yard the simplest way of ridding himself of the "pest" is to buy five cents' worth of arsenic.

THE SPHINX

Why is the Sphinx disintegrating? Why, after standing centuries, is it now beginning to decay and to be eroded? Why is that masterpiece of ancient sculpture beginning to crumble? There are many similar questions asked today, and their one answer is, civilization. Civilization in the shape and garb of progress. Cruel then is progress that it should cause this monument of ages to crumble away. In the time of the year when the Nile overflows its banks in many places, the water is carried in irrigating ditches for many miles. With the aid of these ditches a great deal of land is rendered useful to the African farmer. What has heretofore been a dry desert has now become fairly fertile ground. You would naturally wonder what bearing this has upon the case in hand. It is just this: In spreading this great amount of water over the land, the air absorbs a great deal because of the relatively high temperature. Before, it has been only a question of a few days of rainfall, while now it is a question of weeks and even months. Naturally, any great amount of rainfall in the vicinity of the Sphinx would cause it to become wet and crumble. The moist air, abundance of rainfall, and the hard winds of the "civilized climate" have played havoc with it, and will continue to do so until this monument of the past ages shall be no more.

WHY IS IT?

Why is it that along with progress comes that disregard for life and limb? Not only does progress promote this carelessness, but so does the greed for gain and to be on top also promote it. Naturally this greed for gain should be uppermost in the American mind at this time as it merely marks one step of progress in this era of civilization. By civilization, we mean this latter day advancement for the betterment of mankind in general. A step for the betterment of mankind is progress. Therefore we can rightfully blame progress for carelessness. Wherever a penny can be saved, even at the risk of life and limb, it is done. The modern corporation disregards the law, is regardless of danger to human life, and when taught a lesson now and then pays no attention to the fact that experience is the best teacher, but goes ahead in the same old way to meet the same fate over and over again. This is an every-day story of American life. There are sufficient laws against this carelessness, but they cannot be correctly enforced because this is too free a country. That is, while the law offers plenty of opportunity to curb carelessness on the part of an individual, it, at the same time, offers too much opportunity to the corporations for protection. Why? Because the state can make a fat living off of them. New Jersey, for instance, is practically supported by them. Many states offer fine inducements to incorporate within their limits. The slipshod manner in which inspections are carried on and the half blind way in which the authorities overlook matters of vital importance, are argumentative of this. Notwithstanding this blindness on the part of the authorities, we cannot fully blame them for the greater amount of this carelessness. We may more truly blame the American mind, so to speak; for the American mind is a most peculiar thing. Every day we read of accidents.

Sometimes it is a railroad wreck; sometimes a fire and panic; and sometimes something else. Criminal carelessness is nearly always the prime cause. And we accept it all as inevitable. We have no time to consider the pro and cons. The frequent loss of life seems to be merely incidental. The world, in other words, is in too much of a hurry to stop to consider. Why is it? It is a psychological fact, as we all know. But, why is it a fact? Yes; why is it? Think it over.

HARDENING STEEL ELECTRICALLY

There are now methods in use to harden steel electrically, and they promise to become very important in time. The *Electrical Review* of December the third describes the process as being an adaptation of the old so-called water-pail forge. The tool, held in a suitable clip, is connected to one pole of a dynamo. The cutting end is introduced into a solution of sodium carbonate held in a vessel which forms the other electrode. A heavy current is passed through, which is controlled by the rheostat in the field of the dynamo. The tip of the tool is quickly brought to a high temperature. When the proper point has been reached the circuit is opened, the solution instantly chilling the steel. In another method an arc is struck between the tool to be hardened and a carbon electrode, the former acting as the positive electrode. The intensity of the arc is controlled by a rheostat in the dynamo field as before. This method is very rapid, and allows the heating to be centralized as desired. In a third method the metal to be heated forms part of the secondary circuit of a transformer, and is thus heated by the heavy currents set up in it. This method is particularly convenient when it is desired to temper such forms of tools as milling, gear, and other similar cutters. It may also be used when large hollow taps and reamers, or other hollow tools made of high-speed steel, are to be rendered soft and tenacious internally without detracting from the hardness of the cutting edge. The only objection to these methods is the cost of the apparatus. This, however, should not be serious when the convenience of the methods is borne in mind. The heat can be applied instantly, and is always under control. There is no danger of chemical action on the steel and the energy required is small, since the apparatus is in use but a small time and there is no waste while idle. The methods proposed should find ready application in those machine-shops where there is already an adequate amount of electric power, in a form suitable for this work.

MACHINE SHOP EQUIPMENT

In the last few years, machine shop equipment has been changed so much that it hits many of the old mechanics pretty hard. It keeps such men busy keeping track of the many new inventions and appliances added to shops. A great deal of significance is contained in the following remark of an old mechanic: "I have had to learn my trade over three times, and I'm too old to learn it again." He had been given a difficult job to do on a modern lathe containing the latest mechanisms for saving labor and procuring accurate work, and because he did not understand the work in hand he had to call a younger machinist to his assistance. This illustrates how the modern improvements in the machine shop may multiply until a mechanic must necessarily learn his trade over several times in the course of his life. Patents are issued every day for some new invention that is to facilitate the work of the machine-shop.

PHOTOGRAPHIC MAILING CARD

For the benefit of its readers, the *Scientific American* recently published directions for preparting photographic mailing cards. A mailing card on which the amateur may print his own pictures has been popular in Europe for some time, and is of considerable interest to both the photographer and his distant friends. A common United States postal card may be prepared in the following way:

Dissolve five grains of gelatin in five ounces of water and then add fifty grains of ammonium chlorid. Filter and put in a flat dish. Float the postal cards, blank side down, on the surface of the solution. After being in the dish for about three or four minutes, remove and allow to dry. They may now be sensitized in the following bath:

Silver nitrate.....50 grains
Distilled water..... 1 ounce

Float each card in this, blank side down, about three minutes, and dry in the dark. Avoid air bubbles. For printing use an ordinary 3¾x4¼ frame, with the two adjacent sides knocked out. Cover the extending part of the card with a paper bag. For toning, the following solution is used:

Sodium acetate.....100 grains
Gold chlorid..... 2 grains
Water. ..... 3 ounces

After toning, the card is washed in water and fixed in a sodium hyposulphite solution, one part salt to eight parts water. Blue prints may be made with the following solutions :

1. Ammonia-citrate of iron.....1 ounce
2. Potassium fericyanid.. .....1 ounce

Each one is dissolved in four ounces of water. When ready for use, mix the required amount in equal proportions and apply to the surface with a sponge. Toning and washing are done the same for the blue prints as when the silver nitrate is used.

ARTIFICIAL COTTON

An ingenious method has been devised for manufacturing artificial cotton. It is made, in a small way, from cellulose obtained from the bark and knots of fir-trees. The raw material, after being crushed into a fibrous mass, is put under pressure in a closed cylinder for ten hours. A solution of bisulphate of soda is introduced and the material kept under pressure for thirty-six hours more. This is done to make the material white. It is then washed and ground to a paste. Next it is put through a bleaching with chlorid of lime, after which the material is squeezed between heavy rollers to remove the water. The resulting product is pure cellulose. This is heated in a boiler with a mixture of hydrochloric and nitric acid. Castor oil, casein, and gelatin are added to give strength to the fiber. The pasty mass is then converted into fine filaments by being forced under pressure through small apertures.

A QUEER GROWTH

At the age of twenty-four, there is a young man in England who is growing or developing at one-sixth the rate of an ordinary person. At present he is learning his alphabet and can count up to ten only. He eats three meals a week, has slept twenty-four hours and played twenty-four hours without the slightest variation. At his birth he weighed ten pounds, and was in no way different from any other child. But at the age of five his progress was mysteriously arrested. And since then six years have been to him as one to an ordinary person. In spite of his twenty-four years, he looks no older than a boy of five or six and is only three feet in height. He has

attracted the attention of many scientific men, more than one of whom has expressed the conviction that this remarkable man will live to be no less than three centuries old.

HARD ON MOTORMEN

Perhaps the reader noticed that on December 22, last, the motormen on all the street cars had extreme difficulty in stopping their cars, and when they at last got them stopped, they had a harder time to get them started again. As one would naturally conclude, the rails for some reason or other were more slippery than usual. In fact, they were very much more slippery than usual. The highest temperature of the day was about seventy degrees. The ground and rails had absorbed all the moisture they could hold from the previous snow. This moisture was frozen up by the cold spell that had gone before. Owing to the high temperature of the day in question, the moisture that had frozen up the ground "sweat" out. Everything that would hold moisture "sweat" it out. One would be inclined to think it had rained during the night. The streets were quite wet all day. Towards evening it became close and hot, if we may say it at this time of the year. And it was near eight or nine o'clock that the rails were the most slippery. The dirt on the rail and the moisture made a grease that caused the wheels to slip as if they were on ice. A hard rain would have been a relief, as a very wet rail holds better than a dry one. But when it is just a little damp, nothing will stop a car without sand. The Metropolitan's sand-car was kept busy all day, and even this did not do much good. One motorman told me that he had been "motoring" for fourteen years and had never seen a more slippery rail. At first thought this would not seem to be an important thing of which to take any notice. Just place yourself in a motorman's position. Remember that a slippery rail is what causes seventy per cent of the street car accidents and you will commence to realize what your position means.

THINK WHAT THIS MEANS

In Paris, a man recently got out a patent on a postal card with a talking machine record attached. The record is not very large, but it is large enough for ordinary use. At the present, this invention is merely a plaything, but think of the many possibilities! Business may some day be transacted with its aid. Talking machines may be installed in many homes and letters sent and received. The advantage over writing is that the inflection of the voice may be added. Lovers will use it to a great advantage as a saver of time and money. It is a known fact to many that it is hard to make love satisfactorily with only the ordinary writing materials, but just wait until the perfection of this invention is complete, then.—oh, my!—let us not think about it now.

HORRORS OF WAR

Owing to the improvements that machines of warfare have undergone, war has now undoubtedly become what General Sherman called it—hell. We use this word to "explain" an unexplainable fact, and not with any show of profanity at all. The awful machines of destruction used by the combatants in the Far East have made that war an indescribable carnage of men. It is well-nigh impossible to picture the dreadful horrors of this "civilized" warfare. Explosives, guns, hand-grenades, shells, torpedoes, all of the latest type, have joined together in exterminating both Japanese and Russians. For a great many years improvements on these weapons have been going on. Navies, as well, have been built. We are seeing to what all this has led. For we have a practical demonstration going on now that has been going on for the past year. And it has proved to be an awful one, too, the price of which is thousands of lives. We can hardly believe our eyes when we read of the appalling loss of life. The best thing to do is to thank our stars that we are at home safe and sound and not in the way of either Japanese or Russian, for our life would not be worth the asking if so placed.

MANUAL TRAINING

THE HUMAN HAND

The hand, one part of the body distinguishing man from brute animals, is the most complex of the external organs. What vast importance it plays in our lives, what great perfection it may be trained to reach in our labors! How often we judge a man's occupation and his character by his hands! The large, horny hand we at once assign to the son of toil, the delver in earth, the welder of pick-ax and spade; the plump, soft, white hand marks for us the man of wealth and leisure; the scrawny, claw-like hand the miser or the beggar, an outcast from the brotherhood of man. Thus we might well say, "Show us your hands and we will tell you what you are."

A well-tended, beautifully shaped hand may indeed become the pride of its owner. Nothing so mars the beauty of a handsome toilet as an ill-formed, ill-cared-for hand. There is a no more certain mark of an untidy person than nails with a wide band of mourning at the tips, nor is there anything more pleasing to the eye than dainty, carefully tended fingers. The one beautiful feature of George Eliot was her perfect, small hand.

We all know how much importance the handshake plays in our greetings, how we value highly the friendship of one who firmly grasps our hands, and how little we care for anyone whose fingers are limp when extended to us in salutation. Think, too, how much encouragement may be given to one perhaps on the very verge of despair by a mere clasp of a friendly hand!

There are types of hands, just as there are types of people. There is the nervous hand with fingers that twist and twine, the hand of a person lacking self-control. The stealthy hand, for all the world like the silken paw of a cat, draws the attention and holds it by its sly, quick, and soft movements, creating an inseparable distrust for the owner. There is the artistic hand with the long, slender fingers, that by a single firm stroke brings the most beautiful tones from the musical instrument, or that by a few deft movements of the fingers traces a picture of subtle beauty. The short, square hand with the thick fingers is often surprising-skillful in the use of tiny instruments, instruments requiring a steady nerve and a precision and exactness of sight and feeling. These types are well known ones, as distinct as the characteristic minds of individuals.

The lines that form the intricate convolutions on the palms and finger tips are held by scientists to remain unchanged throughout life. This fact forms the basis of a system of criminal identification in France—the Bertillion system. The finger-prints left on objects handled by wrongdoers often forms the only

clews for the detectives there. As these marks differ in every individual and the impressions are taken of all who are once caught in crime, the matter is not so difficult, for the police of France claim the perfection of their system—the finding of any unknown man who has once been taken, occupying but a space of two minutes.

In almost all customs or religions the hand plays an important part. Man is fashioned by the hand of God. There is a strange legend of one of the Eastern races that when the angel of life breathes the first breath into a newly created being, he strikes the upper lip with his finger, forming the depression just below the nose. "Who is it," David asks, "who shall ascend into the hill of the Lord, or who shall stand in his holy place?" First of all, in answer, he says, "He that hath clean hands." This expression, of course, was symbolic of a life unstained by deeds of violence. When Pontius Pilate washed his hands at Christ's condemnation, he did so merely in accordance with the custom, signifying that it was against his will, and that he did not wish to have the crime reckoned against him. In ages of superstition the comets were thought to be the hand of God bearing fiery swords as a symbol of his displeasure and intention to punish wicked deeds. In the ancient times, as is now often the custom, to extend the arms with the hands palm upward, was considered a supplication; from Caesar we have a description of how the women and children came out upon the walls of a besieged town and extended their hands for mercy.

As the tool of the mind, the hand is invaluable to the human race. The products of all thought are the forms they have received from the hand. Our vast literature, our necessities and luxuries, are all due to the hand. Without it we would be no better than the beasts we consider our inferiors. Save for his hands man today would be one of the weakest, most wretched of brutes, without means of protection, with no civilizing influences, with barely the means to get his nourishment—worse off indeed than many of what we call the lower animals.

MY VISIT TO A BAKERY

If bread is really the staff of life then it is very necessary that what is placed before the public should be of the best. The material used should be of the purest and only skilled workmen should be allowed to handle it. Scientists should make experiments, not to find a way to lessen the expenses and enlarge the profits of the baker, but to find a way to raise the quality of the bread without raising the price. I suppose it is human nature to strive for monetary gain as much as possible, but because that is so it need not lower the quality of bread or lessen the profits of the buyer.

The amount of bread consumed daily by the people of Kansas City is astonishingly great. One bakery alone fills orders for thousands of loaves a day. It is very interesting to visit the different bakeries of the city, for nearly all of the large ones take great pleasure in showing visitors through their buildings. The Smith Steam Baking Company is about the largest in the city and it has many very interesting devices for the handling

of its products. This company is very proud of the new building it is erecting on the corner of Locust and Eighteenth streets. It expects to have there all the latest mechanical inventions for the improvement of bakery bread. Every person that now visits the old plant at Seventeenth and McGee streets is very cordially requested, by those interested in the prosperity of that particular company, to be sure to inspect the new bakery, which they say will be the finest in the city.

The first thing one is shown when visiting this bakery is the big sieve, made of silk stretched very tightly around a cylinder. The flour is put into the top of the bin, which contains the sieve, and the cylinder is revolved. The flour, after it has been through this process of refinement, looks as white and clean as anyone could wish. I was told that they use the best grade of flour, and not being capable of judging for myself I am not going to doubt their word.

After the flour has been sifted, it is weighed and a certain amount is put into a large iron receptacle, which has an interior arrangement that kneads the bread. The flour is then mixed with the other ingredients, the machinery started, and the kneading process begins. I was told, and afterwards it was proved to me, that absolutely no alum is put into any bakery bread. The foreman told us he, himself, had made several experiments in a Chicago laboratory and he had found positively no advantage in the use of alum in bread. It would only be an added expense, with no recompense whatever. The idea of bakers using alum in their bread was started in this way: Price's Royal Baking Powder was advertised as containing no alum, which bakers had become accustomed to use. That was an unjust accusation, however, as no baker was ever in the habit of using such a chemical or mineral.

When the dough has stood five and a half hours (to allow fermentation) it is formed into loaves weighing one pound each. These loaves are placed in pans and shoved into an enormous oven, where they are allowed to bake for an hour. An experienced man takes the bread from the ovens at the proper time by means of large wooden shovels. It is very interesting to watch one of these men; he works skillfully and rapidly. Smith's bakery has six large brick ovens, of which five have a capacity of four hundred and forty loaves of bread each.

This article is not written as an advertisement, but I can truthfully say everything I saw, when I visited Smith's bakery, was as clean as one could expect in a place where such rapidity is necessary and such a large amount of business is daily transacted.

THEO. NETTLETON.

THE LATEST MACHINE SHOP EQUIPMENT

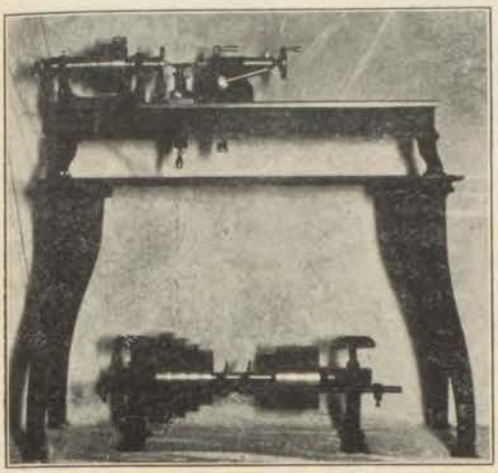
The latest addition to the equipment of the Mechanic Arts Department is a nine-inch hand lathe, built by some of the boys in the machine shop.

The spindle is steel, has a three-eighth inch hole the entire length, and runs in phosphor bronze bearings which are provided with means of compensation for wear.

The cone pulley has four steps for one and one-fourth-inch belt, and is perfectly balanced.

The lathe will swing nine inches and take twenty-four inches between centers. The length of the bed is forty-two inches.

As will be seen in the accompanying picture, the lathe is mounted on an iron



table, the top of which is finely polished. This arrangement not only provides a convenient place for tools, etc., but also prevents chips and oil drippings from getting on the floor.

The countershaft carries pulleys seven inches in diameter, and runs at a speed of 420 revolutions per minute.

The speeds are arranged in geometrical progression, the ratio being 1 to 7. The first speed is about 400 R. P. M. and the highest speed about 1950.

This style of machine is known as a speed or hand lathe, and may be used for drilling, polishing, finishing and hand-turning, and even for brass finishing.

Most of the machine work on the lathe itself was done by F. B. Johnson, and the countershaft, all but a few parts, was built by Harley T. Wheeler. A number of small parts of the lathe were made by other boys in the machine-shop, all of whom are justly proud of the fact they had a hand in building this tool.

QUITE QUEER QUERIES

Of whom, if you please, did the lemonade,
And where did the waterfall;
And whom on this earth did the windowshade,
And why did the basketball?

And tell me, too, why the bedsprings,
And what made the board walk;
What is the bell the diamond rings;
And who heard the money talk?

Oh, who ever saw the air-tight,
And also what the castor oils;
And when and where did the gas light,
And what gave the water boils?

Then tell me what made the bicycle tire,
And who heard the bed tick;
What kind of a shot did the kitchen fire,
And to what did the candlestick?

Where all this time has the coal bin,
And what did the potato peel;
Oh, who in the world gave the cottongin,
And what made the fishing reel?

How many pounds did the hay way,
And whom did the river dam;
How many hours did the mast stay,
And who gave the door jamb?

Why under the sun did the shoe lace,
And at whom did the tree bark;
Where and whom did the mill race,
And why did the wood spark?

At the beginning of each school year football is the all-absorbing topic. It remains so for three months. During this time it receives the undivided attention of the Athletic Department and upon it are centered the athletic interest and spirit of the school. Thanksgiving is usually the scene of the final struggle. The game then bids adieu and we at once begin preparations for spring events.

A meeting of those intending to try for a place on the track team was held in the new gymnasium on the first Wednesday in December. The interest taken in this meeting showed that the spirit accorded football did not take its exit with that game nor was it in any way destined to be short-lived. The room was half packed with an enthusiastic crowd willing to enter athletics for the further glory of our school.

Mr. Hall and Mr. Bainter were in charge of the meeting. They spoke upon the condition of athletics at Manual and expressed their satisfaction at the interest taken in this line of work. Mr. Hall gave a brief outline of the course of training he intended to give his classes during the winter months in order that the candidates for the track team might be in the best of condition for hard outdoor work as soon as the weather moderates sufficiently next spring. Anyone not receiving this training will not be permitted to enter the preliminary contests. Mr. Bainter mentioned the various meets in which Manual would be entered. He also stated that those winning a first, second or third place in the meet with Central would receive a handsome reward, as handsome as was given the members of the football team. This knowledge alone makes known their value and makes them well worth working for.

The great athletic event in high school circles in the Missouri valley will be held under the auspices of Blees Military Academy at Macon, Mo. It will be the annual track and field meet of the Missouri Valley Interscholastic Athletic Association. This Association is composed of high schools of athletic prominence in Kansas, Iowa, Nebraska and Missouri. This meet decides the Missouri valley interscholastic supremacy.

To win this meet does as much for the reputation of the school so doing as the excellence of any or many of its departments. As it is the only institution that

binds the high schools of the Middle West, socially or otherwise, it affords the one opportunity of forming an estimate of the relative standing of any of their departments.

Preparations have been made at the University of Kansas for its second annual interscholastic track meet, which will be held on McCook field Friday, April 28. The list of high schools expected to enter contains the names of the principal high schools of Kansas and those of Kansas City.

The morning of April 28 will be spent in visiting the town and university. Experiments in liquid air and radium will be given and the classes will be open to visitors. A special chapel exercise will be held, introducing some of the university musical organizations. The track meet will be held early in the afternoon and probably a ball game between the Kansas and Missouri universities will be played after the meet.

The whole event will be turned into a reception day at the university for the high school pupils.

It has been proposed that Missouri University hold a similar meet at Columbia. From the condition of athletic affairs at that institution it is evident that something is needed to create a greater interest among the high schools of our state in the university at Columbia. Nothing would do more in bringing the high school athlete of Missouri in close touch with his state university.

Missouri and Kansas will hold their second annual indoor meet in Convention Hall on March 17. It is not definitely known, but it is very probable that Manual and Central will compete in a fifty-yard dash and a relay race, as last year.

How well Manual will acquit herself in these meets, is a matter of interest and enthusiasm. The new gymnasium, shower bath and indoor track give us many advantages. With these and the thorough and systematic training which the candidates will receive it seems that success is ready to meet our team if we all unite and help.

MANUAL 6—TOPEKA 6

Early in the football season Manual's team journeyed to Topeka. The trip was indeed a disastrous one, Topeka winning by a top-heavy score. Then when the time came for the return game and with the result of the game of two weeks before looming up before us, naturally we expected a repetition of the former meeting. But a surprise was in store for the Manual rooters. The team even surprised itself by playing the heavy Jayhawkers a tie game. The final sore was 6 to 6.

It is deplorable to think that Manual could make such a good showing against a team that could defeat Central so decisively. And against Central Manual could——— Probably it was the crowd, the two weeks of rest, or because it was the last game of the season. But whatever the responsible elements were the game means much when summing up the final strength of our team.

A notable feature of this game was the attendance. Although the best high school game of the season, it was the most poorly attended. The few rooters present expected to see Topeka trample all over our colors and they were disap-

pointed. The poor attendance and the result of the game showed that our school had a much better team than it deserved.

Manual played as it had never played before this season. The game was characterized by team work, a lacking feature of some other games. The line played a remarkably aggressive game and the backs and ends literally threw themselves away in breaking up the slow attack of the visitors. The defensive work was much stronger, comparatively, than was the attack. The heavy smashes of Keeler and the crossbucks of Edwards were exceptions.

The game had many features that made it very interesting. The wholesale exchange of kick seemed to please the crowd. The kicking of Clemmens was a feature. In the exchange of punts he had much the better of his Kansas opponent. Topeka tried three times for goals from placement, but all attempts were blocked. Twice during the second half Manual held the tiring Kansans for downs when they were in the shadow of the goal posts—once on the three-yard line. Keeler is credited with one of the two long runs of the game. Breaking away from several would-be tacklers he advanced the ball thirty-two yards before being downed. Dolman carried the ball thirty-five yards before being downed by Dixon. It would be hard to pick any stars on the Manual team because they played as a team and not as individuals.

GIRLS' BASKETBALL

"Health is the vital principle of bliss,
And exercise of health."
—Thomson.

The Girls' Athletic Association was reorganized last fall for the main purpose of playing basketball. Coming together in an association brings the girls more in touch with one another, and in this way they know more about playing basketball, because they practice with one another. More stress should be laid upon playing this exciting game, which brings the glow of health to the girl's cheeks and causes the blood to tingle through her veins with all the freshness of sturdy, healthy girlhood. Every other Friday the new gymnasium belongs to the girls, on the intervening Friday to the boys. In this way not so much time is given, but a means has been found whereby the girls may practice once a week, on some other day. This would leave Friday for the match games.

It is not thought from present circumstances, that Manual teams will play with any outside team this season. But Miss Hoernig has thought of a means whereby more interest will be taken in the games than ever before. It is her desire to have teams made up of the Senior, Junior, Sophomore, and Freshman classes respectively. The match games will be held between some two of these teams. A pennant or banner will be given the team winning the most games. It is thought now that each team will have a color and a name. This has not positively been decided upon. It will not be until some time after Christmas that these games shall be played, but in the meantime some good practicing will be done. Several Freshmen teams will soon be organized.

CONSTANCE KELLY, '05.

BASEBALL

It now lies with the baseball team of '05 to regain their lost laurels of the previous year and "start the ball rolling" by producing a winning team—one that will bring the much-coveted pennant, now held by Central, to Old Manual. The success of the team will depend a great deal upon securing suitable grounds on which to practice, a place where the team will have a chance to work together and get the proper amount of batting practice. It is not individual playing that makes a winning team. This was shown last year, for so far as individual playing was concerned, it was better than on the previous year, when, under the guidance of Captain Shirley, and with but two old players the team fought hard for the pennant, only to lose it through the inability of one of our best players to participate in the majority of the games. Last year Captain Neal was handicapped by not having a park in which to practice. He did his best to get the boys to practice, but there was no interest shown on account of having no regular grounds on which to practice. Consequently, there was no team work, and Manual didn't have a "look-in" for the pennant. This year the prospects for a winning team are particularly bright, and as there has been an increase of interest shown in athletics, many candidates are expected to try for places on the team. This year the season will be longer, and there will be out-of-town games scheduled, as well as the regular "league" schedule. Many of the old players are taking advantage of the new gymnasium and the excellent shower baths to get in condition for the spring practice. It is as necessary for the baseball candidates to condition themselves, as it is for the football or track team members. With this in view, let every one work to bring the pennant "home."

E. Brooks.

FOOTBALL PROVERBS

A down covereth a multitude of slugging.

Over the gridiron lies victory.

There's no royal road to the goal.

Some men are born famous, some achieve fame and some get to be coaches.

The bulletin board always tells.

To punt or not to punt: that is the question.

Time flies but the stop watch can turn it back in its flight.

If at first you don't succeed try—a fake.

It's a wise coach who knows his own men.

Fainthearted football player never won Dame Victory.

The way of the slugger is hard to get on to.

Early to bed and early to rise is the way of the football player (?).

To the victor belongs the pigskin.

EXCHANGES

A yacht can stand quietly on a tack, but a man is not like a yacht.

INSULATED

The motorman fearlessly took an end of the lower trolley in each hand. "Wouldn't it be shocking," said he, "if I were a conductor?"

FIRST JOKE ON RECORD

Eve, having finished her first ball gown of fig leaves, went out in the fruit grove and plucked two bananas. After eating the fruit she sent the skins to Adam.

"What are these, my dear?" asked Adam in surprise.

"The pair of slippers I promised you," replied Eve, sweetly, and then she went over and dressed Able and Cain and started them off to the kindergarten.

"George!" she screamed, "my neck!"

"What's the matter?"

"There's a pillacater——"

"A what?"

"A tappekiller——"

"What in the world do you mean?"

"Oh, dear," she moaned, as she clutched him frantically, "a ketterpaller! You know, George, a patterpiller."

"Oh," said George, with evident relief, and he brushed the future butterfly away from her neck.

Jake—"Say, Hiram, did you know that some of them horticultural experimenters were talking about crossing the strawberry with the milk-weed so's to have strawberries and cream?"

Hiram—"No; but I read the other day of a bugologist who was trying to cross honey bees with lightning bugs, so they could work at night."

Jake—"Pshaw! That's nothing; why, out on the plain they plant potatoes and onions in alternate rows, and that makes the eyes of the potatoes water, so they don't need irrigation."

Consider the feet of the Freshmen, how they grow; they toil not, neither do they hurry, and yet I say unto you that even Solomon in all his glory had no such feet as these.

Whatsoever a man seweth that will he easily rip.

"Just think of it," she said proudly, as the voice of her son rose above the others in the college yell, "Sam and all those other boys conversing in Greek, just as natural and easy as if it were their native tongue."

"I cannot give," he sadly said, "even a yacht to you."

"Well," she said, "I'm sorry, but a little smack will do."

"Mamma, am I a lad?"

"Yes, Bobbie."

"And is my new papa my step-father?"

"Yes."

"Then am I his step-ladder?"

"Pa, didn't you say a cat has nine lives?"

"I may have remarked that is a popular belief."

"Then ours must have lost eight of them before we got her, 'cause I let her down into the cistern just once for half an hour and she looks awful dead now."

"There is too much system in this school business," growled Tommy. "Just because I snickered a little the monitor turned me over to the teacher and the teacher turned me over to the principal anr the principal turned me over to pa."

"Is that all?"

"No; pa turned me over his knee."

"Why is a horse the strangest eater among animals?"

"He eats without a bit in his mouth."

"Ha, I will fool the bloodhounds yet!" cried the fugitive, hoarsely, and slipping on a pair of rubbers he erased his tracks.

Mike—"What would yez call an imitation stone, Pat?"

Pat—"Bedad, O'id call it a shamrock."

If you would be well informed take a paper. Even a paper of pins will give you a few points.

Student (at parting)—"Professor, I am indebted to you for all I know."

Professor (pleasantly)—"Don't mention such a trifle."

Brutus—"Hello, Cæsar! How many eggs did you eat for breakfast this morning?"

Cæsar—"Et tu, Brute!"

"Whose voice did he like best, yours or mine?" asked Miss Kriech.

"I'm not quite sure," replied Miss Bird; "his remarks were a bit ambiguous."

"Why, what did he say?"

"He said that he liked my voice, but that yours was better still."

Ethel, her little sister Eva, and Mr. Thompkins sitting in a cozy corner.

Papa (poking head through the curtains)—"Pleasant conversation, girls?"

Ethel—"Yes: we were talking about our kith and kin, weren't we Eva?"

Eva (lisping)—"Yeth, Mr. Thompkins says, 'Kin I have a kith?' and Ethel says, 'You kin.'"

Found on the fly-leaf of Burke's Conciliation:

If there should be another flood
Hither for refuge fly
For if the whole world be submerged
This book would still be dry.

"Pa," she called up stairs, "this clock down in the hall isn't going."

"It isn't, eh?" he answered. "Well don't let that be an example to the young man."

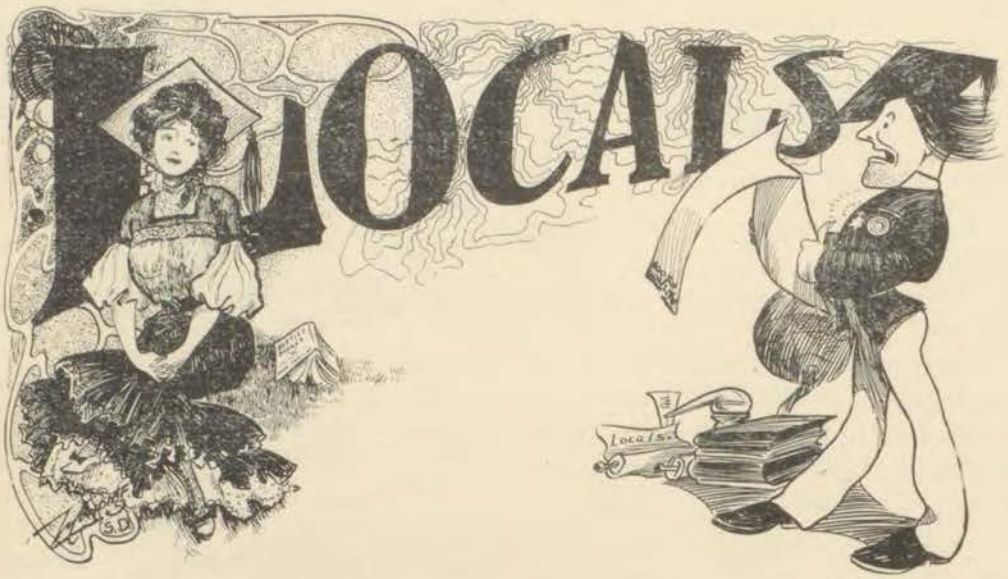
"What do you think now, Bobbie?" remarked the mother, as she boxed his ears.

"I don't think," replied the boy. "My train of thought has been delayed by a hot box."

"I want to get copies of your paper for a week back," said the old gentleman.

"Don't you think you'd better use a porous plaster?" suggested the new clerk in the publication office.

A butcher was asking some one the other day why there was such a decrease in the meat bill. The parent replied, "Oh, my daughter is studying zoology at the high school."



POLITICAL ECONOMY

Miss Gilday—"What would you do if you were a millionaire?"

Earl Mill—"I wouldn't do a thing."

Pupil (in elocution, reading)—"And her voice broke."

Teacher—"Why did her voice break?"

Pupil—"I don't know unless it was because she dropped it."

Miss Murphy says Minka goes at things backwards. Once she told her she got her cart before her horse. How does Minka ever expect to draw anything when she gets her cart before her horse? Back up, Minka, and try it again.

If all the pupils at Manual who have too many irons in the fire would form a steel trust they would be overstocked.

Mr. Page (to a boy who is trying to show a girl how to perform an experiment with a lever)—"Mr. Bruce, your arms are out of place."

Mr. Chace assigns lessons according to this theorem: The amount of work produced varies inversely to the time assigned.

Mrs. Elston—"No story can be good without departing from the truth."

Mr. Chace (in geometry)—"Now pupils, while the others are putting the drawings on the board, I want you to look at my figure."

Mr. Rambeau (in French)—"If you are present answer 'presont' and if you are absent answer 'absont.'"

Foster says that when he sends Gladys a present he leaves the price tag on to save her a trip down town.

Mr. Gustafson—"What is meant by relative weights?"

George Beardsley—"My cousin weighs 150 pounds, so that is relative weight."

Miss Gilday—"And the conquest of Peru is up there; when you haven't anything else to do just Peru(se) that."

If our Seniors knew all they think they know there would be a small market for encyclopedias.

Mr. Woods says that in singing we should open our mouths like alligators. (Alligators are such exceedingly good singers.)

Freshie—"Aren't you afraid of that French exam?"

Another—"You bet; why even my handkerchief is frayed!"

As our Freshmen become Seniors they grow physically, mentally, and in their own estimation.

Lytton says: "In the bright lexicon of youth there is no such word as 'fail'" (but some of us who have taken mathematics know better).

Lost, Strayed or Stolen—the *Luminary's* editorials. Liberal reward offered for their return.

Stephen—"Was the hour late when you arrived?"

Cowell—"Oh, no; the hour was on time. I was a trifle late however."

Miss Lyons—"Is your excuse straight?"

Sidney Ormes—"No; it's all crumpled up."

Mr. Holiday—"Give an example of courage."

Helen Dickey—"Taking psychology."

Junior—"Why is mathematics like counterfeit money?"

Senior—"Because it's hard to pass."

A SELF-EVIDENT FACT

Newsboy—"Buy a *Star*; only two cents."

Harry Havens—"I haven't any" (sense).

Mr. Dodd—"What happened to those B's?"

Minka—"They swarmed."

It is more blessed to give than to receive—examinations.

Ann Morrison—"I've gotten so that I can listen to the sermon in church and not hear a word of it."

Adele Joffee—"I wouldn't mind going to school if it wasn't for one thing."

Renee—"What's that?"

Adele—"The school."

Our Mr. Woods does not follow the rule, "work while you work and play while you play"; he plays while he works and works while he plays.

Minka (seventh hour)—"Have you eaten your luncheon?"

Ann—"Yes: you have eaten, too, haven't you?"

Minka—"No; only one."

It has been suggested that in the future instead of playing football with Central we leave it to arbitration.

Some people are born great, some achieve greatness, others know how to "run a bluff."

Mr. Cowan—"You would recite very well if you would forget yourself as I told you."

Renee—"I was so excited that I forgot to forget myself."

Outsiders may be surprised to learn that the men of our faculty appeared in dresses before all the pupils of Manual—were born.

Mr. Palmer isn't a musician, yet he is in the habit of accompanying Miss Coates.

Miss Fisher—"Don't chew gum, girls, for if you have ever noticed a cow or some other person chewing gum on a street car you know how unladylike it looks."

A student's progress is usually proportional to his will power.

Miss Gilday—"When I was in the Senate——"

It is predicted that Miss Laura Sage will make her mark in the world. (Is it possible that Laura never will learn to write?)

"Can't," said a Senior, "is a pretty bad word either with or without the apostrophe."

Mrs. Elston (referring to Julius Caesar)—"What are the characteristics of a mob?"

No answer.

Mrs. Elston—"Well, Roy, what would you call it if a girl liked you one day and didn't the next?"

Roy D.—"I'd call it pretty tough."

A PERSIAN PROVERB MANUALIZED

He that knows not and knows not that he knows not,—gets F.

He that knows not and knows that he knows not,—gets C.

He that knows and knows that he knows,—gets P.

Van Buskirk had his palm read. The palmist said he could tell him everything excepting who was going to be president of the Senior class.

Edna Goldstandt (in cookng)—"Don't throw that cup of water away, it's vinegar."

Helen Flint—"Shall I get off at this end of the car?"

Ethel Cookson—"It doesn't matter, both ends stop."

Stephen Luckett (after sitting down on Watt's luncheon)—"Oh, pardon me. I'm afraid I've mashed your luncheon."

Webb—"That's nothing; I'll have compressed food."

Suggestion to *Luminary* editor-in-chief: Tie a string to your editorials.

A P seems big only when measured with an F.

Miss Fisher—"Margaret is absent again."

Jennie Baum—"Yes, and Mamy Stoller."

Mr. Bainter—"Where is the chord of that circle?"

Pupil—"I don't know."

Mr. B.—"That must be the 'Lost Chord.'"

Mr. Kizer—"How many of you like Bacon (Bacon)?"

The editors are receiving locals regularly (in their sleep). Please help them keep it up while they are awake.

Bonticou—"I forgot my compass."

Mr. Dodd—"Use a dollar."

Bonticou—"Mr. Dodd, lend me a dollar."

Mr. Dodd—"Just wait a minute; I will find you a compass."

Harry Havens—"I know I can't get this proposition, but I've half a mind to try."

George Green—"You can't get it, Harry; it takes at least five-eighths of a mind to get a proposition."

Student (reading Virgil)—"Three times I strove to cast my arm about her neck and—that is as far as I got, Miss Drake."

Miss Drake—"Well, I think that was far enough."

Victor Charpiot—"Why are some Manual girls' hearts like a street car?"

George Beardsley—"Because there is always room for one more."

Mr. Chase (illustrating converse)—"All men are animals; all animals are ——"

Smart Freshie—"Are men."

First Pupil—"Well, how did you get that 48th proposition?"

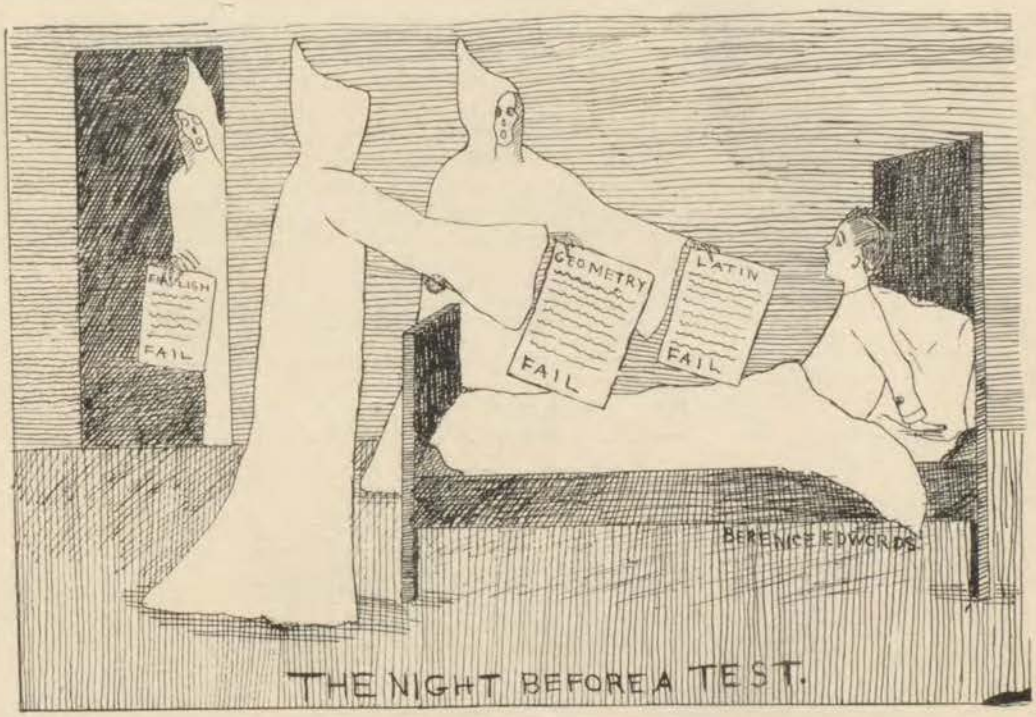
Second Pupil—"I consulted *'the hint below.'*"

Miss Fisher says that it is delightful to freeze to death.

Foster—"Gladys, did you grade my Latin paper?"

Gladys—"No. Why?"

Foster—"I thought some one must have graded it who had a soft spot in her heart for me."



THE NIGHT BEFORE A TEST.

STANDARD PRINTING CO. OF KANSAS CITY, 119 WEST 8TH STREET

NOTICES

APRIL 1905

MTHS VOL. 18 NO. 3

MJB

DIRECTORY

ART CLUB

President. .....Eugene Young
Vice-President. .....Faith Pearse
Secretary. .....Wanda Egbert
Treasurer. .....Stanley Mullett
Sergeant-at-Arms. .....Ledgwig Sargeant
Critic. .....Nellie Hare

MANUAL SOCIETY OF DEBATE

President. .....Colwell Pierce
Vice-President. .....Aubrey Spencer
Secretary. ..... John Ewins
Treasurer. .....Roy Hanna
Librarian. .....Colin K. Lee
Critic. .....Edward Van Buskirk
Sergeant-at-Arms.....Foster Palmer

ION SOCIETY

President. .....Earl Mill
Vice-President. .....Will Harnden
Secretary. .....John Ewins
Treasurer. .....Edwin S. Pierce
Sergeant-at-Arms. ..... Gilbert Jaccard
Critic. .....Victor Charpiot

A. L. S.

President. .....Edwin Lyon
Vice-President. .....Lester Davidson
Secretary. .....Georgia Jones
Treasurer. .....Trent Boyer
Sergeant-at-Arms. .....Harry Jenkins
Critic. .....Walter Bacon

O'ITA SOCIETY

President. .....Florence Elliott
Vice-President. .....Ethel Richardson
Secretary. .....Pauline Dunlap
Treasurer. .....Leslie Frame
Critic. .....Georgia Milburn
Sergeant-at-Arms. .....Alice Richardson
Joatamon. .....**Ruth McCluer**

BOARD OF EDUCATION

Jos. L. NORMAN, President — GARDINER LATHROP, Vice-President

W. E. BENSON, Secretary — E. F. SWINNEY, Treasurer

J. M. GREENWOOD, Superintendent

Milton Moore — J. S. Harrison

F. A. Faxon — J. C. James

Faculty

E. D. Phillips, *Principal* E. M. Bainter, *Vice-Principal*

ENGLISH

B. F. Kizer
English

Mrs. Sarah G. Elston
English

Bertha Elston
English and Librarian

Sara Van Meter
English

Stella F. Jenkins
English

Nina Drake
English

Eva W. Case
English

Miss Mary Lyons
English

MATHEMATICS

A. A. Dodd
Mathematics

E. M. Bainter
Mathematics

B. T. Chace
Mathematics

E. R. Morse
Mathematics

Chas. Morse
Mathematics

Jean Shaefer
Mathematics

Horace C. Small
Mathematics

Gus J. Haut
Mathematics

E. B. Dennison
Mathematics

NATURAL SCIENCE

B. M. Stigall
Botany

Jennie Sublette
Zoology

Leslie E. Paull
Physiology

Laura M. Stearns
Physiography

F. E. Holiday
Physiography and Psychology

HISTORY

Anna C. Gilday
History

Abner Jones
History

O. R. Davis
History

Sarah E. Steele
History

PHYSICS

Herbert M. Page
Physics

CHEMISTRY

C. F. Gustafson
Chemistry

FOREIGN LANGUAGES

A. Rambeau
French German and Latin

Mary Fisher
French and German

Della Drake
Latin

J. L. Deister
French, German and Latin

Gertrude Von Unwerth
German

DOMESTIC ART

Josephine G. Casey
Sewing Instructor

Jessie L. Griffith
Sewing Instructor

Corinne Bone
Sewing Instructor

Martha Rouse
Sewing Instructor

Edith Welch
Sewing Instructor

Lena M. Lindsay
Sewing Assistant

Emma Humfeld
Sewing Assistant

Nettie Humfeld
Sewing Assistant

DOMESTIC SCIENCE

Bertha H. Bacheller
Cooking

Mabel Hazen
Cooking

Belle Stewart
Cooking

Della Kahn
Assistant in Cooking

MECHANICAL DRAWING

Barry Fulton
Mechanical Drawing

C. C. Sampson
Mechanical Drawing

Ivan Hayes
Mechanical Drawing

Albert C. Carpenter
Mechanical Drawing

FREE HAND DRAWING

Alice Murphy
Free Hand Drawing

Floy Campbell
Free Hand Drawing

Ada M. Rapp
Free Hand Drawing

Sarah Heyl
Free Hand Drawing

Edith M. Hill
Free Hand Drawing

Mrs. Maud Maple Miles
Free Hand Drawing

MUSIC

Glenn Woods
Music

BOYS' PHYSICAL CULTURE

E. M. Hall
Boys' Physical Culture

GIRLS' PHYSICAL CULTURE

Lena Hoernig
Girls' Physical Culture

Grace Slocomb
Assistant Girls' Physical Culture

ELOCUTION

John A. Cowan
Elocution

MANUAL TRAINING DEPARTMENT

Geo. Arrowsmith
Turning

Frank Barry
Assistant in Turning

Marshall Myles
Joinery

Wesley Elmer
Joinery

Frank Cushman
Machine Shop

Joseph Stadler
Tool Boy

G. H. Donham
Forging

James Ellis
Assistant in Forging

J. M. Kent
Steam and Electricity

BUSINESS DEPARTMENT

P. B. S. Peters
Bookkeeping and Stenography

W. B. Claflin
Bookkeeping

Eva J. Sullivan
Bookkeeping and Typewriting

Leonora Rackerby
Typewriting

Mrs. Ada G. McLaughlin
Study Hall

Mrs. A. C. Lavine
Matron

Mary Canny
Chief Clerk

Maud Neal
Assistant Clerk

Wm. Raney
Head Janitor

VOL. VIII NO. 3 KANSAS CITY, MO. APRIL, 1905

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

Entered at the 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.

SIGN UP

It has been a custom for some years past to determine the number of copies of THE NAUTILUS Annual that will be printed by the number of subscriptions in our book and the number of promissory cards signed. These promissory cards may be had from any member of the Staff, on or after the date of this publication. They are not hold-up schemes, but simply a means of ascertaining how many of you want to get an Annual. The cards are blank. You simply "sign up" for as many copies as you want and promise to pay on delivery of same. We do the rest. Maybe some of you have never seen one of these cards. If not, the next time you see one of the Staff don't let him get away until you've seen one. After that it's "up to him" not to let you get away until you've signed it. Don't you want to help us increase the circulation of the biggest bi-monthly high school paper in the state? If you do, get busy and sign and don't be afraid to sign for as many as you want. You'll get them for 25 cents each.

ABOUT GRADUATION

Most undoubtedly every one of these large and important looking personages you see walking up and down the hall, who call themselves Seniors, intend to graduate. Now, we don't want to seem

pessimistic, or distrustful of the pupils of the school, but past records show that there are always a few that "get left." So, if warning can do any good, accept this from us as a timely hint and look up your record, so that you may be able to ride in the "graduation tallyho."

IN MEMORIAM

Words can do little toward expressing the grief that has come to us through the death of one of our Staff members, Mr. Victor Charpiot. He was ill but six days, when death deprived us of him, typhoid fever being the cause.

How much his loss will be to the school can be better imagined than expressed, as he was ever foremost, both in the classroom and on the athletic field.

His work on THE NAUTILUS was always the neatest, most complete and least corrected original manuscript of any handed in, and was always on time. He did all in his power to help THE NAUTILUS and did more work than any other editor on the Staff.

If his loss is great as a fellow-worker, it is no less so as a friend. He leaves behind him a vacancy hard to be filled and a record justly enviable by all; so that although he may be gone from us, it will be a sweet satisfaction to those whom he held dear to know that he is not forgotten, and that absent friends are often the most dearly beloved.

THERE ARE MORE WAYS THAN ONE

In the last few days the list of books of our library has been lengthened by rapid jumps. This sudden increase is due to the originality and exertions of one of the library committee, Miss Sadie Danciger. One day when she was thinking of some way to help the studious students of our school—and she must have thought about it a good deal to originate this most effective scheme—a plan, that at first could not have seemed very feasible, occurred to her. It was nothing more or less than to appeal to the representative citizens for books. As she thought more about it she knew it to be practicable and we are now admiring the results. Her method of procedure was to have printed about two hundred letters, in which she gave her reasons for asking for books and our appreciation of them when we have them by the good use made of them. She then closed by naming the book or books she wished the person to contribute and sent them to those whom she thought might come to the front and help. Her thoughts are very well justified, for twenty-nine have already answered and more are doing so all the time. Miss Danciger certainly deserves much credit for originating and carrying out this plan.

But she is not the only one that has helped. Several of our pupils and faculty have suceeded in securing a num-

ber of new and useful books. If we keep on adding to our list at the rate we are doing now, in the course of time we will have to have a regular library building in connection with our school. But that will not be for several years yet.

A NEW SCHOOL FEATURE—DECLAMATION AND ORATORICAL CONTEST

As a means of arousing a greater interest in elocution and oratory, the art that "makes *ready* men," but which is too much neglected by our young people today; for the purpose of stimulating our pupils to make themselves more skillful in original composition, or the art that "makes *exact* men"; and in order to cultivate a true, wholesome school spirit among our pupils—our school management proposed that we establish an oratorical and declamation contest among our five literary societies. The rules and regulations were carefully formulated, and printed copies were submitted to each society. The "O'itas" took the lead in a friendly challenge to the other four societies, which promptly accepted the gage. The ambitious amateur reciters and orators went to work with a vim to secure good recitations and to prepare original orations, and soon the auditorium and old gym-loft were daily resounding with the echoes of the voices of the rival contestants and their trainers.

In due time the preliminaries were held and the following program of speakers was made up, supplemented with excellent music by Manual's Girls' and Boys' Glee Clubs:

PROGRAM

Chairman of the evening - - -
GEN. MILTON MOORE

* * *

Song - - - - - - "Carmena"
M. T. H. S. Girls' Glee Club

1 Oration - - "A Talisman of Success"
Mr. Lester Davidson (A. L. S.)

2 Recitation - - - - - - "Hagar"
Miss Gladys Miller (A. L. S.)

3 Oration - - "Why Japan Should Win"
Mr. Archibald Baranger (Ion)

4 Recitation - - "Nat. Powers' Aunt Jane"
Miss Olive Thomas (O'ita)

Song - - - - "March of the Guards"
Boys' Glee Club

5 Oration - - - "The American Negro"
Mr. Stephen Luckett (M. S. of Debate)

6 Recitation - - - - - "Me and Bill"
Miss Helen Crandall (Art Club)

7 Oration - "The Young Man in Politics"
Mr. Clyde Sylvester (Art Club)

"The Song of the Flag" - - *DeKoven*
Manual Glee Clubs—Baritone Solo,
Mr. John Frank

* * *

Decisions of the Judges and Awarding of the Medals

The contest is so planned that young women compete with young women only and young men with young men only.

It was decided to have the two medals designed by our own pupils. Thirteen designs were submitted, from which a committee of experts composed of Mr. Harry Woods of the Kansas City *Star*, Secretary W. E. Benson of the Board of Education, and Mr. Green, a jewelry manufacturer, unanimously chose the designs made by Mr. Walter B. Bacon of the "A. L. S."

The medals are beautiful and expressive works of art. Good fortune smiled on this worthy movement from the start and the following friends contributed $36 toward making the medals: Messrs. W. J. Berkowitz, Wm. Smith, Jr., Eben White, L. Reynolds, H. B. Keller and

F. J. Green. This generous contribution enabled the artisan to make medals that are strong, useful and artistic—well worth striving for and preserving as rich trophies of such an intellectual tournament.

The liveliest interest was shown by the society members and the hope is that this contest will become a permanent and beneficial annual event.

The contest as held on the evening of March 25 will be remembered as one of the most enjoyable of our school entertainments. The audience was taken care of by the twenty ushers of the societies who wore their respective society colors and under Mr. Fulton's direction gracefully seated the people.

A joint decorating committee tastefully and appropriately dressed the stage, which was set with a drawing room scene. The chairs of the contestants were adorned with the colors of the societies but the most unique feature of the decoration was the display of colored electric light bulbs to correspond to the different society representatives as they were called out.

Too much credit cannot be given Mr. Cowan, who worked untiringly to make the contest a success. The songs of the glee clubs were, by Mr. Glen Woods' careful training, made beautiful and delightful features of the program. The big auditorium was completely filled with an enthusiastic and appreciative audience.

So thoroughly prepared were the speakers and so well did they perform their parts, that it taxed the wisdom of the judges to render their decisions, and when the chairman of the evening—Col. Milton Moore—announced that he was ready to announce the names of the winners, the stillness was painful. The judges gave the recitative medal to Miss Gladys Miller of the American Literary Society and the oratorical medal to Mr. Stephen Luckett of the Manual Society of Debate.

One pretty feature of the occasion was the marching in of the contestants decorated with their society colors. Mr. Pate Kruse headed the procession bearing the Manual banner, and each contestant was accompanied by an usher of his or her society while Mrs. Jean Norris Bell presided at the piano and accompanied their progress to the stage with a grand march.

Long live Manual's inter-society elocutionary and literary contest!

A NEW SUCCESS

Manual is certainly well represented this year in the different contests which have been held for the pupils of the high schools. In the annual contest given by the Missouri Chapter of Sons of the Revolution this year Miss Elizabeth Nofsinger had the honor of receiving first honorable mention. The contest was one of a written essay, the subject of which was "The Attitude of Foreign Nations to Our Country During the Revolutionary War." The subject is announced each spring, the essays must be handed to the judges the first of November, and the prizes are awarded on Washington's Birthday. There are three medals and three honorable mentions, one of which Manual carried off this year. We are very glad that we can number Miss Nofsinger among our pupils. A committee from the Sons of the Revolution will come to the school some time this spring and present the mention.

Literature and History

THE GROCER

The sun was just emerging from its morning bath all sparkling and jubilant as Miss Hazel Silmer stepped out upon the piazza. It was an exceedingly beautiful morning and she sat down upon the railing to listen to the swash of the waves as they charged uopn the sandy beach not far from the house. The noise of these lively playfellows was not a new one to her, as she had lived in the old homestead ever since her birth, twenty-two years ago; but upon this particular morning they had a certain strange fascination. This was the day that she was to start upon a visit to her college chum, who lived in Wisconsin.

Hazel's brother John was twenty years her senior, and since their father's death they had taken care of the old estate together. Consequently when Hazel had decided to go away for some time she told John of numerous things which he must have attended to and also a great many things that he must do himself. Just before she left she looked up into his face and said:

"You won't miss me for a couple of months, will you, John?"

"Well, I can't exactly say that, but it will be a nice trip for you and I am glad you are going. You must remember and write every time you have a chance."

And so Hazel went. Two days after her departure, John received a long letter from his little "sis."

"Everything is perfectly lovely here," she wrote. "Ethel is the same jolly girl she was when I left her at college. The new grocer of whom she wrote us is quite an interesting type of business man. The first day after our introduction I got caught in a rainstorm down town. I had been waiting in the postoffice for some time when Mr. Bailnor (that is the grocer) drove over in his delivery wagon and offered to take me home. I accepted most gracefully you may be sure, and he helped me in as politely as if it had been a stylish dogcart instead of a delivery wagon painted white with 'Bailnor & Co.' in big black letters."And so she concluded.

. . . . . .

"Plucky girl! Didn't believe she would do it," were the words which passed through Howard Bailnor's mind as he bowed, after leaving Hazel at the door upon that rainy afternoon. And Hazel, appreciating the easy grace of the bow and the young man's good looks and manners, had wished that he did not

occupy such a position or wear such horrid store clothes. But then Ethel's father wore store clothes too, so she had to console herself.

Howard Bailnor did not know what had been said about his clothes, and while the other people of the town laid aside their wearing apparel that night, Mr. Bailnor retiring to his room over the store, hung his garments on three convenient nails and threw his boots at them with the vigor and precision of a trained athlete. Then his look of disgust changed to one of amusement and he went to bed with a smile upon his fine-cut lips.

The last day of the coming week he had planned to take Hazel skating upon the beautiful lake, Yami. As it was quite a distance to the lake, he had come for her in a runabout, explaining that Dot's aristocratic spirit rebelled at the delivery wagon. "However," he continued, "I have looked upon it as a royal chariot since you last rode in it. Have you often driven in a delivery wagon?"

"Not often," said Hazel. "But then I have not often met with such princely courtesy as I received on that occasion."

He looked his gratitude.

"My, what a lake!" said Hazel, as he assisted her out of the carriage. "It looks more like a small sea than a lake."

Their skates were soon on and away they went over the smooth ice. Here was another surprise in store for him, for Hazel took as steady and even a stroke as he did.

"You skate exceedingly well, Miss Silmer. We will have no trouble in skating around the entire shore line."

"It is certainly lovely," she said. "I could skate until midnight without ever stopping, I believe; that is, if you were here to keep me from getting lost."

Neither one spoke for quite a while, the merry ring of their skates keeping time with the jolly peals of laughter from the crowd. He was the first to break the silence.

"Do you see that large table rock off to the right? It is called 'Skavoe.' An old Swiss settler named it from a large rock emerging from the bank of one of Switzerland's prettiest lakes. It resembles the original very closely. When I was a boy I remember of father's coming home from the old country and telling us all the story about the original Skavoe. Since then it has been the one wish of my life that I might see the rock. The story as I remember it was like this:

"'Away up among the highest portions of Switzerland are two small lakes surounded by lofty mountains, with an occasional hotel or cottage dotted here and there. Between these two lakes lies the ponderous rock Skavoe. The peasants say that just as the sun takes his last peep over the mountain tops two lovers come out, apparently from the center of the rock, and sing an old Swiss ballad. The hollow caves and crevices away up in the mountain tops catch the sweet sounds and toss them back and forth from peak to peak until they finally die away in the distance.' Would that not be a beautiful sight?" concluded Mr. Bailnor.

And Hazel agreed that while she was not superstitious enough to believe it all, yet it would indeed be a beautiful sight, even barring the improbable part. "I should very much like to see it myself," she said.

The neighing of "Dot" awoke them to the fact that the trip was at an end, and, after warming hands and feet around a

spacious fire, they drove towards the city.

. . . . . .

Hazel always said it began upon that trip. Some subtle, sweet change crept then into their relationship. She never could quite understand how it happened. First he was just sociable; then he had confided in her; and then—"I just wanted to tell you myself, Johnnie," she said. "You will like him when you know him.—Why, John, you haven't said one word yet! What is the matter?"

"I was just thinking," said John. "It is my opinion that Bailnor is a very fortunate man. I know I shall like him."

. . . . . .

Two days before the wedding a change came over Howard Bailnor. He was manifestly uneasy and restless all day. In the evening he paced the library in a long silence. Then he paused before Hazel and said: "I'm afraid I'm a coward, Hazel."

"Indeed you are not," was the prompt reply.

"You know I haven't always been in the grocery business?"

She nodded.

"In fact I had been in it just six months when you came. I had thought I was about ready to go away. I saw you and,—I stayed. And just naturally, you know, I kept on being a poor young grocer and wearing store clothes. It was so pleasant to feel that a girl cared enough for one to take me as I was that —well, I was a coward, as I said, and didn't undeceive her."

"Howard," said Hazel, slowly, "are you rich?"

"I'm afraid I am," he said, apologetically.

"Oh, Howard, please forgive me; so am I."

"We will have to forgive each other, I guess, and after that we shall go to Switzerland and—"

"And see the lovers?" asked Hazel.

"And be the lovers," answered Howard.

A-LUVIN' YOU

I al'ays felt oneasy
When I saw you cummin',
Like bare feet in the clover
Where the bees is hummin';
My tongue 'ud swell and stiffen—
Just a word or two
Wus all that I could stammer—
You think I wuz a-luvin' you?

I felt an awful hurtin'
Underneath my vest,
My heart, when you wuz leavin',
Seemed a hornet's nest;
I felt a kind of chokin',
Stickin' tight as glue
Of sumthin' in my throat—oh,
I *must* a bin a-luvin' you!

I'm feelin' kinder lonsum',
Seems as sumthin's gone.
And, oh, the dreary night-winds
Through my winders moan;
I used to like to hear them
Swish-h and whu-u and woo-oo—
But now they makes me shudder!
I *still* must be a-luvin' you!

The grasses in the medder
Is not half as green,
And roses wuz much redder,
Lilies looked more clean;
The birds don't sing as sweetly,
Skies is not as blue:
I wish you hadn't gone—oh,
I *know* I am a-luvin' you!

It seems as I'm a'lusin'
Appetite for food,
And my old feather-piller's
Gittin' hard as wood;
I'm all the time a-thinkin',
Wishin' it wuz true
That you wuz cummin' back—oh,
I'll *die* because of luvin' you!

—J. L. D.

JEAN DOUGLASS GREY—Anne Morrison
BARBARA ALLEN—Helen Filley
KATHERINE CRESS—Effie Dow Hopkins
MARGARET MERRIWEATHER—Dorothy Hopkins

PART III

Terrace Hall, Washington, D. C.,
January 30, 19—.

Beloved Elizabeth:

My own, I am broken-hearted. I am so humiliated that I don't know that I will ever show my face again. Just think, dear, the wonderful Miss Rothsay I told you about has turned out to be the French maid of the real one! Now, do you blame me for being ashamed of myself? Oh, to think that I went to the theatre with her and her crowd!

I don't know how the thing was found out. All I know is that Miss Florence sent for me a little while ago and told me that the girl who was here was not the genuine Miss Rothsay. That explains the language used by those boys. I know the man whom I thought I saw was the one we met.

But she told me not to spread it, as if I would be likely to after running around with her the way I did. To think that I had been tagging around after a French maid with only her mistress' silks to disguise her, was enough to keep me mum.

I am so inconsolable that I have put on mourning (which is very becoming) and wear a black veil whenever I go out. It hides my face slightly, and, as I've cried a good deal, folks all take me for a young widow and feel *so* sorry for me.

That little Katherine Cress I told you about has turned out to be a friend in need. She's so nice to have around when you feel like crying. She has spent about all of her money on flowers to cheer me up and she has almost succeeded. Of course, Miss Florence knows better than to expect me to attend classes in my state of misery, so I'm having quite a cozy time.

"Lights out" has rung, so I will have to say adieu.

Yours in deepest sorrow,
BARBARA.

Terrace Hall,
Washington, D. C.

My dear Gertrude:

Oh, we have been having the most puzzling and mysterious happenings here lately! As you may guess, it is all connected with Louise Rothsay. Well, she has left school! and her leaving has made even more of a sensation than her

coming. Something very strange and horrible must have happened, though Barbara is the only one of the girls who knows, and of course I wouldn't ask her to tell me about it. All I know about it is, that Louise disappeared very suddenly without saying good-bye to us; that Miss Florence looks very stern and reserved when Louise's name is mentioned; and that Barbara is altogether changed. Instead of her usual beautiful gowns, she is wearing black—and she looks beautiful in it—it's such a contrast to her hair and skin. But she is changed in other ways besides her dress, for she is not gay and cheerful as she usually is, and her eyes are often red and swollen with crying. I feel awfully sorry for her and do all I can to make her feel better. But of course I can't say much because I don't know what's the matter. Now do you blame me for being puzzled? I think it's the strangest thing I ever heard of, don't you.

It's stopping time now and I'll have to close. I know this is an awfully scrimpy little letter, but I'll try to do better next time. I had intended to tell you a lot about Peggsy, but I haven't time now, except to say that she is just as dear as ever. But she is coming to visit me next summer, so you will see her then, and I know you'll love her as much as I do.

Good-bye. Write soon.

Yours lovingly,

KATHERINE.

Terrace Hall, Washington, D. C.

January 25, 19—.

My dear Lucy:

The *denouement* has come, but I don't know what it is. Like Tennyson

"I would that my tongue could utter
The thoughts that arise in me."

But they are in such a chaotic state that I presume it's just as well that I can't utter them, as you will probably have observed from my opening speech.

I fear, Lucy, that you will think from these absurd statements that I have deteriorated rather than advanced, but they indicate merely that I have acquired a new point of view from association with these dear, jolly—yes, they are jolly—girls. But of that more anon, as Josiah Allen's wife says.

This is the cause of my excitement. Louise Rothsay has gone. Just why or where nobody seems to know, though everybody has a hundred theories. Wednesday in French class, just as Monsieur asked her to read, the maid came to announce a gentleman to see Miss Rothsay. She turned even whiter than usual, but sailed out with a funny little parting smile to Barbara Allen. She has not been to any of her classes since, and naturally the air is thick with rumors.

Of course I have a theory, too, and it is probably more nearly correct than those of the other girls, because I happen to know a little more about Miss Rothsay from my roommate. Do you remember that I thought she was concerned in Miss Allen's escapade some time ago? Well, Barbara is devoted to her father (that is, if it is possible to speak so of any one who is apparently completely absorbed in herself) and she may have confided in him when she was home on her Christmas vacation. Then it is most probable that he would immediately see Miss Florence in regard to a girl who has such harmful influence over his darling daughter. As to the arguments he used to secure so sudden a withdrawal of the influence—*je ne sais pas, madamoiselle.*

But don't you think the characters are good? And I might arrange a stronger plot, you know.

Very lovingly yours,

JEAN DOUGLASS GREY.

Oh, Emily! as the grocer used to say, "I am clean done beat." I am so excited and in a muddle generally that I fully expect all these words to immediately, if not sooner, jump up and either dance a jig or stand on their heads. All the girls have gone out walking, even Katherine, and I've *got* to tell someone!

For, listen! Louise Rothsay wasn't Louise Rothsay at all, because Louise Rothsay has turned up, and she is Louise Rothsay, while the other one wasn't she at all! Oh, what a mess those words are in! Well, to be more lucid,—ahem!—the girl that was here was really the *maid* of the real one. Isn't it simply atrocious! She had persuaded Miss Rothsay to let her take her place at school while the aforesaid Miss Rothsay —who hates school—staid at the Delmont and had a good time.

So you, as usual, were right. Your description of the girl you met in New York just fits this girl—yellow haired, etc. Humph! She must be awfully strong-minded! But I haven't told you how this delightful performance was found out. Mr. Rothsay, a very tall, dignified, swell man came here to surprise his daughter. He got here during school hours and came straight out here to see her. Hortense—that's the maid's name and accounts for her French accent—was sent down to the reception room and— Phew! I wouldn't like to have been in her place! I got all this "straight" from a maid who was in the room and she said that Mr. Rothsay was perfectly raving. Miss Florence was there, too, and oh, my! Well, I guess she's squelched, for Mr. Rothsay sent her flying. But think of the way Barbara has been hanging on to that girl. She was too high and mighty for us, but when a nice little maid comes along—— Katherine and I have lots of disputes over the affair. She is so sweet herself that she sees something good in everybody—even Barbara and Hortense—and she won't let me say mean things about them.

Katherine has come in now. Must stop to tell her. Don't suppose you can make any sense out of this. Will try to translate it some time. For horror's sake, write at once.

Yours "respectively,"

PEGGSY.

THE END

THE LUNCH THAT WAS NOT A FAILURE

Clyde Rhoades came rushing into the front room with his chum, Harold Gray, following closely at his heels.

"Helen"—Clyde directed this statement to his eldest sister—"you and Lillian might as well go over to Edith Morrison's for the evening, because Harold and I are going to entertain some boys from college tonight, and we are not going to have a girl in it—no; not even to fix up the refreshments. You girls can have company when you want to, and now that mother and father are away, I am going to do a little entertaining."

"Well, Clyde," said Helen, "hadn't you better let us help you a little?"

"You heard what I said, didn't you? And I meant it."

"Well, come on, Lillian; let them have their way."

"Oh, Clyde," said Lillian, as she went out of the door, "if you look up on mother's dresser, you will find a recipe for making a cake."

"All right; now go on."

Clyde went upstairs to get the recipe. On the dresser with the recipes was his mother's grocery list. He grabbed this and hastened down stairs, reading as he went: "One bottle ammonia, one pound of soda, 25 cents' worth of sugar, one bottle vanilla, one pound of loose starch, and 5 cents' worth of cornmeal."

"Well," said Clyde, "I have the recipe, now you get out the dish pan and the cake pan. I will proceed to find the material that this calls for. The first is one bottle of ammonia. We haven't got a full bottle, but I know what I will do. Just hand me the vinegar jug there."

Soon Clyde got all his material together, and was ready to do his mixing. And such a mixture as it was! Harold was willing to do all he could, but he knew not what to do. However, he made the coffee and set the table the best he could.

Meanwhile his thoughtful sisters had been working a plan to help him out. They went over to Edith Morrison's house and explained things. The girls went into the kitchen and made a cake that anybody would have been proud to eat. Along with the cake they made some other goodies for their poor, ignorant boy friends.

All this time Clyde and Harold were having their share of trouble. Harold spilled the coffee over the dining room carpet and Clyde could not get his mixture to work right. In a few minutes the doorbell rang, and neither of the boys was fit to go to the door. Finally Clyde got himself ready and went to meet his guests. Harold knew that in a few minutes it would be time to serve lunch. And what did they have to serve? Nothing but water and vanilla wafers.

Both boys went into the parlor to talk to their guests, but it seemed as if they were awfully uncomfortable about something. The time dragged heavily along. Their conversation was weak and meaningless. The guests knew that their hosts were in trouble about something, but dared not mention it.

Harold heard a sound in the dining room and excused himself to see what it was. On approaching the door he stopped as if struck. The table was spread, and it looked as if a banquet was about to take place. He at once called for Clyde, who hastened out as if the house was on fire. Naturally the guests followed. Clyde knew not what to expect He was dumbfounded when he saw the dining room table. They were not satisfied with the dining room, however, for they wanted to see who was their benefactor. On rushing to the kitchen they found three little maidens working like bees.

The boys could not stand this. One hastened to telephone for theatre tickets, while another telephoned for a carriage.

It was afterwards declared by the guests that this visit with Harold, Clyde, his sisters, and Edith, was one of the best they had ever made. Both of the guests may be seen quite often out at Clyde's home now, but not to see Clyde, however.

COMPTON EDW. HANKS, '06.

A METROPOLITAN ECHO

Among the perquisites which adhere to the justice along with the power of assessing fines and signing bail bonds is the privilege of marrying people unceremoniously. Out of one of these justice shops came Rocco and Rosa. They had been clasping hands before the dignitary, blinking at the diamond in the swelling shirt front, listening to the pronouncing of the civil marriage formula, saying "Yes" at every opportunity, and understanding no more of it than they understood when the judge, in memory of his latest vaudeville favorite, and the aptness of the sentiment, whistled after them, "I guess that will hold you for a while," but they did understand that they were married, and what was equally as important—they had been married for nothing.

They had not wanted particularly to be married at all, but Father Dominique and Mother Timpone had discovered the necessity and that was quite enough. They lived together—all of them—Father Dominique, the father of Rocco, and Mother Timpone, the mother of Rosa, in two little rooms over on the West Side where the streets are all narrow and dirty, where the tenement houses crowd one another, and the language of Italy has builded up for itself an abiding place. It is from here that the banana carts come in the mornings of the summer days, and it is here that the scissors grinder, the barrel organs and the ragged harp orchestras return in the evening.

The men wear shirts of red flannel with leather straps about their loins; the women carry bundles upon their heads instead of hats. They go about in short blue dresses and wear shawls over their shoulders, crossed over upon their breasts. The standard of value is the copper cent; the first law of the land is that it is necessary to eat. This law gives rise to much cunning and out of the cunning of their stomachs Father Dominique and Mother Timpone had contrived the marriage of Rocco and Rosa.

Father Dominique, in the summer time, pushed his banana cart up and down the streets, and in winter picked rags from the garbage boxes and dirt heaps. Mother Timpone gathered wood and coals from the wharves and railway tracks, and did the housekeeping of the two little rooms. Rocco worked, when there was work to do, on the streets, in the sewers, wherever a man's body and not his brains was needed; and Rosa, with a covered basket, went up and down the produce streets foraging for bits of food, specked apples, frozen oranges, a potato, or whatever chance might send. But when the winter added to the difficulties of living they remembered that there is a provision for the dealing out of charity to the deserving heads of families who are in danger of starving to death. So it was that Father Dominique, the head of the family of father and son, and Mother Timpone, the head of still another family, once in every week slouched away to the big barn-like building, and there stood, waiting their turn for hours to receive their share of flour, or bacon, or coal, which public charity gave to the deserving heads of families.

This particular winter the weather was unusually disagreeable and it was much more pleasant to do nothing at all, than to rummage in garbage boxes, or

to pick up coal along the frosty rails; so out of the cunning of their stomachs they contrived the marriage of Rocco and Rosa. They lived as before, but now there were three families instead of two, and thereafter there came to the window of the county agent, Father Dominique, Mother Timpone, and Rocco, each in his proper place, the deserving head of a family, to receive the charity of the county.

Over on the West Side where the streets are narrow and dirty, and the tenement houses crowd one another, three families, in two rooms, lavished Italian phrases on the free institutions of America.

SADIE DANCIGER, '05.

NIGHTFALL

I was walking one bright summer evening
In the midst of a beautiful grove;
The moon and the stars in their splendor,
Held court in the heavens above.
I threw myself down on the terrace,
And gazed at the Queen of the night,
With her millions of dazzling attendants,
Each robed with celestial light.

The soft summer breezes were blowing,
The cricket was singing its lay,
And the wind whispered sweet inspirations,
As it silently swept on its way.
The beauty of Nature, unbounded,
Divine and serenely fair,
Was gathered in one living picture
And blended in harmony there.

From the plains of Chaldea and Egypt
The ancients beheld the same sky,
With the stars in the selfsame positions
Though thousands of years have gone by.
Changing and unchanging ever,
Eternal, immortal and true,
Does it not tell of endless existence
For man and the universe, too?

In the daily routine of Nature
There is nothing that cannot improve,
The plan of creation is progress,
Sustained by an infinite Love.
From the unfathomed depths of His wisdom
Sprang the universe, mankind, and all
Too deep for our best comprehension,
Too great and exalted to fall.

So let us forever endeavor
To overcome battle and strife,
To bring forth the best that is in us,
And thus make the best of this life.
Education is really expansion,
The grasping ideas by the whole,
And laying by spiritual treasures
In the safety vault of the Soul.

So that when we are called to enter
A higher plane of life,
We shall so be prepared with our knowledge
As to conquer the problems then rife,—
Thus, advancing higher and higher,
The pathways of wisdom we'll trend,
And "scatter the seed by the wayside,"
As we pass through the "worlds without end."

—*Bookworm.*

THE ION SOCIETY'S TRIBUTE TO ITS DEPARTED COMRADE

The ION Society has sustained a severe shock in the death of its beloved member, Victor Charpiot. He was always an earnest and ardent worker in the Society's behalf, holding the offices of Secretary and Treasurer to the perfect satisfaction of the Society.

His work on THE NAUTILUS will also be remembered appreciatively, especially as Science Editor of the school paper.

Victor was admired and well thought of by all who knew him; he stood well in his classes and will ever be remembered as an intense and hard-working student.

The ION Society, as well as his other friends, have all sustained a great loss by this sad occurrence.

THE AESTHETIC VALUE OF SYMMETRY AND PROPORTION IN ART

Few people realize that much of what they designate as beauty in our works of art is due to the proportion and symmetry of the parts, and to the direction of the eye movements in getting a perception of such objects. The proportion most pleasing is that which is known as the "Golden Section," in which the dimensions of the chief parts have to each other, approximately the ratio of three to five and five to eight. We find that this "Golden Section" is predominant in articles of every day use. For example, in the shapes of our envelopes, window panes, books, doors, furniture and ornaments. Perfect symmetry in a picture is rarely ever pleasing because it gives an air of stiffness and preciseness which is displeasing. It must have, however, approximate symmetry to prevent it from looking unbalanced. Eye movement or exploitation is the other factor in determining this beauty. The beauty of the picture is often determined by the direction which the lines of the picture cause the eye to take in moving over it. For instance, if the lines of the picture were such that the eyes moved from right to left, instead of from left to right, the picture would appear awkward or backward. An upward movement of the eye tends to give an elevating air, while a

downward movement gives a depressing element.

Examples of these elements of beauty are readily seen in most pictures. In the "Crowning of the Virgin," painted by Anglico, we find the "Golden Section" not only in the shape of the picture—its length being to its width as five is to three—but also in the component parts. The six kneeling priests are so arranged as to have their forms in that proportion. The lines of the picture force the attention to the Virgin and the man crowning her. From them the eyes and attention move outward and downward until the six kneeling priests in the foreground are encompassed. These priests lend a balanced air to the picture which it would not otherwise possess; nevertheless they are only minor details. This is necessary on acount of the aesthetic value of the picture, because, if the lines of the picture forced the attention to the priests, the attention would be drawn from what is intended to be the center of attraction.

In that beautiful picture, "The Spring," by Botticelli, we again see the effect of exploitation, or eye movement. The lines of the picture cause the attention to center on the girl representing spring. She is the central figure, and from her the eyes and attention radiate in all directions until the full meaning of the picture is grasped. If the lines of the picture did not force the first attention upon "Spring," the effect on the picture would be disastrous. For example, if the figures at either end were taken as the point of orientation, the eyes would be forced to follow their gaze, which is backward, on account of the lines of the picture, and the entire central portion would be practically lost. On the other hand, if the lines of the picture forced the attention to the cherub at the top, the effect would be as disastrous as the attention would radiate around the cherub.

As a last example, we will take "The Sistine Madonna," by Raphael. This picture is one of the rarest of his works and of all paintings. It has variety, proportion, and symmetry and is one of the best illustrations of our topic. The lines of the picture force the attention to the center, which is occupied by the Madonna. From her the eyes move downward and take in the cherubs in the lower part of the picture. The lines of the picture cause the eyes to follow their gaze which is upward and toward the kneeling woman at the right of the Madonna. The woman is, in turn, looking at the cherubs and there is a pleasing eye movement back and forth between them. The eyes of the cherubs are their most magnetic features, and are noticed long before the arms and hands are. It has been said that some persons, looking at the picture for the first time, have been so attracted by the eyes of the cherubs that the rest of their bodies are not noticed for some time, if at all. The kneeling man at the left of the Madonna is looking up into her face. He preserves the unity and gives the symmetry and proportion which Raphael knew so well would give his pictures individuality and grant to them immortality in the field of art.

LAURA GRACE SAGE.

THALES

Thales, one of the seven sages, was a Greek who lived in the seventh and sixth centuries before Christ. His motto is said to have been, "Who hateth suretyship is sure." Of his life little that is authentic is known. It is not improbable that he was a merchant and a very shrewd business man. At one time, the story goes, he had under his control all the olive presses in Greece, and by his clever management made no small amount of money. There is related of him a rather amusing anecdote that is quite characteristic. As a salt merchant, Thales used to have a great number of mules as carriers. One time while fording a stream one of the mules slipped and fell over into the water, and upon getting out presumably noticed a considerable decrease in the weight of its burden, for after that it managed to fall in every stream it crossed. Thales, upon his next trip, loaded that particular mule with sponges and rags. On later journeys no salt was lost in that manner by a certain one of the pack-train. In his later years, Thales went to Egypt to study mathematics, particularly geometry. In Greece he was well known as an astronomer. One dark night, it is related, he was very intently observing the stars and accidentally walked into a deep ditch. An old woman who had been watching him for some time then said: "How can you tell what is going on in the heavens, when you cannot see what lies at your own feet?" He acquired a great name for having calculated eclipses. He seems to have put what geometry he knew to practical uses, for by its means he reckoned the distances of ships from the shore. He is credited with having first made into theorems the facts that all right angles are equal; that two triangles with a side and the two adjacent angles equal were themselves equal; that the base angles of an isosceles triangle are equal; and that a circle is bisected by any diameter.

A. K. EVERETT.

THE POISONOUS SNAKES OF THIS VICINITY

The attitude with which nearly all people regard snakes of all kinds seems to be one of fear; and I believe that the basis of this fear is generally ignorance. Almost universally, people regard all sorts of snakes with horror; and it is a fact which should be more widely known, that but two or three snakes native to this vicinity can inflict upon people any harm, with the exception possibly of an occasional slight scratch. Fortunately these species are but seldom met with in this vicinity. An ordinary knowledge of snakes is very practical and valuable and, in the cases of persons frequenting the woods, almost a necessity. The purpose of this article is to discuss briefly each of the poisonous snakes which are to be found in the neighborhood of Kansas City and to describe them so that the reader may hereafter be familiar enough with them to be able to distinguish them from the many harmless species.

In this country, probably more is heard of the rattlesnake than of any other in existence. This snake deserves

the attention it receives for it is one of the most poisonous known and is often met with in this country, especially towards the southwest. The rattlesnake, the copperhead and the water moccasin (cotton mouth) form a group called the "pit vipers." This name is derived from the fact that, located on the sides of the heads of each of these snakes, is a small hole called the "pit." (See fig. C.) The

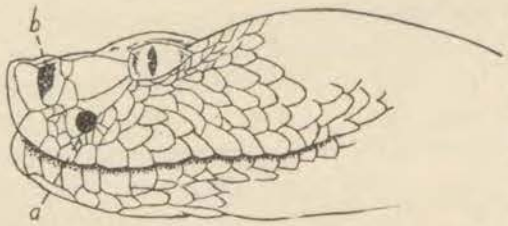


Fig C HEAD OF RATTLESNAKE.
a, pit
b, nostril

function of these holes is not known, but the theory is advanced that they are the organs of a sixth sense. All of the pit vipers are poisonous and are the only poisonous snakes found in the region around Kansas City. The water moccasin and the copperhead, however, are seldom if ever met with around here and a few words will suffice for them.

The water moccasin (agkistrodon piscivorus) is, in a general way, a native of the southeastern quarter of the United States. It is found mostly along the coast south and west from Virginia to the Mexican line. It has been found in Southern Missouri and as far north as Illinois, but I have found no record of any having been known closer than those places to Kansas City. In the southern states, this snake is a terror to the negroes working on the rice plantations. It is known by them as "the Congo serpent" and is dreaded on account of its vicious habits, it attacking everything that comes within its reach, while the rattlesnake attacks only when disturbed or to secure its prey. It is said to be quite abundant within the city limits of New Orleans. In color it is described as being dark chestnut-brown with darker markings, the upper side of the head being purplish black. The markings are thus seen to be rather indefinite and, for an amateur, they alone would not be sufficient to recognize the snake positively. As is indicated by the name, the water moccasin's haunt is the water. In the South, it is often to be seen lying along the branches of trees over the water, into which it drops on the slightest alarm.

Both the water moccasin and the copperhead (agkistrodon contortrix) like a warm country, but the moccasin likes water along with the warmth while the copperhead likes dryness. By its markings, the copperhead may easily be distinguished from other snakes. The general color is brown and across its back, run distinctly defined bands, broadening on the sides of the body into larger areas. The bands are darker than the surround-

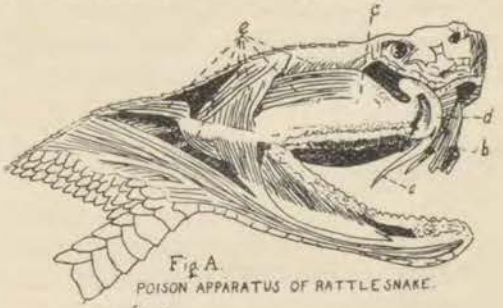


Fig A.
POISON APPARATUS OF RATTLESNAKE.
a, fang
b, sheath of fang.
c, poison gland
d, poison duct
e, muscles controlling flow of poison

ing part. On top of the head, are seven adjacent plates of a rather circular

shape, which are a brighter brown than the rest of the body. The copperhead has been found scattered over most of the United States, specimens having been killed as far north as Massachusetts. Al-

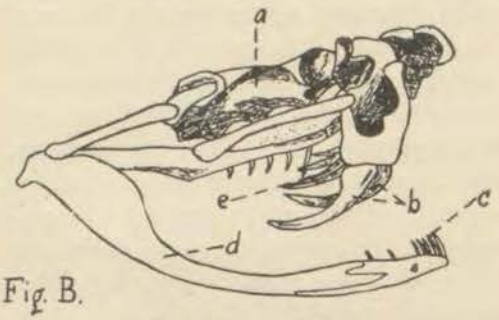


Fig. B.

SKULL OF RATTLESNAKE

a, brain case
b, mature fangs
c, ordinary teeth
d, jaw bone
e developing fangs.

though lacking in a few of the north central states, it is found in Missouri and Kansas. However, it is very scarce in this vicinity and we are not so much concerned about it.

The rattlesnake is, however, found in this vicinity and while it is not nearly as common as most of the other snakes of this region, it is not one which should be overlooked by any means. The geographical distribution of the rattlesnake of course varies with the different species, of which there is a great number. It is an interesting fact that rattlesnakes are not found in the Old World at all. In the New World, they are found in both North and South America and it appears that the center of distribution is in Mexico. Of the ten species of rattlesnakes found in the United States, seven are found in Southern Arizona. Probably the species which are to be found about Kansas City are the banded rattlesnake (crotalus horridus) and the prairie rattlesnake (C. confluentes). Probably all species were at one time more abundant than they are at present, as they tend to disappear before the advance of civilization; so, on account of this, together with the fact that better methods of treating snake bites are being found, poisonous snakes are not to be dreaded so much now as they were fifty years ago. Indeed the very venom of the rattlesnake has done much good. It has been said that there is good in everything, but it is hard to believe that the venom of a rattlesnake can do any good. And yet it is true. Its value in the cure of yellow fever is quite well known among medical men. On account of its wonderful curative properties and the scarcity of both snakes and men who are

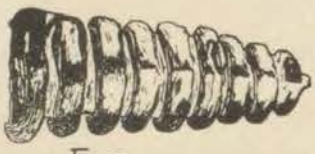


Fig. D

Fig. E.

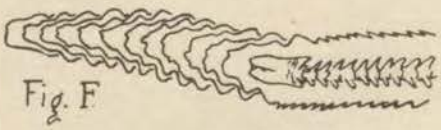


Fig. F

Fig D, seven rattles and button.
Fig. E, separated joints.
Fig. F, longitudinal section.

willing and able to extract the poison, the price of the poison is high. Quite an income is derived by keepers of rattle-

snakes from the extraction and sale of their venom. Two or three times a month, a large rattlesnake may be made to give up a tablespoon of venom, which is sticky and of a slightly yellowish, transparent color.

Fig. A shows the poison apparatus. The poison, manufactured in the poison gland, is forced out into the fang through *d* by the contracting of the muscles *e*, and leaves the fang, not at the point as would naturally be supposed, but through a small hole on the front side of the fang a short distance above the tip.

Fig. B shows the skull, fig. C the head and figs. D, E and F, the construction of the rattle.

Some people are so practical that they condemn the study of any subject for pure science. Such people, however, cannot condemn the study of poisonous snakes, for no phase of the study of these can be classed as impractical.

HOWARD PARET.

SCIENCE BREVITIES

It is the purpose of THE NAUTILUS to represent, as much as possible, the work and spirit of the school. Naturally, therefore, the Science Department attempts to create interest in the respective departments of science. It is a known fact, however, that to some this material is often disinteresting and not much read. People, nowadays, seek to be amused rather than instructed. Consequently these brief bits of science are inserted to add interest as well as instruction. They attempt to be spicy, terse and interesting. Whether they attain this is merely a matter of judgment on the part of the reader.

HOW'S THIS?

Although we are luckily ignorant of it, still it seems to be an undisputed fact that, from recent discoveries scientists believe that our cold weather comes from perennial blizzards, 76 degrees below zero, which sweeps above our heads at 100 miles per hour. It is undoubtedly hoped by all that our own atmosphere, encountered in every-day life, will never realize such a temperature. Balloons, with recording instruments attached, have been used as a means of finding the temperatures of the air at different heights. On September 15, at an elevation of 46,000 feet, the temperature was 68 degrees below zero; September 23, elevation 51,000 feet, 68 degrees below zero; November 25, elevation 40,000 feet, 72 degrees below zero; November 26, elevation 33,000 feet, 76 degrees below zero; December 2, elevation 43,000 feet, 73 degrees below zero. Various other balloon flights recorded temperatures nearly as high as these mentioned, but none equaled the records made on these days. Instruments were also carried by the balloons that would register their length of flight and the rate traveled in miles per hour.

A WONDERFUL CAMERA

The most wonderful camera in the world has been invented. It is a marvelous invention that pictures an entire circuit of 360 degrees at one exposure. Birdseye views of cities now are made possible. The negative is twelve and one-half feet long. The camera complete costs as much as an expensive automobile. These few facts we can gather from the first description made public. For the first time since Daguerre, it is

now possible to make a complete outdoor picture, that is, a complete panoramic view. The first picture was taken in St. Louis at the National Convention of Photographers last summer.

A TEST OF PHYSICAL POWERS

To Mr. Robert Quayle we owe the statement that if one of the best football players in first-class training were placed on a large locomotive to fire it for a long trip it would tax his physical powers a great deal more than would the playing of an end position on a football team. "I might say that if he had, on a good hard hard winter's night, to shovel in the course of five or six hours, about fifteen tons of coal through an eighteen-inch hole, and were it possible to see that fifteen tons of coal piled up before him and he was told that he would have to put in that coal in five or six hours I think he would quit his job before he tackled it."

FROM STAR TO STAR

When the distances from the earth to two stars are known, it is easy to calculate the distance between them. The problem merely reduces to the solution of a triangle of which two sides and the included angle are known. From the *Literary Digest* we gather the following information: Applied to Sirius and Procyon, this method shows that their distance is almost exactly equal to half that of Sirius and the earth. Between Eta and Mu of Cassiopa the interval reduces to about one-fifth of their common distance from the earth. The double stars that form physical systems are ordinarily much nearer. In the case of 61 Cygni, which is,after Alpha Centauri and the star 21,185 of Salande's catalogue, the nearest star to the earth, the distance of the two components is fifty-five times that which separates us from the sun, or more than eight billion kilometers (5,000,000,000 miles). Light, with its speed of 300,000 kilometers a second, takes no less than seven and a half hours to pass from one to another of the twin suns. The brilliancy of the light received by each of these stars from the other is ninety million times more intense than it appears here; that is to say, more brilliant than that of the full moon. The two components of Alpha Centuari are nearer still—twenty-four times the distance from the sun to the earth. Seen from one of them, the other would appear like a small brilliant sun, but would be still so far away that it would have no diameter apparent to the naked eye. It is only possible, from data such as this, to gain any sort of a tangible idea of the great immensity of the universe.

AMERICANS ARE TALKERS

In 1880 the population of the United States was 50,155,783, and the number of telephones, according to an abstract of a recent census bulletin issued by the government, of all kinds, was 54,319, giving an average of 923 persons per telephone; the population of continental United States in 1902 is estimated at 78,576,436, and the number of telephones operated in that year was 2,315,297, giving an average of thirty-four persons per telephone.

METAL HORSESHOES

It is not good to race a horse shod with metal shoes, upon an asphalt or hard stone pavement. The heat produced by friction is very often injurious. When a horse is driven swiftly, at each step, his foot slips a little. This constant slipping of the metal shoe, under pressure, on sand contained in the pavement, generates a high degree of heat.

CHEMICAL PREDICTION

A peculiar position earned by some energetic chemical workers is that of chemical prophet. Chemical prediction finds many illustrations, not only in carbon chemistry, but in the history of elements themselves. In the sixties, Mendeleeff predicted several unknowns, which subsequently appeared and were named, respectively, scandium (eka-boron), gallium (eka-aluminum), and germanium (eko silicon). Mendeleeff's prediction regarding these three elements was correct to, say, 90 or 95 per cent of the facts. The prediction next in order for the chemical prophets is to tell the properties of the next in atomic weight order, namely, eka-manganese. It is below manganese, follows molybdenum and precedes ruthenium. Its atomic weight will be near, and below, 100. It should be a gray metal, possibly occurring both native and combined. Its specific gravity should be a little over 9. It should have several stages of oxidation, the lower ones acting as bases, possibly reducers, and the higher as acids, and perhaps oxidizers. The search for this element has been carried on for nearly forty years. There are perhaps twenty or even thirty more unknown elements in the period—that is, sequence—but none offer the inducements equal to those of eka-manganese.

THE BUDDHIST BIBLE IN ARCHITECTURE

There are many different bibles in the world, and they are made in many different ways, but none can equal in execution, the Kutho-daw, which is a Buddhist monument near Mandalay, in Burma. It consists of about 700 temples, each containing a slab of white marble, on which the whole of this Buddhist bible, containing over 8,000,000 syllables, has been engraved. This wonderful bible is absolutely unique. The Kutho-daw was erected in 1857 by Mindon-min, the last king but one of Burma. The vast collection of temples together form a square, with a dominating temple in the center. Each of the marble slabs on which the sacred text is inscribed is surmounted by an ornamental canopy in pagoda form.

LIFE OF SOME ANIMALS

It has been often wondered just how long, on an average, a dog or cat, or other pet animals, live. It has been found that a dog's average life is from ten to twelve years, a cat's nine to ten years, a rabbit's about seven, or a hare's about eight, and a fox's from fourteen to sixteen years.

BICYCLE MOTOR

A trailing motor to propel a bicycle has been exhibited in St. Louis. It can be attached to any machine, and is supported by a third wheel in the rear of the others. This wheel is small and mounted loosely on a pivot. The power may be conveyed to the driving wheel by either a belt or chain. The operation of the motor is directed by a connection at the head of the bicycle.

A CURIOSITY

Along the line of curiosities in the way of animals there are none as unique and curious as what are known to the zoologist as the "sacred running oxen." They are domesticated animals of the island of Ceylon. They are the dwarfs of the whole ox family, the largest specimens of the species never exceeding thirty inches in height.

A PEST OF MOTHS

Although not positively reliable, the statement has been made that some years ago an enterprising American entomologist had sent to him for examination, a few specimens of the gipsy moth, and he accidentally allowed some half dozen to

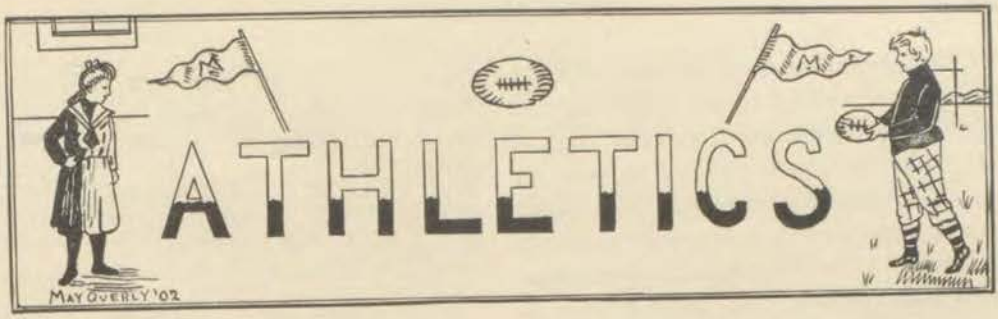
escape. These increased and multiplied in such an alarming fashion that the moths spread over a certain locality in which they wrought heavy damage. It has cost the state of Massachusetts quite $500,000 in an attempt to suppress them; and it is estimated that it will cost another $125,000 per annum to confine them to the area they at present devastate.

STEAM VERSUS WIND

It may seem astonishing to some, yet is is nevertheless true, that steam has by no means made sailing vessels obsolete. The total number of them in the world is still about 65,934, as against only 30,561 steamers.

AN APPLE WITHOUT A CORE

The seedless orange is now a familiar fruit. Its analogy—a seedless apple—is the latest wonder of the plant breeders. The impertinent question was asked in the first issue of THE NAUTILUS, Why could not the apple be seedless? considering the fact that the orange and banana were both that way. Now that question has been answered positively. And let us shout for joy at the thought. It seems that the jest of the school boy, "There ain't goin' to be no core," has been fulfilled in letter, as well as in spirit. The seedless apple had its origin a few years ago and its history is brief. The credit for its propagation belongs to John F. Spencer of Grand Junction, Colo., who, finally, after years of hard work, succeeded in securing five trees that bore seedless, coreless and wormless apples. From these have budded two thousand more trees which are now the entire seedless apple stock of the world. By fall of this year, it is estimated that these will have produced about 375,000 nursery trees.



Present conditions at Manual seem indicative of a successful season in spring athletics. For several months the gymnasium has been the scene of much activity, not only in track work, but baseball as well. Class exercise, basketball and the indoor track have contributed to the preparatory work.

Track team prospects were never brighter than at present. The "bonus" of last year's team is still in school and a number of new candidates have been showing up very well. The majority of the candidates meet in the gymnasium on alternate days and work out in preparation for the spring meets. The various events have been worked on with remarkable success.

Previous to last year Manual was represented in but two track meets, the Missouri Valley meet and the meet with Central. The indoor meet in Convention hall last year added the third. This year we expect to be entered in five meets, held in the following order: March 17, indoor meet at Convention Hall; May 13, dual meeting with Central; April 28, inter-scholastic meet at Lawrence; May 6, inter-scholastic meet at Columbia; Missouri Valley meeting, date undecided.

It has been customary for the winning team to hold this meet the following year at its home town. Last year Blees' Military Academy of Macon won the Missouri Valley meet, but they have expressed an unwillingness to conform with the established custom and as yet no date or place has been decided upon. St. Joseph High School seems to be the only member of the Association willing to have the meet held under its auspices. Two of the five Missouri Valley meets have been held at St. Joseph and their spirit and loyalty on this occasion are certainly to be appreciated.

BASEBALL

As an increased interest had been taken in the football and track teams we were hopeful that baseball would receive a like degree of support. And we were not to be disappointed. A number of the candidates for the team early enrolled in the various gymnasium classes and later got together in the old gymnasium which served very well as a place to condition their "wings." The first warm day after the ground dried up a squad was seen practicing on the lot across from the school. The squad increased daily and it is very likely that before it is time to play the first game there will be more aspirants out trying for the Manual team than ever before.

The Manual team of last year was not the most successful in the history of the school, but considering the difficulties under which it was compelled to practice and the grounds on which the match games were played, much of its career is excusable. The team consisted of good individual players, but being unable to secure a permanent place in which to practice, the candidates showed lack of interest and it was not possible to develop team work which is as essential to baseball as to any other athletic teams. This year we hope to secure a park in which to practice. The candidates will get out regularly, team work will be perfected, and Manual will make a strong fight for the pennant.

Of the old players who are candidates for this year's team is Brooks, who is captain this season, and who, since his "debut" into the High School League three years ago, has played a great game at short. There is no doubt that this position will be well filled. Wells will again try for pitching honors. He did good work last year. Harnden and Kruse, who divided honors behind the bat last year, are the likely candidates for the backstop position. It is rumored that Blacker, who played third, will play a field position; he seems partial to center. Porter, who played rightfield, prefers second base; he will doubtless make good.

A number of new aspirants are showing up in good form. Any boy in the school who thinks that he could materially strengthen the team in any way, should consider it his duty to go out and try for a position. He will be given plenty of opportunity to prove himself worthy of wearing a "Manual" suit.

Representatives of Central, Kansas City, Kan., Westport and Manual, met at Central in February and organized the High School League for the coming season. A schedule of games was adopted and arrangements for the season perfected. A. O. Bigley of Westport was elected president of the League, and A. D. Bonnifield was made secretary.

Two games will be played on each schedule day. As far as possible the games will be played at Association Park. The winning team will be awarded a trophy and a pennant at the end of the season.

The first game will be played on April 8, Central takes the field against Westport and Manual engages Kansas City, Kan.

The following is the League's schedule: April 8—Central vs. Westport and Manual vs. Kansas City, Kan.; April 15—Central vs. Kansas City, Kan., and Manual vs. Westport; April 22—Central vs. Manual and Westport vs. Kansas City, Kan.; April 29—Central vs. Westport and Manual vs. Kansas City, Kan.; May 6—Central vs. Kansas City, Kan., and Manual vs. Westport; May 13—Manual vs. Central and Westport vs. Kansas City, Kan.

BASKETBALL

For the first time in its history Manual can boast of a boys' basketball team. In former years the girls have been the only basketball players in the school. But the lack of a team is not be accredited to the athletic interest and spirit of the school. The inadequacy of the old gymnasium was the only reason. As soon as we

were fairly settled in our new quarters the game was made a part of the regular class exercise. By this method it was easily introduced into the school and when the time came to organize a team the proper spirit was not lacking and the boys have proved their ability to play as well as the girls.

Soon after the team was organized Wayne Reed, '06, was elected captain.

The first game of the season was with the Y. M. C. A. Reserves. The Reserves are the second best team of the local Y. M. C. A., and have been defeated but once. The game with Manual resulted in a tie, 25 to 25. In playing off the tie the Reserves won.

The second game was with an Independence team. Our team received the characteristic reception of the small town, which, to say the least, is in no way in acordance with true athletic principles. Our opponents indulged in much slugging, and although we were defeated by two points it is probably best that we were, for neither the team nor the crowd seemed in a mood to bear defeat without seeking revenge.

The third game and which resulted in our first victory was with the Kansas City Athletic Club second team. The final score was Manual, 13; Athletics, 10.

The line-up:

MANUAL	Goals	F. T.	F.
Winstead (F.)	2	5	0
Reed (Capt.) (C.)	1	0	1
Prather (G.)	0	0	2
Poor (F.)	1	0	0
Dousman (G.)	0	0	1

K. C. A. C.	Goals	F. T.	F.
Style (F.)	1	0	1
Shiras (F.)	1	1	0
Harbison (C)	0	0	0
Chester (G.)	1	3	2
Cope (G.)	0	0	2

The next game was played at Leavenworth. The defeat which we received was in a degree the result of Reed's inability to take the trip. We will play the team a return game and hope to even up matters.

MANUAL 31, CENTRAL 30

At last Manual has defeated Central in athletics. The long series of Central's victories over Manual was broken when the basketball teams of the two schools met for the first time. This team, the latest innovation at Manual, caused a Central team to suffer defeat at the hands of the crimson, the first time since ———

The game was played at Carr's Hall in Westport on the night of March 4. Our team, unlike Central's, was not confident of victory. In fact, they were rather surprised at the result. Central went so far as to even prophesy that the result would be the same as at our last meeting. They not only proved themselves bad prophets, but found Manual a worthy opponent for basketball honors.

The score—31 to 30—tells of a closely contested game and two evenly matched teams. The game was very rough, thirty-seven fouls being made by Central, and but ten less by Manual. Reed and Cotton divided honors in the game. Each threw five field goals and the former made fifteen free throws, while Cotton made but fourteen. At the end of the first half the score was 21 to 15 in favor of Manual.

Manual's superior team work was, in a great way, responsible for the victory, so that honors are equally divided.

The school certainly appreciates the victory of the basketball team and wishes them success in their future contests.

The line-up:

MANUAL	Goals	F. T.	F.
Reed (Capt.) (F.)	5	15	5
Winstead (F.)	2	0	6
Prather (C.)	0	0	8
Dousman (G.)	1	0	4
Poor (G.)	0	0	4
CENTRAL	Goals	F. T.	F.
Minton (F.)	1	0	6
Cotton (F.)	5	14	7
Shafer (C.)	1	0	6
Langworthy (G.)	0	0	4
Morley (G.)	1	0	14

The Girls' Athletic Association this year is divided into four classes—Freshmen, Sophomores, Juniors and Seniors. Each class has a basketball team. A series of games has been arranged among these teams in which each team will play two games with each of the others. To the team winning the largest number out of the twelve, Mr. Bainter has kindly offered a banner. The team winning this will deem it a great honor and prize it very highly. We are greatly delighted to know Mr. Bainter has taken such an interest in the Association and hope he may enjoy seeing the games.

Of this series of games, four have been played, as follows: Juniors 37, Sophomores 25; Juniors 19, Seniors 21; Sophomores 19, Freshmen 17; Seniors 12, Freshmen 8. Thus the Seniors lead with two victories and no defeats. The Juniors and Sophomores are tied for second place, while the Freshmen hold third place, having been defeated in both games.

In these games the Association members and many other pupils of the school and also a number of the faculty have taken a great interest. We wish again to extend our thanks to Mr. Bainter for the interest he has shown in the Girls' Athletic Association.

GIRLS' BASKETBALL TEAM

On Saturday morning, February 20, our basketball team played its first outside game at Independence, Mo., with the Independence team. And play they did.

The score was 44 to 7 in favor of Manual. Good individual playing and excellent team work were done by the Manual team. While Independence was defeated by a surprising majority they did some good playing and as this is their first outside game they did very well. They have some fine material on their team. Agnes Salisbury did the star playing for Independence. Manual team had strong guards. Hazel Gross did fine work as forward, making many very difficult baskets. Maybelle King did excellent work as center and at taking free throws.

The morning was enjoyed very much by our girls, not only because we carried off the honors for Old Manual, but also because we made the acquaintance of the young ladies of the Independence team. We hope to meet them again in a short time on our own field.

MANUAL WEALDING

AN ANCIENT SWEDISH HANDICRAFT

In the revival of hard labor, which is in actual progress, interest has naturally turned to primitive ways of producing textiles, with the result that in numerous regions of France, England, Ireland, and the United States, long disuse of wheels and looms has renewed their activity; thereby restoring old-time thrift and promising future prosperity to these same communities.

In Sweden, with whose peasant industries we are now concerned, the revival of the feminine handicrafts—especially the production of textile fabrics—has been due to the efforts of a society known as the Handarbetets Banner. By this means the art weaving of the Swedish peasants, which is an inheritance from pagan times, has been saved from the danger of extinction, which it incurred through the introduction of machinery. The Swedish peasants, according to history, the testimony of travelers, tradition, and the proof of the old tapestries themselves, have always taken great pride in decorating the walls and furniture of their houses with the products of their hand looms, each district of the country long possessing a distinctive and typical style, owing to the difficulties attendant upon inter-communication; while the individual workers of each district vied with one another in the making of designs and choice of color. By the revival and centralization of the work excellent results have been obtained. At the present time so great an interest is felt that it inspires persons of all ages. The craft is taught in the kindergartens where the mechanical part of the subject is easily imparted to the children who work at the looms suited to their size. Young girls do not consider their domestic education complete, unless they have taken a course in weaving and possess looms at which to practice and perfect what they have learned theoretically.

The artistic and the practical qualitites of the Swedish hand-weaving are such that the craft should be carried and imitated widely abroad. It has already been successfully introduced into the United States, through the enterprise of a young Swedish woman, who, a number of years since, came as a visitor to Springfield, Massachusetts, bringing with her several specimens of the textiles, together with a hand loom. Both the finished work and the primitive means of producing it awakened so much interest in the New England town that she, upon her return to Sweden, carried with her the idea of establishing herself in America as a teacher and producer of hand-weaving. The idea passing to a decision, she returned to the United States with her sister, in

the summer of 1902, opened a school in Deerfield, Mass., which at once drew pupils from widely different sections of the country.

Those two young women have now a studio in Boston which serves the double purpose of a school and a Swedish domestic museum, since the visitor finds there a representative interior in which all details have been preserved, even the bright, picturesque costumes of the women who weave in illustration of the method. The walls, floor and furniture of the studio are decorated with the textiles there produced, or by similar rugs and tapestries brought from Sweden, all of which show the primitive, but highly decorated designs which have prevailed in the craft for centuries.

The local point of this interior is, of course, the loom with its attendant weaver. The former is heavy in construction, with solid treadles and overhead pieces, lateral four-pronged appliances which have been compared to a ship's wheel, hanging pulleys, and large primitive looking shuttles. The weaver at this loom is attractive as a Swedish type, as pronounced in person and dress as picture can offer. Her costume consists of a dark blue woolen skirt with its front striped horizontally in black, green, red, orange and white. The blouse is white, full and bound with a green hurtle, which laces in front with elaborately wrought silver eyelets.

Altogether, this Swedish interior and its inmates offer one of the most attractive studies in nationality to be found in the Puritan city, which has of late years become cosmopolitan.

G. C., '06.

PRINTING

Printing is so common a thing that little notice is ever taken of it. Printing has become a beautiful science, all through the cause of skill. In fact, the beauty and artisticness of fine printing are all hand skill.

A most interesting study is the birth and growth of this art. In the Egyptian hieroglyphics, we find early man printing on stone. The earliest work was on stone and papyrus, showing how little we have deviated; our forms are of metal, cuts of wood and stone, and the substance on which we print, paper, greatly resembles papyrus. It has always been man's most interesting occupation, that of trying to get some hint of our prehistoric forefathers. Man of the stone age cut his thoughts or deeds in rock, which we have ever since been trying to decipher. This was printing in its babyhood. It is my firm belief that when man was born printing was born.

The Greeks and Romans kept their deeds and wisdom on rolls and the old Babylonians had tons of small cylinders on which they recorded things as they saw fit. Preserving man's words and studying them were left until the monks and friars began to see something in them. Our most beautiful relics are books executed by those devoted brethren. One monk spent his whole life on printing and illustrating a bible. Even the Chinese had printing when we discovered them.

It is believed that they had printing from about the sixth century. Then the

method was this: On a block of wood they cut the characters wanted. They were so large that it was not difficult to cut them. They knew these characters must be reversed, and acted accordingly. After a cut was made they applied ink to it with a brush, laid thin paper on the cut, and with another brush with which the back of the paper was rubbed. Although somewhat slow, this process was really printing. They preserved the characters, using them over again, in this resembling our type.

Two pages were printed at once, folded down the line which divided the pages in such a manner that, when bound, the fold was in front. At an early date this was probably introduced into Japan, for like methods were found there when she was first discovered.

Dyes and block printing were early used in Italy, Spain and Sicily for printing on fine fabrics and silks. But this was all hand stamped, used in the same manner as rubber stamps. It is a notable feature that playing cards were among the first printed cuts. This is thought to have been about the beginning of the fifteenth century.

Gutenberg is considered the father of printing, but his most notable accomplishment was making movable type, and presses were hardly thought of yet. He was a German and but little is known of his life, only glimpses here and there. His printed works are the only records we have of his life. The press he used was more on the order of our proof presses—merely a smooth stone with its sides or border raised above the level of the bed. He inked the form, laid the paper on it, and roled a soft roller over it and a sheet was printed. But it is claimed that the honor he holds should be shared with Faust and Peter Schoffer.

But enough of its history.

When one picks up an attractive printed advertisement he barely glances at it, and throws it in the waste basket. Little he thinks of all that sheet required to be so perfected. It means a good press, artistic type, good ink, paper, and the thousand and one little things which aid in its production.

Let us first look at the press. If a jobber, it is a complicated, accurate machine, while the cylinder type of press is really a miracle performed by man. The revolving disk, ink rollers, chases, body, bed, gears, platens and the other parts, all show the manual skill as well as brain work of the man. It must be interesting to know that the platen (that part which holds paper when being printed), and the bed (that part which holds the form), must be absolutely level, and not only that, but when they come together the planes must be perfectly parallel. The press must be geared so that the rollers are down, when the bed and platen are fartherest apart. And like all machines, it has innumerable little devices for easy and smooth running.

Then the type—the little, insignificant type—what of it? One will be surprised to learn that every letter of a printed word was made from type exactly the same height and the same width, according to size of the letter; and not one must vary the fraction of a hair's width. "Making ready" is just leveling the surface of the printing type when it has become somewhat worn. There are five or six flourishing type foundries, and all their type is cast in a uniform body, and set in points alike. Besides type there are "furniture," wood and metal blocks,

which fill spaces we see in a work. Then there are such things as copper rule, for making rule lines, "leads" for spacing between lines, "quoins" for locking up the form, and multiplex ingenuities which constitute good work.

There are the print rollers, made of a gelatinous composition, which must be of somewhat different proportions according to the seasons. One of the most essential, ink, is a substance not easy to make well. It must be of all shades, grades quality and quantity. The prices of ink range from 15 cents to $12 a pound. Black inks are the cheapest and red the most expensive.

The manufacture of another necessity of printing, paper, is a business in itself. Like ink it comes in all grades and colors. Cards, envelopes, letter paper, tags, boxes, and such are all made from paper. In illustrating we have cuts, etchings, photograveures, drawings and engravings. The highest skill is displayed in making the last mentioned, especially photograveures and wood etchings. Is there anything finer than a well printed picture? For it can have the colors of a Raphael and the softness about it which most paintings lack.

Many businesses are sustained solely by printing, such as type foundries, ink manufacturers, paper dealers, lithographers, not to mention the printers themselves. Indirectly, through advertising, are thousands of little occupations kept alive. The world could not live today without printing. It has been called "the art preservative."

Printing always will be used, as long as the earth lasts, for man cannot live without expressing his thoughts, works and passions, which printing gives and keeps.

GEO. FULLER GREEN, '05.

The William Jewell *Student* always presents a neat business appearance.

Donnybrook Fair, your cover can hardly be styled artistic; otherwise the paper is good.

The cover on the *Janus* makes the whole thing smell musty notwithstanding the good, up-to-date stories in it.

The Joplin *Echoes* contains an excellent literary department.

The *Retina* is attractive and very well gotten up.

Notwithstanding the size of the *Jayhawker*, it is one of our most welcome exchanges. It always contains a number of interesting, clever articles.

The literary articles and the poetry in the January number of the *Register* from Omaha may be highly commended.

The most striking feature about the *Lever* from Colorado Springs is the artistic cover, and the contents far from disappoint us.

The *High School News* from St. Louis ranks among the best of our exchanges.

SPONGE CAKE

Take four bounds off gramulated sugar, von spoonful mit flour. Bake two eggs loose, and then take de yolks off de eggs, vitch must be hen's. Pour in three or four large-sized small sponges. Stuff dem mit milk und eat slowly.

"I thought your son was pursuing his studies at the University?"

"So he was, but he concluded that he couldn't catch up with them."

Keith—"Was the play tragic last night?"

Word—"Awfully; even the seats were in tiers."

He—"Did you hear about the man who had a comb he thought so much of?"

She—"No."

He—"Yes; the teeth were all out and he couldn't part with it."

The son was just back from college and was impressing his father with how much he knew.

"Did you hear about one of the professors in agriculture down at college crossing a thousand-legged worm with a hog?" asked the Hopeful of his father.

"No," admitted the old man; "what was that for?"

"So he could have a thousand hams," said the son with a satisfied flourish.

"That's all a professor knows, anyway," said the farmer, sadly; "he would have only five hundred hams."

Professor—"What made the tower of Pisa lean?"

Pupil—"It was built in the time of famine."

OUR MODERN PUBLIC SCHOOLS

I

Ram it in, cram it in,
Children's heads are hollow,
Slam it in, jam it in
Still there's more to follow;
Hygiene and history,
Astronomic mystery,
Algebra, histology,
Latin, etymology,
Botany, geometry,
Greek and trigonometry.
Ram it in, cram it in,
Children's heads are hollow.

II

Rap it in, tap it in,
What are teachers paid for?
Bang it in, slam it in,
What are children made for?
Ancient archaeology,
Aryan philology,
Prosody, zoology,
Physics, climatology,
Calculus and mathematics,
Rhetoric and hydrostatics.
Hoax it in, coax it in,
Children's heads are hollow.

III

Scold it in, mold it in,
All that they can swallow,
Fold it in, hold it in,
Still there's more to follow.
Faces pinched, sad and pale,
Tell the same unvarying tale,
Tell of moments robbed from sleep,
Meats untasted, studies deep,
Those who passed the furnace through
With aching brow, will tell to you,
How the teacher crammed it in,
Rammed it in, jammed it in,
Crunched it in, bunched it in,
Rubbed it in, clubbed it in,
Pressed it in and caressed it in,
Rubbed it in and slapped it in,
When their heads were hollow.

Noah was the first electrician in the Bible; he made the arc light on Mount Ararat.

"What is the poet laboring over?"

"Trying to find a word to rhyme with Pabst."

"Ah, studying lager-rhythms; I see."

Tramp—"Have you anything in my line today, madam?"

Lady—"What is your business?"

Tramp—"I am a dentist, madam. I'll put a good set of teeth in a mince pie, free of charge."

Mother—"Johnnie, how does it happen that your grades for the month of January are lower than those for December?"

John—"Oh, mother, you know everything is marked down after the holidays."

Isn't it funny that on a railroad it is the freight and not the steam that make the cargo?

Ikey—"Fader, vas it der Dutch vat bought Manhattan Island for dwendy-four dollars?"

His Father—"It vas."

Ikey—"How vas it der Hebrews missed such a pargain?"

"Were you on a spree yesterday?"

"Yes, sir; and I found myself lying in the gutter with a pig. Mr. Farmer came along and said: 'One is known by the company he keeps.'"

"Did you get up?"

"No; but the pig did."

Lady—"Did you ever try to get work?"

Tramp—"Yes, ma'am; I got a job for my brother once."

Here lies a painter. He died because he couldn't draw his breath.

Teacher—"Johnny, can you tell me how iron was discovered?"

Freshie—"I heard father say they smelt it."

Mr. O'Falvey (whose hands and whose stationery were not as immaculate as they might have been) was laboriously writing a business letter of some importance.

"There!" exclaimed the scribe, mopping his brow after an hour's hard work. "'Tis finished, it is. Joost be handin' me an invilope, Nora."

"Sure," said Nora, critically inspecting the only envelope the house afforded, "'tis none too clane."

"Oi'll fix that," said O'Falvey, seizing his pen. "Oi'll joost add a wee postscript."

And he did. It read:

"Kindly excuse the dirt. This envelope was perfectly clean when it left my hands."

JUST TO PROVE IT

Farmer Boy (resting on his hoe)—"They say the fish is bitin' like fun, down to the creek, pap."

The Farmer—"Do they? Well, I'll let you finish this patch o' corn, sonny, while I take the pole and go down and see whether it's true or not. Folks lies a good deal about fishin'."

A FEW DEFINITIONS

The recent mid-year examinations gave a plan for mixing answers to questions, and some of the students who had evidently crammed to little purpose gave some highly entertaining answers, of which a few samples are given below:

"There are two kinds of thermometers in common use, Fahrenheit and Centipede."

"An erg of work is done when one millimetre passes through one centimetre in one second."

"Matter is whatever exists."

"A machine is what does work."

COMPELLED TO SIN BY FATE

"I'm sorry to have to do this," said Johnny, as he spread the jam on the cat's face, "but I can't have suspicion pointing its finger towards me."

Uncle (trotting Harry on his knee)—"Do you like this, my boy?"

Harry—"Pretty well, but I rode on a real donkey the other day."

"Consider the porous plaster, my son," remarked the philosopher, "and don't get discouraged. Everybody turns his back on it, yet it hangs on and eventually achieves success by close application."

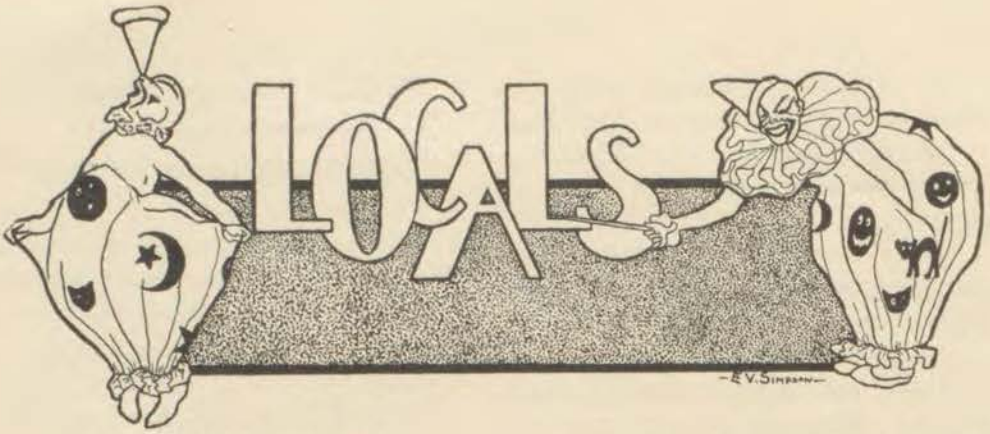
Two boys whose father had died were left to do the farming. They had their own views on farming and carried them out. They had a drove of hogs that they were trying to fatten. In the morning they fed them much more than they could eat, but in the evening they gave the hogs only a few ears. A neighbor remonstrated with them for such irregular feeding, but one of the boys replied with the confidence of a well-grounded theory: "You see we like lean in our meat, and so we are feeding them this way so the meat will have lean streaks in it."

THE MELANCHOLY DAYS ARE COME

The milkman labored up the hill,
  The sharp wind pierced him through;
His heart was heavy, the air was chill,
  And even the milk was blue.

"Say, pa, why does that man in the band run the trombone down his throat?"

"I suppose that it is because he has a taste for music."



A PEDAGOGICAL PICNIC

Once when we had a Holiday the faculty of Manual decided to go out on a picnic. They walked Miles and Myles over many a Hill. Once they were Chase(d) by a Cow-an' Mr. Phillips climbed an Elm-er some other kind of a tree, but J. (L.) Sullivan and Sampson, who are most strong enough to handle Lyons, drove the animal away. At last they came to a Small Glenn covered with Woods and here they ate their dinner. The Carpenter constructed a crude table; they didn't have Welch rarebits to eat, but they didn't care a Rapp. After dinner they read a Page from a book and sang the "Campbells Are Coming." Later Mr. Bainter Neal(ed) down by a stream to Fish-er something and fell in. Being no Drake, he couldn't swim, so he yelled: "You're too Slo-comb and Hall me out." The party was (a) Paul (ed), but finally Miss Von Unworth shouted: "Rouse mit ihm." They then recovered their senses and Hall (ed) him out. He was a Case; he looked (un) Canny, rather Raney. He was filed with (re) Morse and tried to Steele away, but as he was wet to the Bone, they were all ordered home by the Kizer.

Miss Gilday—"When did Columbus discover America?"

Miss Egbert (thinking aloud)—"At 211 Park."

Our pupils are preparing for the trip to Europe they promised Mr. Moore they would take. Clyde Sylvester and Mildred Trobridge expect to leave on the Celtic, the 25th of May. They will go by way of Italy, traverse the majestic Alps and travel through picturesque Holland. They will spend the summer in the land of the midnight sun and the following winter basking in the sun along the Nile. Mamie Stoller has promised to accompany Mr. Sargent on a similar trip. They will return by way of India, Tokio and Honolulu.

Although Mr. Morgan does not take Latin he is very fond of Virgil. We understand that Louise Campbell is also an admirer of Vrigil

Mrs. McLaughlin—"Has anyone in here got the 'History of Greece?'"

Miss Gardner—"No; but I've got 'Bacon's Essays.'"

Mr. Chase (pointing to the letter L)—"There you are."

Harry Havens—"I didn't know I looked like 'L."

MISS GILDAY'S PHILOSOPHY

"It's lots of fun a livin',
And it doesn't pay to kick;
Though every rose a thorn doth bear,
The rose is worth the prick."

Mr. Jones—"James I. had two sons; they were both boys."

How well one must know his lessons who doesn't wish for tomorrow!

Mr. Small (explaining a time problem)—"John, how many minutes in an hour?"

John (thoughtfully)—"There are forty minutes in every hour except Manual training."

The day is cold and dark and dreary,
(But a smile lights the coal man's face.)
It rains and the wind is never weary,
(There's joy at the roofmender's p'ace.)
The vine still clings to the moulding wall,
(And the painter filled with joy.)
But at every gust the dead leaves fall,
(A job for the ambitious boy.)
And the day is dark and dreary,
(But the gas man's heart is cheery.)

A girl in sewing said she read that a "diminutive argenteous truncated cone, convex on its summit and semi-perforated with symmetrical indentations," is a thimble.

One can tell by the color of the towels in the "gym" that the pupils come out of there with clean hands.

Minka Reefer (throwing down a pencil)—"That isn't my pencil. I can tell by the taste."

There are five pupils in the Fourth hour French class. That class will soon consist of a teacher and a roll call.

Someone should design a medal for Mr. Bacon, who designed the inter-society contest medal.

Mr. Page—"If there was no moisture in the air, we would all freeze to death *every night*."

Senior—"Did you know that Sara Moffat was suspended?"

Junior—"No; what was she suspended for?"

Senior—"For using bad language. She said she wanted a seat 'by George?'"

Mr. Marshall Myles, Mr. Wesley Elmer and Miss Van Meter teach the boys how to "hit the nail on the head."

Pessimistic Pupil—"The gym is always either too hot or too cold."

Miss Heornig—"But it's a good thing it can't be too hot and too cold at the same time."

HEARD IN 26

Freshman—"Why doesn't Venus get some clothes?"

Senior—"She can't; she's broke."

It is not how well you like your teacher that counts, but how well your teacher likes you.

Phillip brought his lunch one day,
And ate, and ate, and ate;
I thought he'd never "break away."
I thought he'd never Phillip.

It's easy to get books; try it. Get out and make a noise like a bibliomaniac.

The boys in joinery must not drive nails too fast. Fast driving is against the law.

THE TEST OF THE LAGGARD

1
He wouldn't get his lessons
He wouldn't do his best,
He didn't like to study,
So he had to take a test.
2
Every day in class
The answers he guessed
He didn't earn a P
So he had to take a test.
3
So he had to take a test.
4
So he had to take a test.
5
So he had to take a test.
6
So he had to take a test.

Miss Gilday—"Who surrendered to Grant?"

Dorothy (absentmindedly)—"Colin Lee."

Miss Drake (in Latin)—"Foster, what does 'nescio' (I do not know) mean?"

Foster—'I don't know."

(It was the first time Foster had answered correctly for a week.)

PUPIL IN ELOCUTION

A song! Oh, a song for the merry May.
The *birds* in the meadow, the lambs at play.
A chorus of *cows* in the maple tree
And a world in blossom for you and me.

Mr. Dodd—"Earle, what is a quadrilateral?"

Mr. Mill—"One that has four legs." (After which he awoke.)

There was a dull roll of machinery and a sweet smell of unfermented fruit. But the meek little worm was turning, turning—into cider.

Int.—"My sister had a terrible fright yesterday. A black spider ran up her arm."

Tambo—"That's nothing. I had a sewing machine run up the seam of my pants."

"I think," said the actor, when a cabbage had just grazed his nose, "that some one in the audience has lost his head."

THE BETZ GIRLS

Still does the wonder grow—
That two small heads can carry all they know.

Wise Junior—"I guess I know a few things."

Proud Freshman (not to be outdone)—"Well, I guess I know as few things as anybody."

Mr. Phillips (after program in Assembly Hall)—"I feel twenty years younger."

Mr. Elmer—"So do I."

Junior—"Jack is a nuisance; he always wants to play chess, and I hate chess. What shall I do about it?"

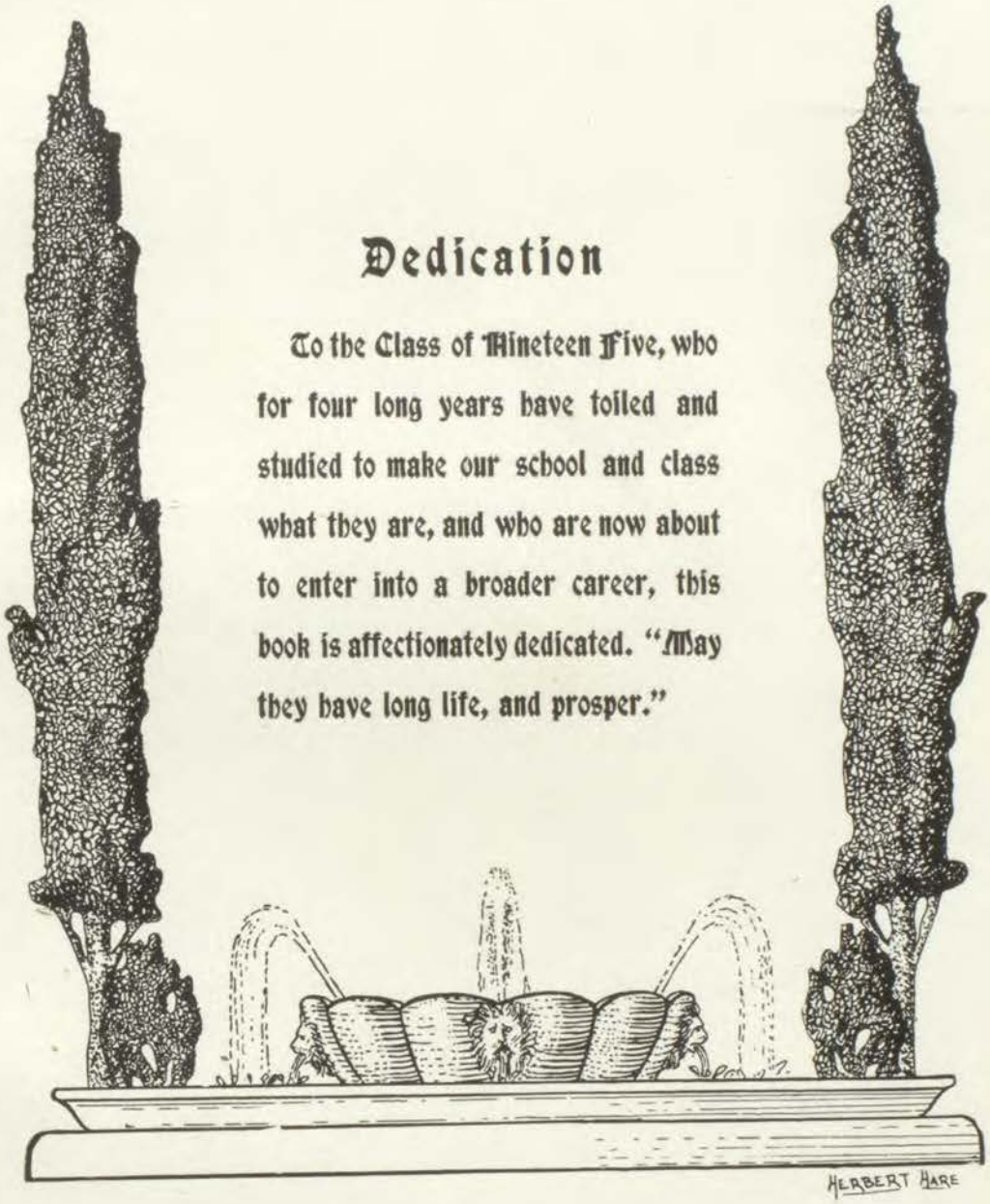
Senior—"It seems to me what you need is a ches (t) protector."

STANDARD PRINTING CO. OF KANSAS CITY, 119 WEST 6TH STREET

PRESS OF


Dedication

To the Class of Nineteen Five, who for four long years have toiled and studied to make our school and class what they are, and who are now about to enter into a broader career, this book is affectionately dedicated. "May they have long life, and prosper."



E. D. PHILLIPS, PRINCIPAL

E. M. BAINTER, Vice-Principal

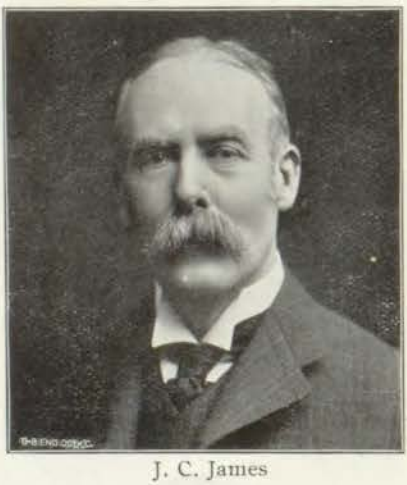
BOARD OF EDUCATION

F. A. Faxon

Gardiner Lathrop

Milton Moore

Jos. L. Norman



J. C. James

J. S. Harrison

CONTENTS

Faculty

E. D. PHILLIPS, *Principal* E. M. BAINTER, *Vice-Principal*

ENGLISH

B. F. Kizer
English

Mrs. Sarah G. Elston
English

Bertha Elston
English and Librarian

Sara Van Meter
English

Stella F. Jenkins
English

Nina Drake
English

Eva W. Case
English

Miss Mary Lyons
English

MATHEMATICS

A. A. Dodd
Mathematics

E. M. Bainter
Mathematics

B. T. Chace
Mathematics

E. R. Morse
Mathematics

Chas. Morse
Mathematics

Jean Shaefer
Mathematics

Horace C. Small
Mathematics

Gus J. Haut
Mathematics

E. B. Dennison
Mathematics

NATURAL SCIENCE

B. M. Stigall
Botany

Jennie Sublette
Zoology

Leslie E. Paull
Physiology

Laura M. Stearns
Physiography

F. E. Holiday
Physiography and Psychology

HISTORY

Anna C. Gilday
History

Abner Jones
History

O. R. Davis
History

Sarah E. Steele
History

PHYSICS

Herbert M. Page
Physics

CHEMISTRY

C. F. Gustafson
Chemistry

FOREIGN LANGUAGES

A. Rambeau
French, German and Latin

Mary Fisher
French and German

Della Drake
Latin

J. L. Deister
French, German and Latin

Gertrude Von Unwerth
German

DOMESTIC ART

Josephine G. Casey
Sewing Instructor

Jessie L. Griffith
Sewing Instructor

Corinne Bone
Sewing Instructor

Martha Rouse
Sewing Instructor

Edith Welch
Sewing Instructor

Lena M. Lindsay
Sewing Assistant

Emma Humfeld
Sewing Assistant

Nettie Humfeld
Sewing Assistant

DOMESTIC SCIENCE

Bertha H. Bacheller
Cooking

Mabel Hazen
Cooking

Belle Stewart
Cooking

Della Kahn
Assistant in Cooking

MECHANICAL DRAWING

Barry Fulton
Mechanical Drawing

C. C. Sampson
Mechanical Drawing

Ivan Hayes
Mechanical Drawing

Albert C. Carpenter
Mechanical Drawing

FREE HAND DRAWING

Alice Murphy
Free Hand Drawing

Floy Campbell
Free Hand Drawing

Ada M. Rapp
Free Hand Drawing

Sarah Heyl
Free Hand Drawing

Edith M. Hill
Free Hand Drawing

Mrs. Maud Maple Miles
Free Hand Drawing

MUSIC

Glenn Woods
Music

BOYS' PHYSICAL CULTURE

E. M. Hall
Boys' Physical Culture

GIRLS' PHYSICAL CULTURE

Lena Hoernig
Girls' Physical Culture

Grace Slocomb
Assistant Girls' Physical Culture

ELOCUTION

John A. Cowan
Elocution

MANUAL TRAINING DEPARTMENT

Geo. Arrowsmith
Turning

Frank Barry
Assistant in Turning

Marshall Myles
Joinery

Wesley Elmer
Joinery

Frank Cushman
Machine Shop

Joseph Stadler
Tool Boy

G. H. Donham
Forging

James Ellis
Assistant in Forging

J. M. Kent
Steam and Electricity

BUSINESS DEPARTMENT

P. B. S. Peters
Bookkeeping and Stenography

W. B. Claflin
Bookkeeping

Eva J. Sullivan
Bookkeeping and Typewriting

Leonora Rackerby
Typewriting

Mrs. Ada G. McLaughlin
Study Hall

Mrs. A. C. Lavine
Matron

Mary Canny
Chief Clerk

Wm. Raney
Head Janitor

STAFF

George D. Beardsley, '05 — Editor-in-Chief
Sara Moffatt, '05 — Associate-Editor

LITERARY EDITORS
Hesper Kirkpatrick, '05 — Colwell Pierce, '05

SCIENCE AND MATHEMATICS EDITORS
Dorothy Hopkins, '06 — Victor Charpiot, '05

ATHLETIC EDITORS
Elizabeth Nofsinger, '06 — Jas. Donovan, '05

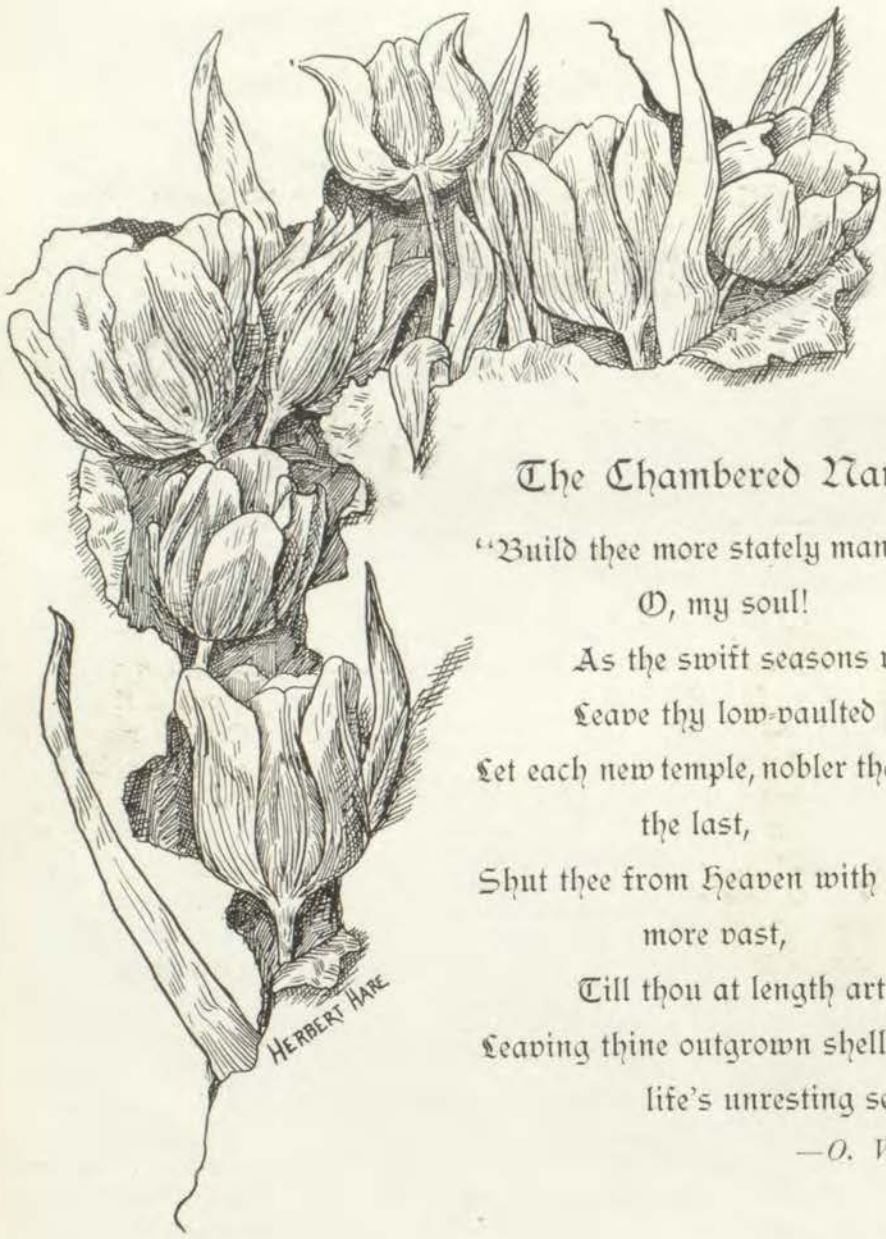
MANUAL TRAINING EDITORS
Gladys Coates, '06 — Harry Havens, '05

LOCAL EDITORS
Sadie Danciger, '05 — Richard Winstead, '05

ARTISTS
Olive Thomas, '06 — Herbert Hare, '06

Wm. B. Fullerton, '05 — Business Manager
Earl B. Mill, '05 — Asst. Business Manager
Edwin S. Pierce, '05 — Asst Bus. Mgr.
Truman Godfrey, '05 — Exchange Editor
Charles Bowman, '05 — Subscription Clerk

Olive M. Thomas



The Chambered Nautilus

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

—O. W. Holmes

GEORGE D. BEARDSLEY
Editor-in-Chief

EDITORS

SARAH L. MOFFATT
Associate-Editor

THE DUPLICATOR

We have now more than one paper in our school. But this other one is not quite as extensively known as our regular school paper, as it is devoted to only one or two departments. It is edited and printed, as well, in the business department. As yet it is not very large, but what there is, is good and interesting to the pupils in that department as well as to others. We extend our hearty congratulations to the *Duplicator* and hope it will continue to grow and thrive.

A SUCCESSFUL YEAR

"He who laughs last laughs best," and we have been waiting a long while to get the laugh on our predecessors. THE NAUTILUS for the past year has had more copies printed than in any other previous year since its start, eight years ago. We have also endeavored to make the copies better than before, if possible, and we leave it to your judgment whether we have or not. We have taken in more money on our ads, and expended more in the getting up of the books than heretofore and we feel as if we have been in a degree successful.

We do not mean to say that the foregoing statement is unnatural or not to be expected, but simply wish to state that it is true, and we hope the Staff next year may claim the same gain over us.

While we are about it we might as well offer a few explanations for our success. It is due to you who are reading this article, rather than to us, who are writing it. We depend upon your help and you have not disappointed us. Accept our thanks for your efforts, and if you happen to be one who has had some article rejected do not be discouraged, because we appreciated everything, even if we were unable to publish all of it.

To those of you who do not graduate this year we simply wish to say, "Stand by THE NAUTILUS in the future as you have in the past, so that it may continue to be as it always has been—the best."

OUR SCIENCE FOR THE ANNUAL

The death of Mr. Victor Charpiot, our much-esteemed Staff member, robbed our Science department of one-half of its working force. Mr. Charpiot was the originator of that part of the Science department known as "Science Brevities," and always prepared them himself, exclusive of any outside help whatsoever, and out of respect to him we decided not to elect a new science editor for the Annual.

Things seemed pretty dark for that department in the Annual, as more material was required than in any of the previous issues. However, we do not think that the showing made in this issue would be a discredit to any school paper, and to Miss Dorothy Hopkins is due the credit. Single-handed she has managed with credit one of our most difficult departments in our largest issue.

OUR ANNUAL ADDITION

Last year it was decided that on account of the additional amount of advertising required to pay the expenses of the Annual, and on account of our business managers being tired out (?) with a hard year's toil, the Staff would be allowed one extra member on the Annual in the form of an assistant business manager. This was tried last year, and as it seemed to work well it was decided that the same privilege should be allowed this year. The business managers put their heads together and when they took them apart they had chosen Mr. Edwin Pierce as their annual assistant. The choice seems to be a good one as Mr. Pierce has entered into the work with a good will and has done his share in the collecting of a profitable amount of ads.

THE COLUMBIA EXCURSION

One of the most pleasing trips that any school has been allowed to make

was granted to the high schools of Kansas City on May 5th. The excursion was to Columbia where the Inter-High School Track Meet of all the high schools of Missouri was held. We will not tax you with a detailed account of the "Meet," as that will be given in the athletic department, but there is a little incident in connection with the trip that seems to be worthy of notice. At Hallsville, some eighteen miles this side of Columbia, there had been a freight wreck, just a short time before the excursion train, containing all the enthusiastic high school rooters, arrived upon the scene of action. The track, in consequence, was torn up for quite a distance and ties were lying around as promiscuously and in as much confusion as if there had been an inventory sale at the haberdashers. Mr. Phillips, our esteemed principal, being on the first car and seeing the danger to which the damaged track threatened the pupils, determined to save them even at his own peril, and as Bellerophon of old, captured the winged Pegasus and steered him safely through the terrible struggle with the chimaera, so our dear principal boldly mounted the cow-catcher of the ferocious Wabash engine and with the red flag of Manual as a sign of danger bravely piloted the train through the death gulch of the torn-up railroad. But when the danger was over and safety was reached our protector's fighting spirit was up and he determined to stay it out and make a ride as famous in our high school history as Sheridan's ride to Winchester is in the annals of our nation and like that famous general, he brought victory with his triumphal entry.

It was, indeed, a thrilling sight as the long train drew near, to see Mr. Phillips approaching, closely followed by the engine, which was emitting trails of sparks, and puffing terribly in its tremendous efforts to gain the lead. On and on toward the station came the competitors and the spectators watched the wild apparition with almost breathless awe. It is rumored that the ride was so swift that the occupant of the cow-catcher caught his breath several times during the strenuous trip. Be that as it may, when the exhausted engine drew up at the station, Mr. Phillips dismounted and welcomed the pupils with his same old characteristic smile, just as if nothing had happened. It seems quite appropriate that he who worked so hard to bring the trip to a successful finish should be the first to set foot on the platform when the end of the journey was reached.

ARTISTS

HERBERT HARE

OLIVE THOMAS

LITERATURE

Olive M. Thomas

COLWELL PIERCE

EDITORS

HESPER KIRKPATRICK

IN THE CAUSE OF REALISM

Virginia came home from college at the close of her Junior year, determined to become a writer. Some successful work on the college paper had given her the idea, and as her greatest hits had been along the line of things actually seen and heard, such as a girl's report of the boat races and the love story of the college postman, it was natural that she should consider realism her forte.

The little town was unusually quiet that summer, so Virginia devoted her time to writing. She would rise at four in the morning to get an actual view of the sunrise, and, sitting on the hill top, would try to paint in words the picture of the changing hues of gold, gray and crimson. But faster than she could write, the scene changed and her epithets and color descriptions, instead of blending into an harmonious whole, resembled rather daubs of pigment on a painter's palette.

So from nature Virginia turned to the other field—human life. Here she thought was material enough for a tale both realistic and romantic. But later

she found out that the people in the village would not do, so she conceived a new idea. Nearly every day her home was visited by derelicts of the submerged tenth, whose usual plea was, "Please gimme a bite." These vagrants were to relate to her the story of lives, in return for which she would give them bread and butter or what food she could find.

Virginia's mother refused to allow tramps to enter the house, so Virginia would sit on the back steps and drink in the ungrammatical accounts given between and during mouthfuls. These were rather unsatisfactory, for either the tramps would give incidents of no literary value or would launch into rose colored tales which could not possibly be classed under the head of realism. But one July morning when Virginia was lying in the hammock, she saw a tall, young fellow enter the gate. His ragged clothes proclaimed that here was a tramp—an interesting specimen, too. He was dusty and sun-burned, but his face had an intelligent look and his large brown eyes had a clear light in them.

"Excuse me, but do you think I could get something to eat here? Of course I shall be glad to—"

"Yes," said Virginia, "we are always glad to feed strangers here, but I have one condition I always make—"

"And that?" said the young fellow with interest.

"That they shall tell me the story of their lives."

Virginia was looking towards the house as she said these words, so she did not see the amused expression which came over the tramp's face.

"You wait here and I'll go in and get you some breakfast." She returned in a few moments bearing a good supply of eatables and set them before him.

"Now, please begin and tell me as nearly as you can, your history, your childhood, your schooling, and why you are leading this life."

The tramp passed his hand over his mouth. It seemed to be a favorite gesture, for it was remarkable how often he used it. In the meantime Virginia's mother had brought her sewing out on the back porch and sat where she could watch the couple.

The tramp began his story. He described the little Ohio town where he spent his early days and told how those days were mainly occupied in playing "hookey." He related how he would stay out of school and spend whole mornings lying under the trees dreaming dreams of travel.

"That is probably how he came to be a tramp—the roving disposition," thought Virginia. He soon finished his story and was gone, but Virginia lay in the hammock recalling the facts he had told her, and thinking idly of those clear brown eyes that surely belonged to no ordinary tramp.

In the meantime the young fellow was swinging down the road, laughing to himself. "What a jolly adventure. It will make a good story for the *Sun*. Poor little girl! I wonder if talking to tramps is all she can find to do. Such a pretty girl, too. Thought at first she was crazy, but she isn't. Well, I told her the truth, on the whole, anyhow."

. . . . . .

It was the night of the "Senior Prom," shortly after college had reopened. Virginia, in her white evening dress, stood in the doorway of the great reception room, glancing at the different groups standing here and there. Sud-

denly she gave a start! When had she seen that man before? The tall, slender figure, the dark hair, the clear brown eyes. He was talking to her friend, Teddy Graham. Just then Teddy looked over and saw her and started over with the stranger. As she caught his eye she noticed a strange look come over his face, and her memory rushed back to that July morning and the tramp; but how— Just then Teddy said: "Virginia, my cousin, Mr. Beckley. Harold, this is Miss Lynton, of whom you have heard me speak. Two such devotees to literature should certainly know each other," and he turned and left them. Virginia, usually so self-possessed, could find nothing to say, but Mr. Beckley was equal to the occasion.

"No doubt, Miss Lynton, it is a surprise for you to meet a tramp at a select affair like this?"

"But," said Virginia, "I don't in the least understand," and then as he looked at her in an amused way she burst into a merry laugh, in which he joined.

"But how did I ever make such a mistake?" said she, a few minutes later when they were sitting on a divan in a quiet corner. "You came and asked for something to eat and offered to work—"

"No," he returned, "I was going to pay when you made your proposition."

"But you looked—"

"Yes, I looked like a tramp, I admit."

"I wasn't going to say that," she returned.

He continued smiling: "You see we had been on a hunting expedition and I got lost from the other boys. My clothes were badly worn and torn by branches and dust and I had lost my bag of toilet articles. So I did look awfully seedy and I was ashamed to let anyone see me, but was so hungry that I stopped at the first house I came to, and that happened to be yours. I took you for a very pretty village girl with romantic notions, so I resolved to have a little fun out of it."

"I must have been absurd," she said, "but I was doing it in the cause of realism."

"And I, too, got a story for my paper; so the joke is on us both."

They said more, but they did not tell how the face of each had remained distinct in the other's memory. That came later.

EDNA GOLDSTANDT, '05.

MAURINE NASON'S FIRST DAY AT SCHOOL

It was drawing near the middle of September, the beginning of the school term, in the city of Carthage. Maurine Nason would be just six years old in October, but her parents thought it all right to start her in school at the beginning of the term.

"Mamma," Maurine said one day, "will I have to tell the teacher I am not six yet? Will they send me home if they find it out? I don't believe I want to go to school alone. Do they ever let mammas come and stay in the room? I want you to come with me, mamma. I know the teacher would just love to visit with you. Don't you know 'bout as much as a teacher, mamma? Mamma, couldn't you be a teacher? Oh! wouldn't that be just beautiful. Then we'd go together and I would be——"

and then some little playmate called her and she rushed out of the house. Her mother sighed a sigh of relief. "It will be rather hard for her the first few days. I wonder who will take her. I suppose I will have to, but I'm sure I will be house-cleaning just that time. Oh, well, we'll see."

Time passed quickly and the first day of school was near at hand. The night before, Maurine was wild with excitement. Her father brought her a slate and reader. "Here, little daughter, are your slate and book. Come, sit on papa's knee and let him see how much you know already."

For a long time, Maurine labored diligently trying to write her name straight across the slate. "Papa, are you going with me in the morning? You had better come, papa. Wouldn't the teacher think it wonderful to see a man walk in! Oh, goody, you'll come and mamma, too, and stay with me all day. Oh! but you have to go to your work—but mamma can stay." "You must be a good girl and mind the teacher exactly as you do mamma," said papa, "and then you will grow up to be a nice, smart lady—as smart as your teacher. Wouldn't that be just lovely?" Maurine promised to mind the teacher and be very good in school.

She was up bright and early in the morning and could hardly wait to eat breakfast. Soon she was ready and taking hold of her mother's hand, they started for school where they arrived in about half an hour. Almost before she knew it, her mother kissed her and left.

For a long time Maurine sat perfectly quiet, watching the other children around her. "What is your name, little girl?" She was startled out of her calm by the teacher's voice. The teacher seemed to be looking right at her. Did she want to know her name? "The little girl with the big blue ribbons." Yes, she meant her. Maurine immediately stood up. Did she have a name? If she ever did have one, she had lost all remembrance of it now. She started to speak several times and at last managed to gasp "Thomas." She sat down quickly, her little face flushed with annoyance and embarrassment. "Well, Thomas," said the teacher, 'Thomas what?" "Oh

She sat down quickly, her little face flushed with annoyance and embarrassment

my!" thought Maurine, "I've given the name of kitty." What was she to do?

Almost ready to cry, she looked up and said, "Maurine Nason is my name and Thomas is my kitty." The other children began to laugh, and one little boy in the seat beside her, whispered, "Hello, little boy!" She almost rushed out of the dreaded room. Oh, where was her mamma? She could stand it no longer. It seemed as if every eye was upon her as she slid off of her seat and managed to crawl under the desk.

The teacher had been writing in the meantime, but now she loked up intending to question her farther. "Well—where is the little girl I was just speaking to?" "Please, teacher, she's under her seat," a little boy loudly replied. "What! under her seat?" The teacher hurried back and, sure enough, there lay Maurine in a little heap, sobbing pitifully. The teacher gently lifted her up and took her in her arms to comfort her. Maurine's grief was soon dispelled by the teacher's kind words and once more she was seated at her desk.

Then the teacher asked Maurine if she could spell Thomas. "Yes, ma'am. C-a-t. Thomas," came the confident reply. At this even the teacher smiled and if the recess bell had not rung at that moment, Maurine probably would have performed the feat of hiding under her desk again. But before she realized it, her hat and cloak were on and she found herself out in the school house yard with many other little girls.

This was her chance. She hesitated not a minute, but started home, and when she reached there she threw herself into her mother's arms, exclaiming as she did so: "Do people really learn at school? I even forgot my name."

HELEN CRANDALL, '06.

*FOREIGN SYMPATHY IN WAR OF THE REVOLUTION

On April 19, 1775, the trumpet of war was sounded in the American colonies, for England's cruel treatment had caused a rebellion. As the fleets and armies of England went forth, strong in arbitrary power, kings and queens were awe-stricken, the sound of war died out everywhere else on the earth, and every eye was turned to watch the thirteen colonies in their terrible struggle for independence. The enormous taxation and the strenuous subjugation of the honest and sturdy colonists were more than they would endure. They loved their mother land, but not well enough to become her slaves. They longed for freedom. It seemed that an invisible hand pushed the great multitude of colonists on and on, until they reached the bloody gate of revolution, through which they must pass before they could realize liberty.

Possibly England's greatest mistake was her inability to understand the spirit and the resources of the colonists. She did not realize that by the help of the spirit the weak often thrive when the strong perish. At the beginning of the struggle, England clearly saw that it would be no easy task to reduce three million rebellious colonists to obedience with an army of only fifteen thousand men. Her own people did not rally to her support so she was forced to look elsewhere for assistance. She did not care to place herself under obligations to her near neighbors—she felt that it would be humiliating to ask them for aid—so she turned to Russia with whom she was on friendly terms, but Catherine II. loved peace and pleaded neutrality. Next she went to Holland, but Holland refused to give her help. As a last resource she turned to Germany and her prayer was heard. What a dif-

*Essay which won first honorable mention in contest of the Missouri Chapter of Sons of Revolution.

ferent record the English people might have made for themselves if they had aided their own country, instead of allowing her to depend on hirelings!

The share of the French in the American war is a bright and almost romantic episode in the career of Louis XVI. At the time of the American Revolution the Democracy of France was blindly groping for light and the Democracy of America, glowing with spiritual emotion, was struggling with open vision for justice and the rights of man.

France had been humbled by Great Britain in the seven years' war of 1763. The closing of the port of Boston early in the summer of 1774 attracted and stimulated the hopes of the French government, but it seemed hardly possible that a few colonists could hold a successful or even effective contest with "the mistress of the seas." And it was not till the proceedings of the first Continental Congress had been read in Europe, the skirmish at Lexington and the capture at Ticonderoga had occurred, and the second Congress had met, and its members proclaimed "Rebels" by the English Parliament, that the French felt that the coveted opportunity had come to strike England the damaging blow.

Count De Vergennes, then at the head of the French ministry in ability and influence, had in 1775 with the permission of King Louis, sent Bonvouloir, a Frenchman of good judgment and impenetrable secrecy, to America to report to the French cabinet the sentiment of the American colonists. The efforts of Vergennes attracted the attention of Beaumarchais, a talented man who offered to go to England to find out England's disposition, concerning the colonies. The mercantile and shipping interests of the realm whose business had been seriously impaired by the long quarrel, were in favor of the Americans, and London was regarded as in full sympathy with the insurgents and the opposition. From public opinion Beaumarchais concluded that it was a golden opportunity for France to have her revenge on England.

As soon as the feelings of France were made known to our Congress in November, 1775, a secret committee composed of William Henry Harrison, Benjamin Franklin, John Jay and several others was appointed. Arthur Lee, an American sympathizer in London, was to aid them. Dumas, a Hollander, had written to Franklin that all Europe wished the Americans the best success in the maintenance of their liberty. Accordingly, Dumas and Lee were appointed to ascertain the disposition of foreign powers. This secret committee sent Silas Deane to France to ask for arms and ammunition. The French cabinet consented to give the Americans the freedom only of French ports.

Turgot assured the French king that the time had come for France and Spain to plead for peace, but Sartine said that if France were to act alone at that moment she would have a better chance to strike England the destructive blow. After a year's hesitation the French king informed the king of Spain that he had resolved under the name of a commercial house to advance a million livres, about two hundred thousand dollars toward the supply of the wants of the Americans. The Catholic king resolved to send aid also, and after a few weeks' delay, assigning a false reason for demanding the money and admitting no man into the secret of its destination except Grimaldi, his tried and able assistant, he remitted to Paris a draft for

one million livres more. In the early summer Beaumarchais announced to Arthur Lee that he was authorized to promise the Americans nearly one million dollars.

Although Grimaldi adhered to the principle that nothing could be more alarming to Spain than American independence, and although Charles III. king of Spain, opposed open hostilities on account of his own subjugated colonies, American ships were admitted into Spanish harbors. Privateers fitted out at Salem, Cape Ann, and Newbury port, hovered off the rock of Lisbon and Cape St. Vincent, and even ventured into the Bay of Biscay.

On December 28, 1776, Franklin with the other commissioners waited on Vergennes and Count De Aranda of the Spanish ministry at Paris. Each refused commercial aid, but promised to remit to to the Americans quarterly one million dollars. All negotiations were secret, because both France and Spain feared that if England heard of their actions, she would turn her attention from the colonies, and a mighty struggle follow for which neither was prepared.

Up to the fourth year of the war, the Americans had received very little aid from the French government. The only valuable assistance had come from individual sympathizers. The most prominent of these sympathizers was Marquis De Lafayette, who abandoned his pleasant and luxurious life for hardships and trials in the new world. He fitted out his own vessel, "Victory," and with Baron De Kalb, who afterwards became a major general in our army, sailed for America. The assistance of Lafayette encouraged the Americans, for it taught them that in the first rank of the nobility of Europe, men could still be found who not only took an interest in our struggle, but were willing to share its hardships. It was through the influence of Lafayette that the feeling of the French cabinet for America was strengthened.

In the year 1777, Silas Deane got off three ships loaded with supplies and as he wrote to Congress, "All through the untiring efforts of Beaumarchais and Vergennes."

Although most of the European nations remained neutral during the American Revolution, the majority of them at heart sympathized with the Americans. The Turkish Empire approved of the course of American affairs during the war and at its close. The king of Naples, one of the Spanish Bourbons, conformed his policy to that of Spain, Sweden and Russia remained neutral, but secretly felt for the colonies. The Netherlands sanctioned the American cause, for many of her sons were living in New Jersey, New York and along the Hudson. The Dutch saw in the American struggle a repetition of their own history, and the Americans found in them the evidence that a small and resolute state may triumph over the utmost efforts of the largest and mightiest empire. In Germany, the great philosopher, Immanual Kant, was the very first, even at the risk of friendships, to uphold the American cause. The nobles of Germany looked with disdain on England's hire of the Hessians. Frederick of Prussia, although he was not able to raise a navy, urged France to help the colonies. After the surrender of Burgoyne, he assured Congress that he would acknowledge our independence as soon as the example was set by France.

A treaty of amity and commerce between the United States and France

was concluded on May 6, 1778. England regarded this combination as an outrage. She tried to make a treaty of peace with the colonists so that she might wage war on France immediately, but the colonists declined to accept her overture. The alliance with France gave the patriots greater confidence in their ultimate success. France at once sent twelve ships under Count D' Estaing to blockade the British fleet in the Delaware. All over Europe the news of the alliance was received with satisfaction, especially at Saint Petersburg. Catherine II. had the warmest affection for any people that knew sorrow and suffering. Of the chief commercial nations of Europe, Holland entertained the most friendly sentiments. She invited the United States at once to her trade.

It is very evident that the French considered themselves most important in our successful struggle for independence. In a review of the career of Louis XVI., Edmond About said: "The great American Republic was from the beginning the friend and ally of France. It owes its very existence to France." This is only an echo of Genet, who said to Thomas Jefferson after three-fourths of a century had elapsed: "But for France, Americans would now be vassals of England." Pierre Hyacinthe more modest and truthful, wrote to an American clergyman a few years ago: "I am proud of my France, but I deem it one of its most solid glories to have contributed to the independence of such a noble country." From the time that the king of France publicly recognized the nationality of the United American colonies up to the present day, our government has not ceased to be reminded that we owe our being as a nation to the generosity of a French monarch and the gallantry of French officers.

ELIZABETH NOFSINGER, '06.

SPRING THOUGHTS

I

I wandered by the woodland streams,
The trees were budding. In the vales
The flowers were waking from their dreams,
The violet from its sheltered nook
Flung incense on the morning air.
'Twere vain to search through any book
For lessons that were half so fair.
The robin from the maple tree,
Trilled out his song of morning praise,
Each note, the expression of his glee,
Filled me with gladness, for the days
Of springtime and of beauty.

II

Beside the stream, in every place
The daffodils sprang up with grace,
Nodding and whispering in the breeze,
Their secrets telling to the bees.
The buttercups and daisies, too,
Their faces glistening with the dew.
The grass beneath them, greener grew
For having such sweet company.

III

The stream flowed on, I tried to hear
The fancies, which it murmured to
The grass, which downward bent its ear,
To catch the pleasant murmurings.
I knew the story must be gay
Because the zephyrs paused to play
And listen, while they loitered.

IV

I fain would understand the tale
The little streamlet murmured,
As on it flowed down hill and dale,
O'er slippery stones and under.
I think 'twould help us all to know
What kindness in this large world grows,
Where sweetest human flowers blow
'Twould cause us all to wonder.
At that great Love which placed us here
And caused the stream it's tale to bear
Through sheltered woods and wildest waste
To help us on our journey.

LAURA G. SAGE, '05.

A DREAM

I was more tired than usual as I lay my weary head upon my pillow, for I had shortly before returned from our club dance; and of course before I retired I needs must tell my mother, who was waiting for me, all the news—just how Kate, Ethel and Nell were dressed, who had the most dances, and most important of all, how Marion had her hair dressed.

As I lay thtnking of the party my eyes began to feel heavy, and in a short time absolutely refused to stay open.

All of a sudden I heard the sound of approaching footsteps and could scarcely believe my eyes, when I saw Mr. Geometry Notebook at the head of a strange procession. But there could be no mistake, for he carried compass in one hand, a ruler in the other, and wore a most stern expression upon his countenance. He was followed by a very dignified young lady, who proved to be Miss English Notebook. Hand in hand next came the Misses Cooking and Sewing Notebooks. In rapid succession followed the other members of what I afterwards learned was a note-

book society—Messrs. Zoology, Botany, Physiology and Chemistry Notebooks, the rear being brought up by a pompous-looking individual, Mr. American History Notebook, by name. They formed a circle and seated themselves Japanese fashion in the middle of the floor. After being seated, the master of ceremonies, Mr. American History Notebook, arose, and with his all-important air, announced that the Manual Society of Notebooks would hold its first meeting. He stated, by way of introduction, the object of the society, which:

he said was to protect the interests of notebooks and their owners from over-exacting teachers. A set of resolutions providing for their protection was introduced by Mr. Physiology Notebook and met with the unanimous approval of the Society. After a few remarks regarding the necessity of such a protective organization the Master of Ceremonies announced the first number on the program, which was to be the autobiography of Mr. Geometry Notebook. A few moments of applause were followed by a deep silence, for an expectant audience awaited with interest an account of the life of this member.

"I will begin by telling you something of the character of my owner, or rather owners, for I have had the good fortune of being perused by diligent students, who have greatly profited by my existence, and have had the misfortune of falling into the hands of others, who copied me page for page, learned me word for word and then—failed. I began my career a very presentable looking person, but being now in the hands of the third generation, my appearance is somewhat changed. A few of my pages show marks of hard study, and even grief, for besides many thumb and pencil marks, there are several tear-stains. I have received my share of the hard knocks as well as of the joys of this life, but I have always overlooked my troubles as much as possible and consoled myself with the thought that I at least led a useful life. But I feel now that my days of usefulness are nearly over, for it was only last night that my present owner, who heretofore had handled me with the greatest respect, threw me with utter contempt into the darkest corner of her room, where I remained in disgrace all through the night. You ask me the cause of this ill-treatment? Was I not her only companion for many weary hours the night before, doing all in my power to insure her of passing on Book III? And when she tremblingly approached her teacher to find the result of all this work, did he not complacently say, 'You have failed?' That was certainly discouraging to her, and I fear it was my death knell, for I do not feel equal to the task of coaching her another term. But the memory of all my sorrows I will gladly bury with the past if, when her school days are over, she will, with gentle hands consign me to a place of honor among you, *my* worthy colleagues, and with these most comforting words. "Well done, thou good and faithful servant,' leave me to my rest."

Amid much handclapping he retired and Miss English Literature Notebook was announced. In her dignified way she proceeded to relate a few incidents connected with her trip to St. Louis, for she had been selected to represent that department at the Fair. "My journey to the Exposition was uneventful, and I will begin with the time I was placed in the Educational building which was to be my home for a few months. I had hardly had time to become acquainted with my nearest neighbor, when I was rudely jerked from my resting place, and my pages were carelessly scanned by one who left in my mind unmistakable evidences of a country school marm; for after she returned me to the shelf I heard her remark with scorn that Liza Jane or Jake at her school could do every bit as well.

"My next trying experience was with a very distinguished looking gentleman. After he had carefully examined my general appearance, he diligently read

several of my pages. I heard him say something about the progress of the age along educational lines; then he proceeded to take some notes in a memorandum book. Being very curious, I peeped as far over his shoulder as I dared, to see what he was writing, but alas! my eyes fell upon words of such length, that those on my pages of whose length I had been very proud, seemed greatly abbreviated. It was evidently his description of me, and who could say this was not trying? For how was I to know whether or not I had met with his approval? He hurriedly returned me to the shelf, but not to my original shelf. I soon found that I was in very unpleasant quarters, for a Botany Notebook complained constantly that I was crushing her leaves, and a Sewing Notebook pushed me roughly aside, because I rumpled her ruffles. I was truly grateful when I was returned to my proper place among more congenial companions, where I remained without many things of importance happening, until I was thrown into a box ready for shipping back to Kansas City."

She was followed by Mr. Chemistry Notebook, whose owner was constantly bringing shame upon him by always failing to have him ready, for the teacher's inspection on the proper day.

Miss Cooking Notebook stated that she was the property of a boy, and interesting indeed was her account of the many and varied evidences that she could never have belonged to a girl.

All business having been attended to and the program carried out, the meeting adjourned. When the procession had almost vanished into the corner from which it had seemed to issue, I awoke.

As soon as I fully realized that it was only a dream, I began to wonder why notebooks had been the subject. On glancing around the room almost the first thing I saw was my American History. Oh! yes, it was all very clear. My History Notebook was due that day. Having felt very sorry in my dream for the Chemistry Notebook whose owner was always delinquent, I made up my mind to have more regard for the feelings of mine so I hurriedly dressed and worked with them for an hour before breakfast.

THE TWO MARYS, '05.

THE THREE TIN BOXES

When Mr. Peter McCafferty wafted into Westover on the Local Accommodation that evening, a little bird perched on a lofty limb might have been heard to utter a series of soft, insinuating, ethereal notes. Then another little bird in an overhanging elm sighed, and whistled at least thrice. Now Peter did the intermezzo; for Peter was happy. He was on a fishing trip, was Peter; suckers were his game. Suckers, long and green; suckers with the long green, and suckers with the little, crisp wad; and suckers that had just enough horse sense to bite—hook, bait, line, and all.

"It's easy," said Peter to himself, when he was safely under the roof of the Palace Hotel; "easy—dead easy." Peter tapped a little tin box under his arm. "Profits," says he to the clerk;

"all profits. Made it in Omaha. We're safe, we are."

"Cap'talist," conjectured a gentleman whose trousers' legs were stubbornly inclined toward the knees.

"Gilt-edged shark," sniffed Mr. Jacklaw suspiciously.

"Horse-thief," put in Deacon Willoughby Wibbs. "I'll bet my last year's hat to a box o' this 'ere hotel's kerosened sardines it is."

Squire Ajax Mosby stuck his nose out from under a dense cloud of tobacco smoke and squinted cautiously at the stranger.

"Train robber, by gub," he squeaked. "He's got a bad eye, gentlemen—a bad eye; and he's got only one arm."

"And his legs air tew short," suffixed Mr. Jacklaw.

"Bill's right, after all," continued Josiah thoughtfully, after a pause; "he's a cap'talist. He's alright. He's one o' them fellers thet builds skyscrapers up in New York—I've seen 'em. Now you fellers jest keep quiet. Employ ther scientific, laik I do, and thet gentleman yonder will work wonders with thet air little tin box o' his. You don't know how tuh handle these moneyed men, you don't. Jest do the little q. t. an' we'll hev a skyscraper 'fore long."

"Thet's all right, Josiah," interposed Ajax Mosby; "but you know we didn't hev no lead pipe cinch with thet toy baloon man last month."

"Ya-as," sighed the deacon, regretfully, "thet galoot's inventin' new baloons on my ten dollars about now."

Suddenly there was a hush—a solemn, dismal hush. Peter had retired upstairs. The little bird of the lofty limb—the second number on the program—unconsciously offered himself for criticism.

Jas. Augustus Prescott, of Pell street fame, inspector of safes, "gold brick" realist, and hero of two yellow garnished novellettos, sidled in through the doorway of the Palace Hotel. Westover was becoming famous.

"It's a shame," said Jimmy to himself; "a downright shame. It's like takin' the head off of a bottle of precious, sparkling vintage of '32." And Jimmy chuckled.

Then he turned to the clerk, and tapped a little tin box under his arm. "Profits," says he; "all profits. Made it in Chicago. We're sound, we are."

And Jas. Augustus was shown to his room.

But this was not all. Westover was destined to a still greater surprise. Shortly after Mr. Prescott's arrival, the little bird of the overhanging elm flew in, brilliant on the wing.

It would take chapters to portray the personality of Mr. Ichabod Sylvester Bundschu, recently of the Tombs. His genealogy—he was a descendant of murderers. That was enough. He wore the look of his great-grandfather, the only monument to the deceased ancestor.

Ichabod beamed a smile upon the clerk and tapped a little tin box under his arm. "Profits," says he; "all profits. Made it in Halifax. We're safe and sound and good as gold, we are." And Ichabod Sylvester stalked up to his room, all Westover gazing after him.

"Jacklaw," said Willoughby Wibbs, "this hotel's goin' tuh the Devil. Come on; let's go." And they went—all went—formulating, speculating, cogitating.

The next morning Westover made a discovery. It was learned that the profit endowed strangers were the circulating agents of the Lotteria Mexicano, a lot-

tery concern whose administrative bureau was situated at sundry places and through sundry intervals of time, according as to whether there was a sandstorm or an ebulliency of sunshine. By 8 o'clock the mystery of the tin boxes had been solved, in the form of richly ornamented lottery tickets and much money.

"Peter," said Ichabod, with a strange and sudden sensation at the knees, "Peter, I'm thinkin' there's goin' to be a sandstorm."

"Tut,tut," purred Jas. Augustus Prescott, as he nibbled a railway sandwich. "It's a cinch. It's like drawin' pictures for a Freshman art society, this is. And you, Ichabod, you that have taught Sunday School in the Tombs, and copied the masterpieces adorning those marble walls—and *you* talk of sandstorms! It's a good day for suckers, Ichabod."

And it was. All that day Westover flocked to the little office, where the three tin boxes served out the tickets. Mr. Jacklaw bought one ticket—a two-dollar ticket—at a venture; number 31177113.

"Dividends will be declared in three days, gentlemen," said Peter at the hotel that night. "The regular monthly drawing will take place tomorrow at—you'll all win, gentlemen; you can't lose—no."

"It's great," observed Bill; and Westover sighed.

"What's your number, deacon?" asked Mr. Jacklaw, after Peter had left.

"123456," said the deacon.

"Mine's 654321," asserted Ajax Mosby. Westover sat agape; for some things are understood even in Westover.

"You don't say," whistled Bill.

"Thet's nothin'" inserted the hotel clerk. "Mine's 111111."

"It all sounds baloonish tuh me," complained Willoughby Wibbs.

Things were doing in Westover after that, and the three little birds were on the wing. Peter wired to his confidant in New York.

"Celestine," it ran, "come quick. They bit hard, and there's going to be a splash."

There *was* going to be a splash. The tin boxes knew it, and Westover knew it. On the third day the winning num-

bers were proclaimed at the office of the Lotteria Mexicano. Mr. Jacklaw won a capital prize of $1,500, Ajax won his $2 back, while Willoughby Wibbs, who had plunged ten tickets strong, lost $20. At once the inconsistency of the lottery deal caused a widespread hullabaloo. And Celestine? She arrived just in time.

She came down in her automobile, did she, a dainty little thing, a singular combination of prima donna and the gay fashion plates of enviable Paree. She had an abundance of rich, dark hair, and dark eyes that sparkled in the lamp glare, while upon her small feet she wore those dainty Cinderellas of which Paris alone may boast—those of the six-inch heel in height. She reminded one of the lime light, did Celestine. She may have been French, or she may have been German, or she may have been a daughter of sunny Italy, but it is certain she was Celestine.

She met Peter in the office of the hotel, and they talked it over. "Well, Snooky," says she, "so they bit?"

"Yes, Celestine, they bit. They swarmed, they flocked there, like flies upon a well-sugared moonbeam. Did you come in your auto car, Celestine?"

"Yes," she said.

"And did you bring your steamer trunk?"

"Gadzooks, yes," she returned. "I brought everything, myself included. I brought the world with me—New York, Atlantic City, Long Branch, Coney; let me see, everything except my dressmaker. I did not care for her. She is consulting her lawyers in Fifth avenue. I owe her a—a—small sum."

"Well, then, to the point," continued Peter hastily. "Jacklaw was *fortunate* enough to win the capital $1,500. Now, Celestine, you suggest a quiet little game with Mr. Jacklaw this evening. You can teach him the difference between four aces and a ten spot—the fine, subtle art of cards, you know. For Celestine, we must let him down easy, you know. And while you are enacting the *denouement*, we, old Ichabod, Jimmy and myself, will deliver the prologue of another comedy, Celestine, in some delicate little hamlet not far away. You understand?"

Celestine understood; and so did Mr. Jacklaw understand, for he had been behind the desk in the Palace Hotel, and he had heard all.

That evening when Celestine broached the subject of cards, Mr. Jacklaw jumped at the idea, for somewhere he saw a favorable ray of light. On a little oaken table in the hotel they played, Celestine having taken from her hand-bag pile on pile of crisp, green paper, presumably to spend the evening in the enjoyment of four aces and a ten. Overhead the old lamp swung, lending a lurid glare upon the scene; while without the frogs sang merrily in the moonlight. Presently Josiah threw a pair, but Celestine doubled with a trio of aces—and still Josiah waited for that anticipated sound.

"It's great fun," smiled Celestine, as she drew.

"Yep; you air a wonderful player," sighed Josiah, showing his hand, "What hev ye got?"

"Four aces."

"Why, thet's strange," said Josiah, "I've got one myself."

"Why—why—there must have been fifty-three in the deck," laughingly stammered Celestine.

Suddenly there was a volley of pistol shots in the little street. Celestine sprang from her chair and rushed to the window. "What is that—that noise?" she cried. An auto car flew by at a 2:40 clip.

"Thet's the new shootin' gallery," said Josiah, preparing to vanish into a big safe behind him with the currency.

But just then—Celestine turned. "Mr. Jacklaw!" Josiah replaced the currency.

"For the sake of the game?" he said.

"Sh—sh—sh—sh," breathed Celestine," as she walked stealthily back to the table. "I'm a detective." Josiah took out his notebook.

"You don't say," he said.

"Yes."

"It's simply stupendous. But how did ye work it?"

"It was easy. They took me into their confidence in New York. When they left, I left—soon after."

"But your auto car?" asked Josiah.

"They will be stopped by the authorities in twenty minutes."

"But would you mind tellin' me where you had that other ace?" asked Mr. Jacklaw.

"That," said Celestine, as she tendered Josiah his $1,500, "*that* is the subtle, subtle art of the ten spot and the ace."

"Gosh," sighed Mr. Jacklaw the next morning, "she is a wonder."

GEORGE FREDERIC PATTON.

THE SANTA FE TRAIL

The Santa Fe Trail is a subject of so much historical importance and of special local interest to the people of the Middle West, that we should all know a few of the most important facts about this famous roadway.

At the present time there is a revival of interest in the old Trail being shown in Kansas City and along its course through Kansas. The interest shown now is, probably, due to the fact that the people have come to realize that the memory of the Santa Fe Trail should be perpetuated in the Westerner's mind. Our city has adopted a plan with this purpose in view. The plan is to place small stone tablets marking the course of the Trail through this city. In some parts of Kansas the school children of the various districts along the Trail have already marked its course in this manner.

The history of the Trail begins much earlier than most people think. There have been found, in Spain, some papers which disclose many facts about the expedition of De Soto, Coronado, and the other Spanish explorers of the sixteenth century. In these papers are found unmistakable descriptions of places along what came to be known as the Santa Fe Trail through Kansas, thus showing that the Trail was traversed, in part, by these earliest of explorers. The fact that the Trail is a natural highway is brought out by this, for these explorers in their wanderings would not likely have followed its course as closely as they did if kind nature had not made it the shortest and best way to travel to the West.

Between the time of the early Spanish explorers and the beginning of the trade with Santa Fe—a period of almost

three centuries—there is very little history of the Trail recorded.

In 1822 begins the era which is of most interest to us. We will call it the commercial era, for this was the time when the traders and their caravans played their part in the history of the Trail. In the early twenties the trade with Santa Fe became quite extensive. The original starting point of the Trail was Independence, Mo. Boats brought the merchandise up the Missouri river from St. Louis and landed it at Independence. It was there put on pack horses, mules, or oxen, as the case might be, and taken to Westport. At Westport several traders generally united their trains so that they could defend themselves better from Indian attacks. In 1826 the boat-landing at Independence was washed away. It was then decided to build the new boat-landing nearer Westport, for that place had become the general headquarters for traders who were starting for Santa Fe. The place selected was called Westport Landing and was situated at what is now the foot of Main street of this city. By placing the landing there it was almost certain that a prosperous town would spring up around it, for it was practically the gateway to the West.

Until 1828 it had been thought impossible to travel over the trail by wagon, but in that year a wagon train succeeded in safely reaching Santa Fe. This revolutionized the mode of travel along the Trail, for from that time on wagons rapidly took the place of the pack animals. In a few years the high box prairie schooner, the vehicle that we always think of with reference as regards the early pioneer days, came into extensive use.

The Santa Fe Trail was not exclusively a commercial roadway, but was quite often used by different companies of people moving westward to seek their fortunes or new homes. In the early forties the Mormons in great numbers left Illinois, crossed Missouri and followed the Santa Fe Trail until they came into the southern part of Colorado. There they branched off its course and went up into Utah.

During the rush to the California gold fields, the largest number of emigrants traveled over the Trail. It is said that during that time there was almost a continual stream of wagons along the course of the Trail.

But advancement would not always allow the Trail to remain the main highway of commerce, and soon put in its place the Santa Fe Railway, which follows very closely the course of the Trail. As the railroad advanced the Trail rapidly became a thing of the past, but the memory of it did not die in the minds of those who had traversed its long and weary course.

How wonderful and almost impossible it would have seemed to a Santa Fe trader that he should some day be able to travel forty miles an hour instead of forty miles a day; that he could eat his meals in a luxuriously-equipped dining car instead of in a rough frontier fashion; that a berth in a Pullman would be at his disposal instead of sleeping on the hard camp bed.

The advancement of the railroad did much to forward the building up of the West, but the Santa Fe Trail did its share also, and its memory should live with us who reap the benefit from it, for all time.

WM. B. FULLERTON, '05.

THE FINAL VERDICT

At the sound of a distant locomotive whistle Dixon Montgomery arose hastily from his chair, closed his big roller-top desk with a slam, and walked rapidly down the road to the village station. The crowd had already gathered on the platform to await the arrival of the evening train. Meeting the train was about the only thing Peacetown did *en masse*, and there was nothing that would bring out more of its inhabitants, with the possible exception of a fire or a patent-medicine show. Each evening at five-forty nearly the entire populace gathered on the platform in front of the little brick "depot." Everyone knew everyone else, so beside the relief from the monotony of their every-day life, this meeting was a kind of social event.

But our friend Montgomery did not go to the station to mingle with these townspeople, for it was a noticeable fact that the neat, keen-eyed, and stalwart young man had little dealings with them. Ever since his coming to Peacetown, some six months before, Dixon Montgomery had held himself strangely aloof from his neighbors. Burdened with some affairs of the heart, and with very little money in his own right, he had left college in his Junior year to make a name for himself in the outside world. He had chosen this particular town because of its somewhat suggestive name. Tired of the bustle of an Eastern college life, he was more than glad to take up his abode in the quiet village, where he could live and let live. Here he could study undisturbed. Besides the place offered an opportunity in a business way, for our hero had accepted the position of editor of the Peacetown *Bugle*. It was in this capacity that he made his daily trips to the station, for you should bear in mind that the staff of the *Bugle* was limited and the "editor" generally performed all labor required in connection with the paper, from the cleaning of the presses to the gathering of news items. Therefore Montgomery's trips to meet the "five-forty" were made to see what little of mankind passed through the town, rather than the number which congregated in it.

All alone he stood far down at the very end of the long platform, watching the glimmer of the distant headlight as the train swung around the curve. As the locomotive whistled for the station the chattering villagers became strangely quiet. Dixon turned towards them for a moment. What a motley crew it was, all craning their necks and peering anxiously down the track! "If a modern auto had suddenly found its way into the presence of primitive man, he could scarcely have appeared more interested than do those Peacetown folks at the approach of the train," once wrote Dixon to his chum in Princeton.

No, they were not his kind he told himself upon his arrival at Peacetown; and he would mingle with them no more than he was obliged to. And six months had scarcely changed his views concerning his fellow-men. They were good, wholesome people, no doubt, but their quaint rural ways failed to interest this snappy, up-to-date young man just out of college. Of course, it was to his advantage to study them and their ways, but as far as possible he would do so from a distance.

So about "the young fellow from college" there hung a mystery. He was straightforward, courteous and honest, as far as they knew, and Peacetown admired his snappy, business-like ways, but they had early learned that he wished to be left to himself.

While the train stood puffing before the depot, Montgomery stood meditatively smoking a cigar, with an air of unconcern, while he watched the expressman load crates of fruit into the express car. The passengers had alighted and most of the crowd had already left the station. The conductor in charge signaled "all right" to his engineer, and as the train moved slowly forward again Montgomery tossed aside his cigar and walked briskly up the platform. He paused a moment outside the waiting-room, and heard a clear feminine voice say to the agent: "Yes, two suit-cases and one telescope." At the same time a tall stranger with piercing black eyes emerged from the baggage room and swung upon the rear Pullman of the departing train.

. . . . . .

Although Dixon Montgomery did not board at the "Peacetown Palace," as the only hotel in the village was called, he usually waited in its office and amused himself by reading his own editorials in the *Bugle*, while waiting for the evening mail to be distributed. Whether Dixon mingled with these village folk or not, he had learned their whims and characteristics and could write them up in great style.

"Rather nice-lookin' girl in on the train, Montgomery," observed the hotel clerk.

"Yes?" answered Dixon, disinterestedly, not looking up from his paper.

"Bet your life," replied the clerk. "Didn't you see her?"

"Guess not."

"Tall, dark brown hair, brown eyes. Walks about like a queen. Queer you didn't notice her. Hails from your part of the country, too, I reckon."

"That so?" responded Dixon, amiably. The clerk bored him a little less than some of the others of Peacetown.

"Yep, she—"

But a feminine voice interrupted him:

"Has my baggage arrived?"

At the sound of the voice Dixon dropped his paper and sprang to his feet, his heart beating most rapidly. Turning, he looked into a face that he had not seen for nearly a year—except in his dreams. He started forward, but the look he received checked him, and with difficulty he retained his composure. The big brown eyes had looked into his own grey ones with no expression of surprise, or even of recognition. Yes, she had looked calmly, fearlessly for just the fractional part of a second, then she turned to the clerk. It was clear to the disinterested party that she had not recognized Montgomery.

Dixon Montgomery drew himself up to his full height and awkwardly strode from the room. Would she never forgive his boyish temper? Could she never forget her last words: "Never again speak to me, Dixon Montgomery, until I bid you!" And the thought of his own retort—"I wouldn't wish to"—now cut him to the quick. Eleven months had passed and yet seemingly she had not forgotten or forgiven.

. . . . . .

"Well, I'm in an awful scrape sure—or at least the railroad agent is," announced Jarvis, the hotel clerk, to Mont-

gomery the next morning. Dixon had passed a sleepless night and had come over to the hotel early.

"That so?" he inquired, carelessly.

"Yep; the good-lookin' girl you ran from last night has a temper, too. Dixon looked at his interlocutor sharply. "You see, they threw off the wrong baggage for her. She's got a couple of suit-cases that she won't have, and hers are somewhere between here and Springfield, I suppose. That depot agent says he's sent about fifty telegrams but can't hear of anyone getting the wrong luggage. Meanwhile our friend, Miss Lorimer, continues to wear her traveling suit.

"But I can't see how you are in a scrape," said Dixon.

"Well, perhaps I ain't, but I paid a nigger fifty cents to lug this luggage up here and now I can't get rid of it. Sure I don't want it. Might contain dynamite."

Montgomery tossed him a half-dollar.

"Send the traps over to my room," he said. "I'll hold them until you find a claimant."

At this juncture a figure in a blue traveling gown appeared in the doorway. She gave Montgomery no notice except for a casual glance.

"No news from the railroad people concerning my baggage?" she inquired of the clerk.

He shook his head negatively.

"Nor none from Uncle Hiram? I can't understand why he doesn't come. He should have been in last night."

. . . . . .

As Hiram Hurst arose from his breakfast table one morning two weeks later, he turned to his pretty niece. "I've got to drive into Peacetown this morning, Margaret. Would you like to go?"

"Yes, indeed, uncle."

"Perhaps you will see that good-looking stranger you were tellin' us about. The United States marshal is down holding a special term of court. They are trying your fine lookin' stranger for being an accomplice to a gang of counterfeiters. His room was searched the other night, and in it were found two valises containing counterfeit bills exactly like the ones that have been circulated in these parts lately. So I suppose Mr. Dixon Montgomery, late editor of the *Bugle*, will probably have to go to the pen. But what's the matter, Maggie?"

The girl had sunk into a chair and was turning red and white by turns.

"Oh, nothing—only he didn't—I'm sure he didn't—what did you say his name was, uncle?"

"Montgomery—Dixon Montgomery. You don't know him, do you?"

She gasped.

"N-no, only I'm sure he couldn't do anything so bad as that." She was calmer now.

"Don't be too sure, Maggie. The good-lookin' chaps are not always the best."

"Uncle, will you do something for me?" she asked presently.

"Anything," he replied indulgently.

"I want you to take me to that trial."

"So interested as all that?"

Margaret hesitated. She thought of making a full confession to her uncle of all she knew of Dixon Montgomery and how the baggage happened to be in Montgomery's possession, but decided to wait. So she answered: "No; but you see I never had the chance before to see a real trial and this one promises to be interesting."

. . . . . .

The State had made a strong case and there was little doubt that one Dixon Montgomery would be convicted. A few citizens had testified on behalf of the defense as to Dixon's character, but as to his past life they of course knew nothing. The facts brought out by the prosecution, that the young man had lived much to himself, was known to carry bills of a large denomination about his person, that he had seemed overanxious to secure the valises and that they contained bad money such as was being circulated, seemed to have much weight with the jury. In his closing argument the attorney for the defense of course called the jury's attention to the fact that nearly all the evidence brought out by the prosecution was circumstantial evidence and upon such evidence it would not be just to convict the defendant, but all in all he had made such a weak case, there was small chance for an acquittal. The young man testified on his own behalf, but was indifferent and his testimony carried little weight. And he had no friends to help him out.

The judge arose to give his instructions to the jury, and at the same time Hiram Hurst was seen to arise and whisper something in the ear of the attorney for the defense.

"Your honor," said that lawyer, "if it is not too late I should like to call another witness, who has just arrived."

"We object," said the prosecuting attorney; "the defense has rested its case. The evidence is supposed to be all in, your honor."

"The objection is over-ruled," said the court. "I am informed that this witness is an important one, and that she arrived too late to testify at the time the defense desired to call her."

As pretty Margaret Lorimer came forward, Dixon Montgomery half arose from his seat, then remembering, he sank back wearily. It was the first time that the defendant had given signs of interest in anything about him since the trial began.

"Your honor," she said in a low tone, clear, but dignified, "this gentleman is wrongfully accused—"

"Now we object to that, your honor," interrupted the attorney for the prosecution. "The witness should answer only upon being questioned."

The objection was sustained.

"Please tell what you know of the character and family of Dixon Montgomery," requested the attorney for the defense.

"I knew him at college," she continued, looking straight ahead and speaking slowly. "I knew his father; he belongs to one of the first families in the land; they are noble people. He is so good, and brave and true"—she was almost pleading, pleading for the man whom she was thought to despise—"he could not be guilty."

The witness was shown the suit-cases which had been found in the possession of Montgomery.

"Have you ever seen these before?" she was asked.

"I have," came the reply in calm, clear tones; "they both belong to me. If they contain counterfeit currency, then I am the one you seek, and not Dixon Montgomery."

The court was astounded, and the old sheriff could not believe he had heard aright.

The United States attorney arose, but he could not be heard above the din in the court room, so excited was the crowd.

"Please restore order, Mr. Sheriff," commanded the court.

"May it please your honor, the State desires to dismiss the case. For grounds, I offer this telegram just received from our secret service at Springfield:

"'Dismiss case of State *vs.* Montgomery; have captured owner of valises.'"

. . . . . .

A few days later another message passed over the wires. It may be of interest to us:

"To Wm. A. Dunlap, Princeton University:
"Margaret and I have patched it up. Congratulations in order.

"DIXIE."

VICTOR CHARPIOT

EDITORS

DOROTHY HOPKINS

THE MAGIC SQUARE

Few people stop to think of the wonderful part mathematics has played in the development of civilization. Without its aid the engineering feats, that cause the world's inhabitants to pause in admiration, would be impossible. When this fact is taken into consideration, is it at all astonishing that the early thinkers often attributed magic powers to numbers and geometrical figures? For example the magic squares led many of the ancient mathematicians to believe in mysticism. Note in Fig. 1 the oldest and most simple of magic squares. The sum of the numbers in each horizontal, vertical, or diagonal row is the same. The numbers 1 to 9 inclusive are all used and each unmber is used but once.

2	7	6
9	5	1
4	3	8

Fig. 1

It is an interesting recreation to rearrange the above numbers, keeping the sum 15. You may soon discover that 5 must stand in the middle space and that even numbers must occupy the corners.

The magic square, like chess and many problems founded on the chess board, owes its origin to Indian soil. One is found on one of the gates of the fortifications in the East Indian city of Gwaloir. From its birthplace it reached the Roman Orient by means of the Arabs. It was later investigated and further developed by the scholars of Western Europe. The first magic square met with in the Christian Occident is one found in a painting entitled "Melancholia," painted by the famous Nuremberg artist, Albrecht Durer. Fig. 2 is the square referred to. The magic squares of India were of the odd order, while the one found in Durer's painting is of the even order.

1	14	15	4
12	7	6	9
8	11	10	5
13	2	3	16

Fig. 2

The magic square was introduced into Europe in the early part of the fifteenth century by Moschopulus, who resided at Constantinople. Under him it was greatly developed. In his definition he says: "A magic square consists of a number of intergers arranged in the form of a square so that the sum of the numbers in every row, in every column and every diagonal, is the same."

The Hindu rule for the construction of magic squares whose roots are odd, may be enunciated as follows: "To start with, write 1 in the center of the topmost row, then write 2 in the lowest space of the vertical column next adjacent to the right, and then so inscribe the remaining numbers in their natural order in the spaces diagonally upwards towards the right, that on reaching the right hand margin the inscription shall be continued from the left-hand margin in the row just above, and on reaching the upper margin shall be continued from the lower margin in the column next adjacent to the right, noting that whenever we are arrested in our progress by a space already occupied we are to fill out the space next beneath the one we have last filled." Note Fig. 3. A square of 7 by 7 spaces is formed by this rule. It will be very interesting for the reader to now form magic squares of 9 by 9, 5 by 5, 3 by 3, etc. spaces.

175 175

30	39	48	1	10	19	28	175
38	47	7	9	18	27	29	175
46	6	8	17	26	35	37	175
5	14	16	25	34	36	45	175
13	15	24	33	42	44	4	175
21	23	32	41	43	3	12	175
22	31	40	49	2	11	20	175
175	175	175	175	175	175	175	

Fig. 3

Many of the physicians and astrologers of the sixteenth century were much

impressed with the magic squares, especially Cornelius Agrippa (1456-1535). He constructed squares of the orders 3, 4, 5, 6, 7, 8, and 9. These were associated with seven astrological "planets"; namely, Saturn, Jupiter, Mars, the Sun, Venus, Mercury, and the Moon. He taught that a square of one space in which unity was inserted represented the eternity and unity of God; while the fact that squares of the *second order could not be constructed*, illustrated the imperfection of four elements—air, fire, water and the earth. Later writers added that it was symbolical of original sin. The magic square was worn as an ornament or charm to keep away plagues; it is still worn for this reason by many of the superstitious Turks.

The development of the theory of the magic square was due chiefly to the French. Bachet gave a rule for the construction of squares of the odd order, similar to that of Moschopulus. While the formation of squares of the even order was considered by Fremile and Fermat, the theory was later continued by De le Hire and others, it having attracted slight attention from Euler. The theory as it then existed was published in an elaborate work in 1837 by Bachet.

Ere this the question has probably arisen in the reader's mind as to what is the difference between an odd ordered and even ordered square. Owing to the complexity of the construction of the even ordered square only the formation of the odd will be taken up. Let it suffice to say that the difference is that an odd square has an odd number of spaces and the even an even number of spaces.

The best known of the various methods of constructing magic squares of an odd number of cells is the following: "First write the numbers in diagonal succession as in the above diagram (Fig. 4). After 25 cells of the square of 49 cells which we have to fill out have thus been occupied, transfer the six figures found outside each side of the square, without changing their configuration,

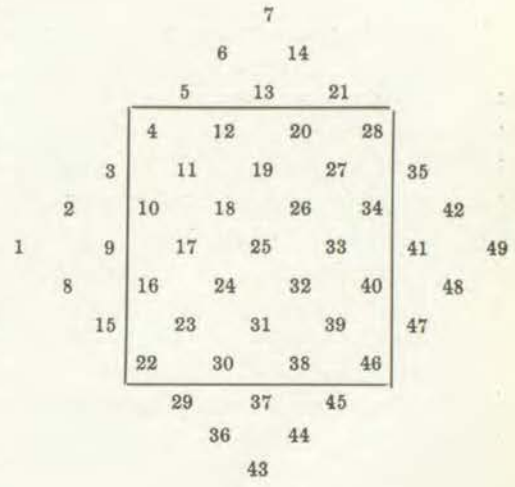


Fig. 4

into the empty spaces of the side directly opposite." By this method, which we owe to Bachet, we obtain the following magic square of the numbers from 1 to 49:

4	29	12	37	20	45	28
35	11	36	19	44	27	3
10	42	18	43	26	2	34
41	17	49	25	1	33	9
16	48	24	7	32	8	40
47	23	6	31	14	39	15
22	5	30	13	38	21	46

Fig. 5

To those further interested a full treatment of magic squares may be found in "Mathematical Essays and Recreations" by Herman Schubert, and "Mathematical Recreations and Problems" by Prof. W. W. R. Ball. From these essays much of the material for this article was obtained.

EDWIN PIERCE.

CONCERNING SLEEP

Sleep! A very common thing and yet how little we all think about it! It is such an ordinary occurrence that we take it that it does not need consideration. It does, though, for many things still remain to be found out concerning it. Less is known concerning it than is generally supposed. Many interesting and valuable facts have been brought forth by experiments, but the exact nature of sleep is still unknown. Even the theory as to its cause cannot be said to be a well-established one. Experiments made upon animals, including man, have proved false the old theory that the cause of sleep is the congestion of blood in the blood-vessels of the brain and at the same time shown that the opposite is more apt to be the case. One theory held at the present time is that the cause of sleep is the *removal* of blood from the brain. It has been thought that even this may be the effect and not the cause. That it has something to do with sleep is practically an established fact, for observations have been made upon people whose brains have been partially uncovered by accidents and these show that the brain becomes pale and contracts to a certain extent during sleep. The contraction, in one experiment, measured one millimeter, and at the moment of waking, the brain was seen to expand and grow redder. Exact measurements of the limbs taken during sleep have shown them to exceed those taken in the waking period, thus accounting for the blood that is taken from the brain and furnishing further evidence in support of this theory. The expansion of the limbs is in proportion to the depth of sleep, the latter being measured by the intensity of the noise used to waken the sleeper.

Sleep is necessary when fatigue overtakes us. Then, as our mental and physical powers become more developed and we become more inured to continual strains, sleep should become less and less of a necessity. A baby, a savage, or a person with limited mental powers needs more sleep than a person with a large mental capacity, because his mind is not accustomed to continued strains. On the other hand, Napoleon, for instance, with his highly-developed mental powers, took but very little rest, and the same was true of the Duke of Wellington. Goethe, Schiller, and Frederick the Great are said to have averaged but four or five hours a day in the time given for sleep. Probably the average amount that people take is about eight hours, and without much doubt many of us, especially while young, should take more than that. Many persons can sleep ten hours a day regularly. One man—a physician—believed in the theory that sleep is the principal condition of life and that action is merely a minor condition. He accordingly took eighteen hours a day for sleep. He died of apoplexy, and it has been asserted that excessive sleep is one cause of this disease.

Science asks, "Is sleep a vital necessity?" At the present time it is; but if the saying "Practice makes perfect" holds true, it is only a question of time when our minds and bodies will be developed to such a degree that sleep will be unnecessary, at least to a great number of people. Probably disease will always continue to a certain extent, which

would prevent the development of some to the degree where sleep would be unneccessary. That future time, however, when such a condition may be possible is estimated at several hundred thousand years, so that the solution of other questions about sleep is of more practical value to the present generation that this one.

Is sleep the stopping of the work of our brains and muscles? It cannot be said to be the complete stopping of one or the other. If this were so, how would activities during sleep, such as walking and talking, be accounted for? Cowboys have slept in their saddles and soldiers have slept while marching.

The relation of men and women in the matter of sleep activities has been shown to some extent by experiments made upon two hundred college students of both sexes. These showed that forty-one per cent of the men and thirty-seven per cent of the women talk in their sleep; that, of these, one-third of the men and one-half of the women could answer questions; and that more women than men could answer questions upon any subject, regardless of what they were talking about. The answer to the question, "Why these differences?" should be interesting.

Tests made with chloroform upon sleeping persons have shown that it is impossible for an inexperienced hand to chloroform the sleeper. We occasionally read in the newspaper of a burglar administering chloroform to a sleeping person. In all probability he did not do so at all. People have been carried from natural sleep into chloroform sleep without being wakened, but such cases are quite exceptional, even when managed by an experienced man, and it is quite unlikely that the average burglar could chloroform anyone without awakening him.

The recuperative power of sleep is well and simply shown by the microscopic examination of the brain cells of animals before sleep and again after sleep. A decided difference is noticed. After sleep the cells appear much more sharply defined than they were previous to sleep, the contents of the cell—both nucleus and protoplasm—standing out much clearer.

Of the phenomena of sleep, dreams form one of the most interesting. Owing to the inaccessibility of the subject, the precise nature of dreams is not known. In creating dreams, the brain remains partially active and the odd character of some of our dreams is due to the fact that it does not remain *wholly* active. For instance, the faculty of consciousness may remain partly active while the faculty of judgment is deadened. In such a case, consciousness would furnish the material but judgment would not be present to select it—the result being a "patch-work dream." We may dream about things with which we have had no experience or connection for years and which we may have entirely forgotten, but it is thought that every dream must have its basis in experience.

To a certain extent, the character of dreams can be controlled. The occupation of the individual, or even the conditions under which he sleeps, will sometimes affect his dreams. The administration of certain drugs, notably opium, causes very pleasant dreams. Then, too, it is said that a certain amount of alcohol will cause one to see snakes.

Things which have puzzled people in their waking hours have been solved in their dreams. Many well-known au-

thors have made good use in their writings of the things suggested in dreams. It does, however, seem rather ridiculous for one to eat indigestible foods before retiring for the purpose of producing dreams from which materials for stories may be obtained. Mrs. Radcliffe, the author, did this, and Dryden used to eat raw meat before going to bed for the same purpose.

But, outside of the scientific facts in the case, sleep is a great pleasure. Possibly some of us do not regard it as such. If so, we see the matter in the wrong light. How does it appear when we have to get up at six o'clock in the morning after getting to bed at about one the same morning? Looking at it in this way will probably convince most of us that sleep is decidedly a pleasure and that, after all, sleeping late on Saturday mornings is a privilege to be envied by those who cannot experience it.

HOWARD PARET.

VENUS, THE MORNING AND EVENING STAR

None of us who have been out of doors within three hours after the sun has set, for the last two months, could have failed to notice the two bright planets in the western portion of the sky. One of these planets is Jupiter; the other, which is the brighter of the two at this time of year, and the subject of this paper, is Venus.

People of all times and rank, from the grave philosopher to the free and happy country boy, have viewed with pleasure and delight this planet; because whether we examine it with telescope or the naked eye it is a very lovely and interesting object and "as long as it exists will it continue to command the admiration of the people."

Venus is never seen in the midnight sky nor does she ever rise in the east while the sun sets in the west. She is alternately a morning and evening star, being usually visible for about three hours after the sun has set and as long before sunrise.

The ancients, as a morning star, termed her Phosphorus and Lucifer, and as an evening star, Hesperus and Vesper. The Greek word Phosphorus, which means light-bringer, alludes to the office of the planet, when, rising before the sun, she ushers in the day. Thus we meet the Roman expression "O Lucifer, restore the day." Homer compares the son of Hector, the noblest character of the Iliad, to the morning star Venus, and the point of the spear of Achilles to the keen light of radiant Hesper.

The distance of Venus from the sun is about sixty-eight million miles. The planet is somewhat smaller than the earth, its diameter being 7,700 miles. Some of the latest observations have convinced many astronomers that the period of rotation of Venus is about 225 days, so that day and night, if these recognitions may be relied upon, last many years. We never see her in all her lustre because when the whole of her illuminated hemisphere is turned towards us she is either behind the sun or so near him as to be hidden by the intensity of his light. When Venus is nearest to the earth the darkened portion of her globe is turned towards us. If it were her enlightened half which were turned towards us while in this

position, she would appear to be a small, brilliant moon, with twenty times her ordinary lustre; for as we behold her at the present time she is something approaching one hundred and thirty million miles further from us than when she is nearest.

Owing to the intense brightness with which Venus shines, we know little of her physical constitution. We have good reason to believe, however, that she is surrounded by a considerable atmosphere; one reason being that a faint radiance has been observed to stretch beyond her directly illuminated hemisphere. At times spots have been noticed for a short time in her bright light, leading to the conclusion that in her atmosphere there are vapors and clouds. How could these be formed without the presence of water on her surface? We may infer that she has mountains from the fact that the edge of her enlightened part seems to be shaded, and that the horns of her crescent are sometimes obtuse and present a luminous point apparently detached from the planet. This last is probably due to the sun shining upon the top of a high mountain after he is invisible to the rest of that hemisphere.

If these suppositions are true—and we have good reasons to believe they are—the physical constitution of Venus is very much like that of the earth. As it is, however, she is the most radiant of the "host of stars" and our favorite among them.

J. W. BODMAN.

ARCHIMEDES

Archimedes, the most renowned of ancient mathematicians, was born at Syracuse, Sicily, in the year 287 B. C. Although a relative of King Hiero, he never accepted any official responsibilities, devoting his entire time to science. According to the custom of the times he was sent to Alexander, and there educated.

'Tis upon Archimedes that modern mathematicians base many of their theorems and proofs. Among these, his method of determining the areas of curved surfaces and solids is one of the most important. He also proved the area of a circle equal to that of a right triangle having the circumference equal to the length of the base, and the radius equal to its altitude. The area of a segment of a parabola he demonstrated to be equal to two-thirds that of the enclosing parallelogram.

Archimedes gaves many valuable ideas to mechanics. He invented a screw—called after him "Archimedes' screw"—whereby water is made to ascend by its own gravity. At another time, while working with levers, he grew so enthusiastic over his newly discovered theorem that he exclaimed, "Give me a fulcrum and I will move the earth." While bathing one day, he found that a body immersed in a liquid, is buoyed up by a force equal to the weight of the liquid displaced; by this principle he proved the gold of Hiero's crown to be an alloy.

He wrote several estimable treatises, viz.: "On the Measurement of the Circle," "On the Quadrature of the Parabola," "On the Sphere and Cylinder," On Conoids and Spheroids," and "On Spirals." Several of these he addressed to learned men of the day, throughout

them mis-stating the results in order to see if they could follow him, or if their knowledge was merely superficial. It is said even modern mathematicians are unable to fathom his "Spirals."

The latter part of his life was devoted to resisting the attacks of the Romans on Syracuse. Among the various devices he employed, there is said to have been an instrument whereby he concentrated the rays of the sun in such a manner as to set fire to the Roman ships.

One day, in the year 212 B. C., he was intently studying some figures, which he had drawn in the sand before him, when a Roman soldier confronted him. Being fearful lest the soldier should obliterate his drawings, he ordered him to begone. Naturally, the soldier resented this, and angrily slew him, although an order had previously been issued to spare his life under any circumstances.

Over his grave the Romans erected a handsome monument, upon which was engraved a sphere inscribed in a cylinder, to commemorate his discovery that the volume of the inscribed sphere is two-thirds that of the cylinder, and also that the area of the surface of the sphere is equal to that of four great circles.

REEVE PARK, '06.

NOISE VERSUS MUSIC

"What a noise these cars make!" I remarked to my companion as we walked along the street.

The staid Senior had taken physics, and, as I thought then, to show off her knowledge, poured into my unbelieving ears an impromptu lecture on sound, trying to convince me that what I had called noise was in reality only an inharmonious combination of musical sounds. But I could not be convinced. So the Senior lost her patience, and, as we were nearing the school, she referred me to the physics teacher. When the hour came which I usually spent in study hall I hunted up the instructor and brought up the question. He was busy, but he gave me a physics text-book and a set of queer hollow brass spheres of different sizes, opened a window near the car tracks, and left me to find out by experiment what I could not be made to believe by words.

The brass spheres with short tubes on opposite sides were as new to me as they would be to many of you. But the instructor had called them resonators, so I looked in the text-book and found that they are called Helmholtz resonators, from Von Helmholtz, who devised them; that they are used to pick out the tones in a composite sound; and that they may be made of glass as well as brass, as their pitch depends on their size. The tubes which had puzzled me were also explained. The larger opening is the mouth of the resonator, while the smaller one fits in the ear.

The book said: "When one of them is held to the ear, it strongly re-enforces any sound agreeing with it in pitch, but is silent to others." So, having read all the book contained on that subject, I began to experiment. I picked one up and tried it, and out of the noise of two passing cars and at least half a dozen wagons came a pure, clear musical tone. I put the sphere down and as soon as I could "hear myself think" I decided that I could never find out whether it was cars or wagons that contained the tone unless I took them one at a time. I was

fully convinced that the tone of middle C was in the combination, but my curiosity was aroused as to its strength in the single noises. I waited patiently until a single car went by and tried the same sphere again. It was evident that C was very prominent in the noise made by the cars. I tried E on the next car and heard a faint tone in that. As I became more used to the sounds and more accustomed to the shape of the resonators, I could try two of them on the same car if it stopped before the school. I sat there until I had tried all of the resonators in the laboratory, and I found that the street car's noise contained all but one or two of the notes which I tried. C and G were most prominent and the others were usually distinguishable.

Then I devoted myself to the vehicles which were passing. It was rather difficult to find a moment when no car was in sight and when carriages or wagons were passing. The country wagon, with the farmer and his wife on the seat and their daughter bouncing around in the back on a seat of straw, made a sound which contained more musical notes than did the rubber tired trap with the driver on the box and his mistress sitting in state on the back seat, but only because it made more noise. The sand wagon's predominating tone was E, while the clanking chains on the lumber wagon contained a note which time did not allow me to distinguish.

The bell rang and the people in the room above pushed back their stools with a noise which caused the G resonator, which I happened to be using, to sound loudly, and I thought to myself, "So even that distressing noise contains music. I wonder if there's any sound that doesn't?" and went away thoroughly satisfied that noise is but an unharmonious blending of musical tones.

HELEN J. FILLEY.

SCIENCE BREVITIES

HOW WILL IT END?

Magazines all over the country have been discussing the destruction of Niagara Falls, which seems imminent. The success of the first plant for utilizing the fall to generate electricity has caused others to spring up until the district around Niagara can boast the largest aggregate horse power in the world. And now, the New York legislature has practically authorized the construction of the largest plant of all—to aggregate over 400,000 horse power. If one can imagine eighty such giant engines as the one in St. Louis, all ranged in one vast power plant, he will have some idea of the power to be developed.

Probably all our readers know how the fall is utilized. From above the fall a shaft is driven to the level of the river below; big turbines are installed at the bottom of the shafts and a tunnel leads the water away. The turbine's shafts extend to the top of the shaft and are there directly connected with generators. Thus, if the power to be developed becomes great enough, so much water will be diverted into the shafts and tunnels that none will flow over the American Fall at least. The sewage canal at Chicago and the Welland canal also add to the danger.

A NEW CARNATION

Professor Burbank, one of the most distinguished horticulturists of the day, has succeeded in propagating a carnation which changes color according to its age. When the bud first opens it is pure white, this condition lasting for a day. On the second day the color changes to yellow, which in its turn becomes a pale pink, which changes until on the fourth day the flower is a deep red. In this way the age of the carnation may be told at a glance. It may be well for us that some enterprising physician has not discovered a like method for determining the age of persons.

ELECTRICITY VERSUS STEAM

It has been proposed to "electrify" the trans-Siberian railroad. For various reasons, notably the light track and heavy grades in places, its operation by electricity would be unusually advantageous. It is proposed to do the work upon the latest plan, with a high tension transmission line, transformer stations at intervals, and alternating current motors. The power would be supplied by the numerous water powers along the route.

Another instance where electricity is superseding steam is shown in an electric freight boat which has been doing good service lately. The power is supplied by three oil engines coupled to generators. One motor is coupled to each of the three propellers, each generator feeding a motor. By this arrangement a great deal more room is available and superior economy and ease of operation obtained. The equipment cost more than the usual steam motive power, but paid the difference in a few months.

A NEW KIND OF FISHING

There have been many kinds of strange living things brought up out of the sea by means of fishing tackle, but it remained for the enterprising Japanese to start the industry of fishing for old porcelain.

More than a century ago, a large sailing vessel when on its way from Korea to Japan was loaded with a cargo of extremely valuable porcelain. When the vessel was in sight of port, she sank and was not thought of again for a hundred years.

The octopus, or devilfish, are very much in demand as a delicacy in Japan. They like to hide their long soft bodies in a hole, reaching out their arms for their prey. Taking advantage of this the fishermen lowet earthenware pots into the sea into which the devilfish climb and are presently drawn to the surface and secured.

The exact locality of the sunken vessel being known, one day an ingenious Jap fastened a good-sized octopus to a fishing line, lowered it to the depths, and waited. When it was drawn to the surface, lo! it was found to have taken possession of a rare and beautiful piece of pottery! Other people have found out what happened, and now the industry has grown, and is steadily pursued in that locality, until now a large part of the cargo has been recovered.

MANUAL TRAINING

HERBERT HALL

HARRY HAVENS

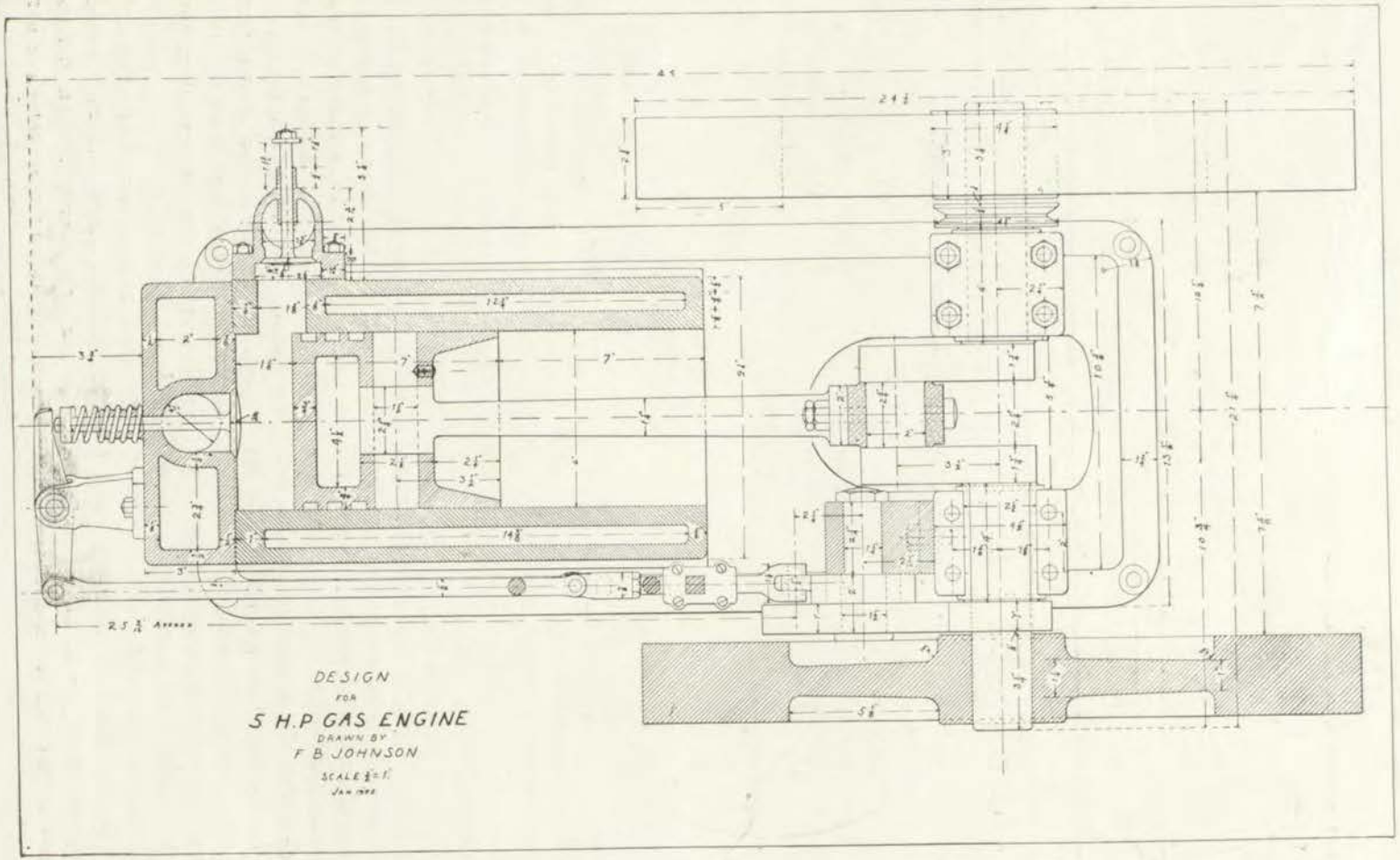
EDITORS

GLADYS COATES

AUXILIARY POWER FOR THE MACHINE SHOP

When anything breaks in the machine shop—a lathe part, or any of the hundreds of parts that go to make up the various machines—it devolves upon the head of that department to see that it is repaired as soon as possible. Most of the time during the week the boys are using all or most of the machines in the shop and, since the other machines must be used to make the broken or worn part of the disabled one, some of the boys must be shifted and their regular work stopped while repairs are being made.

In order that each boy shall put in his full time on his exercises and not be thrown behind the boys working on the alternate day, repairs are usually made on Saturday or on a holiday. When classes are not in the building it is not necessary to run the steam plant for ventilation or lights and on Saturdays is, of course, shut down. But Saturday is the day the shop needs power and the steam plant is started to run probably only one or two lathes. It is not very economical to run a seventy-five horse power engine for two small lathes and,



DESIGN
FOR
5 H.P GAS ENGINE
DRAWN BY
F B JOHNSON
SCALE 1/2 = 1"
JAN 1905

to eliminate this expense, Mr. Cushman conceived the idea of building a gas engine to run the shop on Saturdays and when the steam plant is not regularly in operation.

The success met with in the first half of the year in building a speed lathe demonstrated that the boys, with proper instruction, can turn out a complete machine as well as single exercises, and that a small gas engine would be within the scope of their ability. Accordingly Mr. Cushman designed and had one of the boys make drawings for a five horse power horizontal gas engine, which is now well under way in the shop.

Under Mr. Arrowsmith's direction the patterns have been made, with the exception of a few minor ones, and these will be made by boys taking pattern-making this quarter. The castings for the frame, fly-wheels, cylinder and cylinder head have been made, also most of the brass work. The fly-wheels, cylinder, frame, crank-shaft and all the nuts, bolts and studs are finished, but with the end of the school year so near it is doubtful whether the engine will be completed before vacation begins. However, Mr. Cushman has hopes that it will be in shape to run the shop a short time this summer to make some changes which he contemplates.

With the electric power now supplied and a gas power plant in reserve for use on Saturdays and holidays, the machine shop will be as well equipped in the power line as it is possible to have it.

F. B. JOHNSON.

SEWING MACHINES

Today one is surrounded by many and various inventions, but he hardly realizes their greatness or the many years and sometimes even a lifetime that it took for some men to perfect these wonders. For instance, everyone uses a sewing machine, but does everyone who uses it appreciate its true value or even think of it except as a "means toward an end?"

The many early attempts to do sewing by the use of machinery went on the lines of imitating hand-sewing, and all of these were failures. In 1755, Charles F. Weisenthal patented the invention of a double-pointed needle with an eye in the center. This laid the foundation of machine-sewing. The device was intended to prevent the necessity of removing the needle and then again replacing it in the work. This contrivance was used in a well known embroidery machine of Heilman's.

Thomas Saint, in 1790, secured a patent, in England, for a sewing machine which was to be used, as specified in the patent, for quilting, stitching, or sewing. It was to be used chiefly on leather, for it had an awl which worked vertically up and down and thus formed a hole for the thread. "Had Mr. Saint only discovered the idea of an eye-pointed needle his machine would have been a complete anticipation of the modern chain-stitch machine."

A poor tailor, Barthelemy Thimonier of St. Etienne, was the inventor who devised the first sewing machine that can be called a real working machine. He received his patent in France in 1830. The

machine was rather clumsy, as it was made almost entirely of wood. Notwithstanding this, in 1841, eighty were used in Paris for making army clothing, when one day a very ignorant and furious mob wrecked the establishment and tried, though they were unsuccessful, to murder the inventor.

Nevertheless Mr. Thimonier did not despair and continued to make improvements upon the original machine, until in 1848 he secured a patent in France and the United Kingdom for a new machine. This latter one was a great improvement over the original and it was practically all metal. Nothing came of this invention, however, for in the great exhibition of 1851 it attracted little attention, and the inventor died in 1857 without a reward and without friends.

The important ideas of a double-thread, or lock-stitch, and an eye-pointed needle are distinctly American. But as to whom the credit of these important devices belongs there is a difference of opinion. Some persons claim that Walter Hunt of New York conceived the ideas in about 1832 or 1834, while others declare that Elias Howe of Spencer, Mass., is the real inventor. Unfortunately Mr. Hunt did not try to obtain a patent until after Mr. Howe, in 1846, patented his own machine. Then a patent was refused Mr. Hunt on the grounds of abandonment.

Since Mr. Howe secured a patent for his sewing machine many other men have made machines with varied improvements. Among these other machines are those made by Isaac Merritt Singer, patented in 1851. Mr. Allan B. Wilson, in 1849, devised a rotary hook and bobbin combination, which now is the special feature of the Wheeler & Wilson machines. Mr. Wilson secured a patent for his machine in 1850. It included the important and effective four-motion feed. Mr. William O. Grover, a tailor of Boston, in 1851, received a patent for the double chain-stitch action, which later formed the basis of the Grover & Baker machines. The improved chain-stitch machine which is now known as the Wilcox & Gibbs was invented in 1856, by a Virginia farmer, named Mr. James A. E. Gibbs.

Sewing machines may be devided into four classes. In the first class are those machines which make the through (either continuous or back) stitch. In the second, those making the lock-stitch. In the third, those making a single-thread chain-stitch, either the ordinary crochet stitch, or a twisted one called a twisted loop-stitch. In the fourth class are those machines which make a double-thread loop, or chain-stitch.

Anyone can learn to use a machine, but not everyone uses one properly. One must be careful and skilled in this kind of manual work in order to produce good results, just as anyone must be taught to be painstaking and thorough in order to do neat and pretty hand-sewing.

The Dowager Empress of China has just had an American sewing machine given to her and she is so pleased with it, it is said, that she intends to have regular sewing bees in the palace in Peking, in order that the daughters of all the highest mandarins can come and try their skill on this wonderful machine. The Empress says also that she intends to present every lady at the court with one of these "American Wonders."

So we see that China, although fifty-nine years after the first American sewing machine was patented, is now to appreciate and enjoy one of America's greatest inventions. Therefore should we Americans not give more thought to the wonderful inventions that surround us, and should we not try to appreciate our inventions, our countrymen, and be proud to think that we live in such an enterprising country?

CLARA COMFORT MORRIS, '06.

WHAT MANUAL'S YOUNG MILLINERS ARE DOING

The millinery classes, though interesting the whole year through, are especially so at this season, when spring hats begin to take the places of our winter ones. Not long ago the classes visited a large wholesale millinery store and examined the spring hats and braids to acquaint themselves with the different styles in vogue and to acquire new ideas for making their own spring hats.

Some of the girls made their first spring hats very elaborate, sometimes with horse hair braid, chiffon, and some of the other daintier materials, and made successfully hats that any milliner would be proud to show. Other girls, however, found that there were so many demands for spring hats at home that they could not afford to spend an extra amount of time and money upon any one of them. These hats, though, are made with pretty braids, and are trimmed in that simple but effective manner which one always admires in a milliner's hats.

We have discovered that there is an art in hat-making as well as in anything else. One must use skill and ingenuity to make an attractive hat, and this is what we are learning to do at Manual. Our exhibit of hats in the winter was quite interesting, and we expect the exhibit this spring to be even more of a success; for, where the girls made only one hat in the winter, they are required to make three or more spring hats, which will, of course, be more bright and attractive than were our winter ones.

The manager of a large millinery store said, not long ago, that our hats were made more neatly and substantially than his were, and he asked the privilege of sending women to us to get points from our teachers and pupils in original and fashionable hat-making.

Our millinery work at school will be very helpful to us in the future, cultivating, as it does, our taste for the artistic and harmonious, and this is very essential to every girl who does her own sewing, who tries to be neat and tidy about the dress, and who wishes to become resourceful in making use of the ready materials that are in her reach.

Among the permanent exhibits that we now have on display in the lower corridor, are the millinery note-books that were on exhibition at the World's Fair and which contain photographs of the collection of beautiful hats that were designed and trimmed by Manual's milliners.

RUTH PHILLIPS, '07.

JEWEL'S DINNER

Jewel was decidedly cross. She threw her sewing wrathfully on the grass and tumbled into the hammock under the trees. The trouble was that Jewel had quarreled with her best friend, Betty Marlowe. Betty was plump and rich and pretty, and she and Jewel lived next door to each other. Betty had been sent off to a fashionable boarding school, but Jewel had gone to Manual. The quarrel was very serious, for the girls did not even speak to each other. It was so provoking to have Bobby, Jewel's little brother, call out loudly when the two

girls passed haughtily by each other: "Oh, we never speak when we meet on the street." Jewel had just given Bobby a scolding for doing it.

Suddenly Jewel sat up. She heard Betty's voice on the other side of the high board fence. "Margie, I'm angry!" the voice said. "The kitchen is hot and stuffy, and I've either burnt or ruined everything I have tried to cook. We have got to cook something for Uncle Ned to eat at dinner, so there."

"Perhaps Jewel can help you. She went to Manual, you know," suggested Margie sweetly, as she went on reading.

"Well, I *won't* help Betty Marlowe cook a dinner," muttered Jewel to herself, when she heard what Margie said.

"Yes, indeed," Betty went on, sarcastically. "Of course Jewel will help me! Why, we are not even on speaking terms, I'll have you know. Dear me, how I wish we were. If I had only gone to Manual, I would know how to cook, and could give Uncle Ned a good dinner." Poor, tired Betty's voice choked. She had worked very hard.

Jewel hesitated. She had said she would not speak first, and that Betty must apologize. But she could not bear the tear-choked voice, and so she popped her head over the fence and called out, "Open the gate, Betty dear, and I'll come and cook that dinner right away."

Betty screamed with joy. "You darling," she said. "You see Margie and I are here alone, and Uncle Ned telegraphed that he would be here for dinner. We are afraid that he is cross and old, and so we want to please him. But I can't cook, and Margie won't even try."

So the kitchen was straightened up some, and Jewel was installed as chief cook, with Betty to hinder and help to her heart's content. They had quite a time, but with the aid of Jewel's cook book and Margie's suggestions, they came out victorious, with a delicious dinner, meant to tempt the cross old bachelor. The table was decorated with flowers from the garden, and Bettie and Margie wore their prettiest gowns and smiled their sweetest for the old uncle, who turned out to be young and jolly, too.

When the uncle praised the dinner Betty called Jewel in and between them they told him the whole story of their quarrel and the cooking of the dinner. They were quite a merry little crowd.

"It is so fortunate that Jewel went to Manual," said Betty, joyfully, "or else we would never have made up and it was such a stupid quarrel, too. And you, Uncle Ned, would have had to eat burnt roast and hard biscuits for dinner." Then, as her uncle made a wry face at the idea, she continued: "Well, you needn't make fun of me. Next year *I* am going to Manual, and when you visit us again, I'll cook a dinner for you all by myself, and I'll make me a dress with my own hands, like Jewel does, to wear in honor of the grand occasion.

ELSA KATZMAIER.

EMBROIDERY IN THE EARLY PART OF THE CHRISTIAN ERA

No doubt many people consider embroidery an art belonging exclusively to modern times, but that is far from being true. Even the ancient Egyptians, Greeks, and Assyrians were acquainted with this art, although, of course, their work was entirely different from that of today, both in coloring and design. At first, the wealthy people of Rome in the imperial age imported this Oriental embroidery for their own use; but soon certain progressive ones of the French, Spanish, English, and German people began to make copies of the imported work. Still later, these craftsmen invented new designs of their own and thus established a type of embroidery altogether distinct in character from the earlier kind. Tradition says that the Virgin Mary herself, after the Angel Gabriel had delivered to her the sacred message, embroidered a veil to wear to the Temple.

The early Christians, as a rule, were not inclined toward such pursuits as any of the arts. They considered them a waste of time and classed them as allied to the vanity of the world. The earliest examples of the embroidery of this time are seen in some of the old pictures and consist merely of small pieces of applique work sewed on the tunics. It was in the courts of the Roman emperors that the greatest opportunity was given for the exercise of all talent in the line of embroidery. There very costly ornaments were sewed on the rich imperial robes, and each successive emperor seemed to try to excel his predecessor in the decoration of his costumes. Augustus imported embroidered pieces from Persia. Metellus Scipio, during his consulate, is said to have had couch covers of Babylonian work, while the Emperor Heliogabalus (A. D. 217) possessed table napkins embroidered with various dainties of the table. The Roman Senators wore at first the simple white toga trimmed with the purple stripes, but later these stripes were made of gold threads. Aurelian started the fashion of wearing the toga embroidered with gold, pearls and other costly ornaments.

After Constantine established the capital of his empire at Byzantium this form of artistic needlework found even more favor. The subjects represented were varied, but they were usually taken from nature; for instance, fruits, flowers, birds, and animals furnished many designs. Just at this time religion, as taught by the New Testament, was foremost in the thoughts of the civilized world, and this explains the fact that so many designs on the draperies in churches and palaces represented incidents from the Gospels. Many beautiful and richly embroidered altar cloths were also made, and among them was one in the Church of St. Sophia. In the center of this altar cloth was the figure of Christ, clad in a purple tunic and a golden mantle, with the Book of the Gospels in His left hand and His right one outstretched. St. Peter, holding the Book of Holy Writ, stood on one side and St. Paul, with his gold staff, on the other. On the borders the miracles and other sacred historical incidents were

pictured. It was such work as this that adorned the age after the birth of Christianity.

After the silk manufacture was brought into Europe in Justinian's time, the embroidery made was even more costly and heavy. On special occasions, the trappings and harness of horses were worked in solid relief with gold and jeweled ornaments of all colors. Even leather was sometimes used as the body for this work.

From early times, the Gauls had produced embroidery. They used it in decorating draperies for their churches and monasteries and coverings for their dead in the funeral processions. Here, also, the subjects were often religious—such as Daniel in the lion's den and Samson slaying the lion. Usually the designs were worked on linen with silk or worsted thread—seldom with gold—and in the satin, feather, or couching stitch. The Bishops of the Church also wore this embroidery on their gloves, shoes, and robes.

Charlemagne's mother and sisters are said to have been accomplished in this popular art, and, in general, the pursuit was encouraged by the great man. But one of the most celebrated pieces of embroidery, now in the Bayeux Museum, was that supposed to have been worked by Queen Mathilda, wife of William the Conqueror. The body is of stout linen and is adorned with more than twelve hundred figures, consisting of persons, horses and ships among other things, and representing episodes in the Norman Conquest of England. The worsted threads are laid down and held by cross-stitches. The drawings are rude and the colors not, perhaps, matched as we would have them, but the effect is charming. This work has been called an epic in needlework.

In the early times, the embroiderers sought to represent life—particularly in people and animals, but now our embroidery designs consist oftener of flowers, sometimes in conventional form. A great difference may be noticed between the drawings. Formerly they were rude and characterized by sharp angles; now they are almost as true to life as it would be possible to make them. At this time, the kinds of stitches also are very much changed from those of the fifth or sixth century. We, at least, prefer our style of embroidery, but, doubtless, much more talent and perseverance were required in early times when more complex subjects were taken and a piece of embroidery was made almost the equivalent of a painting.

EDNA MOORE.

THAT TWENTIETH CENTURY MAGICIAN—THE "RIVET LATHE"

The 8th Rivet Precision lathe, built for engineers, tool-makers, scientists and skilled operators of every profession, is the most complete tool of its kind ever conceived. With this lathe, starting with plain turning, the operations which may be performed are endless, and the operator has the pleasure of knowing that they are, at the same time, as correct and accurate as can be performed.

The lathe bed is 40 inches long, distance between centers 22 inches and

swing 8½ inches. The bearings are cylindrical in form, of the best tool steel and, as are the spindles, made as hard as fire and mercury will make them, and then ground with diamond to perfect fits.

The lathe will turn a piece 1-16 and even 1-32 inches in diameter; with it a machine can do the 1,001 odd pieces of work, which for want of special machinery would otherwise be laboriously and inaccurately performed with hand tools. The machines are well designed for tool making and have the following attachments: cutter, miller, taper and screw-cutting, slotting, grinding and lapping, shaper and forming slide, thread-cutting and cutting-off attachment. The cutter, milling and gear-cutting attachment has two rotary, as well as horizontal, vertical and angular movements, enabling cutters of any possible shape up to 4 inches in diameter to be cut. It will mill balls from 1-8 inch up, flute taps, mill cutters, counterbores, cut gears, etc.

In one minute the spiral and traverse miller may be set up and ready for all kinds of fluting, taps, reamers, broaches, channeling, mills, drills and even nurls for watch case work. Stock as small as 1-16 inch diameter may be used and a key way may be cut in a shaft 1-8 inch in diameter.

The taper attachment is for long tapers; for short tapers 4 inches or less the angular slide is needed only. Now comes the slotting attachment which is very rapid, the entire time required to put a key-seat in a 1-4 inch hole 3-4 of an inch long is from forty seconds to two minutes. By its use a wheel may be key-seated without removal from the chuck where it has been turned or faced, and that with a certainty that it will fit when finished.

Then comes the screw machine by use of which any and all forms of screws and studs from 1-2 inch down may be made and the change from lathe to screw machine takes but two minutes.

Next comes the grinding and lapping attachment requiring but twenty seconds to set up ready for any kind of grinding or diamond lapping, internal, external, angular or surface.

And the last thread tool will turn out work from three to ten times faster than the ordinary tool, accurately and in exact duplication. The tool cuts in a manner as would the teeth of a die if applied to the work separately and successively reserving the fine point for the last cut. Anyone who is capable of reversing a lathe can operate it. The cutter is a simple disc of the best tool steel, having ten teeth, each tool being a certain increase in radial length over the preceding, presenting in its entirety ten cutting tools, the leading teeth roughing out the work in heavy measured cuts and the last finishing the work precisely the same way as a single point tool.

The lathe can easily take 3-8 of an inch off of 1 inch stock in machining steel and 1-4 inch in hard tool steel. A 3-inch milling cutter of thirty teeth 1 inch wide was cut as high as 360 threads per inch.

This tool is one that in its action is a reverse of the general rule that accuracy is obtained at the expense of time and labour.

The Rivet lathe stands today unrivaled as a machine tool, in which accuracy of work is combined with a variety of operations possible to no other in the world.

JAMES DONOVAN

EDITORS

ELIZABETH NOFSINGER

VICTORY AT LAWRENCE

With a total of 44½ points, Manual won the second interscholastic meet held at Lawrence by the University of Kansas on April 28. Central finished second with 25 points. Lawrence High School was third with 17 points. The remaining 37½ points were distributed among seven other high schools.

Talbott was the star of the Meet. He took first place in all the weight events, thus making 15 points—the largest individual score of the day. He won the discus throw at 98 feet 8 inches, the shot-put at 44 feet, and the hammer throw at 162 feet 4 inches.

Rogers won the 100-yard dash in 10 3-5 seconds, and finished second in the 220-yard dash. Donovan won the mile in 5 minutes and 2-5 seconds. He also won second in the half-mile.

Pauley and Orme won second and third respectively in the pole vault. Green won second in the broad jump and Boright was second in the high jump.

Reed and Bodman each won a third place, the former winning in the discus throw and the latter in the quarter-mile run.

BASKETBALL TEAM

BASKETBALL

Our school never had a boys' basketball team until last season. The team was organized in February, only one week before the first game, and it's record was certainly a most enviable one. By winning three out of five games from the Central five the team has the undisputed title to the high school championship of Kansas City. They also defeated the Y. M. C. A. Tigers and therefore can claim the basketball championship of Kansas City. Unfortunately the team did not play Topeka High School this season and hence it cannot claim the championship of the Missouri Valley. An effort will be made to arrange games with the Topeka five next season and with Reed, Poor and Dousman again in the game, the Manual team should make a worthy opponent for this title. The team's schedule was as follows: Manual 25, Y. M. C. A. Reserves 27; 13, K. C. A. C. Second Team 10; 35, Leavenworth 43; 56, Leavenworth 31; 31, Central 30; 56, Leavenworth 50; 31, Central 30; 16, Central 24; 29, Central 28; 28, Central 29; 26, Y. M. C. A. Tigers 18.

Mr. Hall as coach and manager of the team deserves a great deal of credit for its success. We can place unlimited confidence in his ability in this line next year and we can be certain of an excellent schedule.

FOOTBALL TEAM

DIXON CLEMENTS EDWARDS PRATHER KEELER TALBOTT JOBES SEXTON
BENJAMIN KRUSE HINSEN MORGAN (Capt.) HARNDEN PORTER PAULY

WAS IT FOR THE BEST?

Will Hanfield, or Billy, as he was commonly called, was standing in front of the doctor's office. Billy was a handsome fellow, about eighteen years old, was of an athletic build, and was captain and pitcher of the Williamsberg High School Baseball Team. He had an excellent moral character and was well liked by all his schoolmates. But today he was looking rather dubious over something. About two hours before we first see him, he had slipped from a trapeze in the gymnasium and had sprained his wrist and was just through having Doctor Wilson bandage it. Williamsberg High School was to play Urnhurst Academy the next day, for the baseball championship of Glendale County, and Doctor Wilson had strictly forbidden Billy from pitching or playing in the game. That was why Billy had such a woe-begone look on his face.

The one person who, at present, was uppermost in Billy's mind, was Dorothy May. Billy thought that Dorothy was the nicest of young ladies, and so often had he shown this liking by his actions that everyone in town had gotten the idea that he was in love with her. To tell the truth, this opinion was very nearly correct. While thoughts of her were chasing across his mind, Claude May, Dorothy's brother, and first baseman on the baseball team, came up with a merry "Hello, old partner!" "Hello, kid!" said Billy. "They say that 'speak of angels and you hear the flutter of their wings,' but in this case I hear only the flutter of the voice of the angel's brother." "I am glad that you have such a good opinion of her," said Claude; "but say, Billy, I heard that Doc. Wilson says that you can't pitch tomorrow. How about it?" "It's the truth," said Billy. "Well, then," said Claude, "I suppose that Hunt will have to do the pitching, but I'm afraid that our chances of winning with him in the box are not as good as they would be if you were there. You know, Billy, as well as I do, that though Hunt is a good pitcher he gets rattled at times."

While they were talking Hunt came around the corner and, after a cheery greeting to both the boys, he also asked about Billy's wrist. Now Hunt was really a good fellow, and although he and Billy were rivals in pitching, he was not at all jealous of Billy, or envious of his ability. From what Billy told him he knew that he would have to pitch the next day. The main trouble with Hunt was that he did not possess enough self-confidence and this fault was made evident by his next remark. He said he knew that he could not do as well as Billy, but Billy reassured him by telling him that if he would do his best and have confidence in himself, everything would be all right and the school would have no fault to find with him. The talk went on in this way for a few minutes till Claude said, "Well, fellows, I have to be trotting along home. Oh! say, Billy, I almost forgot to tell you that Sis said for you to come up tonight, as she wants to see you." After exchanging good-byes, the three boys separated, Hunt going off with Claude, and Billy going home.

. . . . . .

A FOOTBALL HERO

I was born upon Mt Pelee
where the lava streams run
where they play the tune of hot
and they do the niggers
down,
time,
brown

I was raised by cannon crackers
Celebratin' Fourth July
O, I tell you life was glorious
When we made the powder fly!

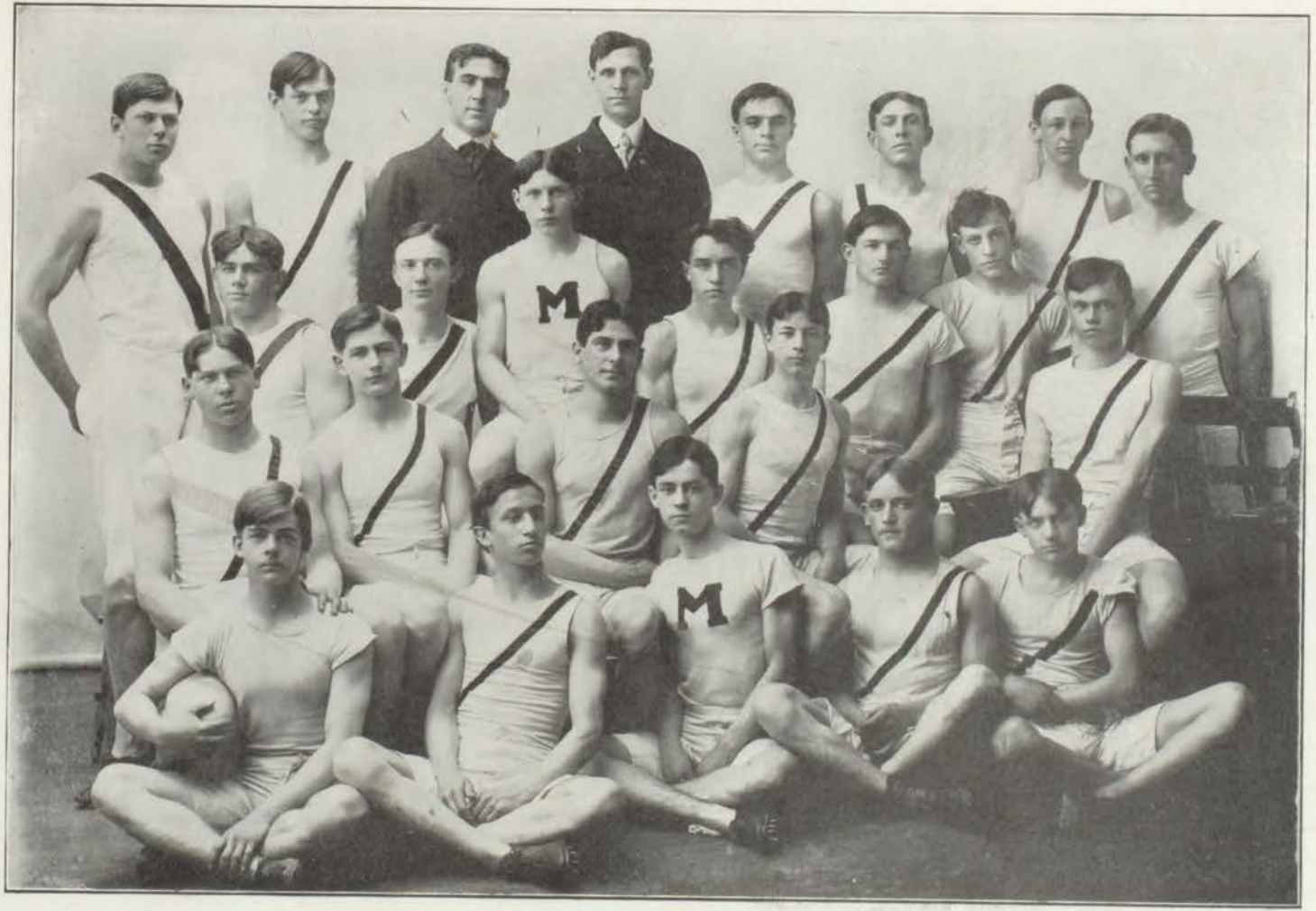
But when Pelee quit eruptin
I began to feel ennui
So I went across the ocean
Just to see what I could see

When I heard those blea- cheers yellin -
When I saw that kicking pile
Gee! I tell you 'twas excitin'
Beat old Pelee half-a mile

So I grew my foot ball doormat
Quit my lookin young and meek,
And I bucked the line on Sundays,
Mondays, Tuesdays, all the week

Then I butted in the mix-up
Lost three toe nails and my teeth
Bet you I'm a football hero,
Wear a sweater and a wreath

SHB '07 — ZP '03



TRACK TEAM

TALBOTT REED DR. HALL PROF. BAINTER BAILLEY ALLEN FULLERTON WINSTEAD
PRATHER ROGERS DONOVAN (Capt.) BORIGHT BODMAN JONES
EDWARDS NORRIS ORME GREEN POOR
MANN HARNDEN WEBB PAULEY HIGH

Seven o'clock that night found Billy going toward Dorothy's home. He was wondering what she wanted with him, and could think of no reason for the call unless it was concerning the game. On arriving there, he found her sitting in the lawn swing waiting for him. Now, we must not listen to their conversation for awhile, for *of course* it would be very, very uninteresting to us. But after a time their friendly (now remember, this was merely a friendly) conversation took a different turn and (now we can listen) Billy made a date to take her to the game. Of course she had heard of his injury and when he again brought up the subject, she was all tenderness, because, as I said before, Billy had a special place for himself in her heart. So, of course, she said many kind and tender words about his wrist. But all good things must have an end, and so, about half past nine, Billy went home with more regard than ever for Dorothy.

. . . . . .

The day for the game dawned bright and clear. Billy awoke feeling, as he expressed it, "fine and dandy" everywhere but in his wrist. While it was not nearly as bad as it had been the day before, it was still pretty sore. About half past one crowds were to be seen going to the ball park. Among the crowds could be found Billy and Dorothy. In one part of the grandstand the crowd for Urnhurst was cheering and waving the Urnhurst colors, crimson and cream. In the other section of the grandstand and in the bleachers were the Williamsberg supporters. Of course the number of Williamsberg rooters exceeded that of the Urnhurst people, but still Urnhurst had a good-sized crowd. Williamsberg colors, purple and gold, were much more in evidence than the crimson and cream. The game started at two-thirty. The batting order of the two teams was as follows:

Williamsburg H. S.	Urnhurst Academy
Saler, 2b	Hadley, 3b
Birch, ss	Palmer, cf
Allen, lf	Brown, ss
Duncan, p	Pat. O'Reilly, c
Graham, c	May, 1b
Wilkins, 1b	Leonard, rf
Hans Switzer, rf	Coleman, 2b
Davis, cf	Holmes, lf
Mead, 3b	Hunt, p

Urnhurst got first bats and Williamsberg took the field. Hunt was looking rather wild, but calmed down when he heard Billy say, "Cool off, Noel, you'll get 'em goin' sideways." The first Urnhurst man to bat was Saler. Noel gave him two balls and then struck him out. This caused Williamsberg to cheer loudly. Pat encouraged Noel by saying, "Foine! foine! Shure if you give thim some more like that, O'im thinkin' there won't be many scores marked up for Urnhurst this day." Birch knocked a pop-up fly to Brown and Allen knocked a high foul, which Pat caught, thus retiring Urnhurst.

Hadley was the first man to bat for Williamsberg and, although he was a poor batter, he surprised the crowd by lining out a good one to right field and getting to first. Palmer struck out, but while he was busy doing that Hadley stole second. Brown made a two-bagger on his third strike, letting Hadley cross the plate. Before Brown could get home, however, the next two men —O'Reilly and May—struck out. This ended the inning 1 to 0 in favor of Williamsberg. This state of affairs kept up until the last half of the seventh in-

ning, when Birch, one of the wearers of the crimson and cream, scampered across the plate.

Then in the last half of the eighth inning came that great piece of—what shall I call it, misfortune or luck? It was in a way both, for had it not happened the score would probably have never become what it did, and then, again, it was certainly a misfortune for Noel. Up to this point he had done excellent work in the box, and had surprised everybody by his newly acquired self-confidence. While he was at the bat in the last half of the eighth inning, a high "in" struck him just back of the temple, rendering him unconscious. After he had been carried to the dressing room he "came to" and immediately told the attentive Pat to go and see if Billy could possibly come and pitch the remaining inning. Pat went to where Billy was sitting with Dorothy in the grandstand and explained the situation to him as Noel had directed. Billy knew that Doctor Wilson had strictly forbidden him pitching and playing in the game, and, after thinking over the question a few seconds, he turned to Dorothy and asked her what he should do. But she positively declined to help Billy in his decision and told him it must be his own. After pondering over the situation some more, Billy left for the

BASEBALL TEAM

I. W. ELMER (Coach) GLEN H. WOODS (Mgr.)

FULTON, sub. FRANK, cf. BROOKS (Capt.), ss. KRUSE, rf. HEWETT, 1b.
LOTT, lf. ROBBINS, c. BLACKER, 3b. BRAIN, 2b. BRAMBLE, p.

dressing room, saying to Dorothy in a low tone as he left, "For your sake, Dorothy." The crowd had seen his actions, and as he stepped from the dressing room in his suit they cheered like maniacs.

With the bases empty, two men out, and one strike and two balls against him had hit the ground and Billy had made the circuit of the bases and had crossed the plate. Had it been possible the cheering of the Williamsberg crowd would have been wilder this time than it was before, but as that was impossible, they cheered as wildly as they were able. The next man, Hadley, struck out, thus

FRESHMAN BASEBALL TEAM

DAVIDSON CLAFFLIN (Mgr.) TRACY
RESSHLER HIGH BRENNING DENHAM HAMMANN
FORSYTHE SHELBY

for Noel, Billy stepped up to the bat. The umpire charged him with another strike and then—oh! my!—away out there the ball was cleaving the air with the man at center field trying to get under it. But all his efforts were in vain, for before he could get there the ball ending the inning 2 to 1 in favor of Williamsberg.

It was now Billy's turn to go into the box. The crowd cheered and then was quiet. All of a sudden the band broke out with the chorus, "Billy, I Idolize You," and all of the Williamsberg root-

ers joined in with their voices, whereupon Billy blushed fiercely. Billy knew that the tug of war would come now, as the batting had tended to weaken his arm and wrist, and it was beginning to throb and was very painful. The first man, Wilkins, fanned out, much to the delight of Pat, who hallowed, "Moi, but yez is a broight lad, as me grand-daddy said whin Oi washed me face in his beer." The next man to bat was Hans Switzer, the right fielder of the Urnhurst team. He struck wildly at the first ball offered, but succeeded in tapping a grounder between first and second and reaching first, puffing and panting between breaths, "Vell, I neffer! Py gollies, dot pall vos mate me yump off my feet und it shafed mein nose." This amused Claude, who said, "That's all right, Dutchy. The next time he'll throw the ball so that it will shave your face and then go around and give you a hair cut." "I don'd doubt id! I don'd doubt id!" said Hans. The next batter, Davis, bunted the ball towards third, letting Hans get to second while he got to first. Billy's arm was now very painful. The next man, Mead, struck out, but the one after him, Saler, got first on balls. The bases were now full, two men were out and Billy knew that the next man, Birch, must never hit the ball or reach first. His arm was worse than ever. The curves that he now sent in made his arm feel as if it were being twisted and torn. "Stiddy, now, old man; stiddy," said Pat. "One ball—one strike—two balls —three balls—two strikes," said the umpire in a monotonous tone. The next one, Billy knew, was the one that would tell the tale; either Williamsberg would beat or be beaten. Pat signaled for an out-drop. With an almost superhuman effort on his part, Billy delivered the ball, and in a sort of a daze he heard the umpire say, "Three str-r-r-rikes-and-out." But the cheering that followed was what made many sore throats the next day. The last half of the inning was not played, of course, and the game had ended 2 to 1 in favor of Williamsberg. Then who should come upon the field but the principal of the high school and the mayor of the town, and, after having the boys lift Billy to their shoulders, they took him, followed by the howling crowd, to where Dorothy was sitting in the grandstand.

. . . . . .

Billy was walking home with Dorothy. In a sling he carried a red, pulsating, painful, throbbing thing that had once been known as a wrist and hand, which could never again control a ball. He was silent for a long time, but was finally aroused by hearing Dorothy say, "Billy, you had a big success today, but was it for the best?" Now Billy was deliberating over another question. He was wondering whether he had not had a double success, both in war and—well, something else. He was about to answer Dorothy's question when he chanced to look into her eyes. There he saw the answer to both questions. Can you guess what it was?

FLOYD GAMBLE, '06.

GIRLS' BASKETBALL

MANUAL VS. K. C., K.

A basketball game was played with the Kansas City, Kas., High School team, May 1st, on Manual's field. The score was 26 to 7 in favor of Manual. The teams were well matched. Good work was done by both teams. Especially fine playing was done by the forwards of both teams, Mabel Warren of K. C., K., team and Hazel Gross of the Manual. Excellent playing was also done by the guards and centers. The line-up was:

K. C., K.		MANUAL
Mabel Warren	Forward	Hazel Gross
Belle Northrop	Center	Anna Muehlbach
Elsie	Center	Mabel Trumbo
Mabel	Center	Marie Warner

A return game will be played May 19th on the K. C., K., field.

FRESHMAN GAMES

Though the Freshmen have not been successful in the inter-class contest, they have made an excellent showing in the games played with the Linwood team. The first game was played April 18th on Manual's home field. The score stood 26 to 5 in favor of the Freshman team. The return game was played April 25th on Linwood's field. The result was 24 to 2 in favor of the Freshmen. Excellent playing was done by both teams. Especially good work was done by Sara Hickey of the Linwood team and by Leontine Bower and Sydney Smith of the Freshman team.

INTER-HIGH SCHOOL CONTEST AT COLUMBIA

The greatest inter-high school contest which ever took place in the State of Missouri was the athletic meet held on Rollins Field under the auspices of the University of Missouri. There were twenty schools represented and the official number of athletes entered was 301.

Kansas City was well represented at this meet, the three high schools joining hands and chartering a train of ten coaches. Five of these carried the Manual crowd. The memory of this trip is one long to be cherished and never to be forgotten.

No opportunity ever presented itself whereby we could better exercise our school spirit, and the spirit displayed on this occasion is certainly praiseworthy. Let it ever be thus and the school will doubtless receive ample reward as it did on this occasion.

The athletic meet was a grand success. We, with our brilliant performance of the preceding week, were full of expectations, and these were all but fulfilled. So we have something to crow about.

From the beginning of the meet it was evident that the Central team of St. Louis was our most worthy opponent. But the World's Fair city team could make only 37 points, and as we did as well, they but proved to be our equals in this meet. We hope to meet them in a dual meet and thus decide the championship of the state.

Sixteen of Manual's 37 points were made in the weight events. Talbot again carried off first honors in all these, although none of his records were as good as those at Lawrence. Reed won third place in the discus throw.

Donovan also repeated his performance at K. U. Having previously won second place in the half-mile, he won the mile in 4 minutes and 59 seconds.

Orme surprised the natives and also the visitors, by breaking the Varsity record for the pole vault. He won this event at 10 feet 2 inches. Pauley won third place in this event at 9 feet 10 inches. Rogers won second place in the 220-yard dash and Edwards second place in the 220-yard hurdles.

When the high jump—the last event of the meet—was reached, Manual had 36 points, beings 4 points ahead of Central of St. Louis. To win the meet St. Louis must secure first and second place. Manual could win with second place. As it was, Mitchell of St. Louis won, Smith of Westport got second, and Boright was third. Thus the score was a tie between St. Louis Central and Manual. As a result of the mutual victory, each school received a silver loving cup.

BANNER CONTEST

In the series of inter-class games, for the banner to be given by Mr. Bainter to the winning team, the Junior team was victorious. The contest created much interest, as the teams were very closely matched. Undoubtedly the Junior team did splendid playing. The standing of the different teams is as follows:

	Played	Won	Per Cent
Junior	6	5	.833 1-3
Senior	6	4	.666 2-3
Sophomore	6	3	.500
Freshman	6	0	.000

MANUAL WINS PENNANT

Manual's baseball team won the pennant in the High School League, and consequently the championship of Missouri, by defeating Central and Westport in the deciding games, as follows: Manual, 4; Westport, 1. Manual, 5; Central, 2.

RICHARD WINSTEAD

EDITORS

SADIE DANCIGER

Jennie Baum (translating from French): "We went to see a play; we also went to see a concert."

Mr. Page (arranging for an experiment): "Sometimes I have to work with a poor lot of sticks."

Class (in chorus): "Sir!"

Adele Joffee: "She is going to take chemistry next year."

Renee Crohn: "That's good; I never did like her."

Dan Bontecue: "What kind of a 'phone have you?"

Julia Gleason: "Tele-phone."

'Tis easy enough to giggle
When the locals are funny and bright;
But the man worth while
Is the man who can smile
When the point is hid far out of sight.

Ethel Cookson: "Did you tell him my essay was poor?"

Helen Flint: "No; I always keep my thoughts to myself."

X (candidate for Senior election): "Do you always keep your promises?"
Victim: "Yes; didn't I vote for you?"

Ruth Hunt (stirring a blue vitriol battery): "I find it is wiggle stick blue."

According to the startling theory propounded by one of our psychology students that the fittest shall not necessarily survive, some of us are assured of unusual longevity.

Nathalie Shaeffer: "A concept is something we think about."
Note—Our studies cease to be concepts on Saturday and Sunday.

James Donovan: "I must study my physics."
Friend: "Throw physics to the dogs."

Doctor Rambeau: "Where is the Caspian Sea?"
Ann: "Oh, I guess it's in the book."

Visitor (at door of room 27): "Is this Miss Gilday?"
Mr. Kizer: "No; this is Mr. Kizer."

I wonder if Miss Steele is afraid of lightning?

Constance Kelly (in Shield's studio): "I told him he couldn't say anything about you, because you were a friend of mine and——"
Charles Bowman: "Hush, don't talk so loud."

Mr. Page: "But, on the other hand—"
Minka: "I'll make a note of it."

Strange that a ball hit by accident counts for as much as the one which is the result of skill.

There are three thousand languages. I wonder if that number includes the one spoken by the pupils in the German classes.

Mr. Dodd: "You've got a round circle with 360 degrees in it."

It has been noised around that the Juniors have all of $9:30 in their treasury.

Myrtle Kresky: "That book is so full of hard words it's rocky."

A lady in Assembly Hall the other day sang a song so badly that the audience made her come back and do it all over again.

Nan Brown: "Anything original in your autograph album?"
Myrtle Kresky: "Yes; some original spelling."

Ann: "Oh, I wonder what it feels like to die?"
Minka: "Just like when you are being handed paper for an examination."

If you intend to leave footsteps in the sands of time, be sure they point in the right direction.

The other day Mr. Cowan and his fourth hour elocution class were greatly annoyed by a terrific noise in Miss Bacheller's academic cooking class. Mr. Cowan proceeded to investigate and found that Miss Bacheller was giving a demonstration of centrifugal force by using a dishpan and a dollar. He also noticed Mr. Greenwood's presence in the room. When Mr. Cowan returned to his class they all wished to know the cause of the noise. "Oh," said he, "they've got the superintendent in there and they're trying to amuse him."

Mr. Hall (as Green was coming down the gym): "Who's that?"

Green: "Green; can't you tell my footsteps?"

Mr. Hall: "No; I thought it was Praythe r."

A pupil's studiousness does not always vary in proportion to the number of books he carries.

Mr. Kizer: "What were Coleridge's tastes?"

Mr. Harnden: "He liked to eat opium."

Lawrence Baer is a "knocker" all right, but he can't crack a joke.

Nell Bowen (during Senior meeting, addresing the Chair): "Our president is most capable in every way and—"

Mr. Bowman: "Listen boys, please."

Is it right for Mr. Donham to teach the boys how to be forgers?

Ann Morrison (speaking of perceptions): "When I see a man, he makes an impression on me, etc."

Miss Steele: "Pronounce B-o-l-o-g-n-e."

Clyde S.: "Bologna."

Olive Thomas (after having a proposition explained): "I couldn't see that before."

Mr. Dodd (kindly): "Of course, you couldn't see it till you saw it."

Julia G: "You're awfully bright."

Bontecue: "You shouldn't say that; you should only think it."

Julia G.: "But I don't think it; I only say it."

It is always easy to see why the other fellow didn't pass.

Helen G. (in 39): "Do you think you'll ever cook?"

Margaret M. (coldly): "I expect to go to heaven."

Harry Havens (as the janitors came in to clean the room before the Senior meeting had adjourned): "Johnnie, put the janitors out."

If you have an idea you are sick go to Mrs. Lavine and be cured—of the idea.

Ruth Hunt (discouraged): "These experiments in electricity remind me of the key to our front door. You put it in upside down and turn it as though you were going to lock the door and it opens."

Going to Columbia

Mr. Phillips (referring to Donovan's 100-yard dash): "He was hard pressed but the harder the victory the brighter shines his crown." (?)

George Beardsley (making an announcement): "We want the material for the Annual right away, soon."

This is a method of getting and giving material at the same time.

During the past six months the class in penmanship has flourished.

Maude Chattan: "Hee Haw, and her name was Maude!"

Lyons Bros. Wholesale Millinery Company have very kindly allowed the millinery classes to go through their establishment and see the styles.

Margaret McCrum: "Did you see my lead pencil walking upstairs?"

During the year the following articles have accumulated in one of the girl's lockers, containing a mirror, and having no lock: 17 hat pins, 11 handkerchiefs, 5 powder boxes, 6 chamois powder rags, 21 hair pins, and 9 pompadour combs. These articles have been sold and proceeds sent to the Board of Education.

Mr. Holiday: "Give us an example of a stimulus causing pleasure."

Hazel Byers (as the bell rings): "There is a ringing example."

The "F" road resembles an elevator,
For on it a descent is made of short duration;
But the "P" road is but a winding stair,
Which none ascend without exertion.

Is it any wonder that the above was handed in anonymously?

Alma Betz: "Why did the king fly to the isle of Wight?"

There is no end to Adele's rings.

Wanda Egbert: "Wouldn't you like to live in a house with acres and acres of lawn around it?"

Bower Broaddus: "No; not that I'd love the house less, but I'd hate the lawn mower."

Mr. Rogers (in psychology): "I get a concept of a gentle dog because most of the dogs I have *associated* with have been gentle."

THE MANUAL CIRCUS

Among the other attractions at Manual we have a creditable menagerie, and it is not all kept inside THE NAUTILUS cage, either.

To begin with, there is a full-grown artistic Campbell and a whole herd of young Campbells in training. Our collection of Lyons is especially fine. We have all kinds, tame and wild, literary and social. There are also a number of Baers; one called Lawrence is very apt at financial tricks. We have two talented Hares, brother and sister; they are not at all wild, will eat out of one's hand, come when called, sit up and do many amusing acts. The Deere are not tame, but fine specimens. Perhaps the most interesting of the collection are the two educated Piggs, which learn very quickly and have almost human intelligence. This is all of the menagerie proper, but in the side show we have a baby elephant called Lee, and a monkey that can talk, named Harry Havens. We have only one Bray but a number of animals that should be able to bray. There are also fat women, living skeletons, etc., galore.

Miss Jennie Baum will not graduate from the platform with the rest of the Seniors as she will sail for Europe on June 15th. She expects to return to Kansas City in the fall.

Mr. Phillips: "Let me see—what did you say her name is? Why, yes, she ought to be a fine pupil; her mother used to go to school to me at Central."

Our lecturers usually spend three-fourths of their time explaining the difficulty of treating so important a subject in so limited a time.

WAYS OF CALLING US TO ORDER

Mr. Holiday: "Will you please observe befitting decorum?"

Miss Drake: "Pardon me, was I interrupting you?"

Doctor Rambeau: "Now, young people, you must not act so; it is not right."

Miss Gilday: "Sh—"

Mr. Kizer: "I believe the bell has rung."

Miss Casey (smiling): "Behave, you trifling specimens of humanity."

Mr. Page: "If you wish to continue your conversation, please go out in the hall."

Miss Lyons: "Now dearest, darling, beloved!"

Mr. Jones: "Go to the office."

Mr. Dodd: "Now children."

Miss Fisher: "Fermez les levees."

Miss Steele: ☞

Mr. Gustafson: "Above the atmosphere which surrounds the earth all bodies lose their gravity."

Sara M. (sotto voce): "What a jolly place that must be."

Watt Webb says that he did not promise to write a single girl in Columbia.

Mr. Holiday: "Should we begin our culture early in life?"

Edna Goldstandt: "Yes; culture should begin when we are early."

Mr. Kiser's classes are writing novels. Stephen Luckett is writing one with himself disguised as a man.

Mr. Chase (demonstrating a proposition in geometry): "First you take division, then you take composition, and then you take—"

Emma Murray: "Strychnine."

Lee: "Say, Powell, what were you doing on Hunter avenue the other day?"

Powell: "Oh, just Wand(a)ering around."

Mr. Myles (in examination): "What is a counter-sink?"

Freshman: "It is a place to wash your hands."

Girls in Cooking: "Shall we bake together?"

Mr. Kizer: "How many of you can draw a diagram of the lower regions?"

Mrs. Elston: "What is the end of Cristobel?"

Katie Baker: "Her feet."

Miss Casey (holding up a wire frame): "Girls, how do you like Alma's shape?"

TRACK MEET

James Donovan: "It's a fine day for the race."

Watt Webb: "What race?' '

James Donovan: "The human race."

BASEBALL

Manual 9	Central 4
Manual 5	Central 2

LAWRENCE FIELD MEET

Manual 44 1-2	Central 23

COLUMEIA FIELD MEET

Manual 37	Central 23

BASKETBALL

Manual 3 games	Central 2 games

Some of the Central boys are still looking for the hammer that Talbot threw away up at Lawrence.

TO TUNE OF TA-RA-RA-BOOM-DE-AY

Manual Training High School, Rah, Rah, Rah,
Won the meet at Columbia.
St. Louis came to win the cup,
But we were there and did them up.

Skinney Reed got spiked, you know,
So he didn't quite win the discus throw;
And Praythor, too, couldn't stay in the ring,
So he didn't get a thing.

Jim and Talbot were also there—
Jim you could tell by his red hair;
And every where that Talbot went
Every eye was on him bent.

Bodman wasn't in his usual form,
So he didn't win points like Sidney Orme;
Green jumped eighteen feet and some,
But in this meet that was quite bum.

We know Rogers did his best
When he was put to the crucial test;
And Sammy Edwards won his place
With a great big grin upon his face.

Boright, too, made a great big jump,
But was beaten by a St. Louis chump
Of lengthy limb and springy tread.
This caused the tie with the Manual Red.

Webb didn't sprint quite soon enough,
So in this meet he got the muff.
But of the medals be aware,
We got more than an equal share.

Sidney Orine was a big surprise
With his vault of a ten-foot rise,
And Pauley, too, lent a helping hand
With his little vault of nine feet and——

Why did Ruth Hunt for Jane?

Because Mary Stoller.

What excuse did Leslie Frame?

He said he came with John, and no one ever saw John Early.

Is Henry Poor?

He couldn't afford American beauties, so he bought Laura Sage.

When was Mary Rood?

When she called Sara Mof-fat.

Why does Gladys think Dolson Quier?

Because he criticised Gladys' Coates.

Now you can make some for yourself. If necessary consult the *hint* below.

Why is George Green?

What does William Curry?

What does Colwell Pierce?

Etc.

BOOKS OF WHICH THEY REMIND US

"Twenty Thousand Leagues Under the Sea".....New Gym.
"Country God Forgot".....Physics
"In God's Out of Doors".....Botany
"Novum Organum"..... Library
"The Light That Failed".....
....Lunch Counter
"The Gadfly".....Zoology
"The Age of Reason".....Room 32
"Much Ado About Nothing".....Office
"The Light of Ages".....Room 27
"Great Expectations".....Cooking
"Our Mutual Friend".....Study Hall
"Vanity Fair".....Millinery
"Choir Invisible".....Room 10

Mr. Hout (to Edwin Pierce, just entering the class): "What is your name?"

Edwin (proudly): "Mr. Pierce."

George Beardsley says he cannot think unless he moves his lips.

Bowman: "A man half alive equals a man half dead—is it not so?"

Mr. Chase: "Yes."

Bowman: "State the proposition on the blackboard thus: '½ alive equals ½ dead.' "

Mr. Chase: "The equation is correctly stated."

Bowman: "Suppose now that each quantity be increased or decreased in the same proportion, the relation of equality will remain unchanged, will it not?"

Mr. Chase: "Yes."

Bowman: "Therefore, I have '1 alive equals 1 dead'; or a dead man is as good as a live one."

Wanted: A few more children to raise. Apply to the Art Club.

Miss Murphy (in perspective): "Draw a ball on the top of those lines to represent the heads of the men."

Virginia: "Then they would be bald-headed men, wouldn't they?"

Constance Kelley (in cooking): "Oh, girls, look! My pineapple is coasting down the sides of my short-cake."

E. S.: "No, none of the janitors have handed in their resignations; but that need not hinder you from making an application."

L. B.: "Yes, James Donovan is too old to ride on the street cars free; you must have been mistaken."

Miss Gilday: "Hesper's biscuits are fine."

Boys, take notice.

Rennee (after Miss Filley fell down): "We ought to have a *Pedual* Training School for you."

Talbot is older than he looks.

Miss Gilday: "Missouri furnishes some fine mules—not all quadrupeds, either."

Mr. Jones: "Why did Henry VIII want a divorce from Katherine?"
Pupil: "I guess he could 'Sey—mour' in Jane."

Edna Goldstandt (writing): "Construct an angle equal to given angel."

Sad Senior: "I study geometry so much that I am actually becoming angular."

Miss Van Meter: "Wm. Dean Howells makes his women very foolish. However, they're very true to life."

A Sophomore has this sign fixed to the head of his bed: "People having nightmare, $5 fine to hitch here."

"I fear," said the postage stamp, when it found itself fastened to a love letter, "that I'm not sticking to facts."

George Beardsley (to Herbert Hare): "I refused this drawing for the first issue. Why do you bring it here again?"
Herbert: "I thought you would have had more experience by this time, and would know a good drawing when you see it."

Sara: "Do you know, George paid me a great compliment last night?"
Margaret: 'No; what did he say?"
Sara: "He said I was among the prettiest girls at the Ion party."
Margaret: "Yes, I noticed you were among them."

A Freshman hesitates over the word connoisseur.
Prof.: "What would you call a man who pretends to know everything?"
Freshman: "A professor."

Mother: "Grace, I understand that you were kissed by Mr. Pig last night?"
Grace: "Did Mr. Pig squeal on me."

If a flood should come and drown the world Miss Steele's ancient history class would still be dry.

A dentist's sign: Drawing, Dancing and Music.

One good thing that can be said of the Freshman class is that green rests the eye.

WHERE?

Teacher (in ancient history): "For tomorrow we will take down to Cæsar's battle on page 112."

WHAT DO YOU MEAN?

Miss Elston: "When you speak of a 'sweet face,' you don't mean that it tastes sweet, do you?"
Pupil: "Yes."

It does seem strange to beat Central, doesn't it?

M. C.: Glen Harnden is that little boy you always find in room 6 at 7:45 a. m.

Backward, turn backward,
O time in thy flight,
And let me sleep on
For the rest of the night.

Everything comes to him who waits —except lessons.

Glen: "Is that clock right over there?"

James: "It certainly isn't anywhere else."

Mr. Woods: "Your daughter has no capacity for music."

Fond Mother: "Well, I'll go right down in town and buy one."

Baseball—A game in which the young man who bravely strikes out for himself receives no praise.

Miss Gilday: "After the union of England and Ireland, what change in the 'Union Jack' was necessary to show that Ireland was a part of the United Kingdom of Great Britain and Ireland?"

Class: "Green."

Blessed are those who expect nothing, for they shall be satisfied.

Miss Shaefer: "Who solved the nineteenth problem?"

Ethel Mc.: "If that is the easiest one, I solved it."

George Porter is still coming to school.

No, that is not a merry-go-round above the Auditorium; it is only James Donovan taking a little exercise before lunch.

Pupil (translating): "'At once the women'—what does *'clamabant'* mean, Mr. Deister?"

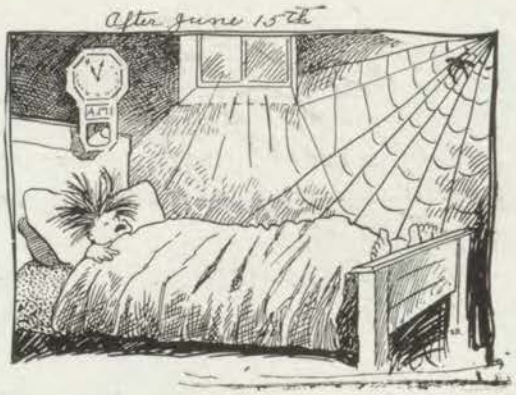
Mr. Deister: "What do women do when they are scared?"

Pupil: "They run."

Someone looking for Miss Egbert in the hall was told to look for Bower, because he is taller and you can see him quicker.

Mr. Hout: "Young man, I think you had better change your program."

Junior: "I think I will *double up.*"



Green: "Have you got a foreign substance on your brain?"

Havens: "Why do you ask?"

Green: "You just said you had an idea."

One of our Freshmen was lately heard to inquire of our baseball manager as to the number of teams in an Epworth League.

How many Seniors have weak eyes from studying too much?

What was that strange sensation the Manual pupils had on the night of the third of March at Caris Hall?

Mary Rood: "I've a headache and toothache."

Mary Koogle: "Then you're an acher (acre)."

Mary Rood: "How many Roods in an acre?"

Mary Koogle: "Only one in this case."

Wells: "Why is Brooks the coolest man in school?"

Harnden: "Because he fanned so much while he was on the baseball team this year."

Advice to Freshmen: Learn shorthand, so that when your exams grow harder and longer, you may perhaps finish within the allotted time of thirty minutes (on Fridays).

"I am deeply impressed by the performance," said the "Frat" candidate as the goat made his attack.

Mr. Gustafson: "Is this found in nature?"

Miss Elmer: "No, sir; it is found in Germany."

Mr. Page: "Mr. Hanks, are you making that noise?"

Hanks: "No, sir; it is the dog outside."

Mr. Chase: "Miss Wade, put your figure on the board."

In the physics room we are impressed with the fact that "there is positively no charge." Sounds like patent medicine.

Patron (to Manual boy ushering): "I hear they have an hour intermission in the performance of 'Parsifal.' Is that so?"

Usher: "Yes; the intermission gives you a chance to muster up courage to stay for the next act."

Mr. Kizer (just finishing a discourse on Hades): "We will have more of this later."

Will some one who is well informed in military lore, tell Mr. Hall whether a column of troops should go on or stop when they come up against a solid wall.

D. H. says she is going to be an old maid.

The Seniors would not take a good deal for their class pictures.

Did you ever watch a Freshman open the dictionary in the study-hall.

Miss Van Metre: "Chewing is just as bad a vice as smoking—but it is not so graceful."

Miss Sublette (to Freshie in zoology): "Harold, do you want your bottle?"

Mrs. Case thinks her Junior classes are really brighter than her Freshmen.

Miss Hazen: "Where is trout found?"

Ethel Mc: "In water."

Teacher: "Why is glue used in the manufacture of the parlor match?"

John Craig: "To keep the light from getting away."

Miss Casey: "Don't do as I do—do as I tell you to do."

CHILDHOOD DAYS OF CLASS OFFICERS

CHARLES BOWMAN, *Senior President.*

Upon inquiry the nurse of Charles Bowman declared that Charley was a particularly precocious infant. He could sit alone at the age of three months, walk at seven months, and carry on an intelligent conversation at twelve months. His earliest ambition was to be president of the United States, and he evinced his capabilities in this direction by being "it" in all his childish games. He has managed to be "it" ever since.

CONSTANCE KELLY, *Vice-President*

When Constance was a baby she once cried for an hour —but didn't get it. To repay her in a measure for this great disappointment the Senior class elected her as their vice-president.

LAWRENCE BAER, *Treasurer*

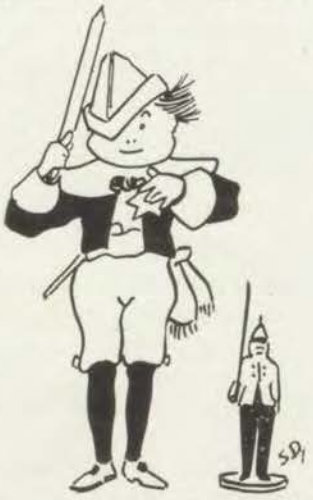
Once when Lawrence's nurse was getting him ready for bed, she told him to go out on the porch and get his playthings. "I can't," said little Lawrence, "my feets bareheaded." A boy having such a natural tendency to make both ends meet ought to make a first-class treasurer.

MINKA JAQUELINE REEFER, *Secretary*

The most remarkable characteristic of Miss Reefer as a child was the possession of a wonderful memory, as is evidenced by the fact that at the tender age of eleven she could recite her name in full. A remarkable feat, indeed!

JOHN VAN BRUNT, *Sergeant-at-Arms*

Johnnie's childhood was spent principally in envying his tin soldiers. The happiest day of his life was the first time he saw a military parade. Johnnie is at last an officer— Officer Van Brunt (Not the policeman variety). Too bad a sergeant-at-arms doesn't have to wear a soldier's uniform, for if he did Johnnie's cup of joy would be full to the brim.



SADIE DANCIGER, *Giftorian*

Everybody connected with the childhood of the giftorian says that she never did do or say anything worth remembering.

RICHARD WINSTED, *Reporter*

It is a coincidence that when Richard was yet in kilts he was asked by a playmate what a "tattle-tale" does. Little Richard replied, "When nobody does anything, why he goes and tells of it." Having such a thorough understanding of the subject we believe that Richard will make a satisfactory reporter.

RIEVE PARKS, *Junior President*

"Why, Honey," said Rieve's old mammy, "Rieve was de smartus youngun yo eber seen. Oncet I took him by a riber wif some swans on it, an' when I tole him they was swans, he says, 'Den am dis de Swanee riber, auntie?' Yo can't beat dat boy." At least no one could beat him for the Junior presidency.

ELIZABETH NOFSINGER, *Vice-President*

Elizabeth, aged three, once happened to hear her mother mention the word essay, and demanded an explanation of the term. "An essay is a thesis," explained her mother. "Now do you understand it well enough to write one?" "Yes," said Elizabeth, haughtily, "I know 's' and I can make 'a'—essay." She still retains the faculty.

GLADYS COATES, *Secretary*

Little Gladys once heard her mother say to a man: "No, we don't want trees trimmed today." "Mamma," said Gladys, "of course we want them trimmed; they've been bare all winter." Is it any wonder such an observing child is now secretary of her class?

LEE TALBOT, *Sergeant-at-Arms*

No authentic information concerning the youth of Lee Talbot can be found. Consequently we infer that Lee always was just as large as he is now. The Juniors showed wisdom and forethought in electing so powerful a young man as Lee sergeant-at-arms.

WOODSON DIXON, *Treasurer*

Woodson, when a boy, had a bank full of *pennies* the same as other boys. He no doubt can handle the Junior funds satisfactorily.

POINT OF VIEW

(A Psychological Problem)

Our thoughtful Holiday one eve
  Walked by a running stream.
"In this fair water I perceive
  The starlight's merry gleam.
The mountain top I also see
  Where this fair brook was born,
And e'en the valley, too," quoth he,
  "And tree and flower, and thorn."

"I don't see any mountain top,"
  A Freshie, passing, said;
"Nor valley, tree nor flower crop—
  All I can see instead
Is just a hook and line and stuff,
  And string of fish—Oh, gee!
I bet I would have fun enough
  If I dared play hooky."

Mr. Hout: "Therefore."

Pupil (translating): "Who a little before saw the fleet of the enemy in the mouth of Tiberious."

Is there any particular way to play pretty baseball? If so, Elmer Brooks will pay handsomely for it.

The cake they make in cooking—called "Bride's cake"—tastes like the sulphur smells on lightning bugs.

THE A, B, C's OF MANUAL

A is for alphabet, Manual roll,
Read and decipher the following scroll:
B is for beautiful, delightful in tone,
And in this case applies to a dear little Bone.
C is for Coates, who has been on a farm,
And there last summer many did charm.
D is for Dorothy, who has traded her pin—
Of course we all know this a general sin.
E is for Elizabeth, who thinks Louis all right,
And gave him her pin on an October night.
F is for Folsom, so bright and so funny,
Whose stories and jokes make life very sunny.
G is for George, who loves the girls well—
And especially Sara, whom he thinks very swell.
H is for Herbert, far from a bore, oh!
And if you doubt this, just ask Meroe.
I is for Irene, who has been to the Fair,
And who tells many stories she learned while there.
J is for Julia, who wears Daniel's pin,
And probably will till its worn very thin.
K is for Kimball—we call her Louise—
And this is the maid John tries hard to please.
L is for Lee, who always does grin,
And who is so proud of his dimpled chin.
M is for Margaret; there are several, you know,
Each of whom is after a dashing young beau.
N is for Nofsinger, who in Latin does shine,
And who in everything else is exceedingly fine.
O is for Ozo, merry maidens are they;
Beware of them, boys—their yea oft means nay.
P is for Palmer, who lets his hair grow,
And is very famous for being so slow.
Q is for Quad, the conquering four;
Their captives, the hearts of maidens galore.
R is for Richard, so witty and bright,
Who locals for us does brilliantly write.
S is for Stanley, a Senior so small,
Who smiles and who grins as he walks down the hall.
T is for Talbot, who towers so tall,
And who is so fond of playing football.
U is for Eugenia (omitting the E),
Whose bright beaming face attracts many a he.
V is for Virgil, our captain so bold,
Who the honors for Manual does hold.
W is for Wanda, our flirt so gay,
Who smiles at the boys the livelong day.

If you can ride on your face why don't you get your face punched instead of your transfer?

Charles Bowman: "I'm *watching* for the bell to ring."

Cheer up, Seniors, the worst is yet to come.

An aimless man put a coatless arm
Around the waist of a hatless girl,
As over the mudless and dustless road
In a horseless carriage they whirled.
He lighted a tobaccoless cigarette,
She laughed a merryless laugh,
As papa tried to coax them back
By wireless telegraph.

The baby rolls upon the floor,
Kicks up his tiny feet;
And pokes his toes into his mouth—
Thus making both ends meet.

The dog, attached to a tin pail,
Goes howling down the street;
And as he madly bites his tail,
He maketh both ends meet.

The butcher slays the pensive pig,
Cuts off his ears and feet,
And grinds them into a sausage big—
Thus making both ends meet.

The farmer coops his ducks and hens,
Feeds them with corn and wheat;
The means must justify the ends—
For thus he makes them meat.

Miss Fisher (to pupil who has got two words mixed): "How can a horse and a book be the same thing?"

Webb: "When it is a pony."

Business Manager (entering THE NAUTILUS office): "Say, Beardsley, have you any money?"

Beardsley: "What relation are you to the dance committee?"

He put his arm around her
And the color left her cheek;
(But it stayed upon his overcoat
For just about a week.)

Instructor: "Where is Porter today?"

Green: "He is in the office."

Instructor: "Well, I suppose he might as well be resting there as here."

F. B. in room 11 wants to know how to measure off thirty inches with a twenty-four inch rule.

A certain Freshman thinks that an "optimist" is an eye doctor.

June is long, but we know a Junior that is short.

Freshman (hearing the Girls' Glee Club): "Mother, what does Mr. Woods hit at the girls with that stick for?"

"He is not hitting at them," replied the mother; "keep quiet."

Freshman: "Well, then, what are they hollerin' for?"

Miss Gilday says that she reads the locals to find out what she doesn't say.

MR. SARGENT'S FAVORITE VERSE

A white spot on a man's dark vest
After he's been out to call,
Is not always the safest sign
He's rubbed against a white-washed wall.

James: "Isn't she a beauty?"

George: "Her red hair is against her."

James: "Is it? It was against me last night."

Sara: "Now that we have quarreled, you may give me back my lock of hair."

George: "Do I resemble a hair restorer?"

Fullerton said to Mills, "You are a liar."

Mills turned around to several bystanders and said, "You must not mind what this poor fellow says; it is a way he has of talking to himself."

Charles Rogers (in physical geography): "It is cheaper for ships to go by water than by land."

In the good old days of Sultan Blank's rule
  In Arabia far away,
Where they taught morality in the schools
  Throughout the livelong day,
Science was void and history bare,
  And languages did not count,
Unless with each a moral rare
  Or at least a certain amount
Of right, or goodness, or duty, or truth,
  Virtues the teachers possessed,
Was handed the pupils in bunches forsooth,—
  'Twas thus the small Arabs were blessed.

In the cookery class, the pupils did toil
  In Arabia far away,
Over the "Science on Apples," the oils
  Were duly considered that day,
And minerals, acids and carbohydrates
  And water and albumenoids,
And cellulose matter supplied by the fates
  Dietetics they did not avoid.

"But wherefore this knowledge?" the teacher declared.
  "The bud is so tender, you know;
And if from the blighting frost had not been spared,
  There would be no apple to show.
'Tis so with your lives, my pupils," she sighed,
  "In youth you must keep them from blight.
'Tis the lesson the apple doth teach us," she cried,—
  "In Arabia, this is all right."

If the subject was good old English Lit.,
  "In Arabia far away."
The teacher was certainly bound to hit
  Without the least delay,
Upon the achievements of such as Pope,
  (Who was so much weaker than we).
"'Twill be an example for each, I hope,
  And cause each one to be
Ambitious to use his strength and will,
  And mind," quoth she, "as well,"
Lives were as straight as trees on a hill,
  Morals as clear as a bell,
Minds as profound as algebra rules,
  Characters deep as a boy
Where they taught morality in the schools,—
  In Arabia, far away.

ANOTHER GIRL

"Joe's worried and I'll bet a pound,
  It's over me," said Grace.
But, looking in his watch, she found
  She wasn't in the case.

To Prevent Hair (Hare) From Falling Out

EXCHANGES

Olive M. Thomas

EDITOR

TRUMAN GODFREY

We wish to thank the following papers for their kindness in having exchanged with us during the past year: The *Advocate*, Lincoln, Neb.; the *Archive*, Philadelphia, Pa.; the *Ottawa Campus*; the *Crimson*, Ft. Scott, Kas.; the *Cascadillian*, Ithica, N. Y.; *Echoes*, Joplin, Mo.; the *Exponent*, Marionville, Mo.; M. M. A. *Eagle*, Mexico, Mo.; the *Donnybrook Fair*, Tampa, Fla.; *Drury Academe*, North Adams, Mass.; the *Forum*, St. Joseph, Mo.; *Hand and Mind*, Washington, D. C.; the *Herald*, Westport H. S.; the *Herald*, Atlantic City, N. J.; the *Independent*, Columbia, Mo.; the *Industrialist*, Manhattan, Kas.; the *Ilakawinn*, Pendleton, Ore.; the *Janus*, Hanford, Cal.; the *Jayhawker*, Kansas City, Kas.; the *Jayhawker*, Manhattan, Kas.; the *Lever*, Colorado Springs, Colo.; *College Life*, Emporia, Kas.; the *Messenger*, Wichita, Kas.; the *Daily Maroon*, Chicago, Ill.; the *Midland*, Atchison, Kas.; *H. S. News*, St. Louis, Mo.; *H. S. News*, Coffeyville, Kas.; the *Nautilus*, Jacksonville, Ill.; the *Observer*, Decatur, Ill.; the *Oracle*, Burlingame, Kas.; the *Observer*, Chillicothe, Mo.; the *Polaris*, Freeport, Ill.; *Purple and Gold*, Huron, S. D.; the *Quill*, Trenton, Mo.; the *Radius*, Kansas City, Mo.; the *Record*, Grand Junction, Colo.; the *Retina*, Toledo, O.; the *Register*, Omaha, Neb.; *William Jewell Student*, Liberty, Mo.; *H. S. Sentiment*, Parsons, Kas.; *H. S. Student*, Oklahoma City, O. T.; *College Wide Awake*, Vancouver, B. C.

A school paper is a great institution. The editor gets the blame, the manager the experience, and the printer the money—if there is any.

Thomas: "Say, you Short, how do parrots talk?"

Short: "Dead easy! in polly syllables, of course."

Mother: "Tommy, your face is very clean, but how did you get so much dirt on your hands?"

Tommy: "Washin' me face."

Minister: "Well, Bobby, what do you want to be when you grow up?"

Bobby (suffering from parental discipline): "An orphan."

The rain falls on the just and the unjust, but the latter nearly always have the former's umbrella.

"I'm afraid, Johnny," said the Sunday school teacher, rather sadly, "that I shall never meet you in the better land."

"Why! What have you been doin' now?"

Little Brother: "Jack, what's a chaperone?"

Elder Brother: "That's the French name for an infernal nuisance."

"A true poet writes poetry because he can't help it."

"Oh, no; a true poet writes poetry because nobody can stop him."

"I know why little black boys is so happy," said five-year-old Willie.

"Why?" asked his mother.

"Cause their mothers can't tell when their hands are dirty."

Vainly the landlady tried to carve the chicken.

The impudent boarder arose half from his chair to get a better view of the affair.

"Rubber!" said the landlady, sarcastically.

She: "There was no one at home last night, so I just sat and sang to the clock."

He: "What were you trying to do? Kill time?"

If ever perfect manners were,
The Boston lady had 'em;
She wouldn't say chrysanthe "mum."
She said chrysanthe "madam."

Teacher: "For mercy's sake, don't you ever think? What's your head made for?"

Dull Boy: "Oh, just to keep my collar from dropping off."

He said her hair was dyed, and when she indignantly exclaimed, "It is false!" he said he presumed so.

Upon a little darkey,
A-swimming in the Nile,
Came all unexpectedly
A great big crocodile.
In tones so cold and frigid
'Twould make one's warm blood freeze,
He said: "I'll take some dark meat,
Without the dressing, please."

"Do you believe in the observance of the golden rule?"

"Yes. I always like to have other people keep it in mind when they are dealing with me."

"I don't like that cat—it's got splinters in its feet!" was the excuse of a four-year-old boy for throwing down a kitten.

"Yes," said the giraffe, "I've got the sore throat. Can you imagine anything worse than that?"

"Well," replied the centipede, "I had my feet frost-bitten once."

EASY

Miss Sandford: "Yes, Mr. Fielder, I will be yours on one condition."

Fielder: "Oh, that's all right. I entered Harvard with six."

His Papa: "Bobby, I merely punished you to show my love for you."

Bobby: "If I was only bigger, pa, I would return your love."

"Do you suppose that a man can see better by the aid of glasses?" said a man in company.

"I know he can," said a toper, "for, after I have taken a dozen glasses, I can see double."

First Russian: "You say the fight was quickly over?"

Second Russian: "Yes, it was finished before you could say Jackoplinsky Robinsonopolotowsky."

The celebrated soprano was in the middle of her solo when little Johnny said to his mother, referring to the conductor of the orchestra:

"Why does that man hit at the woman with his stick?"

"He is not hitting at her," replied his mother. "Keep quiet."

"Well, then, what is she hollerin' for?"

Sunday School Teacher: "What was Sampson's last act?"

Boy: "I don't remember, but it brought down the house."

"If you had half the nerve this tooth has," said the dentist to the quivering wretch in the chair, "you could have this all over in about five seconds."

A word of comfort to some of your friends: "If your shoes squeak, don't let that worry you. Shakespeare says that every one ought to have music in his soul."

"I fear," said the postage stamp on the student's letter to his father, "I am not sticking to facts."

"Fifty miles an hour," yelled the chauffeur. "Are you brave?"

"Yes; I am full of grit," the girl replied, as she swallowed another pint of dust.

The old lady was being shown over the battleship by an officer.

"This," said he, as he pointed to an inscribed plate on the deck, "is where our gallant captain fell."

"No wonder," replied the old lady. "I nearly slipped upon it myself."

Fly, flee, flaw, flue.
A fly and a flea in a flue
Were imprisoned. Now what could they do?
Said the fly, "Let us flee!"
"Let us fly," said the flea—
So they flew through a flaw in the flue.

A poor Irishman on his death-bed was consoled by a friend with the commonplace reflection that "we must all die once." "Why, dear now!" cried the sick man, "and isn't it that what vexes me? If I could die half a dozen times, I would not mind it for this wanst."

A pastor was busy erecting a fence around his small garden. He was hammering in the nails when a boy going to school stopped and watched the operation.

"Well, my little man," said the pastor, noting the boy's fixed attention, "would you like to be a carpenter?"

"No," replied the boy.

"Then what are you waiting for?"

"I was waiting," returned the urchin, "to hear what a pastor says when he mashes his thumb."

The Teacher: "Did you know that a star is much bigger than the earth?"

Freshman: "No; if it was it would keep the rain off."

AS A REMINDER

Albert (time, 11:59 p. m.): "Really, I must be going now; it's getting late."

Laura (yawning): "Well, you know the old saying."

Albert: "What's that?"

Laura: "Better late than never."

"Johnny," said Mr. Smith, in the crowded car, "why don't you get up and give the lady your seat?"

"Cuz I don't haft to," replied Johnny, sullenly. "You're always tryin' to make a hit with some woman."

Little Alicia, aged five, who has occasionally witnessed a quiet family game, electrified the minister's family, while lunching there the other day, by innocently remarking, as she indicated the sliced beets with a tiny forefinger, "I will take a stack of reds, if you please."

"I say, old chap, lend me a fiver, will you?"

"Sorry, but I am not making any permanent investments just now."

An Irishman and a Frenchman were parting at the steamer. The Irishman, standing at the wharf, waved his hand at his friend and shouted: "Oh, reservoir!" The Frenchman, politely saluting, replied, "Tanks."

HER IDEA OF IT

Taragon: "The Russians have great faith in the bayonet, the Japs in the sword. Which arm do you prefer?"

Miss Imple (absentmindedly): "Both!"

Don Carlo Pedro: "South America beats the world."

Smith: "Oh, I don't know; the world has a revolution every twenty-four hours."

Thermometers are not the only things that are graduated, and get degrees without having brains.

Jaggs (reading): "Here is a weather prediction in which it is spelled w-e-t-h-e-r."

Naggs: "Then that's a sign of a bad spell of weather, isn't it?"

Lady (entering barber shop with skye terrier): "Mr. Barber, can you cut my doggie's hair?"

"No, I can't; or rather I won't."

"Indeed! You seem to hold yourself pretty high for one in your position."

"Perhaps I do, but I'm no skye-scraper."

Some of the latest quotations:

As ye sew, so shall ye rip.

Where there's a will, there's a lawsuit.

Man proposes, then woman imposes.

A miss is as good as her smile.

Hat Check Man: "Here! Here! what on earth are you doing—smashing in those hats?"

Club Member: "I'm trying to find my own. It's an opera hat and shuts up; none of these seem to be mine."

The inventor of a new feeding bottle for infants sent out the following among his directions: "When the baby is done drinking, it must be unscrewed and laid in a cool place under the hydrant. If the baby does not thrive on fresh milk it should be boiled."

First Poet: "I am going to have my revenge on the editor."

Second Poet: "How?"

First Poet (in a hoarse whisper): "I've sent him a poem, and I've poisoned the gum on the return envelope."

HERBERT HARE

WILLIAM B. FULLERTON
Business Manager

MANAGERS

EARL B. MILL
Assistant Manager

In this last issue of THE NAUTILUS for the school year we, the business management, wish to express our appreciation for what our friends, the advertisers, have done for us. We feel that they have treated us exceptionally well this year, and hope that they have the same good feeling toward THE NAUTILUS. One bit of good news that we feel our advertisers and other friends of THE NAUTILUS will be glad to hear, is that, owing to the great increase of pupils at our school, it has become necessary to increase the number of copies issued until now we have one of the largest circulations of any high school paper in this state.

In the November issue our advertisement space was in such demand that our alloted space was filled and not all of our patrons arranged for; so it became necessary to enlarge the book a few pages. This gave some of the other departments more space as well as ours. During the history of THE NAUTILUS this is the first time, except in the case of the Annuals, that the book has ever been enlarged. We sincerely hope that our successors will be able to keep up the good work

and each one make a step toward advancing this paper to the lead of all.

Let us not forget to impress on the minds of all the pupils at Manual the motto of their own school paper: "Patronize your friends, the advertisers in THE NAUTILUS."

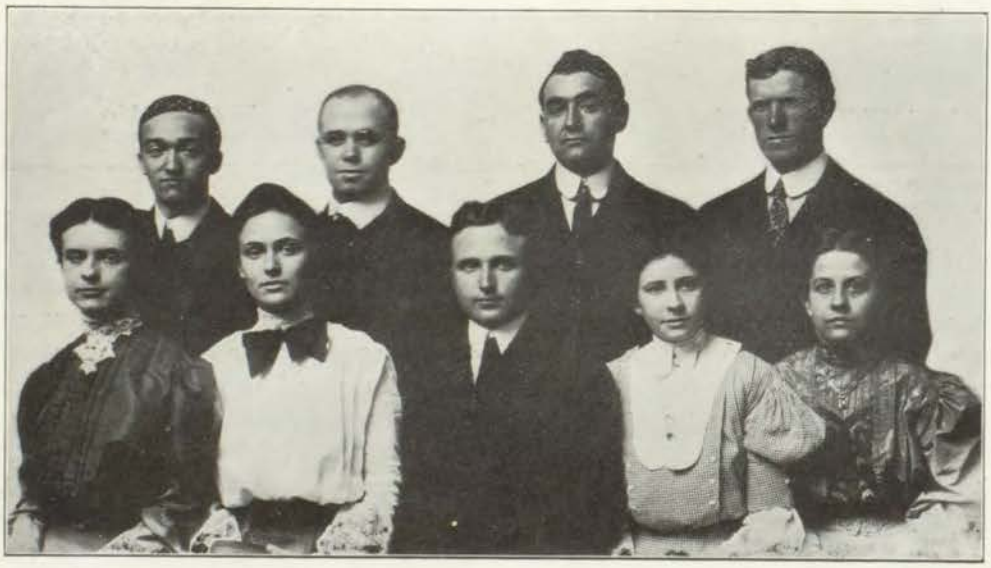
WM. B. FULLERTON.

EDWIN S. PIERCE
Assistant Manager

MANAGERS

CHARLES BOWMAN
Subscription Clerk

ALUMNI



ALUMNI OFFICERS

JOHN WOODWARD HARRY FRAZER JAMES KILROY BRUCE FRAZER
LENA LINDSAY EMMA HUMFELD ROY DAVIS BERTHA FARIS VIRGINIA MINTER

"And now great deeds
Had been achieved."

For four years we sturdy sons and courageous daughters of nineteen five have battled successfully with the trials and perplexities to which we were introduced in the Freshman year. We have overcome valiantly and acquitted ourselves creditably in all interviews, tests and conferences with Principal, Faculty, and Freshmen,—not to mention Juniors.

Kind reader, we have from first to last endeavored to maintain a modest bearing toward the lower classes, despite our suc-

cesses on the field, in the hall, and in the recitation room. We are now about to leave you forever and we ask you, for the love of our dear school, to look to us as a bright and shining example in correct deportment, excellent attendance and scholarly achievements.

In the shops, our work would, if exhibited, be such as to make the Society of the Arts and Crafts green with envy. In the department of belles-lettres, our note-books will be found to contain all that a first-class encyclopedia does.

And now we must bid all farewell. It is with many conflicting emotions that we do this. We are sorry to leave many of our teachers, and regret that our advice and wise counsel can no longer help the under-classes—especially the Juniors. We are happy that the final exams are over: they came, we crammed, and we conquered.

CHARLES ALLAN BOWMAN.

SENIORS

SENIORS

TEACHENOR-BARTBERGER ENG. CO.

PHOTOGRAPHERS FOR MANUAL TRAINING HIGH SCHOOL, 1905

Graduates Manual Training High School, June 14

BOYS

Arrowsmith, Geo. M.
Baer, J. Lawrence
Bayerl, Frank X., Jr.
Beardsley, Geo. D.
Beatty, W. Dale
Bontecou, Daniel, Jr.
Bowman, Charles Allen
Breitag, Otto William
Brooks, Wm. E.
Burch, William E.
Charpiot, Victor
Davis, Leland Stanford
De Vasher, Roy R.
Donovan, James A.
Fitzpatrick, James A.
Fullerton, William Borland
Godfrey, Truman M.
Green, George Fuller
Harnden, Glenn C.
Havens, Harry L.
Jahr, Walter Frank
Jenkins, Herman
Johnson, Clifford P.
Jones, Cloyse J.
Knaus, Geo. M.
Lewis, Nelson Blair
Luckett, James Stephen
Matthael, William P.
McNeil, Glenn
Miller, Reginald
Mill, Earl Blair
Morgan, Virgil
Millett, Stanley A.
Newman, Frank J.
Ollis, William H.
Owen, Leland M.
Owen, Warfield D.
Pierce, Colwell A.
Pierce, Edwin S.
Porter, George A.
Prather, Ivan
Ridgway, Joe A.
Rogers, Charles Lee, Jr.
Rogers, Dick.
Robertshaw, Harry E.
Ruegg, Fred E.
Sanborn, I. Basil.
Sherrod, John.
Schutte, Carl O.
Smith, J. Conrad.
Snyder, Harry E.
Spencer, Aubrey Newton.
Stein, Arthur J.
Van Brunt, John, Jr.
Van Buskirk, Edward James
Wagner, Philip F.
Wagner, Arthur
Webb, Watt, Jr.
Wheeler, Harley
Williams, Louis Henry
Winstead, Richard Caines
Woodling, Plummer A.
Young, Eugene L.

GIRLS

Arnold, Carrie Belle
Arnold, Pearl
Austin, Beulah Gertrude
Baker, Katie M.
Bancroft, Estella M.
Baum, Jennie
Beaumont, Crystal G.
Beatty, Ruth C.
Benz, C. Julia
Bohle, Lucile
Bowen, Nelle
Bragg, Bessie A.
Brannon, Ethel Irena
Brown, Nan
Brown, Myrtle J.
Burke, Anna C.
Byers, Hazel Dee
Calvert, Nora Lee
Carter, Allie May
Castel, Mary
Chapman, Fanny Kay
Collings, V. Blanche
Confer, Letitia Marie
Coulter, Irene Leola
Crohn, Renee F.
Campbell, Mary Louise
Danciger, Sadie
Diamond, Mary Beatrice
Dunham, Laura
Elliott, Florence Frances
Field, Marcia
Forrester, Alma C.
French, Mabel
Gallagher, Nettie B.
Gardner, Eunice L.
Gaunce, Nannie A.
Gent, Bessie Maud
Giffee, A. Fern
Goodman, Sophia B.
Hanson, Inez
Hare, Nellie M.
Hopkins, Effie Dow
Hull, Frances
Hynes, Gertrude N.
Ingels, Laura Salome
Jaudon, Ruby Mary
Joffee, Adele A.
Jones, Nellie Elizabeth
Keefer, Katharine Brua
Kelly, Constance M.
Kenny, Mabelle
King, Mabelle L.
Kirkpatrick, Hesper
Klinger, Martha
Kresky, Marion Myrtle
Koogle, Mary A.
Leonard, Mary
Mahan, Nellie Emma
Marquis, Mabel
McEntire, Mabel G.
Metzger, Maybell
Mitchener, Margaret
Moffatt, Sara
Mohn, Irene Marie
Morrison, Anne
Murray, Emma
Nagle, Clara R.
Needles, Floribel
Olsen, Nellie E.
Oviatt, Lilian
Pearse, Faith Alice
Phillips, Martha D.
Poor, Eva May
Raynor, Alleen C.
Reed, Myrtle M.
Reefer, Minka J.
Roche, Lily Annie
Rood, Mary L.
Russell, Commie
Sage, Laura Grace
Sappenfield, Abigail C.
Sawyer, Anna
Schaefer, Natalie
Scott, Stella
Smith, Beatrice
Smith, Meda E.
Spruill, Nannie B.
Taylor, Fannie Lenore
Thomas, Olive
Trumbo, Mabel
Walker, Ethel Virginia
Warner, Marie Louise
Whitmore, Eleanor Baum
Wilcox, Marjorie Brewster
Wilkins, S. Edyth
Wirthman, Marie Cecilia
Zacharias, Mollie

SENIORS

SENIORS

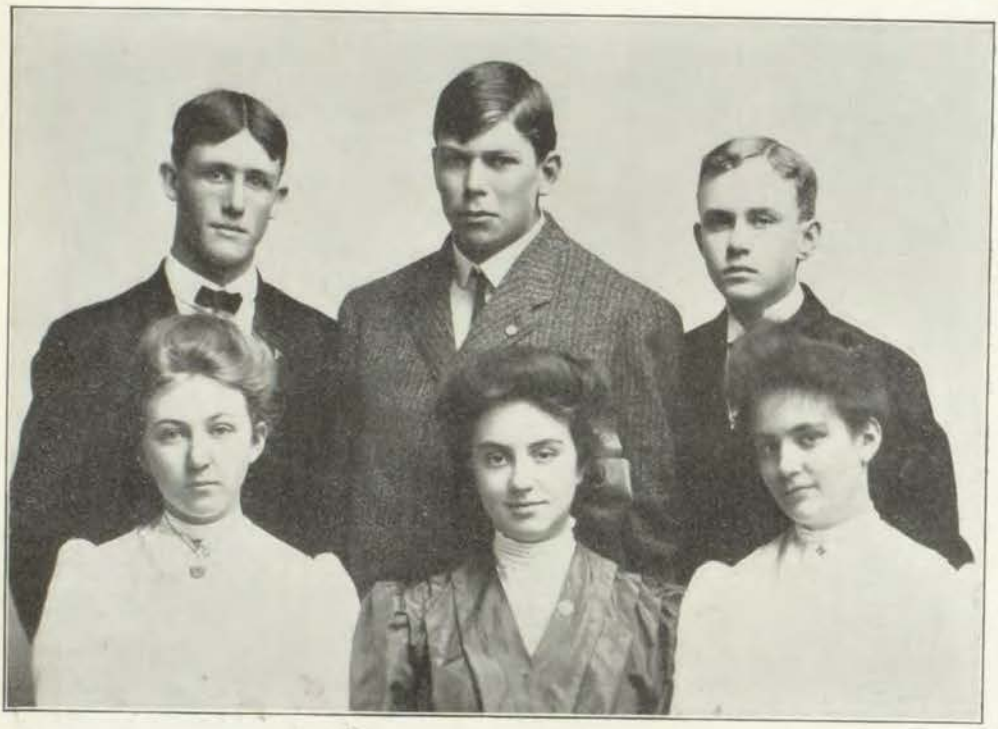
SENIORS

SENIORS

SENIORS

JUNIORS

HERBERT HARE



Unlike the majority of Juniors, we, the class of '06, understand that there are others besides ourselves attending Manual. Therefore, for our lack of egotism, let due credit be given us, and let it be acknowledged, once for all, that ours, in this particular instance at any rate, is an organization above the ordinary. We have heard that there is a Freshman class—a group of shy, good-natured children—and since this statement has been corroborated by our teachers, we have accepted it as true. We know there are Sophomores, for several of our class were sick during their second year, and consequently are now laboring under the disadvantage of that appellation. Furthermore, we have been informed of the

existence of Seniors. A few weeks ago we saw several rather would-be significant looking youths parading the halls; each wore a gilded badge, which appeared to have been spattered with black ink. This, we ascertained after close questioning, denoted Seniorship. But let me state a few truths concerning our class.

Since the sixteenth of September, in the year 1902, marvelous has been the one word used in connection with the Class of '06. As Freshmen, we were marveled at for our lack of verdancy, our aptitude for study, our peculiarity of always getting to the bottom of a thing, and our self-reliance. Why, when this assemblage of talent was being enrolled in its first year, everybody—even to the janitors—remarked upon our extraordinary appearance. The principal himself soon recognized that we were not of the common sort, and in acknowledgment of our superiority, he often thereafter called us into his private office to consult on the administration of school affairs. The janitor, also, realized that no class such as ours had ever penetrated the walls of Manual, and immediately added several helpers to his force, in order that we might receive proper attention.

As Sophomores, our haughtiness, our ability to make school life enjoyable for the Freshmen, the ease with which we wrested laurels from the Seniors, and our ability to digest Simultaneous Quadratics, caused the term marvelous to cling to us throughout that year. In the fall of this second year it was rumored that the faculty called the attention of the Board of Education to us, declaring that some acknowledgment should be made of our splendid record. The Board agreed with our teachers in this, and forthwith decided to build an addition to Manual. This they did. It is now known as the "Gym." To further emphasize the fact that we were appreciated, a new machine was at once installed in Room 18, that it might be gotten into good working order for us by next year. A printing press was also set up in Room 12, that we might not be taxed with the labor of writing up experiments. To meet the especial requirements of our brilliant class, Miss Fisher was sent to Europe—there to add still more to her already extensive knowledge of the languages.

As Juniors, our habit of depreciating our shining qualities, our practice of sticking to the truth in spite of consequences, our abnormal brain capacity, and our excellent management of the school in general, so impressed the faculty that they gave notice of a holiday for May fifth, and implored us to accompany them on an excursion to Columbia. Up to date, those whom we have installed in place of some of our teachers of last year, have given the utmost satisfaction, and with their able assistance we are still handling the school in our usual skillful manner.

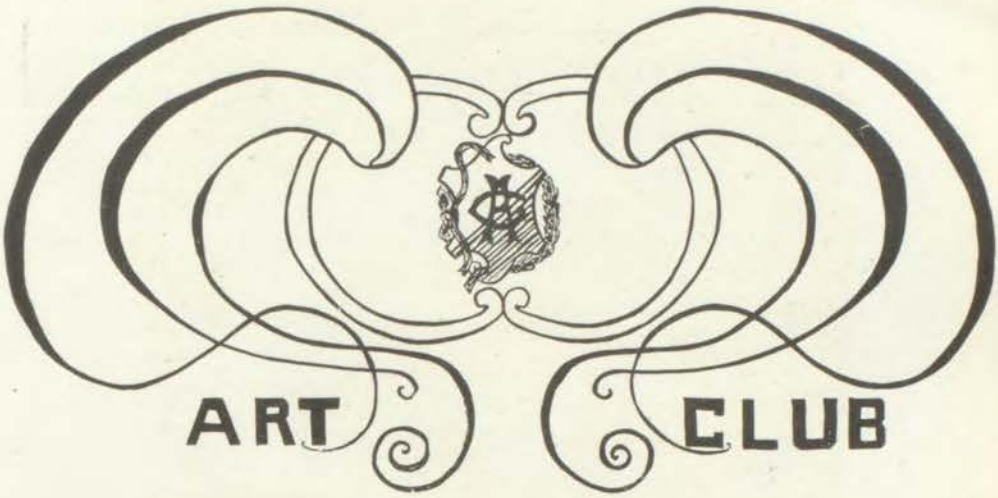
Now that you have heard something of the history of the class, do you not consider the term *marvelous* well applied to us?

In conclusion, let me say to the Freshmen and Sophomores: Keep a memorandum of the magnificent achievements of the illustrious class of '06, ever before you; if you aim at the sun, you may hit the stars. The next time we appear it will be under the title "Seniors."

"Freshie, Sophie, don't you cry,
You'll be a Junior bye and bye."

ROBERT REEVE PARK.

ART CLUB



OFFICERS

President. ..... Eugene Young
Vice-President. ..... Faith Pearse
Secretary. ..... E. Wanda Egbert
Treasurer. ..... Stanley Mullett
Critic. ..... Nellie Hare
Sergeant-at-Arms. ..... Ledwidge Sargeant

MEMBERS

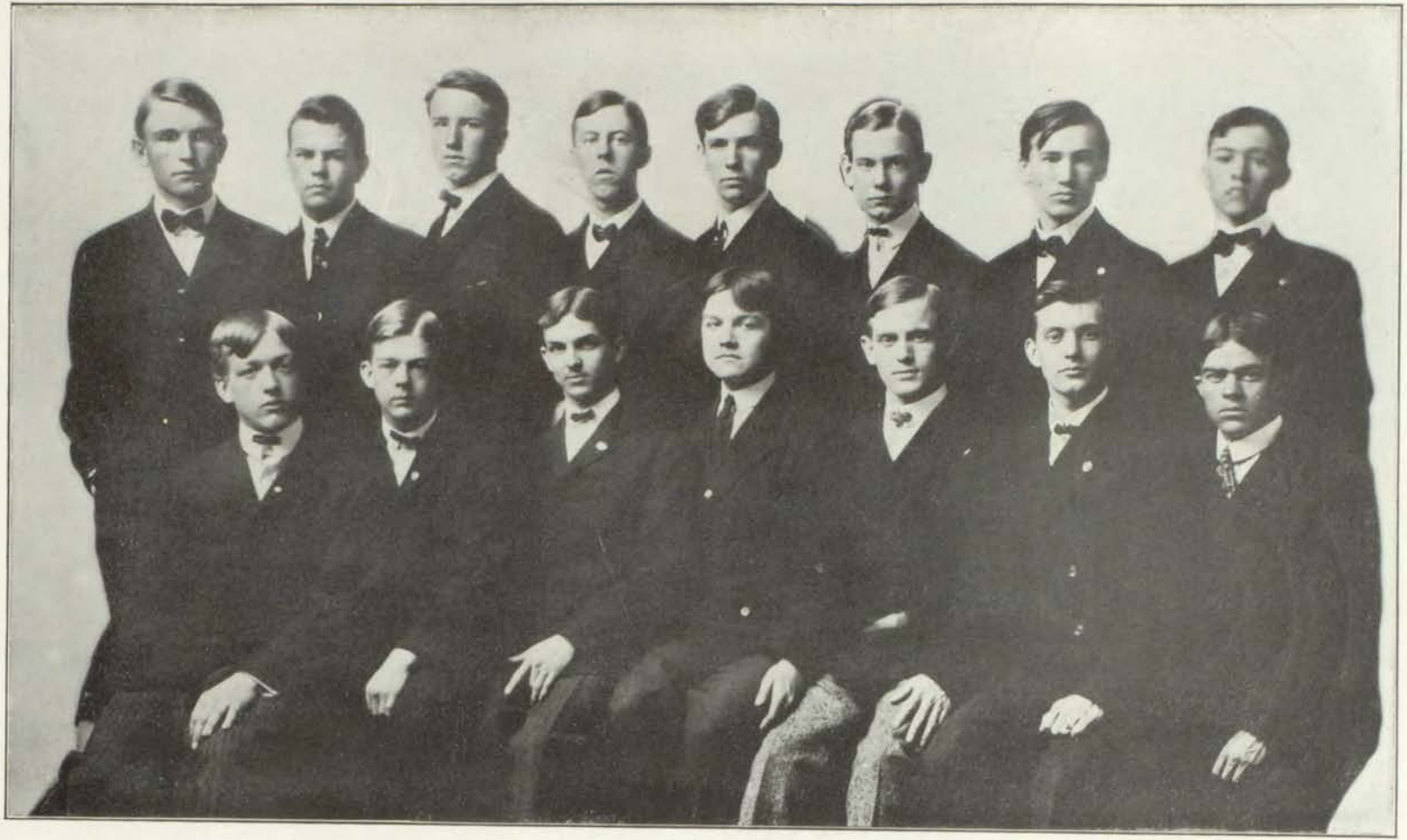
Mildred Trowbridge
E. Wanda Egbert
Helen Crandall
Dorothy Oldham
Irene Verner
Theo. Nettleton
Lottie Williams
Nellie Hare

Faith Pearse
Clara Morris
Marie Confer
Mamie Stoller
Hazel Huchinson
Grace Huchinson
Helen Gleason

Eugene Young
Bower Broaddus
Watt Webb, Jr.
Harry Havens
Lee Galbot
Reeve Park
Clifford Cole
Clyde Sylvester

Charles Curry
Glenn McNeil
William Curry
Basil Sanborn
Ernest St. John
Ledwidge Sargeant
Stanley Mullett
Herbert Hare

Sponsor. ..... Miss Anna C. Gilday



MANUAL SOCIETY OF DEBATE

OFFICERS

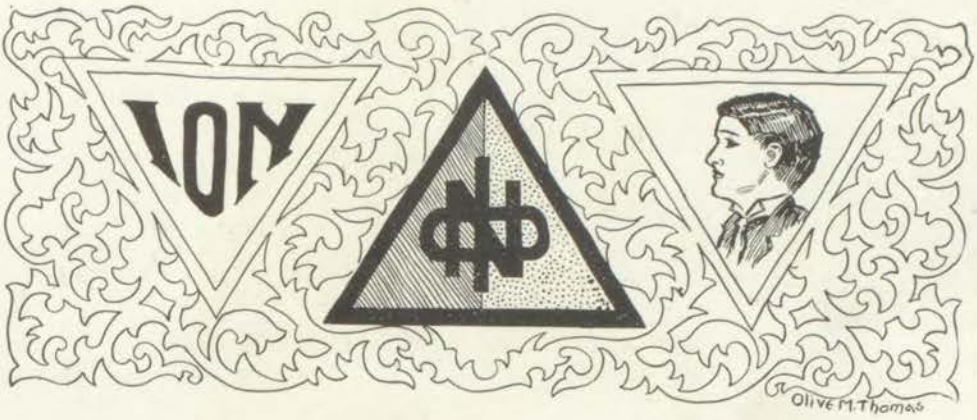
President. ..... Foster Palmer
Vice-President. ..... John Ewins
Secretary. ..... Colin Lee
Treasurer. ..... Harold Roe
Sergeant-at-Arms. ..... Ralph Mann
Critic. ..... Edward Van Buskirk
Librarian. ..... Charles Woodward

MEMBERS

Pate Kruse
Foster Palmer
John Ewins
Ralph Mann
John Sherrod
George Beardsley
Colwell Pierce
Harold Roe
Charles Woodward
Roy Hanna
Stephen Luckett
Edward Van Buskirk
Aubrey Spencer
Howard Scott
Colin Lee

Sponsor. ..... Prof. E. M. Bainter

ION SOCIETY



OFFICERS

President. ..... Edwin Pierce
Vice-President. ..... Virgil Morgan
Secretary. ..... Woodson Dixon
Treasurer. ..... Gilbert Jaccard
Critic. ..... James Donovan
Sergeant-at-Arms. ..... Earl B. Mill

MEMBERS

Edwin Pierce
Gilbert Jaccard
Edward Botsford
Robert Allen
William Harnden
James Donovan
Woodson Dixon
Paul Dodd
Donald Moffatt
Charles Fennell
Earl B. Mill
Virgil Morgan

Sponsor. ..... Mr. A. A. Dodd

A. L. S. SOCIETY

OFFICERS

President. ..... Walter Bacon
Vice-President. ..... Grace Gowen
Secretary. ..... Gladys Miller
Treasurer. ..... Edwin Lyon
Critic. ..... Frances Klunk
Sergeant-at-Arms. ..... Hazel Forbes

MEMBERS

Helen Barnes
Della Kahn
Hazel Forbes
Grace Gowen
Georgia Jones
Frances Klunk
Martha Phillips
Maud McGee
Frank Bruce
Trent Boyer
Walter Bacon
Lester Davidson

Regina Lamb
Gladys Miller
Nettie Gallagher
Constance Latshaw
Edith Stone

Richard Fleming
Harry Jenkins
Edwin Lyon
Howard Pauly
Harry Scow
John Watkins

Sponsor. ..... Miss Bertha Bachelller

O'ITA SOCIETY

OFFICERS

President. ..... Hesper Kirkpatrick
Vice-President. ..... Naomi Gillespie Smith
Secretary. ..... Helen Tilley
Treasurer. ..... Leslie C. Frame
Joatamon. ..... Elsa Ripley
Sergeant-at-Arms..... ..... Florence Elliott

MEMBERS

Nelle Carroll
Pauline Dunlap
Florence Elliott
Leslie Frame
Mable French
Effie Dow Hopkins

Margaret Elston
Hazel Partington
Ethel Richardson
Alier Richardson
Huldah Simms

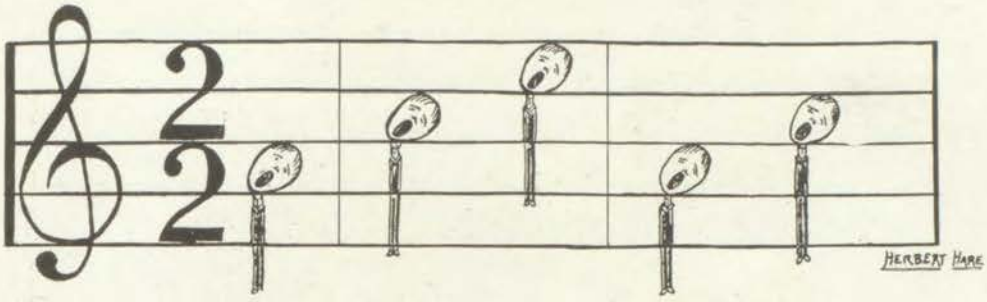
Dorothy Hopkins
Ruth Hunt
Hesper Kirkpatrick
Donna Lawrence
Ruth McCluer
Georgia Milburn

Naomi Gillespie Smith
Olive M. Thomas
Elva Farth
Elsa Ripley
Helen Tilley

Sponsor. ..... Miss Jennie Sublette

BOYS' GLEE CLUB

BOYS GLEE CLUB



OFFICERS

President. ..... LAWRENCE BAER
Secretary. ..... LOUIS H. WILLIAMS
Treasurer. ..... W. P. MATTHAEI
Librarian. ..... WARD H. COBLE

MEMBERS

First Tenor

Clarence Bolles
Eph. Doherty
John Frank

Second Tenor

Frank X. Bayerl
J. W. Bodman
Compton Edw. Hanks
Glenn McNeil
James M. Reid

First Bass

Walter Bacon
Lawrence Baer
Bret Boright
Claude N. Harmon
Harry W. Porth
Alex Sachs
Donald L. Wheelock

Second Bass

Ward H. Coble
Leo Conwell
Geo. M. Knaus
W. P. Matthaei
Basil Sanborn
Louis H. Williams
Paul J. Dodd
Foyd Gamble

Director. ..... MR. GLEN H. WOODS

GIRLS' GLEE CLUB

Girls' Glee Club

OFFICERS

President. ..... Mabel Trumbo
Vice-President. ..... Maybelle King
Secretary. ..... Genevieve Musgrove
Treasurer. ..... Martha Betz
Business Manager ..... Gladys McAlister
Sergeant-at-Arms. ..... Margaret Stone

MEMBERS

Mary Alfter
Martha Betz
Olive Berlin
Bessie Brodie
Leontine Bower
Grace De Laplaine
Edna Eisele
Naomi Fenton
Genevieve Musgrove
Gladys McAlister
Ethel Ott
Myrtle Reed
Margaret Stone
Bessie Spalding
Sidney Smith
Mabel Trumbo
Fern McIntyre
Hazel Gross
Ada Hillgren
Inez Hansen
Myrtle Hayne
Helen Jahr
May Hargreaves
Margaret Lathrop
Anna Muelhbach
Ruth Wilcox
Ella Wilcox
Grace Wilcox
Marie Warner
Mary Warmoth
Bessie Lukin
Mildred Pierce
Etta Hardesty
Audrey Tweedale

GERMAN CLUB

German Club

OFFICERS

President. ..... Frank Bayerl
Vice-President. ..... Marie Thoma
Secretary. ..... Frieda Franciscus
Treasurer. ..... Elsie Katzmaier
Critic. ..... Burnell Stevens

MEMBERS

Anna Betterman
Bertha Betterman
Alma Betz
Martha Betz
Mary Castel
Hattie Reid
Dollie Teske
Marie Thoma
Frieda Franciscus
Elsa Katzmaier
Lucile Kellerman
Marie Lampe
Hellen Massa
Nettie Nordhop
Frank Bayerl
John Eichenauer
Arnold Hoffman
Burnell Stevens

Chaperon. ..... Miss Gertrude von Unwerth