

MANUAL TRAINING HIGH SCHOOL  
KANSAS CITY MO.

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NOVEMBER  
1901  
VOL. V NO. 1

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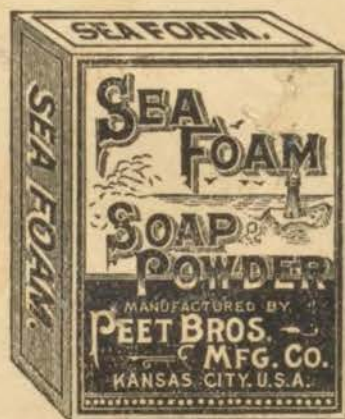
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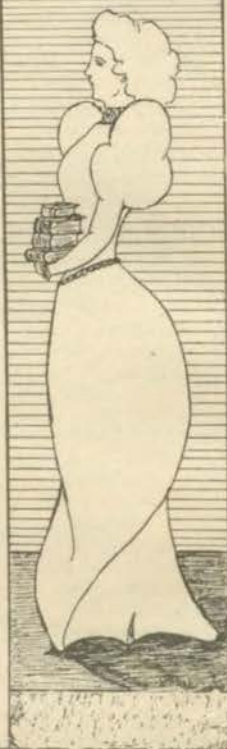
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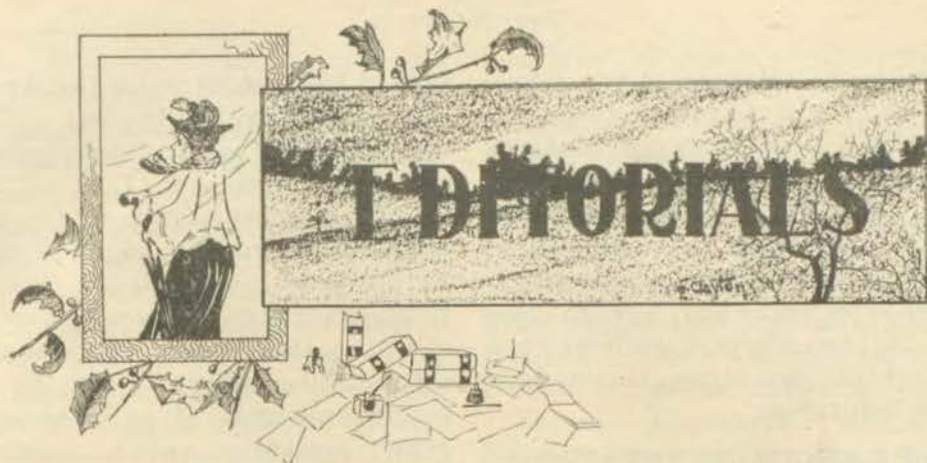
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THE NAUTILUS,

Manual Training High School,

Kansas City, Mo.

**ENTER VOL. V.**

**T**HIS issue of the NAUTILUS records the beginning of the fifth year of our school and opens the fifth volume of the School magazine. The four preceding volumes have been neatly and substantially bound at the bindery of the public library, and are now on

file there as well as in the principal's office. This preservation of the files of the magazine in a form convenient for examination and ready reference will serve two important purposes. (1) The high standard of excellence on which the paper was first conceived and established on a broad plane rep-

representing the interests of the school as a whole will serve to stand as a model, and a check to any tendency towards its becoming the organ of any society, clique or faction. (2) It will furnish a means of reference for the alumni in recalling many interesting school experiences and help to keep alive that broad school spirit which is now the distinguishing characteristic of our institution.

#### THE LANGUAGES RETAINED.

**M**ANUAL has just passed a critical period in its history. The proposition to strip the curriculum of its foreign languages, taking the school out of the high or secondary school class disqualifying it for the preparation of students for college failed to pass at a recent meeting of the Board of Education held for the final disposition of the question. The Board of Education with its characteristic breadth and wisdom in dealing with mooted questions allowed adequate time for public consideration of the matter and invited a full and free discussion by patrons and other citizens. After hearing all the arguments pro and con the Board at its last meeting, Nov. 7, finally settled the matter; and it is now universally conceded that it was settled rightly. The question was one of vital importance to the pupils and parents of this school, and their active participation in defence of the school doubtless made it easier for the Board to resist a tendency to lower the standard by a step backward. But the significance of this decision extends far beyond local interests; it concerns education at large and is co-extensive with systems of public schools throughout the United States. The Manual Training High School as it exists today in our leading cities stands as a

type of high school which the American people have worked out as best answering the needs of an industrial and progressive age. Like all new growth it must withstand the cold winter of obstruction, and it is cause for universal congratulation that the Kansas City bud—the most promising of all on the limb of progress—has survived the recent “frost” by the kindly protection of an enlightened public sentiment and a competent school board. Similar attempts have been made to remove the languages from Manual Training High Schools of other cities, and so far all these attempts have failed. The attempt in Denver was made simultaneous with that of Kansas City and it is gratifying to record a similar result. Had our Board of Education, which has established a school that is now looked upon by other cities as a model, taken this proposed backward step it would have cast a reflection on Kansas City which would have seriously injured its reputation as a progressive and up-to-date city.

#### THE NEW STAFF.

**W**ITH the present issue the new staff assumes the publication of the NAUTILUS. Whether we will be able to maintain the high standard attained by our predecessors in presenting one of the best school magazines published, remains yet to be seen. While we fully appreciate the responsibilities of our positions, we have at the same time determined to “leave no stone unturned” and to “burn the bridges behind” so that there can be no opportunity of turning back. A strong point in our favor is the fact that the entire staff is a unit as to what the NAUTILUS shall be this year, not equal to, but vastly

better than the former issues. We will at all times be glad to receive suggestions and assure you that all such will be given proper consideration. As above stated, the bridges are burned, we cannot go back, will you, as pupils help us in our forward march to success and the realization of our hopes, and from the excellent material that has been handed in from all the departments and crowded out on account of space it evidently appears that the present staff has made a good start.

### THE ART COMMITTEE

THAT the faculty of the Manual Training High School uses judgment and care in the selection of pupils for certain specified duties was thoroughly demonstrated in its selection of the Art Committee last year of which they selected Mr. Norman Lombard as chairman. That the committee was a very able one and did its work well, goes without saying. Their first and most business like step was to interest the pupils in the necessity of hanging upon the walls of the corridor, pictures of notable character and work of art, and at the same time requesting the support of the NAUTILUS staff in carrying out their plans. To this add the concert of action by the committee and the result is that several very valuable pictures have been added to the collection. It is a very simple matter to select a certain number of persons and put them on a committee, but when it is done in a haphazard, go lucky manner, failure in results is sure to follow. When, however, care is used, as was done last year, then success is the result. It is with pleasure that the NAUTILUS takes this opportunity to thank the Committee of last year, and wishes them one and all the same

measure of success in all future undertakings. In looking over the names selected for the Committee this year, we feel warranted by those who served on last year's committee in the statement that with the same unanimity of purpose and the same energy, this committee will make equally as good if not a better showing than the one of last year. The Committee this year is composed of the following pupils.

Raymond Havens, Chairman, Edith Shepard Secretary, Herman Henrici, Anna Stophlet, Vincent Coates, Rachel Brinkerhoff, William Merrill, Selma Crohn.

### NEW SOCIETIES

THE societies of Manual have been so successful in their efforts to promote social and intelligent growth, as well as a stronger school spirit, that others have been inspired to join in the good cause; so this year we are glad to add to the list two new societies. One a boys society, the "Ion," whose object is the study of history and literature and the other society composed of boys and girls, the "Abraham Lincoln Society," whose object is the study of the lives and deeds of famous men and women.

### FRIDAY ENTERTAINMENTS

"A work of real merit finds favor at last."—*A. Bronson Alcott.*

The credit of the excellent series of entertainments to which we have listened in the past is largely due Prof. Phillips and we wish to thank him for again taking up the work this year. It requires quite a fund of energy to procure us these talented people each week, and the NAUTILUS wishes to express its appreciation of his kindness.

"Unless experience be a jewel; that I have purchased at an infinite rate."  
—*The Merry Wives of Windsor.*

ing pile. They are up again. Again they go through the same maneuvers. But this time—why what is this! One player is still lying on the ground, why does he not join his fellows in the eager pursuit? Instantly the surgeon rushes to his side with restoratives. Marian's heart almost stops beating with fright. It was Lucius out there on the ground, lying so still and white.

She feels like screaming to awaken him, but her voice has deserted her. At length she gasps, "Take me to him, Mr. Harum."

"Why Miss Hunt, what do you want to go down to see him for? What good could you do?"

"Beast," Marian answered in her desperation, "then I'll go alone."

A few minutes later she stood inside the little white tent where he had been carried. She was unconscious both of the curious and of the admiring glances that were directed toward her, by the usual crowd of hangers on.

Lucius the half back, was still lying like one dead. "Oh doctor, tell me, will he live?" burst from Marian's lips as she saw him.

"I can't tell. I hope so. He is badly hurt," the physician replied.

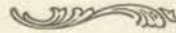
"Oh Lucius! Oh, why did I come!" whispered Marian as she fell heavily to the ground.

Several days have passed since the sad accident of Lucius Daunton. The doctors who attended him had announced their hopes of an ultimate recovery.

In a comfortable room of the Daunton residence the injured man might be seen lying on a couch with Marian sitting by his side. He was explaining in low tones his aversion to Mr. Harum.

"Yes, Lucius," said Marian in a happy way, "now that you are spared to me, I will always believe that you know what is best."

MARGUERITE SHAFFER.



## LOVE AFFAIRS OF A PIRATE

### HIS FIRST EXPERIENCE.

'Twas in the year one thousand, nine hundred and —, that the noble buccaneer Alonzo de Zorilla sailed the bounding main. From the Azores to the Scillies he was feared, and his name struck terror to the heart of the African savage. But the white cliffs of Albion gazed oftenest on his gallant barque, and thereby hangs my tale.

The whitewinged Avenger lay in the offing when her ferocious, yet, withal, handsome master, rowed with light strokes by his jolly crew, swept into the harbor of a little Scottish

town. The verdant hills near the shore stretched, a graceful outline before him, and upon one was a slender figure clad in flaming scarlet, a golf club in her dainty hand.

"Avaunt" hissed the Captain, as he spied her.

"Beach the boat, ye dogs."

Her prow grated on the sand as he sprang from his seat and strode forward to the maiden.

"Woman, tremble not" he shouted, "Thou art mine, the lilly bride of the noble rover."



She cast a timid glance at his manly form.

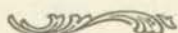
"Speak girl," cried the pirate boldly "What! Art silent? Tell me—" The sentence was never finished. *Thwack!* The golf club lit on his undefended pate and he sat down most hard and sudden.

When he knew that he still lived,

the muscular Gibson girl was but a red speck on the brow of a distant hill.

"Alas" sighed he "where did she learn her athletics? Oh, my evil genius, where?" And it answered him, "At Manual, oh foolish man. Evil it is to wake the sleeping lion." And he thought so, too.

SARA H. BIRCHELL.



## MY IMPRESSIONS OF A BIG FACTORY

The Senior Class in Political Economy, made a visit to several of the large factories, not long ago to study Division of Labor. While the study of Division of Labor was the main reason for going, there was much outside of that one question which provided food for thought, and we rather enjoyed this laboratory work in economics.

One point that was especially interesting, was the marked difference in classes. On the floors where the machinery was more complicated, and the brain was obliged to keep pace with the hands, the look of intelligence was particularly noted.

The people, while of course of the factory order, were clean and neat and looked well cared for, and their faces gave one the impression of a not unhappy life.

But on the other floors where the work was purely mechanical, the utter worthlessness of life was plainly marked on this composite picture. On one floor we even found several colored girls working side by side with the white ones.

As we came in upon them, the workers raised their heads and looked at us with a half-starved expression in their eyes which seemed to mock our light-heartedness.

I paused, forgetting to listen to the explanations of the guide, in looking at those upturned faces. And as I beheld the misery and the sorrow written there, I could not but ask, "Why they there and we here?"

In this department girl after girl sat before her machine sewing on buttons. She slipped the button in, started the machine and it stopped itself, in this way giving each button the same amount of stitching.

Someone asked a girl if she never grew weary of her work. With a sudden light in her eyes, the girl raised her head, "Do I?" And then as the light died out, "but I'm used to it now."

"Is it not monotonous," the questioner continued? "That is what kills. Sometimes I sew buttons all night in my sleep," and she continued to feed and clip, feed and clip and the machine buzzed on.

One of the most interesting things was the process shown in cutting out the garments. The cloth was laid out on a table of sufficient length to permit the unrolling of a bolt of material. One piece was laid smoothly on the other until there were about forty in all. Then the pattern was chalked off on the top piece of cloth. A man with a sharp knife of unusual size,

then proceeded to cut them out. The guide informed us that from three to four thousand dozens of garments were turned out a week. It was noticed that men of unusual ability were needed to perform these tasks. The one who laid the pattern on and chalked it off, must know in just what way to lay it, so as to make the least waste of material and he must be responsible for whatever waste occurs. Then the cutter must be strong of arm and accurate of eye in order that no mistake may be made.

As the class passed through the rooms, with their note-books and pencils, the workers smiled at each other and looked with as much curiosity, as the students displayed in regard toward them. And several were seen to more than smile as one girl after another caught a hasty peep at herself in passing a looking glass hanging on the wall.

In one factory it was found that a restaurant was connected with the plant, in this way benefitting both the employer and the one employed. The men and women were for a small sum provided with a warm luncheon, which made them more fit for work and furnished a pleasant noon-hour.

A very good luncheon, it was said, was served for ten cents while a still better one could be obtained for fifteen cents.

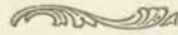
We found that no children were employed and when we asked why this was, were told, and we say it with due credit to Missouri, that it was against the state laws. Thus showing that the government had taken the question of child-labor into its hands.

It would take hours to tell the wonders in machinery, machines that registered the numbers of stitches, the difference in the workers, and the ways of utilizing materials, but as we came out upon the street, as the twilight shades were falling, each in his heart, breathed a sigh of thankfulness that God had given him the opportunity of cultivating his higher faculties.

In conclusion we can but regret a system or a necessity that forces the woman from her home circles, to join the great army of workers in the industrial world of to-day, where she must become as mechanical as the soulless machine she operates; where the monotony of noise and daily routine dulls the sensibilities and would at least seem to check the progress of the individual towards a broader, truer, higher life, but from an optimistic standpoint perhaps this opportunity is a means of subsistence, which, were it not at hand, would cause great numbers to suffer from want.

So these great factory systems have their good side as well as their bad side.

LOIS A. OLDHAM.



## THE POLICY OF COLBERT



COLBERT was one of the ablest ministers of France during the reign of Louis XIV. What Richelieu did for the foreign affairs of France, Colbert did for the domestic. When Mazarin, Colbert's predecessor in the of-

fice, lay dying, he said to Louis XIV: "Sire, I owe you everything, and Colbert is payment of my debt. And Colbert nobly performed his duty. This great man was born at Rheims, France, in the seventeenth century. His education was intrusted to the

Jesuits. At the age of nineteen he entered the war office. In 1648 he entered the services of Mazarin, and six years later he was appointed comptroller-general of the finances in 1660. He showed extraordinary zeal in this office, often working fourteen hours a day. His plan was for the universal reform of state and church. The first person he attacked was Fouquet, a rich noble, who was connected with the finances of the state and turned the money to his own pleasure. He was backed by a coterie of greedy nobles on whom he lavished his gifts. These were the objects of Colbert's hate and in their overthrow he achieved a vast triumph. One of Colbert's plans was the production of home manufactures. He endeavored to raise the import duty on manufactured goods and he attempted to diminish the export dues and the import dues on raw materials. This, however, stimulated the production of goods in other countries. However, France was greatly improved in a commercial way, and, in fact, the basis was laid for modern industry.

In twenty years he raised the gross revenues from 84,000,000 to 115,000,000. He also helped to colonize America; he saved the forests of France, he

reformed—granted religious toleration and gave France a new impulse to life. Colbert's policy was, first, protective tariff; second, economy and reform in finances; third, internal improvements fourth, colonies in America. Colbert was a liberal patron of literature and science.

He had great influence at court, but this was undermined by Louvois the head of the war department, who engaged the king in many disastrous wars. At Colbert's death his splendid plan fell to pieces, but its spirit still lives. The people grew to hate him, forgetting the goodness and justice he gave and the peace he brought France. If we should seek for a minister in our own country with whom to compare him, we might well select Hamilton—Alexander Hamilton, by his report on manufactures, institution of the protective tariff policy in the United States. He founded our various outstanding obligations, recommended a national bank, insisted that the entire debt, foreign and domestic, as well as that of the states, should be paid. Like Colbert, he brought order out of a financial chaos.

ALICE MORRISON.



## A FRIEND IN THE ENEMY'S COUNTRY



HALT!" A disorderly mob of dirty, drunken soldiers in the uniform of "Uncle Sam" came to a wavering

halt in the streets of Manilla and turned partially around to confront a tall officer from whom had come the command. Taking advantage of the momentary embarrassment of the brawlers, a Filipino, very much terri-

fied by his rough usage, and who had but just incurred the anger of the rioting collection of toughs, who intended to take his life, wrenched himself away from their midst and with a mighty effort succeeded in eluding his captors but not until he had shot a grateful glance at the form of the young lieutenant, who had interceded for him and had rescued him from violence at the hands of the angry mob.

The lieutenant, after reprimanding the soldiers for their cruelty and cowardice, bade them disperse and go their way under penalty of the guard house. This officer was Gilbert Worthington, a young man about thirty years of age, over six feet tall, with a fine military bearing and a manly, handsome face. He was an American of good family and being of a reckless, roving disposition, and wishing for adventure, had enlisted in the volunteer army sent to the Philippines and had rapidly risen from the ranks to a lieutenantcy. And another reason that had caused him to desire and obtain a change of country was a jealous lover's quarrel that he had been so sadly unfortunate as to be a party to. And the girl who had been the cause of all this trouble, was a beautiful young lady whom he had hoped to, some day in the future, make his wife.

Gil, as his brother officers loved to call him, had a frank, open manner, and this with his reckless, generous nature had won for him many friends both among his comrades and subordinates; while his handsome face and merry ways gained for him an enviable place in the hearts of the Manilla beauties. But he cared for none especially, except Mercedes Lozaga. He had flirted with, and paid attention to most of the swell society ladies of the city, but the one who had, for the moment, completely ensnared him within the meshes of love was Senorita Lozaga. Returning to the place where we left our friend, the lieutenant, who had just been the means of liberating the frightened native, we find him walking up the broad street. He was now in the business portion of the city, and sauntered leisurely along until he arrived at one of the American club houses.

It was quite dark by the time he

reached there and the place was brilliantly lighted; he entered, disposed of his hat and walked into the room where his friends were enjoying themselves after the true clubman fashion. "Hello, Gil," said a brother officer, "come here, I want to introduce you to Signor Guerralpo, who has just returned from a long visit to the interior. Felipe, this is my friend, Lieutenant Worthington, of the United States infantry." As the eyes of the two men met each gave a perceptible start, and the Spainard mutters to himself, "Carrajo, but I have him now!" "Ah," said the mutual friend, "I see you have met before." "Yes," replied the Don, "I had the pleasure in New York about two years ago." After a few moments conversation the three separated and Gilbert found a chance to slip away from the noisy crowd. He was glad to get out of the presence of the Spainard and his thoughts reverted to the quarrel they had had, and of the terrible oath of vengeance that the Spainard had taken against him. As he stepped from the glare of the room into the darkness he did not see the clinched hands and awful face of his enemy that peered from one of the windows, or hear the oaths and threats that issued from between his thin lips.

But another did and this other was the Filipino whom the lieutenant had rescued in the afternoon, and who had been lounging beneath the window and had overheard the muttered curses and had caught the angry gleam of the wicked eye that followed Gilbert. The native, a Tagal, his heart warm with gratitude for the man who had rescued him, followed Gilbert, with that notion peculiar to some tribes of savages and beasts of prey who hunt their game by night; his movements were low, gliding, springy, and he proceeded with-

out noise until he stopped the startled lieutenant with a firm hold upon his arm, saying, at the same instant, "If you value your life follow me," and he was off. Worthington was amazed but he had recognized the Filipino and knowing the race's instincts had not hesitated to follow him, for he knew the fellow was his friend. Soon they stopped in a secluded spot and the savage said, "I am of a people that never forget a wrong or a favor; your people are my enemies but I owe you my life and wish to serve you. You wonder, perhaps, at my educated speech, but I was reared by the Catholic fathers and have been schooled by them. Now that you know of me let us talk about yourself. Beware, my friend, of the Spainard with the wicked eye; he means to kill you; this very evening he would have tried it, had it not been for my presence at an opportune moment. I know him well because I was employed by him for several months and it is not his fault that I am still on earth for I bear a large scar upon my breast where he struck me with a knife in a moment of extreme anger. Be on your guard and remember my words!" So saying he vanished like a shadow, and the American turned with a shudder, at the thought of his possible fate, and went directly to his quarters.

In explaining the cause of the fierce animosity on the part of the Spainard towards our hero, we will have to go back two years to the time when both were suitors for the hand of the charming Jeanette Morgan, the girl with whom Gilbert afterwards quarreled.

Senor Felipe Guerralpo, a member of the Spanish diplomatic corps at Washington, met Jeanette in New York, where she lived. He fell madly

in love with the beautiful belle, and was very jealous of Gilbert who was engaged to be married to Miss Morgan at this time. He annoyed the New Yorker in every possible way and finally they met under circumstances that forced a conflict. One night at the club the rivals stand face to face; they clutch in a mad embrace; the hot-headed Don has exasperated his opponent beyond endurance and they fight. Both sway from side to side, and tables are knocked over, food and wines spilled, and the amazed spectators are just gathering their wits together when Gilbert Worthington gets the better of his adversary; he chokes him until the weaker man's face is scarlet, then he takes him by the collar and fairly throws him into the street; but the Spainard has not lost consciousness and drawing a pistol he fires point blank at the man disappearing into the club-house. The ball almost grazes Gilbert's head but he is not hit, and an officer of the law passing, arrests the furious offender and locks him up. As no one appears against him the next day he is let off with a small fine.

But the consul whom Felipe is under, hears of the escapade, and severely reprimands his subordinate; he quarrels with the consul and is recalled to Spain in disgrace. The young Spainard goes home, attributing his downfall, loss of love and position to Gilbert, and swears before he dies to be fully revenged. He afterwards secured a position of importance under his home government, the duties of which called him for a time to the Philippines.

There it was that he met Senorita Lozaga, a Spanish Filipino girl of great beauty and many accomplishments, and taught her to love him;

and he was a good teacher, for the maiden loved him with all the strength of her impulsive and affectionate nature. Felipe had been made aware of the presence of Gilbert upon his first entrance to Manilla, and many a deep plot had formed in his brain to put an end to the earthly existence of this object of his deep hatred. With his crafty, cruel Spanish nature, he had decided either to kill him in the city or to lure him into the country; but he feared, in his cowardly way, that a murder in the city was an act to which too much risk was attached, and therefore he decided to entice his victim into the country, for it could then be said that the natives had done the deed, should the body ever be found.

As a bait, he chose Mercedes; he would induce her to lure the lieutenant to his death. And so he gradually gained power over the girl until he had her perfectly helpless under his control. She had grown to love him better than life, and he told her that if she would help him he would give her love and wealth, but that if she refused she would never see him again. Thus she consented. She had, under the guidance and direction of Felipe, won the affections of Gilbert, who did not suspect that the gentle, dark-eyed creature that seemed to worship him so devotedly, really loved another, and that other was his mortal enemy busily working to destroy him.

After several days of planning between this girl and the Spainard, Mercedes has decided that the time has come for her to act, and this evening, with her most alluring manner, she is carrying out the plan they determined upon. While she and Gilbert were sitting there talking, a listener could have heard in the softest tones,

the exclamation of the beautiful Spanish maiden, as she sits with her lover amid the luxuriant growth of tropical foliage, upon a beautiful moonlight evening: "Santa Maria, how I love you!" and Gilbert, bewitched by the loveliness and grace of his false charmer, is completely in her power, and whispers in her dainty ear his lasting love and fidelity, and tells her that there is nothing in the world too good for her, and nothing that he would not do to prove his vows. "Caramba, then you shall take me for a ride to-morrow evening; we will go to see the ruins of the old Spanish palace by moonlight; won't it be delightful, just you and I alone?" Then she added wistfully, with a little hurt look upon her face as she saw that her companion hesitated in replying: "And couldn't my brave Americano officer obtain leave of absence from his post of duty, or is it too great a task to accompany such a poor companion as I would be?"

"It is neither of these, my little enchantress, but I am somewhat afraid of marauding bands, either of Filipinos or robbers, and only the other day a small party of the enemy were seen encamped near the ruins; it would be a risky journey and I would not, for anything, have you harmed."

Beautiful women can almost always persuade men to believe as they do, so Mercedes, with the aid of her arts and charms, obtained the consent of Gilbert to the excursion, and they had planned to start early the next evening and ride to the ruins, which were but a few miles beyond the city limits.

Gilbert procured leave of absence and also two army chargers, and the next evening we find a man and woman just leaving the outskirts of the city, mounted on these horses, and through

the stillness the musical notes of a woman's voice ring out: "What a lovely evening, is it not, Signor?" coquettishly exclaims the beauty, "do you regret very much that I brought you on such a tedious journey?" "No, no, Mercedes! The journey is not tedious; nothing is when I am with you, and if you don't persist in going too far I shall enjoy the ride immensely. But, darling, how strange your face seems to-night; you are not yourself; your hands were cold, I noticed, and there is a strange gleam in your eyes, and"—"Maria Santissima, how you talk, you foolish boy," she interrupted, "the moonlight must affect your eyesight and nerves."

Gilbert did not reply, but rode along thinking how unusual the girl acted, and why she should be so anxious for this long ride when it seemed to him rather dangerous. He did not have even a suspicion of a doubt in his mind that his love was leading him into a death-trap. The night was one of eastern splendor, and the full moon made strange shadows amid the tropical foliage, that at times grew more and more dense on either side of the rocky road which they were traversing. Monkeys chattered in the trees, and birds of brilliant and beautiful colors, disturbed by the approach of human beings, took flight with cries of annoyance and fear.

"Shall we not turn back now, love; we are getting too far away from civilization?" questioned Gilbert. "Why, no!" exclaimed Mercedes, with a hard look in her eyes, which the man at her side did not perceive, "I came to see the ruins of the palace, and I intend to see them; if you are afraid, you may go back, I am going on." She started her horse, not listening to the protestations of her escort, and

Gilbert, seeing that she would not heed his advice, followed her, somewhat chagrined by her insinuations and curt reply.

They rode on in oppressive silence for some little time, and finally at a turn of the road they found themselves facing the grand old ruins. A few seconds sufficed to bring them into the grounds, and they rode up the slope of the old rocky road and came to a halt a few steps further on, where they could command a fine view of the castle. The road was flanked by dense foliage, and they had stopped on the edge of the clearing that surrounded the castle; thus they were in plain view in the bright moonlight, while if anyone happened to be in the underbrush back of them, such a person would be completely hidden by the darkness, as well as by the screen nature had placed there.

In silent admiration they sat gazing upon this beautiful scene, and after a few moments Mercedes broke the stillness by exclaiming: "Look! lieutenant, at the large number of bats flying in and out of the ruins." At the same time she raised her whip to point in that direction, when without intention apparently, she allowed it to slip from her fingers and it landed a few feet from the thicket at the edge of the road. "Diablo, how careless of me!" she said in a tone loud enough to be heard in the adjoining darkness, for this was the signal agreed upon between Mercedes and the Spainard to inform him when to prepare for the capture of his victim. "A trivial matter; I will get it for you," replied Gilbert, at the same time dismounting and handing the reins of his horse to Mercedes.

As he stooped to pick up the whip two men jumped upon him, bore him

to the ground and held his struggling form, while the third, whom we recognize as the revengeful Spainard, securely bound and at the same time disarmed him. While the villain was tying the last knot that bound his captive, he exclaimed in a triumphant voice to Mercedes, who was coolly watching him: "This night you have served me well, my brave and beautiful queen, and have helped me to gain a victory and revenge an insult, which has so long inspired me with a burning hatred, that only the death of this American dog can satisfy."

"Any favor that I may have conferred upon you, Felipe," she answered, "has been done with the greatest pleasure, and I am only thankful that I have been the means of gratifying the wishes of the only man in the whole universe whom I really love; now the world can know that I love you, and only you, but I must leave immediately with the escort you have provided for me."

Then turning to the prostrate and silent form of the American officer, that lay at her feet, she exclaimed: "Farewell, my accommodating lieutenant, I will not be obliged to test your bravery on my return to the city." With these mocking words and a light laugh she galloped away in the moonlight, leaving Gilbert stunned and speechless by the awful revelation of her diabolical treachery. For, in the few words that had passed between Mercedes and Felipe, there had been revealed to Gilbert the magnitude of the awful plot by which he had been betrayed.

The three ruffians were planning together while Gilbert lay there, and after taking more precautions against his escape, they left him to perfect

plans already formed for putting him to death in one of the dungeons of the castle, where no trace would ever be discovered of the terrible crime.

The sound of their retreating footsteps had no sooner died away than a light, agile form could be seen creeping noiselessly toward Gilbert from the seclusion of the underbrush. With quick, accurate movements the cords that bind the prisoner are severed, and a familiar voice whispers in his ear: "Come, follow me, you haven't a moment to lose!" And Gilbert, his heart bounding with joy at this unexpected deliverance, follows with the greatest possible speed the retreating form of his rescuer, who had dogged the footsteps of the Spainard from the city, believing him to be intent on the execution of this murderous deed.

But the Spainard, fearing that it was a little risky to leave the desperate man alone, returned to guard him, letting his companions finish the preparation. And as he is retracing his steps he sees Gilbert fleeing down the road; with a mighty bound he is after the escaping man. The Spainard, thinking that Gilbert is alone, for, by this time, the Filipino is out of sight, and knowing that he is disarmed, pursues his victim fearlessly, occasionally firing a shot after the fleeing form.

But the desired time of Gilbert's rescuer has come—the time when he can repay his tormentor—when he can have vengeance upon the man he hates, and at the same time protect his friend, and save himself. With the cunning of a Tagal chieftain he drops out of sight, and waits in ambush for the pursuing enemy, with his keen knife blade trembling for the bloody plunge. He had been quite a little distance in advance of Gilbert and now he sees the latter pass him in his swift flight,



and watches with muscles rigid, for the man in pursuit.

He has not long to wait, for, in an instant, the Spaniard appears. As he reaches the spot opposite to where the Filipino is concealed there is a movement in the underbrush and a dark form springs upon him—there is a bright gleam of steel, a piercing cry of death agony, as the man falls, and one of exultation from the Filipino, as he plunges his short blade again and again into the dying man's breast. A shudder shakes the frame of one who had been more fiend than man, and the spirit leaves the body of him, who in life had been the cause of so much trouble.

Leaving the dead, the Filipino hastens to overtake his friend and finds him about a mile further on prostrated from fatigue and loss of blood, for one of the bullets from the Spaniard's gun had taken effect in his right arm, making a very painful wound. With the Filipino's assistance he at last reached the city and proceeded to the hospital, his devoted companion remaining with him. During the following days the surgeon in charge found that amputation was necessary. And during all the painful operation, and the many weeks of suffering and illness that followed, there could have been no more faithful friend and servant than this humble Tagal; and so strong was Gilbert's attachment for him that as soon

as he was able to travel he took him with him and returned to his home in New York City.

This once brilliant officer was compelled to again become a civilian, and his heart was heavy with disappointment because of the treachery of the woman whom he had loved, and also, that he had lost the opportunity to satisfy his ambition as a United States soldier.

But time heals all such cruel disappointments, and he found strength and once more took pleasure in meeting his old friends; he regained much of his former cheerfulness in time and found enjoyment in the many social functions that were given in his honor. At one of these, where he was being lionized, chance brought him face to face with his old love, Jeanette Morgan. She had kept her heart faithful to him, and he, after all his trials and suffering, found it very sweet and pleasant to receive her numerous little attentions.

It did not take many months for the old love to reassert itself; a happy marriage followed and at the wedding there was no more joyous guest, than a friend found in an enemies country.

A fellow soldier returning from the Orient, brought the news to Gilbert that Mercedes in far away Manilla, had, in the desperate grief that followed the death of her lover, taken her life.

VINCENT B. COATES.



## THE WISE MAN AND THE VISION.

Without the town of Outer Darkness stood  
 A certain Wise Man, learned in the law  
 Beyond, the desert stretched to meet the sky  
 A vulture wheeled above, whose name was Death.

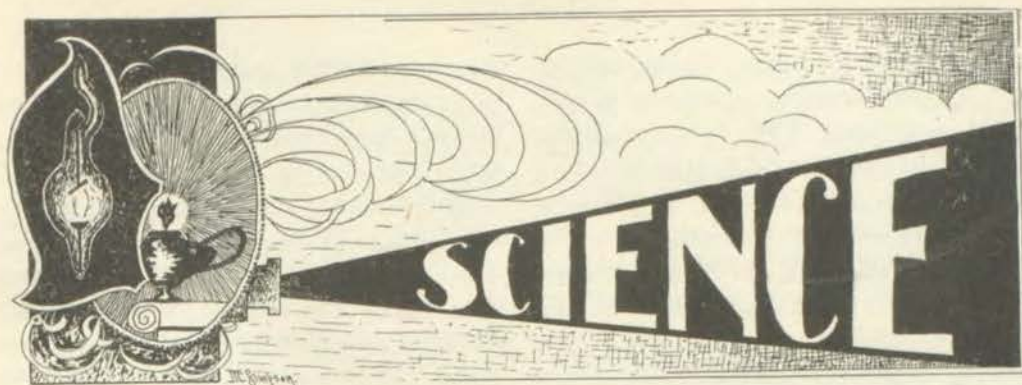
And, as he mused, from out the jeweled gate  
A vision swept, more lovely than the dawn  
And pure; the Wise Man knelt, adoring, prayed  
And bent his calm head to the naked sand,  
Unworthy—as he thought—to look on her,  
And thus the vision passed and saw him not.  
Unsought, unnoticed and unthanked he knelt  
As daily she came forth upon the sands.  
One day she came not, and the worshipper  
Knocked at the city gate and passed the port  
And found the world within was wondrous fair.  
(He had not thought it thus, beyond the wall)  
They told him that his goddess had been won  
By a mere man, unknowing of the law  
Nay, mocking it—who loved his virgin prize  
As he loved others, might, perhaps,  
Think of her later as a graceful reed  
He bent for his amusement once and broke.

Therefore, the Wise Man in the glittering streets  
Considered this, and made a word of it  
Unto the woman, reverence and respect,  
Great love and worship—nay, unto the winds  
Fling these, and think of this that I have said,  
*A few light kisses best shall serve your turn.*

S. H. B.



MANUAL TRAINING HIGH SCHOOL - KANSAS CITY, MO.



## AUTUMN SKETCHES FROM SWOPE PARK.

"The elms are clad in brown and gold,  
The maples robed in red,  
Blue asters over hill and world,  
Their fringed blossoms spread."



Each season of the year has its beauties, but it is in October or November that nature shows herself in her richest costumes. She opens her paint box, and with a delicate touch spreads a glowing splendor everywhere, to celebrate a great fall jubilee before winter's chilling winds and snows come rushing in. The leaves on the trees dance merrily until wafted away on the autumn breeze; the tall dry grasses sway gently to and fro, nodding gayly to one another; a few birds, bolder than their fellow companions, have remained behind in the autumn migration, finding a rich harvest of seeds in the fields.

Some fields of corn are still standing, robbed of their gay summer coloring. Autumn has furnished them with streamers of pale yellow and autumn brown, more becoming to this mellow season. The wind plays carelessly through the fringes and tassels of the corn with a rustling sound, while the stalks hold aloof their arms and beckon wildly to their playfellow to come again. In contrast with the corn's fast fading glories are the green wheat fields. The tender little blades have lifted up their inquisitive faces to see what all this frolic is about, then loath to miss the fun they cry, "O mother



earth, let us stay up here and join the game!"

The delicate blue aster is the belle and queen of the woods. She holds

dominion over all her subjects, ruling them by her persuasive manners and gentle dignity. The less brilliant ladies of her court and castle are the white asters, the gaura, and a few bright-eyed golden sunflowers. The knights of my lady's castle, bitter-sweet and buck-berry, are dressed in



most gorgeous colors; their bright red mantles dazzle the eye with their magnificence.

The river flows quietly on its way, listening to the secrets that the wind whispers, as it passes hurriedly over its glistening surface and makes dancing ripples. The river in turn tells the secrets to the tall old trees standing on its banks. The trees bend low to catch the faint whisper. The autumn wind tells the river that soon the frost king will come and throw his coat of ice everywhere. The river is afraid, but the trees laugh aloud and say, "There is plenty of time, be happy while you may." They are the sentinels of the river and have shared alike its joys and sorrows.

There is a solitary elm standing out prominently, shorn of its wealth of golden leaves, but glorious yet in its height and massive strength. It has

watched its treasures slip from its kindly grasp, one by one, and laughingly join a happy throng of pleasure seekers. The tree is old, and it was with reluctance that it watched its store diminish day by day until now it stands alone in a clear outline against the bright blue sky. Another elm, growing out of some great rocks, holds tightly to its few green leaves that encircle its trunk like a winding vine. This elm has hoarded all its treasures with a miserly grasp and seeks by its charms to entice and hold them back a little longer.

The carpets of green moss growing on the massive rocks, impart a richness and softness to them, taking away the sharp lines and angles. Out from the crevices of the rocks, in soil of their own gathering, are growing the dainty maiden-hair and cliff-brake ferns. The cliff-brake is a delicate little plant, whose leaves have a silver lining. The rocks are cracked and broken in places where the roots of trees growing upward have grown tired of their



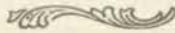
narrow boundaries and pushed the heavy rocks aside to give themselves more room. In the hard rocky soil one finds the gnarled oak. Its leaves are still a beautiful green while the leaves of the red oak have already changed to a dull rich red, shaded with green.

From these high rocks, as far as the eye can reach, one sees ranks and ranks of trees; here, one with bright yellow leaves; and there, one with crimson, standing out among the dark brown leaves of other trees. Occasionally one sees a tall sycamore bereft of its leaves. Its pure white limbs can be seen clearly in the distance amidst this chaos of splendid coloring. The leaves of the pawpaw are now a burnished golden color, making the woods glitter as here and there they mingle with sparkling red ones. The sarsaparilla vine, with its pale yellow leaves and dark red petioles twines itself gracefully about the trees; the poison ivy clings to the staunch, old oak as if it were afraid to trust itself alone. The leaves of the willow still retain their luster and cling to the

slender twigs, which droop gracefully as the wind plays at hide-and-seek among them. The wild smilax, or green briar, with her festoons of branch and fruit, bows her head and prays of autumn that her leaves may remain green. In the branches of a tree one hears the hoarse cawing of the crow. The sky is so blue and the sunshine so bright, that a sweet voiced songster has been allured into lingering yet a little while, and now bursts fourth in a roundelay of melody that charms and enraptures.

"Ay, thou art welcome, Heaven's delicious breath!  
When woods begin to wear the crimson leaf,  
And sun's grow meek and the meek sun's grow brief,  
And the year smiles as it draws near its death."

KATE HANKINS.



## A VISIT TO A GLASS FACTORY



HOW many readers of THE NAUTILUS are aware that near Heim's Brewery has lately been established a glass factory which may soon play an important part in the city's commercial affairs? About two months ago, the fires were started and for seven days the first charge of about fifteen tons of mixture was being melted into glass. Then the first bottles were blown, and twenty four hours later they emerged from the annealing furnace, Kansas City's first effort in the manufacturing of glassware. So far, the output has been confined to bottles of all shapes and sizes from beer bottles to little medicine bottles. If you should speak to the superintendent, probably his first remark would be, "But have you noticed the *quality* of the glass, such a fine pale amythyst

with scarcely a flaw to be found. At present we are operating only one tank which works one quarter ( $\frac{1}{4}$ ) ton of glass into bottles per day. But we hope to have within the year four more similar tanks, and while we make only bottles now, then—well wait and see what then."

If you are interested in the operations and methods of the plant, you can obtain the desired information by judicious questioning. But be careful; take my sound advice and don't be too inquisitive, or you will have the opportunity to consider your haste at your leisure—on the way home.

In the investigation of this plant, probably it would be the best plan to begin with the gas retorts. First, we will go where we see that dense smoke arising, and not wishing to interrupt any one's work, we stand quietly

The gear of the machine is closely related to the length of the cranks, when ease of propelling is being considered, for it is obvious that one may cause a wheel to revolve faster with a given force, by applying this force at the circumference of the wheel, than by applying it nearer the axis. Hence, the longer the pedal cranks of the bicycle, the easier it is propelled.

Perhaps it would not be out of place to illustrate the relation between the force applied to the pedals and the force delivered at the circumference of the driving wheel, at which place it is expended in propelling the machine. The action is one of expending force to gain speed, as is readily seen.

If a force of two hundred pounds be applied to the pedals of a seven inch crank and the gear be one hundred, the force delivered at the circumference of the driving-wheel is twenty-eight pounds, while if the other conditions remain the same, but the gear be changed to seventy, the force is increased to forty pounds. The one hundred gear would, therefore, require nearly twice as much force to produce the same speed, or acceleration, as would the "seventy gear." We now readily see why the "wheel" with the low gear and long cranks is much more easily propelled than the "wheel" having the high gear and short cranks.

It might be well to illustrate the relation between the revolutions of the pedals for different gears.

Since the "seventy gear" means the equivalent of a machine having a propelling wheel seventy inches in diameter, and the "one hundred gear" is the equivalent of one with a one hundred inch wheel, it will be seen that for one revolution of the former, the seventy inch wheel would travel  $\frac{70 \times \pi}{12} = 18.32$  feet, and for one revolution of the latter, the one hundred inch wheel would travel  $\frac{100 \times \pi}{12} = 26.18$  feet. Hence, the large gear has the advantage if a small number of revolutions of the pedals for a large distance moved, is desired.

In view of the above, we conclude that, if we desire the easily operated bicycle, we are compelled to take a slower speed and a lower gear together with a longer crank, than if we desire a machine which causes the telephone poles to appear like toothpicks blown from a tube. The difference in length of the cranks of the two machines is not, in practice, very great, for a crank shorter than six and one-half inches is not practical—too much force being required—while an eight inch crank is somewhat inconvenient to a person of ordinary stature.

It has proven practical, however, in our "seventy-seven hilled city," to use gears ranging from sixty-eight to eighty, while in level cities, such as Denver, Colorado, gears as high as one hundred are frequently seen.

W.



## SCIENCE NOTES

Editors of THE NAUTILUS:

It gives me great pleasure to respond to your invitation with a letter to the Manual through your columns. I read each number of THE NAUTILUS of last year with absorbing interest,

and so fully did the paper reflect the school that I seemed to be back among the scenes I loved so well. I hope THE NAUTILUS will ever maintain the high standard of excellence which it has had since its origin.

Superior City, where I now reside, is about eight degrees of latitude north of Kansas City, and the climate is accordingly very different. In addition to its being so much farther north, it is located at the head of Lake Superior, America's greatest lake, which modifies the climate, making the summer weather delightfully cool and the winter less severe. The temperature ranges from 75 degrees Fahr. in the summer to about 10 degrees below zero in winter. Strange as it may seem, the atmosphere is unusually dry except in the spring, when dashing rains from the northeast are common. At the head of the great Lake Superior there is a small bay, formed by the activity of the St. Louis river and the waters of the lake, making one of the finest inland harbors of the world. This fact makes Superior and Duluth, Minnesota, which are practically one city, like Kansas City, Missouri, and Kansas City, Kansas, a great shipping point for the wheat and flax fields of the states west, and a distributing point for coal and manufactured articles from lake ports east and north. Many ships are built and launched here, and the famous whale-back, Christopher Columbus, was invented and built in Duluth.

The surrounding landscape is diversified and beautiful, and is noted as the land over which Hiawatha roamed in his journeys from "Gitchee Gumee," to the Falls of Minnehaha.

If you are looking for a pleasant place to spend the summer, come to Superior.

With kindest regards to editors, students and faculty,

I am your friend,

J. A. MERRILL.

Superior, Wis., Nov. 6, 1901.

The attention of the public has been called to the publication of the "Manual of the Flora of Jackson County." This book, which is written by Mr. Kenneth Mackenzie, contains a description of all the plants in Jackson county, and practically all found in a radius of a hundred miles of Kansas City. It would be just the book for the students and teachers to take into the field with them, to study and identify the plants with which they meet. It will afford great advantage and convenience in that it contains only the plants the student finds, with the others eliminated. As there is no book of an exactly similar character in this country, it marks a new era and ought to create new interest among local students of nature. The manuscript is now ready, and will be published as soon as two hundred copies are subscribed for. Every person who is interested in knowing the plants of this vicinity should subscribe at once that the book may be brought out as soon as possible.

An interesting fact noticed in the study of psychology is the great power of the imagination. The story is told about a criminal who was sentenced to be bled to death. When it came time for the sentence to be carried out, the prisoner was blindfolded and a harmless incision made in his arm. Then water was fixed so that it would run down from the incision and drop into a pan so that he could hear it. The attendants spoke about "his weakening pulse," and the "great flow of blood," so that he could hear them. The effect on his imagination was so vivid that he soon died. Now you may laugh at this, but nevertheless, it is so. The prisoner expected to be bled to death and thought he was, from what the attendants said. This shows the wonderful, almost miraculous, power of the imagination over the mind.

suddenly from their grasp seemed more than human nature could bear.

But why had this pleasure vanished just when it seemed most near? Not for lack of funds surely—why the Dougal's had saved since early in the spring and there had been enough with five cents over when Mrs. Dougal with Kitty, feeling vastly important, had returned from market bearing triumphantly a turkey. Not a very large one to be sure but still a turkey and oh, joy of joys, cranberries to make sauce to eat with it.

So what could be the reason? It was the lack of a cook, for Mrs. Dougal, not being very strong and worn out by the hard work necessary to earn the money for this event, broke down and found herself on Thanksgiving morning too ill to rise. She tried in vain and at last gave up the attempt. To be sure Kitty could cook but she had never tried her hand at a turkey and as for the pumpkin pie—it was simply beyond her.

How could Rose Barton help these poor people? Could she give up her Thanksgiving morning to them? "I have so much and they so little," she whispered to herself, and then her eyes began to dance for she always did love

to cook. So smilingly she asked the children if they would let her help them.

"I would love to," she said, as she remembered what fun the cooking classes had been last year. How glad she was now of the practical knowledge.

The children assented joyfully to her proposition and together they walked to the Dougal home which was not far away. Having received the glad consent of Mrs. Dougal, Rose sent a note by Peter to her mother telling the reason of her delay and, then putting on a large apron, she commenced operations. First she made a pie, and while it was baking she prepared the turkey according to the most scientific methods. And what with the cranberries and the potatoes which Kitty had peeled she was a busy girl until twelve o'clock when she brought to the table where sat the five Dougals, a most appetizing and savorery dinner.

As Rose Barton was hurrying home to enjoy her own Thanksgiving dinner after having seen hearty manifestations of her good cooking, she said to herself with the happy feeling at her heart which comes from the sense of a good deed done.

The more one knows the better one is prepared for the emergencies of life.

SELMA CROHN.



## STEPPING FORWARD

A noticeable amount of enthusiasm has been manifested throughout the shops this year, which is, no doubt, to be attributed to the fact that the teachers have spent their vacations either studying in some university or doing some practical work along the lines which they are teaching.

The addition of two members to the teaching force of this department has proven of great value, for without

their assistance the increased enrollment in the shops could not be handled.

In the joinery shop several minor improvements have been noticed, such as the addition of a double grindstone, and several sets of new tools.

The boys seem to be taking hold of the work with more interest and to the teachers is due, to some extent, the excellent spirit which prevades the work.



The additions to the turning shop are those for which a want has long been felt, such as locks for the drawers and individual turning sets. The pattern maker's trimmer, the new keyboard and several minor improvements make this a thoroughly equipped turning and pattern making shop. In spite of the increased attendance Mr. Arrowsmith is able, with this added equipment, to obtain the same excellent results that have always characterized the work of his department, and the boys are rivaling their predecessors both in the quantity and quality of their work.

In the forge shop the boys meet a new face and the department is fortunate in obtaining the services of Mr. Cushman who comes to us teeming with the knowledge and shop practice of the Massachusetts Institute of Technology, where, for two years, he has been an assistant in the shops. The atmosphere of this shop calls for sturdy, resolute work on the part of the pupils and Mr. Cushman is to be commended for the excellent results he has obtained.

All the tools have been overhauled and several new punches, hammers and tongs have been added to each forge equipment, thanks to the teacher of the shop.

Not the least among the improvements in the machine shops is the air compressor, designed and built by Herbert F. Johnson, which furnishes the blast for our gas forge. By its use, it is no longer necessary for a pupil to run to the forge shop whenever he wishes to temper a tool. The most noticeable improvement, however, is the method of presenting the subject. Instead of the customary class demonstration, notes upon the various tools

and operations are handed to each student. By this method the instruction is uniform, consumes but little of the student's time, and no student receives instructions upon any particular subject until he is ready for it. Should he forget any operation, or the angle at which to grind any particular tool, these instructions prove of great value for reference.

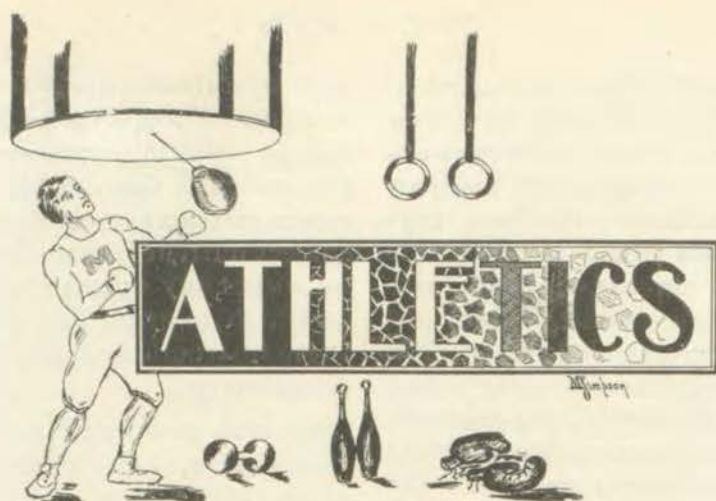
Several new exercises, all of practical value, have been added to the course with a view of completing the shop equipment.

Though we have a third more pupils in this shop this year, in the number and quality of the exercises by each pupil a marked improvement is noticed.

Already a desire to make engines, motors and various projects is manifested by many of the boys, and Mr. Moore is besieged with questions relative to their design and cost.

We are devotedly thankful to the boys of last year who made the power hack saw, for by its use the disagreeable task of sawing by hand through a two-inch bar of steel is done away with.

So far this year the time has been spent in learning the use of tools. We have made cylindrical exercises, as the arbor and planer pin, and conical exercises, such as lathe centres. Later in the year we will build steam and gasoline engines as did our illustrious predecessors; the knowledge of engines which we are getting in the steam and electricity course ought to enable us to make creditable showings. It will, however, be hard for us to surpass the efforts of last year's class, but the American spirit of rivalry has brought about wonderful results and we will not let it be said that the class of '02 was not up to the standard.



**T**HE autumn day is here; apropos to this might we say, so also is the football team. The crisp, bracing atmosphere, the lime-barred field, skirted at either end by goal posts, those beacon lights of the pig-skin chaser, the referees whistle, and the rush to the center of play, is enough to fill every padded mole-skin with sufficient energy to operate a hoisting engine.

When the champion high school team of two states laid down its armour to Manual's glory, the paramount question was: "Where is Manual to draw her next team from?" Six weeks of training is all that has been necessary to quiet the fears of these eager inquirers. Where the material came from and how it was trained into a working unit is a story for another page. The first game sufficed to show that the new recruits bore every iota of the spirit willed them by their predecessors. No matter what may have been the seeming odds, every man has responded to the call with all the intrepidation he could summon. It is the *fighting* spirit that has literally overwhelmed and carried the opponents off their feet.

On September 18th, the Westport football squad were the unlucky opponents of the crimson team. Every man seemed

to realize that it was incumbent upon him to retrieve the palm of victory that the local high school carried away last fall in such an unlucky and unsatisfactory game.

On October 5th, the second team of the Haskell Indian Institute were to have tried for the scalps of the Manual lads, but for some reason, better known to themselves than to us, they canceled the game at the last moment, leaving us with an open date.

The Richmond team, representing the Athletic Association of that town, came here and scored the only touch-down thus far made over Manual's goal. The play that scored it, however, was made on the widest kind of "fluke" play, their full-back falling on one of his own punts behind the goal line. They paid dear for this, however, as Manual's team rolled up a score of 17 to their 6 points.

On October 19th, the Lawrence High School team broke faith with the Manual and the team was again deprived of an opportunity of trying for new honors in the Kansas college town.

October 26th brought Manual face to face with her old rival, Ft. Scott. The game was the closest of the season, the crimson bearers finally winning out. Score, 5 to 0.

On November 2, the team journeyed to Macon, Mo., to play the Brees Military Academy eleven, and were as ever victorious. Score, 12 to 0. The boys of our team have nothing but the highest praises for the gentlemanly and sportsmanlike spirit manifested by not only the academy team, but the student body and everyone connected with the school. The same team came to Kansas City on November 9th, followed by a band of one hundred rooters. Our team were certainly feeling their oats that day, for when the whistle sounded the last half a great score of 24 represented Manual's efforts to a zero mark for Brees.

\* \*

By the time this article will have been printed the Boys' Athletic Association will have had its first meeting. All those who have not yet joined the association should avail themselves of the opportunity at the earliest possible moment. As a member of this organization you will be eligible to the great annual interscholastic field contest every spring. Here all candidates have opportunities of competing in some one or all phases of out-door sports.

\* \*

Our basket ball team has good material to draw from to represent Manual in the winter campaign. Most of the original five and substitutes are yet in school, and their years' experience should add considerably to the prowess they attained in their maiden efforts of last year.

\* \*

Never have the appointments and facilities for furthering and simplifying athletics been more adequate than the present conditions now offer. Our gymnasium is becoming better equipped each day. The latest, and by far the most needed addition is the big motor fan in the south side. This piece serves to purify the atmosphere in the gymnasium, or it may be made to act as a suction to

draw a shaft of warm air into the room through the radiator in the opposite side. New mats and a set of bar-bells for class drill are also some of the most needed paraphernalia recently added.

\* \*

Every boy in this school should take advantage of the opportunities now offered him in the way of physical training. In Mr. Hall, our physical culture department has a master of the art at its head. Being efficient in every department of gymnastics and athletics, and versed as a physician concerning the human body, he is certainly capable of bringing out all there is in one.

\* \*

Boys, now is the time to begin training for the spring contests and games. Remember it is not the amount of work you do at one time, but it is the regularity with which it is done. If you delay your training until the last few weeks you are apt to over-exert your capabilities, and are certain of very unsatisfactory results. However, if you devote comparatively little time to your training regularly the year through, you are certain of acquiring good condition and form for your events without slighting other duties in the meantime. Let Mr. Hall, our physical instructor, examine and classify you, and then train under his suggestions regularly and systematically.

\* \*

We want more big strong men to devote some of their time in our gymnasium. We expect this fall to have some of the best gymnastic teams for pyramid work in the business. What is more gratifying to the eye than to see a number of bodies working under one director, performing in a comparatively short time a number of seemingly impossible feats. This work requires boys that are as prompt in obeying and as quick in thinking as are to be found among the best students of the class room,

while the benefit derived from the training is inestimable.

\* \*  
The management of the football team makes a plea for better support; when we come to consider their side of it we are compelled to think the plea justifiable. Every game the team has played this fall has added credit to the school, yet the same thing cannot be said of the attendance of these games. A winning team

certainly should make expenses, yet the books show a big deficiency on that side. Two more games at the most—possibly one more game will be played on home grounds, and every loyal Manualite, be it boy, girl or teacher should turn out and encourage the financial part of the sport at least. Come one, come all and help the game to stand at no disadvantage with a creditor.



## GIRL'S ATHLETICS

The day of admiring the pale, slender delicate maiden has long since passed.

Now the supple, healthy rosy-cheeked girl attracts the attention of all lovers of the beautiful. The girl who comes up to the new standard is the one who develops strength and beauty by scientific methods. There are many ways of doing this.

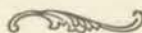
She can not, nor does she want to indulge in foot-ball, but she can engage in out-door exercise, and is particularly strong in golf. She need not play with the skill of Miss Genevieve Hecker the champion woman golfer of the United

States, but with the vim and glow that will fill her with delight.

If she wants to be graceful as well as strong the practice of fencing twenty minutes a day will give more grace than all of the society dancing lessons that she could possibly take.

The use of the dumb bells and of the Indian clubs is excellent, but bag punching is the finest of all in-doors exercise. It should be called the "girls' friend," for it robs her of all sluggishness and causes her blood to circulate so rapidly that it gives her a complexion of peaches and cream.

ADELE JOFFEE.



## BENEFITS OF PHYSICAL CULTURE

"We are weak because it never enters into our thoughts that we might be strong".  
*Salzmann.*

If woman would attain physical perfection, she must be fully informed upon all the laws governing the proper care of the body. Now this embraces much scientific knowledge, but generally here, as elsewhere, common sense and good judgment in matters pertaining to food, clothing, and exercise will bring about the desired result. If one wishes to retain vigor of body as well as mind until a

ripe old age, he must abide unyieldingly to the laws of Hygeia, a goddess, who tolerates not the slightest neglect.

The first and fundamental principles she must consider are what kinds of exercises, foods, and dress will best uphold perfect symmetry of body and mind. To this end a moderate knowledge of anatomy and physiology is essential.

"Better to beat in fields for health unbought  
Than fee the doctor for a nauseous draught.  
The wise for cure on exercise depend;  
God never made his work for man to mend.

—Dryden.

LOUISE SCHERER.



# EXCHANGES

Everything is still and dark. The cool morning breeze shakes a few of the dead leaves from the almost naked branches of the maples, but their fall is noiseless. Now a faint, uncertain line of gray streaks the black eastern horizon, and then, in the almost oppressive silence, comes the sleepy crowing of some ambitious fowl. This is quickly answered by crowings from all points of the compass, and, from the sound, one would think that the whole barn yard tribe were holding a jubilee because Thanksgiving was still some days off. Then comes in the east, that soft rosy hue that both pen and brush have ever failed to describe. The dark line of hills seem to be crowned with fire. Suddenly the sunlight flashes across the heaven in thousands of white rays and it is day.

This same thing has occurred three hundred and sixty five times every year for so many years that no one ever dares to count their number, yet, for some reason or other, this particular morning seems entirely different from any we have known. Why is it that instead of persuading ourselves that this is Sunday morning, and returning to our slumbers, we arise and dress in feverish haste? Why is it that we pay scarcely any attention to our breakfast, and rush to school forgetting half of our books? We pace excitedly up and down the school's corridors without being able to say why, until, in sheer desperation and distraction we rush in to see if the clerk, the source

of all school information, can tell what is the matter. We talk excitedly, but finally make her understand that we wish to know if anything of importance is going to happen this morning.

"Why of course, Freshmen!" she replied pityingly, "this is the morning that brings the NAUTILUS!"—*From an Appreciative Outsider.*

The "Student's Herald" of Manhattan, Kas., in the issue of Oct. 24th, seems to have forgotten all about having a "Literary Department" when it went to press. However, in the Oct. 31st issue there was a bright and interesting literary corner and this made the otherwise meritorious little paper complete.

The "High School World" (Topeka) for October 11th, is also a good bright paper, but we are quite certain that in the article, "Fraternity Troubles at Manual," the author has misunderstood the situation.

The "San Mateo Skirmisher," sends a very pleasing number. We are glad to get such papers upon our exchange list.

We enjoyed reading the "M. S. U. Independent" for October. The reminiscences of "Gene" Field were especially good.

We have a copy of "The Lever" with whom we will be glad to exchange. As a word of friendly criticism, we would advise that hereafter, the stories in the Literary Department be written by Seniors or Juniors and not by Freshmen

as they seem to be this time. The Lever will please notice that we appreciated her Exchange Department."

"How I wish the Lord had made me a man," sighed the old maid. "Probably he has and you haven't found him yet," lisped the young maid.—Ex.

AND HE SAID NO MORE.

They sat upon the garden stile,  
The youthlet and the maid.  
"The stars above are not so bright  
As you," he softly said.  
She lifted up her little hand  
Towards Luna's golden light:  
"The moon above is not so full  
As you, my dear, to-night."—Ex.

The foliage on the trees is fast becoming "leaves of absence."—Ex.

"How do you tell the age of a turkey?" "By the teeth." "A turkey hasn't got teeth." "No, but I have."—Ex.

Teacher: "Find the place where pi is developed."

Boy: "In the kitchen."—Ex.

The good scholar is the compliment of the good teacher.—Ex.

In Latin Class—Professor: "Wallace, give principal parts of possum."  
Wallace: "Head, tail and feet, sir."—Ex.

Campbell, F.—"Did I ever tell you how she came to lose her heart to me?"  
Hall: "No; but I understand it was because she lost her head."—Ex.

From the looks of some little horses seen around school, a Band of Mercy would be an appropriate thing.—Ex.

When Lloyd's father asked him if he couldn't cut down his expenses, Lloyd replied: "Well, I might get along without any books."—Ex.

IN OUR BOARDING HOUSE.

"Will some one please chase the cow down this way?" said the funny

boarder, who wanted some milk for his oatmeal.

"Here, Jane," said the landlady, in a tone that was meant to be crushing, "take the cow down there where the calf is bawling."—Ex.

A woman is like a photographer; she knows how to retouch her negative.—Ex.

Sick Man—"I want a drink of gin, and I will have it."

Minister—"But, sir you are dying. You can't expect to be received within the golden gate with the smell of gin on your breath."

Sick Man—"Pshaw! I'll have stopped breathing before I get there."—Ex.

THE LANGUAGE OF FLOWERS  
—\$, \$, \$, \$, \$.—Ex.

DEFICIENT IN KNOWLEDGE.

Mother—"Johnny, how do you like your new teacher?"

Johnny—"Purty well; but she's awful dumb about history!"

Mother—"Why, Johnny! What makes you think so?"

Johnny—"I ast her when Jesse James was shot an' she didn't know."—Ex.

A few days ago a Catskill hunter shot "At Random" and hit it in several places.—Ex.

"The Czar of Russia now has four daughters."

"Oh, the dear little Czardines."—Ex.

Pupil—"Where is Atoms?"

Teacher—"You mean Athens, Johnnie. It is in Greece."

Pupil—"No, I don't mean Athens. I mean Atoms, the place where people get blown to in boiler explosions."—Ex.



Our locals this issue will glitter with the spoils of a ransacked world.

Mr. Bateman wants his name in the paper.

Con. M.:—I ain't old enough to be childish yet.

Some of the little freshmen are surprised to learn that they teach "forgery" at Manual.

Mr. Sills (translating in German): "I am a bird." News!!

Mr. Chace (to noisy students): "Hush over there boys,—don't you know that empty wagons make the most noise.

Miss Fisher: "What have we this morning?"

Geo.: "Bacon."

Mr. Sloan is now watching the real-estate market.

When the weather gets cold Ed. Dart won't wear his "shirt-wairt" collar.

Miss N.: "Have you ever tried to estimate the height of my father's regard for you?"

Chas.: "No, but it occurred to me last night that it was about a foot.

Our boys have organized a new gum chewing association. They meet for "cult-chew."

Miss Call: "There, Chas., that's twice you have forgotten that lard."

Chas.: "Oh it was so greasy it slipped my mind."

Owner: "Don't you see that sign 'No fishing on these grounds.'"

Lois: "I am not fishing on the ground, I am fishing in the water."

Post Graduate: "Why is Mr. Sloan so quiet and docile?"

Senior: "Because he is tied."

Mr. Chace: Mr. Wright give us an explanation of your problem from start to beginning.

Why is Mr. Cowan like Sir Walter Raleigh? Because he is a favorite of—, (whom?)

Maud (Translating in French): "Both girls had on the same dress."

Frances and Margaret had quarreled. Marg.: "Say, Francis, have you ever been baptized?"

Francis, indignantly: "Yes, you know I have."

Marg.: "Well, it didn't take did it?"

#### SONG OF A JUNIOR GIRL.

"Good juniors love their brothers,  
But I so good have grown  
That I love other junior's brothers  
Better than I love my own."

Miss Drake:—"I'm very much afraid you haven't worked on this lesson."

Agnes (translating solemnly): "Dismiss your fears."

Marie K., singing and cooking—Mr. Davis, "Me thinks I hear an angle's voice; from whence does it come."

Mr. Christie looks like "forty cents."

Miss Gilday (standing near window):—"When you are looking at me you are looking at the light."

How shocking! The telephone company buries its wires alive.

Prof. P. (rushing delightedly into room 27):—"Oh! pupils, I have an idea."

Mr. Shields is reported to be writing funny stories for "Judge."

Where are the friends who used to congregate around Mr. Christie before he became subscription clerk?

#### A SAD FATE.

"There was a young lady named Perkins,  
Who always was fond of green gherkins,  
She ate so much spice  
In spite of advice  
That she pickled her internal workings."

Mr. Openheimer:—"I have read Lamb's essay on Burnt Pig."

One of Miss Sublett's prize zoology students, seeing a cricket run across the floor, exclaims, "See! What a large ant."

Mary:—"Give me a bite of your banana, Harriet."

Harriet:—"No, there are only two bites in it."

First girl:—"You know Mr. Davis is cutting quite a figure this year."

Second girl:—"Indeed! Why I thought he was cutting a tooth."

Miss Stophlet says that her NAUTILUS cover is to be a girl sitting in the woods on a cascade; in which case Miss Murphy says she must be a mermaid."

Miss Bachelor:—"Are there any seeds in potatoes?"

Pupil:—"No there are eyes."

Delator (to Ft. Scott boy at reception): "Don't you want to meet some of our girls?"

Ft. Scott boy:—"No, thank you, I am afraid."

—Wonder what is so formidable about our girls?

Mr. Brownson (in Assembly Hall):—"I don't clap for fear of losing my hair pins."

Miss Gilday says you have to learn to swallow looks when you go to college—a pleasant prospect.

Miss Gilday, when walking down the street the other day with some boys, saw a bar keeper suddenly appear at the door of a saloon whereupon she exclaimed: "Protect me, boys!! They think I am Carrie Nation!

Prof. Shields:—"What do you know of Elizabeth?"

Girl:—"She thought she was it."

"Little drops of water,  
Little grains of sand,  
Make the mighty ocean,  
And the pleasant land."

"Little grains of powder,  
Little daubs of paint,  
Make the ladies' freckles  
Look as if they ain't."

Mr. Dart (at reception to Fort Scott boy).—"My name is Dart."

Ft. Scott boy.—"Is that so?"

Ye girls of the cooking classes be diligent, the roads to men's hearts lie that way.

Why is Mr. Henrici always waiting so impatiently at room 32 at 2 a.?

Zeffy, reciting in loud voice, Miss Gilday—

"Blow softly sweet zepthers."

The grave seniors are nearing the goal, then may they blaze forth stars and meteors that will set the world on fire.



Mr. Miller (in mineralogy class):—"I am a good blower myself."

Miss Fisher.—"Pupils, please help me to correct the words on the board, I only have two pair of eyes."

Gertrude and Marie assist in cooking, and usually assist themselves so much that they are never hungry afterwards.

Lena:—"What do you intend to do when you finish school?"

Stella:—"Keep house."

Lena:—"For whom?"

Craine (revising the English in Chaucer's "Prelude" to *Canterbury Tales*.—His eyghen twinkled in his head aright As don the staires on a frosty night.)—"His eyes twinkled in his head aright As down the stairs on a frosty night."

Edna:—"What's that noise in the cooking room?"

Dolly:—"Oh nothing, that's Miss Call calling them down as usual."

The fact that Mr. Crisp had a sore hand the night of the banquet made him rather "like a savage."

How does it happen that Miss Shepard always wants to see the person that is at the other end of the hall?

Boys, what a pleasant prospect for the future; the girls are making their own clothes!

Whom does Wolf mean when he speaks of "Dear little May M.——"

Miss Fisher says that some of the boys of her English Literature class will be our future orators.

Miss Welsh:—"You know how funny your mind feels when you think."

At the Ft. Scott Manual foot ball game.

Mr. Havens and his hat were there.

Miss Shepard:—"There goes Mr. Arni."

Miss Paxton:—"Oh where, is he dead?"

Mr. Cowan seemed in an exceedingly good humor—(why?).

One Girl:—"Mr. Hamm is here to-day."

Another:—"Where? I don't see any mustache around here."

The more a man gets wrapped up in himself the colder he gets.

Mr. Miller:—"When you get your picture taken remember that a chemical action is produced by means of the sun."

Lena:—"Yes, but sometimes it is not very flattering."

Mr. M.:—"That is not the sun's fault."

J. H.:—(Translating French) "And he hung his horse in the stable."

Mr. Davis:—"Wasn't Geo. Washington born on the 22d of January?" (Poor boy).

Judging from Miss Fisher's remarks she must be at least "three score and ten."

Prof. P.:—Please do not copy aloud.

The name of one of our "shortest" students is Mr. Long, while one of our "longest" students is called Mr. Short—they should exchange names.

Mr. Sloan:—"What have you got in your mouth?"

Freshman:—"A rubber."

Mr. Sloan:—"Take it out, it might stretch."

A boy named Mr. Kline  
Is taking chemistry,  
He pulverized some sugar  
With some  $KClO_3$ .

At the football game.—“Stand back rowdy, I must hurry in, I am a surgeon.”

“You haven’t got me bested by an inch,” replied another, “I am an undertaker.”

Mr. Dodd:—“Why is that equation simple?”

Miss Murrell:—“Because it hasn’t any sense.”

Miss Call (in cooking):—“Where did the first apple grow?”

Mr. Oppenheimer:—“In the garden of Eden.”

Miss Sharp:—“Name all the lines you can think of.”

Bright pupil—“Well there is the street car line, the clothes line, the plumb line, a line of poetry,—and is that enough?”

Miss Lunt (in Civil Gov’t. class):—“Well where’s the officer that issues marriage licenses?”

Helen Leach:—“Mr Morrison, don’t you wish you were like us and didn’t have to hurry so to get to school?”

Mr. Morrison:—“Yes, I often wish I was a school girl again.”

Miss Fisher:—“Bacon fell at Buckingham’s feet and kissed them and said he would never do it again.” (What?)

Miss T.:—“Mr. Cowan needs a wife.”

Mr. E.:—“Why?”

Miss T.:—“There are two buttons off of his coat.”

Why did Mr. Page admit those two girls to the foot-ball game without tickets.

Prof. Phillips wants it distinctly understood that when he refers “to pleaders at the bar” he means the “legal bar.”

Freshman:—“I can’t get these circles straightened out.”

Mr. Chase:—“We don’t want them straight we want them round”

The Debaters ought to be a warm society they have so many hot discussions.

Edith, looking rapturously at a party cloak:—“Oh, isn’t that beautiful! It’s just like mine.”



ZIPP!  
BOOM!  
BAH!  
CUDAHY! HA! HA!  
THE ONLY MEATS THAT  
SHOULD BE  
USED!  
RAH! RAH! RAH!

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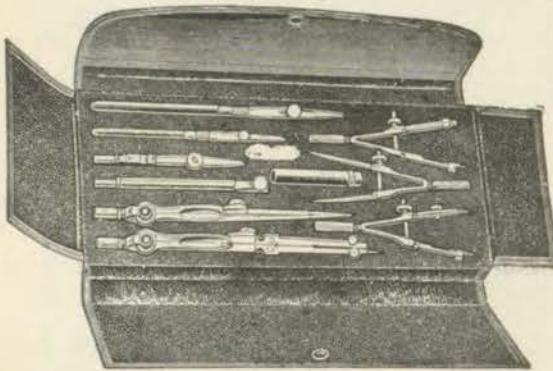
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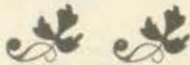
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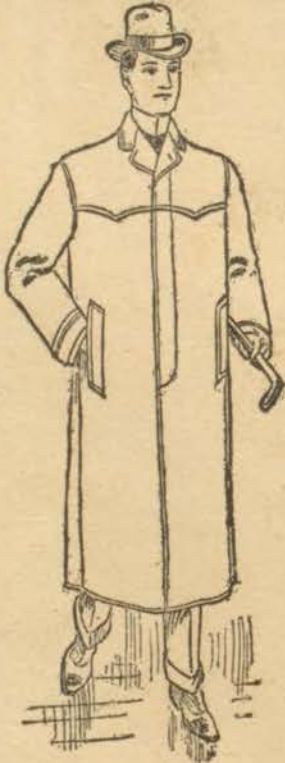
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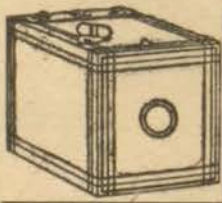


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Contributions are requested from all members of the school.

Address all communications to

THE NAUTILUS,

Manual Training High School,  
Kansas City, Mo.

**NO MORE FRESHMEN THIS YEAR.**

THE popularity of our school and the large enrollment this year has made it impossible to form new classes for the second term. The Board of Education, therefore, has

decided that no more first term pupils will be admitted to Manual till next September. While we sympathize with those who, graduating at the middle of the year, wish to join us, we wish to express our thanks to the Board for protecting the school against

an over-crowded condition, which would diminish its efficiency for those already here. Besides, coming in at this time is not a good idea on general principles; for if one enters in the middle of the year and spends the four years which the course calls for, he finishes at the same time of the year, and this the pupils do not like to do. They like to finish at the time of the graduating exercises in the spring. Those entering at the second term must spend four and a half years in school, or by over-crowding their work try to make it in three and a half years. This is a very bad practice; for the pupil who takes too many studies for the sake of gaining time, seldom stands well in any of them, and he finds his school more or less of a failure because he is always in too much of a hurry to master, appreciate or enjoy his work. In the end, therefore, it will prove a good thing, even for those who would come in now, that they were compelled to wait till the beginning of the school year.

#### OUR ANNUAL ENTERTAINMENT.

**B**EFORE the next issue of the NAUTILUS our Annual Entertainment will probably be over or well under way. It is expected that preparations will begin immediately after the classes are readjusted and settled down for the work of the second term. There is no little speculation as to what form the entertainment will take this year, but we think it is safe to assume, judging from the success of last year, that it will be something good. The success of the "Dickens' Carnival" was a topic of universal comment. It was due, partly, to the happy selection of the subject, and partly to the unity of purpose entered into by the whole

school. Each society, the pupils of the school at large, and the teachers, all vied with one another to see which could make the most attractive booth. And in this way the "strength in union" was again verified. Last year the ostensible object of the entertainment was to pay off the debt on our piano. But really this proved only incidental to the larger benefits which the school realized through the literary impetus given, and through the genuine pleasure which all enjoyed. The material object was more than realized. The money left after paying off the debt on the piano was spent in part payment of the stage curtain and scenery which we have enjoyed so much this year. There remains a small debt on this addition to our stage which it will be the object of this year's entertainment to cancel. It is barely possible that the NAUTILUS staff may take a hand this year by working itself into a booth. Who knows?

#### OUR NEW PICTURES.

**D**URING the holidays two fine pictures took their places on our walls—one an effective landscape in water color, by Bazane, beautifully framed in gilt, the gift of Mr. Geo. B. Peck. This picture was presented as a premium offered by Mr. Peck to the school which should register the largest enrollment to the Missouri State Teacher's Association which convened at Kansas City during the holidays. Four pictures were offered to as many classes of schools ranked on a numerical basis. Manual being the largest school in the city was in the highest class, and notwithstanding she has fifty-three teachers in her faculty she enrolled all of them. They deserve congratulations and a half holiday.

The other picture is a fine reproduction of Rubens' celebrated portrait of himself. It is framed in massive Flemish Oak which shows it off to the best advantage. This was a gift of the NAUTILUS staff of last year who had more money on hand at the end of the year than they could use on the paper. Their thought to present it to the school in a substantial form was a happy one. The gift will not only perpetuate the memory of the staff of 1901, but will stand as a monument to their business ability.

THE staff is indebted to Mr. Leon E. Bloch, of the class of '99, for what seems to be a very valuable suggestion, and one which will certainly result in an ever increasing support of the NAUTILUS in the years to come. Mr. Bloch's idea is to set apart a portion or department of the paper under the head of "Our Alumni." The letter of Mr. Bloch on this subject is clear and to the point, and his article, "Our Alumni," is full of interest. It shows that he is intensely in earnest regarding the friendship formed among the classmates of our school; and his suggestion, that a department be created in the NAUTILUS devoted to the Alumni, that those friendships can be maintained and cherished in after life among the graduates of the Manual, is doubtless a commendable one, and we believe that the best talent of the school would at all times have charge of this department.

Following is his letter:

KANSAS CITY, Mo., Dec. 18, 1901.

EDITOR-IN-CHIEF OF THE NAUTILUS,  
City.

Dear Sir:—As an apology for this unwarranted intrusion and for mailing the enclosed article on "Our Alumni," I ask for but a moments time. Your admirable paper is read by a large majority of the graduates of the school, and on behalf of these people I desire to

say a word. We regard the NAUTILUS as far above the average high school magazines, and the classification of each branch of the school under a separate editor—thus embracing every department of the school—reflects great credit upon the editorial staff as a whole. It has occurred to me upon the reading of each number in the last two years that one branch of the school, its Alumni, has not been represented, but that it should be entitled to a small space in your paper.

As I stated before, the graduates are always interested in the school and in each other, and it is upon the latter statement that I make a suggestion; first, that the graduates may learn something of each other, and second, that the school may learn of its graduates. My suggestion is that a representative be selected to act as a reporter for the Alumni for the purpose of furnishing the matters of interest among the Alumni, to the staff of the NAUTILUS, such article to be *subject to the approval of your Staff.*

I feel such a department would lend a greater interest in your paper to all of the three hundred graduates of the school, and the yearly increasing numbers. Trusting that you will not regard this as a criticism but as a suggestion from a sincere friend of the Manual and a "well-wisher" to the NAUTILUS.

Respectfully,

LEON E. BLOCH.

### FRIDAY MORNING ENTERTAINMENTS.

On November 8th, we had our home orchestra for the first time this year. The program began and closed with numbers which showed the thorough training which the members had already had under the new instructor, Miss Elizabeth Russell. They were received with great enthusiasm and the school looks forward to hearing them as one of the most delightful features of the year's programs. We then listened to an entertaining as well as instructive talk, "Winning Out", by Mr. Lawrence M. Jones. Mr. Jones is eminently fitted to talk on this subject, for, in a few short years the firm of Jones' Dry Goods Co. has taken its place among the leading houses in this city.

Miss Lily Lake then gave an excellent rendition on the piano. The program closed with another number by our orchestra.

On Friday, November 15th, the program was under the direction of Mrs. Mabel Haas-Speyer, and was rendered by her advanced pupils. The first number was in two parts, (a) "Concert Etude" by Schuett, (b) "Gavotte" by D'Albert, and was given by Miss Emma Williams. The second number was the "Magnetic Waltz" by Arditi, rendered by Miss Anna Reyner. Mr. Pomroy C. Lee then sang, "In My Own, My Native Land," from "Faust." The program closed with a solo, "Till Death," by Miss Amanda Peterson, with a violin obligato by Mrs. Hugo Schmidt, Mrs. Schultz accompanist.

On Friday, November 22d, we listened to another delightful program which opened with a number by the M. T. H. S. Orchestra. A selection from Chopin, "Scherzs B," was given by Mrs. Mark Nelson, as an introduction to an address by Dr. S. M. Neel, on "The Work of Today." The program closed with a vocal solo by Miss Georgia Tripp, "Jerusalem," which, though familiar, still remains a favorite.

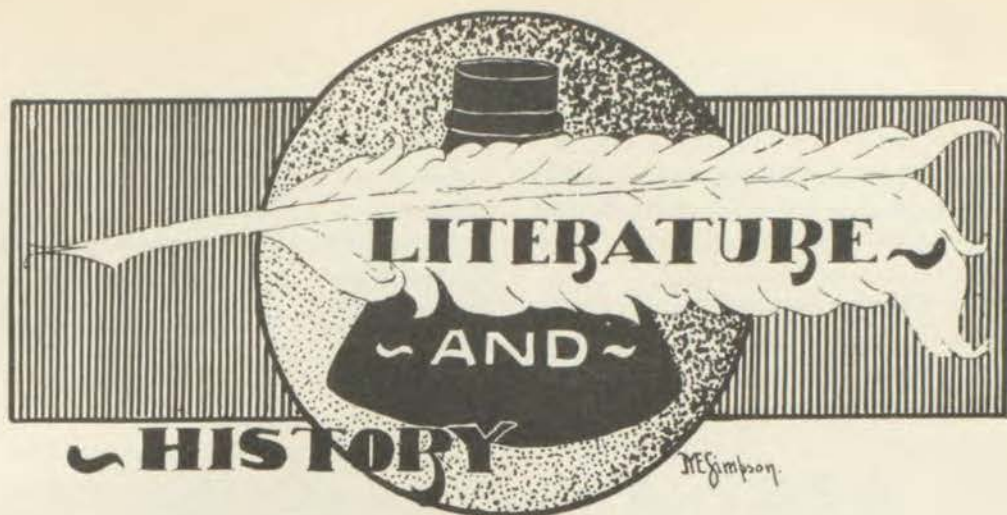
The program for December the 6th was a complimentary musicale given by the pupils of Prof. Lawrence Robbins, assisted by Miss May Huffsmith, soprano. Piano duet, "Pearls and Diamonds" (Large), by Miss Jessie and Miss Jean Norris. Piano solo (a) "Open Air Dance" (Kullak), (b) "Au Revoir" (Lichnor), by Master Max Block. Piano solo, "Viennoise" (Godard), by Miss Jessie Norris. Piano solo, "Valse D Major" (Chopin), by Miss Mabel Wirthman. Soprano solo,

Miss May Huffsmith. Piano solo, "Valse A Major" (Chopin), by Miss Bertha Wirthman. Piano solo, "Valse Caprice" (Chaumiade), by Miss Jean Norris. Piano solo, "Faust Waltz" (Gounod-Liszt), by Miss Frances McCartney.

The pupils of the Manual Training High School have certainly been favored with good musical programs, among the best of which was the program for December 13th. The first number was "Il Trovatore" (Verdi), rendered by James Parker. The second was a solo by Mrs. Elizabeth Powell Osier, entitled "Pancta Maria," accompanied by Carl Smith on the cello. We then listened to a violin solo by Sully Osier, and a cello solo, "Narcissus," by Carl Smith. Mrs. Schultz accompanist.

On December 20th, program opened with a novel number by Mr. Richardson's junior and senior German classes, who sang the "Lorelei." This prefaced an interesting address by Mr. Edmund Walters on "The Aboriginal Americans." The third number was a banjo solo by Mr. Starns, accompanied by Miss Lucas, both creoles from Louisiana. They were encored again and again. As it was flag day the stage was appropriately decorated, and the program closed with the school rising and singing the "Star Spangled Banner."

On the Wednesday of Thanksgiving week, the members of Prof. Phillips' English Literature classes procured a delightful program for a large number of interested pupils and their parents. The "lode-sterre" was Dr. Quayle who lectured on "The Idyls of the King." The stage was appropriately dressed, and it is needless to say that Dr. Quayle met with an enthusiastic reception.



## The Day Dreams of My Cat.

**I**T is dusk. That delightfully drowsy interim, when day is taking a lingering farewell before giving place to her dark rival. The fire burns brightly, and Sir Thomas has stretched himself luxuriantly on the fur rug to take a quiet nap before setting forth upon the warpath for the night.

He sleeps; he dreams. How pleasant those dreams must be, for his whiskers are twitched and shaken by a smile which overspreads his ample countenance. In his dreams he hears his comrades calling; no, they are serenading him with their grand baritone catawalling. He goes to the window; they beckon; he descends, and they are off. And, O! how charmingly oblivious they become of all responsibility as their game begins. What delightful sport it is to "maw" at each other; to fight, to scratch; and what a beautiful display of fur is flying through the air. Smiles wreath the countenance of Sir Thomas at this portion of his nap; but alas! "a change comes over the spirit of his dream." Watch his scowl and the droop of his goatee.

There passes before him a sorry

vision; first a wee small mouse, all mangled and torn, who shakes his tiny finger at him, saying: "Sleep no more, thou bloody monster! Look at thy work, thou destroyer of the pure and innocent." He vanishes, and in quick succession another form arises, and as he turns his ghastly face towards the sleeper, Sir Thomas recognizes, to his infinite horror, the wan features of a father rat, over whom he smacked his lips no later than yertere'en. In a deep, sepulchral voice he cries: "Let me sit heavy on thy soul to-night! When I was mortal my annointed body was punctured full of deadly holes by thy venomous teeth. Think on my helpless babes and their widowed mother. Despair and die!"

He passes on, and lo! in his stead appears a fairer form; that of a trim lady mousie, who in a silvery voice begins: "Dream on my young life taken by thy foul means while yet in bud, and bloody and guilty, guiltily awake. Think, I say, of my young life, and despair and die."

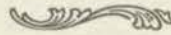
She vanishes and there arises in her place that valiant rat, whose brave young life was taken while in its morning. Raising his head proudly,

pointing with one gory finger to himself, he cries: "Thou cruel raticide, I am the last victim that felt thy tyranny. Think how thou crushed me in the prime of youth; despair, therefore, and die!"

Ah! Thomas, that is too much. He starts, springs to his feet and gazes madly around him. "'Twas but a

day dream soliloquizes he," and yet that dream has struck more terror to the soul of Thomas than could the substance of ten thousand dogs; "and methinks, henceforth, I shall eat what Mistress May provides without sallying forth for new fields to conquer in Rat Domain."

MAY MERIWETHER.



## A Plea For Rational Literary Criticism.

**I**N the beehive of letters there are two distinct classes of workers—the creators and the critics. The former are the prospectors for something rich and rare in the mines of truth and beauty, who, out of their discoveries, fashion original and immortal compositions. The latter make researches too, but having the critical instinct, or the perceptive faculty, more highly developed than the creative faculty, they almost exclusively confine their work to the revelation of the thought and sentiment of the masterpieces of the creators. The specific function of the legitimate critic, then, is to turn the searchlight upon the library to aid the average or superficial reader to discern the true from the false, the beautiful from the ugly, and to interpret the subtle or far-reaching meaning of the productions of the creative geniuses.

If, as Matthew Arnold says, "Literature is a criticism of life," it is highly important that the young reader, just entering the critical stage of his development in his high school life, should have some definite and sensible idea of what is meant by literary criticism. We should banish two false ideas—first, that anyone can be a critic,

too prevalent is the practice of treating the field of criticism as the last resort for those unfortunates who have failed in literature and in art.

We must also abandon the idea that to criticise is simply to find fault, either with the form or content of a literary composition. Fault-finding is the smallest and most unpleasant function of the true knight of criticism, whose gallant role is to heighten the pleasure and profit of reading the literary masterpieces. The manly critic is he who enters upon the perusal of a book without a grain of prejudice, lest he be blinded to many of the rich treasures that lie buried there. On the contrary, he should enter into closest sympathy with what he reads, for sympathy is the magnetic interpreter of all the arts.

To the warm and penetrating sunshine of sympathy flowers of rarest beauty will blossom forth, which would wrap themselves all the closer against the cold blasts of the skeptical questionings of prejudiced minds. I do not mean that the critic should not be skeptical. He should be sometimes intensely skeptical, but his skepticism should be of the knowing kind and always used as a means and not as the end. The false critic is a cynical,



heartless creature who, in a waspish spirit, stings with no other idea than just to be stinging, as dogs delight to bark at midnight when all good people would like to sleep. According to Byron: "As soon seek roses in December, ice in June; hope constancy in wind, or corn in chaff; believe a woman or an epitaph, or any other thing that's false," before you trust such critics.

One should read with the same zest, perseverance, faith and hope that Stratton, the prince of miners, exercised, when, with disappointment, starvation and the hateful jealousies of rival miners nagging him to desperation, he persisted in plunging his pick and shovel into the mountain's side until the royal metals gladdened his eagle eyes and made him the millionaire owner of "Independence Mine," at Cripple Creek.

The honest critic does not venture to render a verdict or to offer an interpretation until he has descended to the lowest level of the author's mine, and has smelted out the author's motives, ideas and sentiments. When once the rich products have been extracted by the critic, he will have plenty to say and be eager to say it.

There is nothing so fatal to profitable criticism as for the lazy reader to borrow his ammunition from other critics instead of going to the original arsenals of the authors under consideration. Many a false impression and warped judgment about books comes from approaching the classics by this indirect method.

Again, the young critic who is ambitious to stand high as a reliable interpreter, should be honest with himself and have no taint of conceit or duplicity, like the tricky Oracles of old, who shouted aloud:

"I am Sir Oracle! When I ope' my mouth  
Let no other dog bark!"

No one should be more painstaking as to the accuracy and clearness of language than he who pretends to elucidate the meaning of the most delicate shades, as well as the high lights of the master's page.

A great writing may instruct, as do Bacon's "Essays;" it may amuse, as does Goldsmith's "She Stoops to Conquer;" it may inspire, like Castelar's description of the singing of "The Miserere" by that matchless St. Peter's choir in the grandest cathedral of Christendom; and for the critic to explain in his simplest and most effective way how these ends are attained and what rich benefits are in store for the reader, how he is affected and what he gets from it,—is honest and helpful criticism.

The young critic should notice whether or not the author is reflecting the truth, for that is the pole-star of all real culture, to which Keats sings:

"Truth is beauty; beauty is truth;  
All you know on earth, and  
All you need to know;"

whether he is sincere or not, for sincerity is the compass to ethical truth; whether he is surely painting the beautiful, for that is aesthetic truth.

We should also dismiss the idea that there is any cast-iron dogma or code of laws of criticism by which we can measure up all the great authors. Instead of dictating the laws to authors, Sir Critic must turn to the master poets, dramatists and orators if he would discover the fundamental laws upon which the most artistic and enduring literature is based.

Every original author is a law unto himself, which fact alone is sufficient to throw any artificial system of criticism into utter confusion. To such an

author critics and readers in general must surrender if they would catch the true message of his soul. We should not presume in our little or august chair of criticism to read into the author's passages what we would like him to say, according to some pet literary scheme of salvation that the critic may have crystalized in his own theoretical laboratory. One of the most popular but unsatisfactory operations of this literary surgeon is to probe for what he terms the exact motive of a given author, and in so doing the critic oft ascribes to the author intents and purposes which the author never dreamt of. Indeed, he may have had no specific purpose in view whatsoever, beyond the sketching of a glimpse of life that happened to appear before his magic camera. Of course, in the ordinary use of the word purpose, we mean the author's conscious intention; but our use of that word should be more elastic and include even the peculiar purpose that the work under discussion serves the reader, or the special good it may chance to be to the world at large.

The barbs on the bootlegs of the honey bee serve the purpose of conveying pollen from plant to plant in the fertilization of flowers, but the "busy bee" is oblivious of this good result of his work as he gathers wax for his honey cells. So is it with many a book. Each reader adapts it to his own needs and reports what special benefit it is to him.

Furthermore, while in criticising the works of different authors in the same field, contrasts and comparisons are interesting, they are often misleading, dangerous, and even odious. Honest scientific criticism never indulges in competitive examinations. In geology, who ever heard of a scien-

tist praising some old Potsdam sandstone and making sport of the washed pebbles of the glacial period? We must appreciatively recognize differences in kinds of literature. For example, the Grecian drama and Shakesperian drama are two widely different groups in similar constellations of the literary firmament, and they cannot be compared without some injustice to both.

Let the student read the originals for himself and state what he sees and feels; and while much good may be derived through suggestion by reading what others say, still the most satisfactory development of the critic springs from personal experience. Hence, he should read, think and conclude for himself; for criticism, like literature, is a matter of growth, and the best results come from the course just indicated.

A necessary accompaniment of the scheme of criticism here suggested is an inducement to think, a luxury that but few people indulge in, and those few but seldom. Bishop Spalding laments that we, in this rapid age, have so little time to think and have so little training for sustained thinking. To the average person thinking seems to be a bore. This may be partly due to the brains, being encircled by an endless chain of constantly interrupted and uninterpreted impressions, which are hastily acted upon or not at all. Such experience is death to prolonged thinking and to profitable criticism.

In conclusion, some of my young readers may contemplate becoming literary journalists, than whom there are no more responsible and useful agents in shaping the tastes and ideals of the masses. To be a successful mentor in this field, the perceptive

faculties should be highly cultivated and all the points to which I have alluded given careful attention. Along this line Schopenhauer makes the following pertinent observations: "If literary journals were only properly edited, they would be a check to the miserable and consciousness scribbling of the age, and the ever increasing deluge of bad and useless books. The literary journalist's judgment should be uncorrupted, just, and vigorous; and every piece of bad work done by incapable persons, every device by which the empty head tries to come to the aid of the empty purse, should be mercilessly scourged. Literary critics and journals would then perform their duty, which is to keep

down the craving for mere writing and to put a check upon the deception of the public, instead of furthering these evils by a miserable toleration, which plays into the hands of authors and publishers, and robs the unguarded reader of his time and money."

What we should strive for is a simple, sensible, wholesome and good natured criticism that will articulate the letter of the book with the life which we are living and which all genuine books reflect. In this way we would remain human and help one another to get more good out of books and out of life itself, and literature would become a still more faithful interpreter of life. E. D. P.



## A Tragedy.

**T**'WAS midnight, the moon that had risen a few hours earlier now cast its mellow light over the earth, seemingly a golden robe of splendor. A road which curved in and out between fields of ripening fruit and waving corn, was, for some distance, skirted by a high hedge fence. In the shadow of this fence there crept along a rather indistinct figure, but if we could have observed it more closely we would have found it to have been a *man*.

In the distance a dog lifted up his voice and howled to his heart's content, then again all was still. The man stopped, listened, then cautiously moved along until he arrived at the end of the hedge fence and its friendly shadow. Here he stood for some time looking intently over a rail fence into the field

in front of him. Great masses of vines completely covered it and had crawled up and along the fence making it look more like a natural barrier than a common rail fence. Beyond it he saw the waving stalks of a large cornfield. To his right was a stretch of pasturage beyond which stood a farm house so surrounded by trees that only the chimney-top and the peals of the roof could be seen. The man then climbed over the fence and started across the field with his head and body slightly bent over as if he were looking for something. He had not gone far before he stumbled over a large object, probably a rock or stump; but hardly, for he picked it up and started toward the fence.

Suddenly in the opposite corner of the field, there was a slight noise, then a flash of fire and a loud report. The

man dropped his burden with a howl of pain and scrambled over the fence. Soon his rapid footsteps could be heard far down the road. What was this?

An attempted murder? No, not all, it was a "colored gentleman" stealing a watermelon and a shot-gun loaded with salt.  
C. VICTOR STEWART.



## A Brief History of Kansas City.

**I**T is with a just pride and pleasure that we can look back over the past history and achievements of our city, and note the enterprising and aggressive spirit which has marked its rise from a mere steam-boat landing to that of one of the most important commercial centers of the West.

The Indians were undoubtedly the original owners of the site of Kansas City. In 1609 it became the property of the colony of Virginia by the grant of James I, to the London Company. The north and western banks of the Mississippi River, in which territory the site of the present city was located, was claimed by France in 1732. France then ceded it to Spain in 1762. Spain retroceded it to France in 1800, and France sold it to the United States in 1803, as it was part of the Louisiana Purchase.

Through a division made in the Louisiana Purchase by the United States in 1804, the present site of Kansas City became a part of the District of Louisiana, which was governed by the Governor and Judges of Indiana Territory. In 1812, by an Act of Congress, it became a part of Missouri Territory, and finally, in 1821, a part of the State of Missouri.

Five years later the Government opened the present site of Kansas City for settlement, and in 1828 James H. McGee made the first land entry and permanent settlement.

In 1833 the town of Westport was established. Its merchants then and thereafter received their goods at the river-landing at the foot of what is now Main street. A straggling hamlet sprang up around the landing, and consequently acquired the name of "Westport Landing," which remained until 1839.

In 1839 the first plat of the present city was filed, and its name officially designated as the "Town of Kansas." In all, three different plats were filed; the second in 1846, and the last in 1849, which increased the original area about three times.

The town was without Municipal Government until 1850, when the territory within the plats filed, was incorporated. It continued in a flourishing state under the title of "Town of Kansas," until it was incorporated by a special Act of the State Legislature in 1853 under the title of "City of Kansas." This charter remained with various amendments until 1889, when the present charter was adopted by the citizens acting under general law. This changed the name to "Kansas City." With possibly one exception, Missouri is the only state in the Union which permits cities to frame their own charters. It might also be of interest to know that the name "Kansas" was derived from the name of a tribe of Indians, the "Kansez" or "Kanzan," who inhabited the eastern part of Kansas, and not from the

"State of Kansas," as is sometimes erroneously supposed.

In 1850 an attempt was made, if the reports are true, to change the name of the town to "Port Fonda," in honor of its most prominent citizen, Abram Fonda. But it caused such an outburst of anger and jealousy on the part of his business partner, Henry Jobe, that in order to appease him the name was left unchanged. There was an attempt made at about the same time to cede the town to Kansas, which for some reason failed to materialize.

The increase in population has been phenomenal since 1850. Then it was about 3,000; in 1860 it increased to 4,418; in 1870 to about 40,000; in 1880 to 55,000; in 1890 to 132,532; and in 1900 to 163,750, which gives it a rank of twenty-second among the cities of the United States in population.

Kansas City is the proud possessor of the finest system of parks, boulevards and paved streets west of Chicago, and a street railway system surpassed by those of only four other cities. It has a splendid system of fire protection, in which it employs one hundred and ninety-four (194) regular firemen. However, the facili-

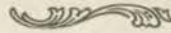
ties are hardly adequate for the present needs of the city. The city owns and controls its own water-works system, which was bought in 1895 for \$3,062,000. But this is also inadequate for the city's present needs. Its schools rank among those of the best.

The city owes its magnificent growth principally to the courage, energy, intelligence and industry of its sturdy founders, among whom were: John C. McCoy, Abram Fonda, Wm. Gilliss, Wm. Sublette, Samuel C. Owens and others, and to some equally strong qualities in their worthy followers.

Some references on the history of Kansas City are: "A History of Kansas City," by Theodore Case; "Kansas City in Three Decades," by William Griffith; "Historical Sketch of Kansas City," by H. C. McDougal in the preface of the present charter; and the chapter on Kansas City by Charles Gleed of Topeka, in "Historic Towns of the Western States."

It is with great anticipation that we look forward into the future, as we feel that we can be assured of a record even surpassing that of our past.

WM. F. RUGG.



## The Love Affairs of A Pirate.

HIS IGNOMINIOUS DEFEAT.

**L**ANDING on the Jersey coast the noble captain fought his way through a horde of mosquitoes and sought the streets of New York for a bride. He hummed the ancient ballad "Three Wise Men of Gotham," as he strode. Presently a trim figure loomed up ahead. "Avast!" he cried, raising his

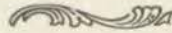
glass. "Give chase lads!" He dashed up the steps of an imposing mansion and rang the bell. His lady-love would come to meet him. His heart beat!

It was a brawny Bridget that opened the door. Let it not be discredited to the valiant Buccaneer—he could only gasp, struck dumb with amazement.

"Is the lady of the house in?" "Ye murtherin baste av a book agent, git out av here before I take me shoe to yez, ye black-hearted, book-sellin', wan-eyed——!!!" He waited no longer. Grasping his case of pistols, he fled, muttering, "foiled again."

As he reached the corner he turned,

and gazing at the flat, vowed that one day he would return and put the inmates to the sword. "Nay, flatter thyself no more to escape my vengeance——" "Ye crature git, or I'll make ye," exclaimed the sturdy Irishwoman, and the vow was never finished; possibly just as well. SARA H. BIRCHALL.



## Alone.

**W**HILE walking along Forest Avenue one bright, crisp morning last week, and chancing to overtake and pass some juniors on their way to school, I overheard this snatch of conversation.

"Oh, come along Charlie, you aren't afraid of the expense. What's fifty cents anyway?"

"Well, you needn't think I'm scared of the fifty cents, but you know very well I have not the time."

That was all that I heard, but that served to bring to my memory something that had happened the day before which I will try to give to you.

That day I had been visiting a maiden aunt of mine, who lives over on the east side of town. I had gone there after the close of the fourth hour, so of course, I found that the household had long since quit the dinner-table, but my aunt has always treated me in the same informal manner that I use when I drop into lunch there. So it thus happened that I was on that particular afternoon, seated at the kitchen table, making ready to regale myself upon a very substantial piece of apple pie and a cup of tea.

But it so came to pass that I never tasted that piece of pie or drank the tea, for just then there came a knock

at the kitchen door. My aunt answered the knock, and looking at the visitor I became so interested as to forget my dinner.

The lady, for it was a lady, had nothing attractive about her except a strange, wistful expression upon her wrinkled face. She was a little woman very poorly dressed, her hair streaked with gray and the wrinkles were not from age, but from care. It is not time that makes us old, it is care. If men did not worry they would be young at ninety.

I noticed in one hand she carried a little basket in which were several bottles. "Evidently another peddler," I thought, and was about to go back to my lunch, when in came my aunt and the woman. I might have known that would be what she would do, for this good-hearted lady was famous among the tramps for miles around because she seldom failed to bring them into the kitchen and feed them. There was a "hobo sign" written on the gate that said as much.

I retreated from the kitchen, but the walls between the room into which I fled were so thin that I could not help hearing everything that was said, and after I became interested and listened attentively.

"Now you must come in and rest a

little," I could hear aunt Mirah say, "you do look so tired, and I know you can spare me a few minutes. Now let me pour you a cup of tea, it will refresh you. I am so glad to have somebody to talk to, I've been alone *all* afternoon." (I felt my eaves-dropping amply rewarded.)

"Well, I will be glad to sit down a while, deary, and I'm much obliged to you for the tea." It was the voice of a lady, not of a beggar, nor of an ignorant person, and it had a deep tone of sadness in it that had no trace of complaint, whine or cynicism that usually creeps into the voice of those overtaken by misfortune. "You alone, my dear; you have no right to say that, you do not know what it means to be *alone*. In an hour you will probably have your whole family around you, and I, I never hope to have that joy again. I am not unhappy, for I still find little spots of sunshine and hear kind words, but, oh, it is too bad to have no one to call your own.

"You will pardon me, dear, won't you, if I tell you a little bit of myself, for it has been so long since I have had the chance to confide in anybody, and someway my heart reaches out toward yours.

"I remember when I was a mere girl of fifteen, and how happy I was then. My father had a large estate in Kentucky, but the civil war, which had just closed, left him with nothing. He was not a young man, but he had all the pluck and business capacity of a young man, and moving west to Chicago built up quite a comfortable living. I had finished my schooling in 'Kentuck,' so here in Chicago I was able to move into society unhindered.

"There was one party which I attended that I have never forgotten, for there I met the man who afterwards

became my husband. He was a light-haired, blue-eyed English boy, only 20, but who had performed such a heroic deed while under fire that the government afterwards pensioned him. He was of the Union, we were of the Confederacy, but what matters North or South when one loves.

"When I was eighteen we were married and moved further west to St. Louis. Here we lived comfortably up to three years ago, but poor Joe was never able to get anything ahead. He was too kind hearted and couldn't bear to turn anyone away who asked credit.

"We had a little home partially paid for when he suddenly met reverses in business that worried him so he fell into a fever, and after being sick off and on for six months, he closed his eyes and slept in death." Here my aunt was sobbing.

"During his last sickness money ran low and I had to sell off what little silverware I had. Yes, deary, and I did think a lot of that silver, too; some of it had been used by my ancestors in colonial days, but it had to go piece by piece. The doctor's bills were heavy, and the funeral cost a great deal, so that when the mortgage on the homestead was foreclosed, I found myself in the world without a home, sixty dollars in debt and *alone*.

"I was at my wit's end as to what to do, when I remembered a receipt that my husband's best friend had sent from England, a receipt for making this 'polish.' I took the formula and gained the article that I have shown you. But I could not make enough by selling this. I make usually about thirty cents a day by it, which isn't very much as I have to pay seventy-five cents a week for room rent. So, while I was strong I sold the 'polish,' worked in kitchens, scrubbed

floors, did anything I could find, and by saving every penny, economizing as closely as a person could, in food and clothing, I paid that sixty dollars in nineteen months. I then came to Kansas City.

"Then the reaction came. I broke down and was taken to the hospital. They said I had worked too hard, but the work was nothing compared to the mental strain that I had been under. I had a few dollars when I went into the hospital, but these soon vanished. The best fortune that I had was in having an angel for a landlady. Oh, dear, you don't know how good she has been to me. I had furnished my room in the scantest sort of a way, but that room my landlady rented out for one dollar a week which paid my rent and gave me twenty-five cents every week while in the hospital.

"I knew nothing about this and you can imagine my situation when I crawled back to my room. I was still weak, and, as far as I knew, utterly without money. I happened to look into an old work-basket of mine and there I found four copper cents. On these I lived for two days. On the morning of the third day I awoke feeling rebellious, may the Lord forgive me, and wished I had strength to walk to the river.

"That afternoon my landlady said to

me, 'you look lonesome, come down stairs and sit with us a while.' I went for I knew it was past dinner-time, and I thought that I would not be tempted, I was still proud. When I had been there awhile my landlady said, 'now we are all going to have a little lunch and you must too.' She had found out my secret; she knew that I was starving. I ate. It is false pride that rejects a kindness prompted by love.

"Some way, from that day my fortune seemed to change. That afternoon I received an order for two dollars' worth of the 'polish', and oh you don't know how it helped me! I have been making living wages ever since. I have done well this week, I have *fifty cents* above my next week's rent, and I have definite word that by the end of the month I will receive the pension that I have waited for so long. Oh, Oh, Oh! I am just so happy, so happy and grateful.—"

Then both the women broke down and started into what they call a "real good cry." That was too much for me; I went out on the porch and whistled.

Fifty cents—what is it? When obtained without work it is nothing. When obtained by work it is not much, but still something. But when it is starved for, fifty cents is a fortune.

GEO. J. HUNT.



## A Struggle for Liberty and its Hero.

"The word is Liberty, and heaven smile on us in so just a cause."



UP in the mountains a little spring of clear water breaks its bondage and bursts forth from the ground. After a while it forms a little stream and flows down the moun-

tain side, then it is joined by other streams, and cutting its way through the rocks it grows deeper and wider, until, in place of the timid ribbon of water, there is a powerful, rushing river that makes its way in triumph to the ocean. This is the way of liberty.



Over three hundred years ago the plucky people of the Netherlands dared to break their bondage and wage war against a mighty and despotic monarch, Philip of Spain, for liberty, giving to the world a splendid example of a sturdy race conquering a most disadvantageous environment. Long before the struggle with Spain these people had contended with the sea, which invaded their territories and submerged the land. It was with great difficulty that the waters were at last driven back within bounds, by means of dikes erected at a great cost of labor and expense. The country was then dotted with wind-mills, and soon became, through the unceasing efforts of its thrifty inhabitants, a prosperous, beautiful country. It was divided into seventeen small provinces, each of which had its own charter of privileges, but all were governed by one sovereign. By the marriage of Maximilian to Joanna of Castile, the Netherlands became the property of their son, Charles V of Spain. Thus the energetic Dutch and the indolent Spanish were united under one sovereign. At this time the first faint rays of a flickering candle, the Reformation began to shed its light—the light that was soon to be, not a candle, but a glowing sun. Then began the long and arduous struggle for freedom.

The times brought forth a hero, William of Nassau, Prince of Orange, called "William the Silent" and "Father William," who was to guide the frail bark of Liberty, and moor it safely in the harbor. Strange to say, this man who became the idol of the people was not a native of that country. He was born in the province of Nassau in Germany. His father and mother were both Protestants, but

falling heir to the estate of Orange, William was sent to the court at Brussels to be educated, and here he conformed to the Catholic religion. The Prince became a great favorite of Charles V, because of his beauty, quickness and straightforward ways. When Philip succeeded Charles, the royal favor was not withdrawn, as he was made stadtholder of Holland, Zealand and Utrecht, and having married the richest lady in the country he lived almost as regally as a king. He was called Silent, for at one time King Henry of France revealed a horrible secret to him, which was, that he, with the help of Philip, had on foot a plot to root out Protestantism in their dominions. William listened with all due respect but did not betray his feelings; he was wise enough to know that silence was the only course to pursue, but then and there, as he thought of his Christian mother, he decided to devote his life, if need be, to prevent this terrible thing. From that time he was known as "William the Silent."

Philip was resolved to have nothing but Roman Catholic religion in the Netherlands, so he established the Inquisition there, infringed upon the rights of the people, and taxed them most unjustly. Many people were burned and otherwise tortured for their ways of thinking, until they could stand it no longer and resolved to drive the Spanish soldiers out of the land. The Prince, by this time, had become a convert to Protestantism. The first siege of the war was at Valenciennes. That city, with great boldness, refused to have a garrison of Spanish soldiers quartered within its walls. The Spaniards surrounded the town to reduce it to submission. Valenciennes held out until all hope of

relief was despaired of, as the force of soldiers, marching to assist them, was annihilated near Antwerp. Then they surrendered and nearly all of the inhabitants were put to death and the city plundered. When the Protestants in Antwerp saw that battle, in which the relief force was killed to a man, hundreds of them rushed to the gate and demanded that it be opened for them that they might avenge the insult. The city was in riot and tumult, the four thousand Protestants in the city forming a disorderly army, shouting "Long live the beggars." The Prince of Orange appeared at the head of this wild mob and pleaded with them to remain in the city as there was nothing but total destruction to be feared from the well organized Spanish army. The people loved this noble Prince and obeyed his appeals. By his intervention Antwerp was saved.

The Prince was laboring all the time to secure the necessary funds for carrying on the war. He, who had once lived like a king, had impoverished himself for the sake of the cause he loved. Philip knew how the people were willing to obey him in everything, and so offered large rewards for his head. This was another labor under which the Prince labored. Although now only in the prime of life, he looked like an old man, for his many cares did not sit lightly upon him, so the people called him "Father William."

The Spaniards were at first everywhere victorious. They laid siege to the town of Harlem, whose brave citizens thought that if they must die it would be better to die fighting, and refused to submit. The Prince collected reinforcements to aid them, but these were all slain in an encounter

with the Spanish troops, before they reached Harlem. All aid that was possible to be obtained was sent to the besieged city. Another army was sent, which met the same fate as the first. And still the brave citizens met the attacks of the Spaniards and would not surrender. The women and children fought as well as the men. There was an heroic band of three hundred women under the command of a noble woman, Kenau Haselaer, which did much service to the city. Failing to take the city by storm the Spaniards determined to starve them out. The provisions in the city gave out; the people ate everything that they could lay hands on, even to shoe leather. Something must be done. They sent word to the Prince begging for relief. He told them if they could but hold the town two days longer an army would be there with provisions. The Spanish leader, Don Frederic, learned of this plan and met and defeated the army bearing provisions to a starving people. There was nothing left but surrender, so Harlem fell.

It seemed as if there was nothing left to fight for, but these heroic people would not give up. All eyes were turned toward Seyden, the next city to be surrounded by Spanish soldiers. Everything depended upon this city. If it fell the cause was over, not only in the Netherlands, but the whole Protestant cause. The Spaniards, having learned how well these "beggars" could fight, surrounded the town to reduce it to submission through starvation. Again the Prince concentrated all his efforts to save the city. He could not raise another army. Provisions were very scant, so there was nothing left to be done but call in their old enemy, the sea. Permission was granted to do this. The

Spaniards had not yet gained control of the sluice-gate at Rotterdam, and when this was opened the water would pour in upon the land and reach Seyden, fifteen miles away. The gates were opened, the water rushed in upon the land, and a fleet, under Admiral Boisot, set out to relieve the brave, starving people. The town had now held out four months. The fleet succeeded in getting as far as Land-scheiding. Here was another dike which the Spaniards were protecting. The admiral attacked and conquered them, cut the dike and passed on. A little farther was Greenway; this dike was also cut, the fleet passed through, but was compelled to wait several days until the wind changed and raised the water. The Kirkway was the next dike; here the fleet also gained a victory over the Spaniards, these engagements being, probably, the only naval ones ever fought on land. The water was too shallow for the vessels to proceed farther and they had to lie there idle, knowing that the people of Seyden were dying by the hundreds for want of food. How anxiously they watched the progress of the fleet! They ate the dogs, cats, rats, and even tore the leaves from the trees, and yet would not surrender. When the Spaniards taunted them they cried, "Ye call us rat-eaters and dog-eaters and it is true. So long then as ye hear dog bark or cat mew within the walls, ye may know that the city holds out. And when all has perished but ourselves, be sure that we will each devour our left arms, retaining our right to defend our women, our liberty and

our religion against the foreign tyrant. Should God, in his wrath, doom us to destruction, and deny us all relief, even then will we maintain ourselves forever against your entrance. When the last hour has come, with our own hands we will set free the city, and perish, men, women and children together, in the flames, rather than suffer our homes to be polluted and our liberties crushed." O, brave people of Seyden! God does not forsake the righteous! The winds blew, the water rose, and the fleet advanced farther. One more dike and Seyden would be reached. The Spaniards fled in terror as the cold, foaming water came rushing on—the night was dark—the lights flashed—the fleet reached Seyden, and the cause was won.

All honor and credit to the Silent one, who was known by his deeds and not by his words; who was a fighter and not a writer. This man dared to think and to make bold his assertions. He was brave, honest and true, the symbol of Liberty. His very name is linked with that of Liberty. We, who have now so much freedom, little know what we owe to this Silent hero and the sturdy Dutch; we can scarcely conceive the courage, fearlessness and faith in the Divine hand it took to assert "liberty of conscience." This Prince gave all, fought side by side with the people, and at last gave up his life for the sacred cause of freedom. The study of the grand character of this Silent hero, whose praises will ever be sounded, should teach us to appreciate our blessings of freedom.

KATE HANKINS.



## Rivers, Young and Old.

**T**HIS great, wide, wonderful earth has formed a study for many men. The people of old were awed by the great forces in nature, and therefore worshipped what they could not understand. Now, it is not enough to see some wonderful phenomenon; it is necessary to find out the wherefore of it. Thus, today, causes and effects are being reasoned out, more and more, and what men have discovered has been put in writing, so that others may get the benefit of their research. In consequence of this, physical geography forms one of the most interesting subjects that one can study, in the high school course.

In our study of rivers, young and old, it is necessary first to know the definition of a river. A stream is a body of water which flows, from a higher to a lower plain, in a channel which it has formed. The amount of water, in a rill, creek, or river, as the case may be, is that which is left of the rainfall after part has been removed by evaporation, part has run off through subterranean channels, and part has been taken up by chemical changes. The tendency of all streams is to get down to a lower level as quickly as possible. The sources from which a stream usually receives its

waters are lakes, springs, marshes, or surface waters given by rain-fall. Where it empties into some other body of water is called its mouth. Rivers at first are mere rills, but in the course of time become larger by erosion, corrasion, and weathering—eating always, eating back and making broader, deeper courses.

Thus a river forms and enlarges its own valley. The hills are usually thought to be older than the streams, but the truth of the matter is, the rivers in most cases are older than the elevations of land on either side of their valleys. The streams cut off the land into hills. The streams, in many instances, would not run so straight if they had not had slopes of sufficient steepness to enable them to work their way through the hard and soft strata on the mountains. If the weathering is greater than the corrasive power, then the valley of the body of water is broad, with gently sloping sides. But, if the corrasive power is greater than the weathering, then the valley is narrow, having steep sides.

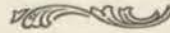
Waterfalls may be called rapids, cascades, or cataracts, according to the size or the distance of the fall of water. There can be a fall only where there is a layer of hard, overlying soft

strata. The amount of sediment a stream carries determines whether the fall will last, and how much cutting it will do. If the water carries little sediment, as in the case of Niagara Falls, the cataract will remain just as high as long as the water is practically free from sediment, and will only work back headward. But, if the water is muddy, at last the fall will be worn away, and the curve of erosion will have been formed. The water, running fast, will wear away the top of the fall, then the current runs very swiftly while the water is descending, but at the bottom it runs slower and drops some of the sediment, thus filling up the bottom. Gradually the curve of erosion is completed, for the wearing away of the top and the filling up of the bottom at the foot of the cascade, will, after while, utterly demolish the water-fall.

The sun's energy and gravity are the chief powers which do this great work producing such changes in the surface of the earth. The sun's heat conditions life, and without its heat the earth would have a very different aspect from what it has now. Evaporation is caused chiefly by the sun's heat. Erosion is caused by the opposing forces, gravity and the power of the sun. The sun draws the moisture up from the sea, then as the evaporated water becomes heavier, gravity forces it to earth again as rain. This rain falls into the streams and is carried to the ocean. Thus from century to century this continual round is kept up.

Through all the laws of earth is to be felt one over-ruling power, a guiding hand, which shapes the course of all things.

RACHEL BRINKERHOFF.



## Corundum.



**C**ORUNDUM is a natural form of alumina or aluminum oxide ( $Al_2O_3$ ). The purer forms are next in hardness to the diamond, being ninth in the scale of hardness, and it is this property that makes it so valuable in the arts. Pure corundum occurs in the form of hexagonal crystals, that is, crystals having three axes in the same plane at  $60^\circ$  to each other and a fourth axis at right angles to these at their intersection. Corundum also occurs in massive and finely granular forms.

Corundum crystals are sometimes very brilliant, and this together with the color often makes them very attractive as gems.

The oriental ruby is probably one of the most valuable forms of gem corundum. It is of a red or pigeon-blood color. Rubies are found in Syriam, Ava, Ceylon, Bohemia, and near Expially. When of a considerable size, rubies exceed diamonds in value, a five carat ruby having twice the value of a diamond of the same size.

The sapphire is a blue variety of corundum found in Ceylon and Pegu. These gems are often dichronic, showing light blue from one direction and dark blue from the other. Water sapphires are devoid of color, and although they are nearly as brilliant as diamonds they do not disperse light to the same extent.

Some other forms of gem corundum

are oriental emerald, oriental topaz, and oriental amethyst, which are, respectively, green, yellow and purple in color.

Although certain forms of corundum make very beautiful and attractive gems, by far its most important use to man is as an abrasive. All corundum not fit for gems and emery are used for this purpose. These are used in the form of a powder, as emery paper, sticks and wheels.

Emery is a very impure form of corundum, containing from 60 to 80 per cent. of alumina, and from 15 to 35 per cent. of iron oxide with small quantities of lime, silica and water. Emery is simply a mechanical mixture of these substances, and when it is broken up the various constituents can be easily detected with the aid of a microscope. Taking the hardness of sapphire as 100, the hardness of emery varies from 45 to 60.

Emery was formerly obtained exclusively from the island of Naxos in the Grecian Archipelago, but later it was found in certain localities in Asia Minor, in Westchester county, New York, and at Chester, Massachusetts. The emery in Naxos and Asia Minor was originally surrounded by crystalline limestone; but a great deal of this has been disintegrated, leaving the emery in detached blocks imbedded in a reddish soil. At first, these detached blocks alone were obtained, but later the underlying rocks were systematically worked by means of shafts and galleries.

The emery deposits in Massachusetts and New York occur in peridotite rocks. The emery in these places is also mined by means of shafts and galleries.

Corundum is usually found in gravel beds of streams, in veins or dykes of

feldspar, or with chlorites in peridotites. In the southern Appalachian region corundum is found between the joint plains of peridotites in bands of chlorites.

The gravel beds containing corundum are worked like placer mines for gold. In the Appalachian mountains where it occurs in place, it is mined by running open cuts along the line of the chlorite bands and the material is removed with pick and shovel. The corundum is then freed from its light matrix of chlorite, by means of sluices, and dried.

Emery and corundum are both prepared in the same manner for abrading purposes, so the explanation of one will answer for both.

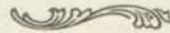
The material is first broken into lumps two or three inches in diameter by means of hammers, and then crushed in a stamp mill. The powder is then sifted through different sizes of sieves to separate it into the various grades, the finer grades being sifted through lawn sieves. The finest powder is that which floats in the air of the stamping room and settles on the beams and rafters from which it is collected from time to time. The various grades of powder obtained in this way are used in making emery paper, sticks and wheels.

Emery paper is prepared by brushing stiff paper over with thin glue and sifting emery powder on it. There are six degrees of coarseness of emery paper, ranging from powder that will pass through a 30-mesh screen to that which will pass through a 90-mesh screen. For emery cloth thin cotton cloth is used instead of paper. This has the advantage of being more durable.

Emery sticks are sticks of wood about ten inches long planed square

or half round and covered with two coats of glue and emery powder. Emery cake is emery powder mixed with beeswax and is used to dress the edges of buff and glazing wheels. It is made by stirring emery flour into melted beeswax. This is partially cooled by being poured into water, kneaded with the hands and formed into bars.

Emery wheels are made by mixing emery powder with some binding vehicle such as loam, shellac, or feldspar, pressing the mixture into the required form and then firing it in a kiln for several days. Those wheels made of the finer grades of emery powder require no binding material, the powder is simply moistened, pressed and fired. W. H. KLEIN.



## The Pendulum.

**T**HE attraction of gravity on the bob of a pendulum causes the bob to seek a position as near the center of mass of the earth as possible. This position is directly under its point of support, but the inertia of the pendulum when in motion causes it to swing nearly as far beyond the position as it started from, when it swings back to its former position.

The time of vibration of a pendulum is independent of the length of the arc. This law we were required to prove by an experiment. The apparatus used consisted of an iron ball at the end of a

string fastened to a rod projecting from an upright at the end of a table. There were two or three pupils at each table, one of whom counted the number of vibrations while another watched the clock. Taking any number of vibrations, we noted the time of beginning and the time of ending. Subtracting the former from the latter and dividing the result by the number of vibrations. We obtained the time of one vibration.

We did this four times, each time taking a different arc and every time the time of vibration was the same.

These were the results.

	No. Vib.	Time of Beginning	Time of Ending.	Whole Time.	Time of 1 Vib.	Length of Arc.
1	100	12:20:25	12:22:05	1 min. 40 sec.	1 sec.	200
2	100	12:30:35	12:32:15	1 " 40 "	1 "	300
3	120	11:47:00	11:49:00	2 " "	1 "	100
4	110	11:53:30	11:55:20	1 " 50 "	1 "	900

On this fact depends one of the uses of the pendulum, that in clocks in which its office is to regulate the rate of motion of the works. Of course the law only holds good at places at the same distance from the center of mass of the earth. The most important use from a scientific view is to find the force of gravita-

tion. The higher the place, the less the force.

Another law of the pendulum is that the time of vibration varies as the square root of the length. We proved this by another experiment using the same apparatus as before, taking a different length of pendulum each time. Pro-

ceeding in the same way as before, we found the time of one vibration, and each time the time varied as the square root

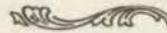
of the length. Thus a pendulum 16 cm. long takes 4 seconds for one vibration and one 64 cm. takes 8 seconds.

Length	Vib. Length	No. Vib.	Time of Beginning	Time of Ending	Whole Time	Time of 1 Vib.	T. V. L.
100 cm.	10 cm.	100	11:50:00	11:52:40	100 sec.	1 sec.	.1
49 "	7 "	100	11:40:30	11:41:30	70 "	7 "	.1
25 "	5 "	100	11:49:30	11:50:20	50 "	5 "	.1
36 "	6 "	100	11:59:30	12:00:30	60 "	6 "	.1
81 "	9 "	100	12:01:15	12:02:45	90 "	9 "	.1

A simple pendulum is one supported by a weightless thread. This is practically impossible and so the pendulums used in our experiments were compound pendulums and the center of oscillation was at a very small distance nearer the point of support. In a pendulum of

uniform dimensions and density throughout, the center of oscillation would be about one-third of the distance from the end, but in our pendulum the center of oscillation and the center of mass were nearly the same.

CHESTER D. MANN.



## Science Notes.



PSYCHOLOGY is now taught by the teacher of the departments of Geology and Physiography. The students are not yet sure of the place Psychology occupies among the sciences. They sometimes think they are studying the topography of the brain and are therefore in the domain of Physiography. Again they think they are engaged in peering into the internal structure of the brain and nervous system and must be at work, therefore, upon structural Geology. When they study the mind as related to nervous activity, they are ready to vow that the subject belongs to dynamical Geology. Before the term closes it is to be hoped that they may be able to unify their ideas of nerve topography and the structure of nerve tissue with the known, the probable, and some of the purely speculative dynamical phenomena known as mind activities.

The classes in Physiography, after some necessary preliminary considera-

tions of elementary ideas of Physics and Chemistry, studied the continental plateau and the chief surface units of each grand division of land. They are now at work upon minerals, rocks, and their modes of occurrence in the earth's crust.

The class now studying steam can have no possible excuse at the end of the term for not understanding the steam engine, as all the chemical and physical laws connected with it were studied before the engine itself. The first lessons treated of the shape of the atoms in steam, their method of combining to form molecules, and the vibration of the molecules against the piston to produce motion. It was shown that an engine is a medium by which heat (molecular kinetic energy) is converted into molar kinetic energy, and made to do work upon bodies.

In this connection the power of coal was discussed. If a small lump of coal should chance to fall from a loaded wagon,



the driver would not think it worth while to stop and pick it up, but scientists say that every pound possesses enough energy to move itself more than a thousand miles against a force of gravity.

Having learned the source of power, the next step is to learn the method of utilizing the power, which includes the study of the entire engine. This is the work upon which the pupils are now engaged and if the interest at present shown should continue to the end, I have no doubt they will master the great subject of steam power.

The Geology class has considered weathering and soils, river and ocean work, and glaciers. It is now considering organic forms which are important as geological agents. Field excursions and laboratory exercises have been important features of the work.

The students in Physiography have visited Brush Creek and Scarritt's Point. Upon the visit to Brush Creek they had an opportunity to observe streams—young, middle-aged and old,—rock weathering, erosion, steam capture, cut-offs, deposition, causes of channel forms and stratification. Upon the Scarritt Point excursion the students made contour maps from observation and studied cliff formation, talus slopes, points, bent strata, flood plains and river work. If the weather permits, at least two other excursions will be taken.

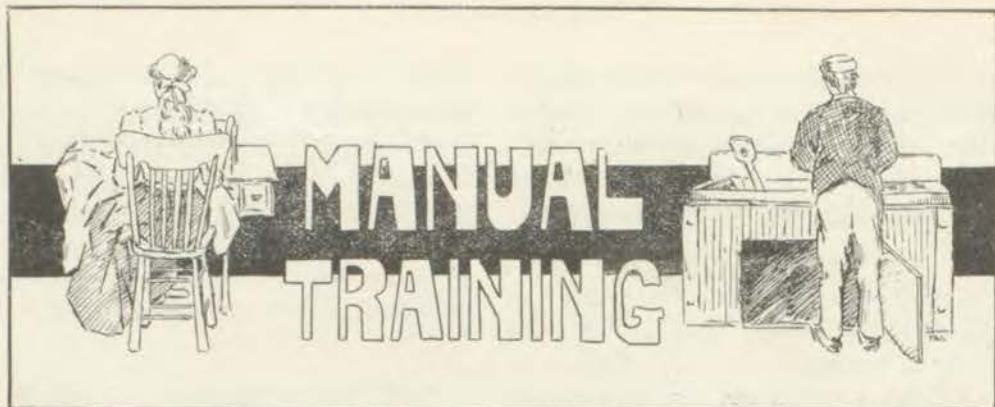
It is with regret that the classes in chemistry realize that the smelter is shut down. Every year Mr. Miller has taken his classes to visit that plant. We will miss this trip much this year, as there are not many such excursions that can be taken by students of chemistry. However, it is whispered about that the smelter will re-open. We sincerely hope it will.

It is interesting to note that at the present time the United States leads the world in the study of the subject of entomology, as applied to agriculture. And it is further interesting to find that her position in this line was practically given her by a man who began his work as a professional student of insects in Missouri.

Many interesting fields for studies in "plant relations" are at hand all about Kansas City, furnishing excuses for delightful walks and material for papers.

Thirty-two beet sugar factories are now in operation in the United States, and others are planned for. It seems probable that in a few years the United States will produce its own sugar.

Among the recent publications is a book entitled, "The Insect Book." Its author is Leland O. Howard, chief of the bureau of entomology U. S. department of agriculture, being the successor of C. U. P. Riley. He has done a great amount of valuable investigation, and written various bulletins on insects of economic importance. He is especially well prepared to write such a volume as the one named. It contains discussions of life histories of type of groups in a clear and interesting manner. He chooses insects about which there has not been so much written. As he says, collectors of insects, usually, confine themselves to butterflies, moths and beetles, while many other insects, quite as interesting, are neglected. There are numerous drawings in the texts to illustrate structures described, also a great many plates—a number of them are colored—of the more or less common forms of insects. Of the dragon flies this part is especially strong. It has a cloth binding and costs three dollars, (\$3.00).



## Files and Filing.

**T**HERE are probably very few operations that are more difficult than that of filing a true flat surface. In the case of the planer or shaper whose purpose also is to produce true surfaces, the movement of the tool is guided by unyielding ways. But the file must be guided by hand, and the accuracy with which this is done will depend upon practice.

Of course the quality of a piece of work always rests with the workman himself; yet a great deal depends on the file, and the knowledge as to the selection of the proper file for the work in hand and the manner of handling it is very essential.

A file is a piece of hardened steel of the desired shape and size, the surface of which is cut into by a series of grooves which form sharp points or edges called teeth. These teeth are of uniform height and are so arranged that while each one cuts a furrow of its own, those that follow serve to level the ridges thus formed, leaving practically a smooth surface. The teeth of the file act on a surface as a series of small chisels, each removing a small chip.

In fitting and finishing machine parts, it is often necessary to eliminate the furrows and ridges left on the surface by the chisel, shaper or planer. Filing is

then resorted to. Files are also used whenever a minute reduction in size is desired, for by their careful use great accuracy may be obtained.

The common method of filing, that of moving the file endwise across the work, is called cross-filing. The point of the file is held between the thumb and first finger of the left hand, while the handle is held by resting the thumb of the right hand upon it and letting the end stand against the palm of the hand, the fingers gripping it lightly. In moving the file forward over the surface, considerable downward pressure must be applied to cause it to cut or "bite." All pressure should be removed on the return stroke, and in many cases it will be found advantageous to lift the file entirely clear of the work. There is always a tendency in cross-filing, for the hands to swing in arcs of circles about the joints of the arms while the body swings more or less, depending on the work. To overcome these tendencies great care must be taken to move the file in a plane parallel to the surface of the work, as any rocking motion will result in rounding edges.

Owing to the convexity of a file, comparatively few of its teeth are cutting at any one time; thus, it will be seen that short strokes may render the surface

concave, while with the long ones it may be made either flat or convex. If a file was made with absolutely flat and true surfaces, the downward pressure which is exerted on the ends during the operation of filing, would give it sufficient spring to cause a slight concavity to its cutting surface, and thus a rounding surface of the work would be produced. For this reason the surfaces of files are made slightly convex.

The direction of the stroke should be changed at short intervals as it enables the file to cut better, and shows the student just where the file is cutting. He may then gauge the stroke so that the desired part of the surface can be removed. This method is known as diagonal filing.

Grasping the file at each end and moving it sidewise across the work is called draw-filing. The operation is generally used in finishing turned work where it is desired to remove the circular tool marks.

In draw-filing the cut is not as deep as in cross-filing, the teeth standing at such an angle to the direction of the motion that a light shearing rather than a cutting effect is produced. Very smooth work may be done by this method.

A little practice with the file will enable the student to remove metal from any portion of the surface.

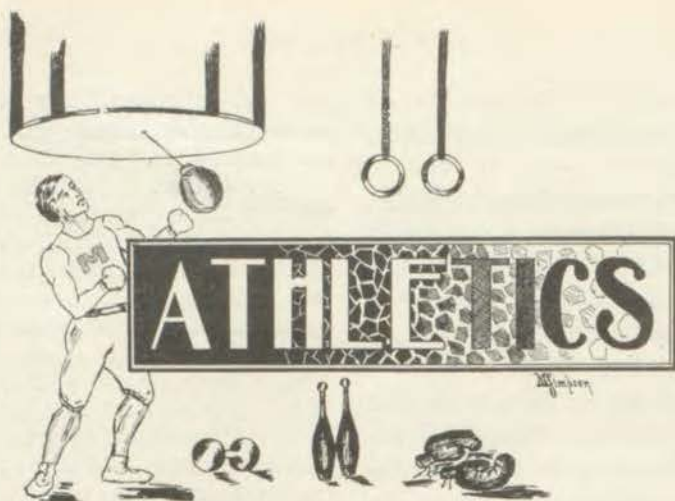
Very few people, even those who should know, are familiar with the terms which designate the kind, cut or coarseness of a file. To those who are seeking information on the subject, the following remarks and table may prove of some assistance.

The kind of a file, as will be seen from the table, refers to its cross section and shape, such as flat, mill, hand, square, or round.

The cut of a file designates the character of its teeth. It is single cut when the cuts run in one direction only; double cut when the teeth are cut in

FILE TABLE. SHAPES, CUTS AND USE.

Kind or Name of File.	Section and Shape.	Ordinary Cuts.	Ordinary Coarseness.	Use in Machine Shop.
Flat.	Quadrangular. Taper Width. Rounding Lengthwise Taper Thickness.	Double Cut.	Bastard and Second Cut.	Quite common; not confined to any specific kind of work, and employed for a great variety of purposes.
Mill.	Quadrangular. Taper Width. Taper Thickness. A Thin File.	Single Cut.	Bastard.	Draw-filing. For lathe work, and to some extent for finishing brass and bronze.
Hand.	Quadrangular. Parallel as to Width Taper Thickness.	Double Cut.	Bastard, Second Cut, Smooth.	For finishing flat surfaces; owing to its shape and its having one safe edge, it is particularly useful where a flat file would not answer.
Square.	Square. Tapers both ways.	Double Cut.	Bastard.	Keyways. Rough work; and principally for enlarging apertures of a rectangular shape.
Round.	Circular. Taper.	Single Cut, Spiral.	Bastard.	For enlarging round holes, and shaping the fillets on internal angles.
Half Round.	Segment. Taper.	Double Cut.	Bastard and Second Cut.	For variety of uses on account of its shape; quite common.
Three Square.	Triangular. Taper.	Double Cut.	Bastard.	For filing acute internal angles, clearing out square corners filing up taps, etc.



HIS department is maintained for the purpose of encouraging athletics and physical culture in our school.

The grand athletic carnival of the year occurs at St. Joseph, Mo., in the latter part of May. Every high school of athletic prominence will there be represented. To win such a meet means more for the reputation of the school so doing, than the excellence of any, or many, of its departments. The Interscholastic Association is the only organized institution of the high schools in the Middle West, that in any way binds the schools socially or otherwise. While there are many other branches that should encourage such intercourse, it has, and still remains, for athletics alone, to establish such connections.

How well Manual will acquit herself in this representative meet is only a matter of application and the enthusiasm expressed. That the school has ample sources to draw from is manifested by the number attending here; that it has the proper material in these numbers has been demonstrated in the past tests. So the question of our fortunes lays in the enthusiasm displayed in training for the meet.

It is noticeable that some of the school's best material for field work is in

no way connected with the department that would create muscle and desire for such work. If you wanted to be a successful tradesman or professional man surely you would not shun associations that would most fit you with the proper practice and information concerning your calling. So if you are endowed with good physical qualities, do not allow your early opportunities to go begging. If you do so you are sure of regretting it sooner or later. This is just as much a matter of education as is any other study you are interested in; but one greatly neglected, one more than any other that will aid you in fighting the battle of the strong.

A scene in the gymnasium during class hour is coming to be thoroughly characteristic. Succeeding each regular class drill with the Indian clubs, dumb-bells or bar-bells, the class is divided into four squads that work alternately on the four big pieces of apparatus. Even this or the most ingenious scheme, however, does not could utilize the four pieces to the best time advantage. The gymnasium is yet in need of various pieces of apparatus and improvements, any one of which we would be most thankful to receive. Bathing facilities, an almost indispensable feature to convenience and progress, are lacking. No one knows,

save he who exercises regularly, how inconvenient it is to be compelled to don heavier apparel over the perspiring body. The body should be rinsed of the refuse brought to the surface.

Another needed improvement in our gymnasium is a sufficient warm air draft to warm the big room. All that is needed is a connecting box between the third and attic floors and an opening in the wall dividing the main room and the east attic wing. This could be accomplished with very little expense and relieve the gymnasium of the foul air therein, supply pure air which is an indispensable element to health and progress in physical development.

#### Football's Adieu.

**Q**UR football team has played three of its eight games since the first issue of the NAUTILUS, and has closed a very successful season.

A return game in this city with the Brees Military Academy team resulted in the most decisive win of the season for the Crimson. The final result being 29 to 0, in Manual's favor.

Manual next lined up against her old companions-in-arms and there occurred a most surprising spectacle and stubborn battle of the year. Greek met Greek. The regulars did not seem to consider it so great an honor to win over their elders as to defeat another school. This spirit was manifested all through the game until the alumni eleven, seeing a chance to win originating in a lucky play, attempted to lower the younger lads' heretofore victorious colors by invading sacred territory back of the youngsters' goal line. They energized their superfluous beef with that intent and before the regulars realized it they had the pigskin within a short length of the goal line. Then occurred some of

the most desperate defensive work ever witnessed in teams of that class. In the three succeeding downs the "ex"-men had lost thirty yards while still retaining the ball. Had the timekeepers' whistles not interferred with the spirit of the moment, the Crimson team would certainly have landed the "big egg" on the highest seat of the benches flanking the goal of the audacious graduates. As it was, however, everyone was satisfied with a no score game.

#### The Annual Ft. Scott Game.

**T**HE trip to Ft. Scott was indeed a disastrous one. After winning six straight games and tying a seventh, to think of losing to a team we had beaten with comparative ease earlier in the season, is hard to realize. We think, however, that on our own, or on neutral ground, we are their masters at every corner of the game. We have no hard luck loser's tale to narrate, though, and the simple tale of defeat is here recorded. They cannot justly claim a champion team for we have their scalp from our first meeting and the score of a game in which they did not figure in the summary chalked up at this end of the line. Every candid opinion of the game here, on October 5th, is that the best team won in an honest game, while several influential elements must be considered before drawing the same conclusion about the Thanksgiving game.

#### Baseball.

**A**LREADY some of the prominent larger schools are talking baseball, and even have been practicing what they preach. The ideal spring-like weather of early January seems to have had much the same effect on them as does the transparent, moonlight night upon

the restless chanticleer. If the weather, however, continues to be so alluring it might be advisable for the baseball aggregation to romp out and flap their "wings" a mite by way of loosening up some of the essential appendages.

Manual has its usual good prospects for a winning team this year, although she has lost some of her good material of years past. Last year's star battery is yet with us, and a good battery is half the battle in amateur baseball.

## Physical Training In the High School.



IVE me a look, give me a face,  
That makes simplicity a grace,  
sang rare Ben Jonson three  
hundred years ago, and thus  
it is today. Physical training was then  
unknown, except among the buxom  
country maids who toiled in the fields,  
and the fine ladies were patched and  
powdered and perfumed until art seemed  
nature, and nature, herself, couldn't tell  
whether she were art or fashion. Their  
prototypes are with us today, but they  
are less sure of their position. The  
gymnasium and the golf links, the  
basketball match and the bicycle all  
contribute to make the American girl  
queen of all women, in her health and  
strength. This is one view of the matter.

Yet the wail of the pessimist uplifts  
itself, saying, "The American girl is a  
nervous wreck. Look at the asylums  
and sanitariums, the rest cures and  
health resorts, and, oh, what will be-  
come of us shattered, miserable, broken-  
down wretches?" This, also, is partly  
true.

Athletics in the form of basketball  
seasons, century runs, and contests  
where every nerve is strained to break-  
ing point, is an evil. But gymnastics  
is a different matter. In the little base-  
ment room at Manual, eight classes take  
fifty minutes exercise in a suitable cos-  
tume, every other day. When a visitor  
looks over the girls as they swing clubs,  
or go through with mysterious evolu-  
tions, he is impressed by their happy

look. If an outsider asks, "Do you like  
gymnastics?" the initiated replies, "Oh,  
don't I?"

But, unhappily, there are a good many  
outsiders. Some 225 girls take Physical  
training, but that is a small part of the  
900 maids of Manual. Many beyond  
the pale, are girls whose pompadours are  
fearful and wonderful creations—whose  
figures are fashionably slight, who take  
a car to go four blocks, and who  
wear abominable, French-heeled shoes.  
Should a basketball light on their artis-  
tic locks, they must needs spend the next  
hour to get them done up, and they  
wouldn't be *seen* without a corset. Five  
minutes march would give them  
pleurisy, and they never would wear one  
of those suits. Physical culture? Perish  
the thought! But these are the girls who  
need it most; and if two years of Physi-  
cal culture were made compulsory, they  
would free themselves from these un-  
natural trammels and increase their  
chest expansion.

Of course, in the present state of affairs  
there is no possibility of accommodating  
900 girls. Our quarters are not large  
enough now, and we have but little  
apparatus. When the building was  
erected there were no facilities for gym-  
nasium provided. The Athletic associa-  
tion have prevailed upon the Board to  
give us what was possible. We exercise  
on the parallel bars, rings, swinging  
ladder, horizontal ladder, and we have  
rings, clubs and wands for lighter work.

Occasionally we exercise in jumping, and various games are played, chief of which is captain ball. This is the last thing, and when the game is done the director says "excused for dressing," and a tumbling, panting, squealing mass

of girls rush madly for the dressing room across the pavement floor. And, as the last demure maid glances into the mirror, she says to her chum, "It's piles of fun." S. B.

## A Question.

**M**Y friend doubted it. So, being a Missourian, and proud of the fact, I remarked that I would show him.

The discussion was concerning the girl's basketball team in the Manual Training High School. He said that we didn't play and I, just as decidedly, replied that we did.

As no conclusion was likely to result from a dispute in which no evidence was produced, I extended to him a warm invitation to attend in room One some Tuesday at two-thirty.

He said he should most assuredly accept my invitation, and he did. He came the next Tuesday, which happened to be the day for the regular business meeting.

We sat patiently through a thirty minute business session, then the club proceeded to the more important duty of—the program. Yes, my friends, a program. Carefully prepared and such a one as would have reflected credit upon a literary society. Surprised! yes I was, somewhat, but I could only wait, so I waited.

At three thirty-five the meeting adjourned, and my friend, turning to me, asked: "Where's your game?" I told him I didn't know, I hadn't seen it and advised him to ask someone else. I was wondering what we would have for a program next Friday, besides I was not feeling very well and didn't like to be bothered with foolish questions. He seemed delighted with the suggestion

and asked one of the other members.

"Game! Why how absurd. Don't you see that it is nearly four, we could not possibly play a game of even five minute halves and get out of this room by four o'clock, which is the time fixed for vacating."

My friend turned again to me; he was evidently thinking of making some remark, so I said I thought we had better go.

Something in the sarcastic smile which overspread his countenance, upset the equilibrium of my temper again. But my case was not very strong, so I simply said, "Exceptions prove rules. Come down next Tuesday and perhaps I may be able to show you something different. We have no business meeting then and all the time will be taken with the game."

My friend made some side remark about "having a victory complete," and promised to be there.

He was as good as his word, so the next Tuesday, after getting our luncheon, we proceeded to room One.

The first words which greeted our ears upon entering were: "O, here comes one more! That makes ten. Now we could begin playing if we only had someone to referee, umpire, keep time and record the score." But we hadn't.

I told my friend that I thought the English department must be giving very heavy work just now or that there must be an examination in Mathematics going on.

I dropped the subject and had you been listening just then you might have heard it fall.

I promised myself I would never try to convince another skeptic and wished for the glory of Missouri's fair name that I was from elsewhere. I.



"Peace on earth, good will toward men," is the heavenly motto of Christmas. So to keep the times from "being out of joint," we will try to be at peace with all our exchanges in this issue because the memories of Christmas are still with us. All the exchanges that came to us this time are excellent papers, and we feel glad that we live in a country where both collegian and high school student can produce such creditable magazines.

It is indeed wonderful, when we stop to consider it, that the great majority of high school magazines compare very favorably with those edited by old and experienced journalists. We wish that we had space to mention each of our exchanges and give them their merited individual praise, but that is impossible on account of their number. However, we wish to say that we especially admire the "Iris," the "Wm. Jewell Student," the "Lowell," the "Pulse," the "Studenta," the "Gitchee-Iumee" (all but the name) and the "St. John's Echo," the last named being published by an English college in Shanghai.

#### PHYSICS LAWS.

1. Pupils at rest tend to remain at rest unless compelled to change their position by some external force.

2. The amount of whispering a pupil does, varies inversely as the square of the distance from the teacher's desk. It also varies directly with the teacher that has charge of the room.

3. Study is that property of school by virtue of which a pupil receives good grades.

4. The success of the High School paper varies directly with the amount of support tendered by the pupils.—Ex.

Teacher (German):—"What is the rule about feminines in the singular?"  
Scholar:—"They get married."

Teacher:—"What were the ancient Romans remarkab'le for?"

Pupil:—"They understood Latin."

Mr. B.:—"How do you know that Caesar had an Irish sweetheart?"

Student:—"Because, when he came to the Rhine he proposed to Bridget."—Ex.

Father:—"What do want with my cap?"

Young Sophomore:—"Ich ging nach Schule damit."

Father:—(between blows)—"I'll—teach you—to swear at—your father—you rascal."—Ex.

If I but knew a little Greek,  
How easy life would be;  
For all the other languages  
Are naught but Greek to me.—Ex.



## THE FRESHMAN.

Funny little feller  
 Chasin' thru th' hall,  
 Goin' like th' mischief—  
 Cracky! what a fall!  
 Pokin' round th' corners,  
 Pryin' inter cracks,  
 Dodgin' thru th' cloakrooms,  
 Slappin' fellers' backs,  
 Gigglin' in th' classroom,  
 Mighty free from cares,  
 Makin' funny faces,  
 Whisperin' everwheres.  
 Hip! hurrah fur freedom!  
 Makin' basement raids,  
 This is ten times better  
 'An bein' in th' grades.  
 Funny little feller  
 Chasin' thru th' hall,  
 Gee! a teacher got him—  
 Cracky! what a fall!—Ex.

"I wonder how so many forest fires catch?" said Mrs. McBride.

"Perhaps they catch accidentally from the mountain ranges," suggested Mr. McBride.—Ex.

Heard in room 7, 11 a. m.:

"Principal parts of *gessi*?"

"Gesso,—."

"I *guess so*. Sit down."—Ex.

## SOME CURIOUS ADS.

Wanted—A boy, to be partly outside and partly behind the counter.

For Rent—A furnished room, suitable for two gentlemen fourteen feet long by twelve feet wide.

Lost—An umbrella, by an old gentleman with an ivory handle and a bent rib.

For Sale—A pug dog, will eat any thing; very fond of children.

Sophomores that are struggling with English, take notice of the above.

While Moses was no college man,  
 And never played football,  
 In rushes he is said to be  
 The first one of them all.—Ex.

## FOUND IN THE CONTRIBUTION BOX.

An article entitled: Should freshmen wear bibs at the lunch-counter?—Ex.

History student (ambiguously):—The Egyptians were made of stone and the Assyrians were bricks.—Ex.

Geometry Teacher—"What is a polygon?"

Pupil—"A dead parrot."—Ex.

"My wife," said the little man, "can hammer nails like lightning."

"Wonderful," sang the chorus.

"Lightning," continued the little man, "seldom strikes twice in the same place."—Ex.

Dr. (in Psychology):—"What are the characteristics of emotion?"

Student, slightly confused:—"O, embracing, etc."

Dr.—"You must have been out calling last night."—Ex.

"Does heat expand," the teacher asked,

"If so example site."

"The days are long in summer,"

Said the student who was bright.—Ex.

(Heard in a Physic class.)

Teacher:—"Did you ever see a force?"

Student (in a low voice):—"Yes, a police force."—Ex.

How very sad it is to think,  
 Our poor benighted brother,  
 Should have both feet upon one end,  
 His head upon the other.—Ex.

## RECRUIT.

Prof:—"What are you doing—learning anything?"

Student:—"No sir, listening to you."—Ex.

That woman is a man: A woman can eat pie. She is equal to it. But a man is also equal to a pie. Things equal to the same thing are equal to each other. Therefore woman is a man.—Normal Advance.

## OUR TEACHERS.

"There's gladness in their gladness when they're glad.  
 There's sadness in their sadness when they're sad.  
 But the gladness of their gladness and the sadness of their sadness,  
 Is nothing to their madness when they're mad."—Ex.

Tell me not in mournful numbers,  
 Physics tests are but a dream.  
 For the soul is flunked that slumbers,  
 Flunks aren't always what they seem.—Ex.

Teacher (to dull boy of class):—"Which New England state has two capitals?"  
 Dull Boy:—"New Hampshire."  
 Teacher:—"Indeed! Name them."  
 Boy:—"Capital N and and capital H.—Ex.

## CURIOUS EPITAPH.

"This child was run over by a wagon three years old and cross-eyed with pan-talets that never spoke afterwards."—Ex.

He stole a kiss and gave it back,  
 'Twas in the sheltering woods,  
 She, too, was guilty, for alack,  
 Receiving stolen goods.—Ex.

"I wouldn't cry like that, my little man."

"Well, you can cry any way you want to, this is my way."—Ex.

The poet Rogers once observed to a lady:

"How desirable it is in any danger to have presence of mind,"

"Yes," she quickly replied, "but I would rather have absence of body."—Ex.

"Now do you understand?" shouted the infuriate professor, as he hurled the ink bottle at the exasperating student.

"I think I have an inkling," the bespattered student replied.—Ex.

"Johnny," called his mother sharply, "you've been loafing all day. Satan always finds something for idle hands to do. Here, take this basket and bring in some wood."—Ex.

Farmer B:—"This 'ere paper says there ain't nothin' f'r an appetite like a long tramp."

His wife:—"Land! They don't know what they're talkin' about. A short one c'n eat jist ez much."—Ex.

There was a piece of cold pudding on the lunch table and mamma divided it between Willie and Elsie. Willie looked at his pudding then at his mother's empty plate. "Mamma," he said, "I can't enjoy my pudding when you haven't any; take Elsie's."

## A FACT.

There was a man in our town  
 Who chopped with might and main,  
 Until the giant tree was down—  
 Then chopped it up again.

He (relating experience):—"It cost us just a dollar a head."

She (quietly):—"I suppose you only had to pay fifty cents then."

"My fust wife," said the old colored citizen, "was kilt by lightning. But lightning knows better than to come monkeying 'round de one I got now."

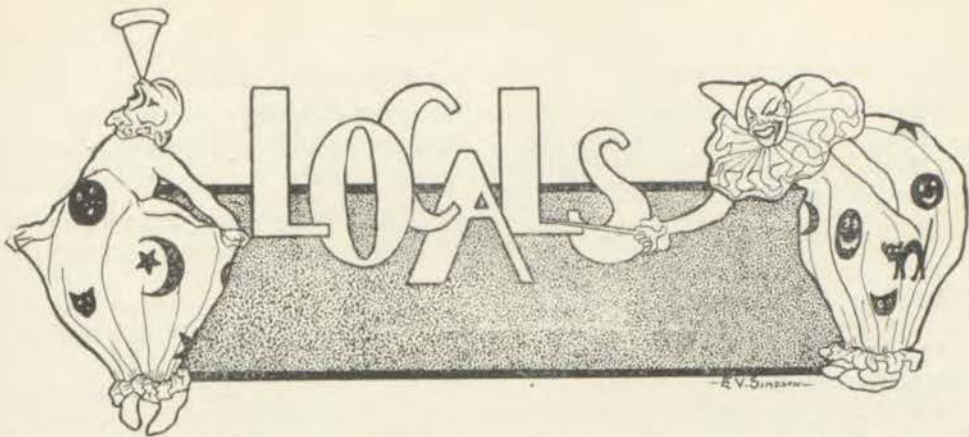
I knew a young lady from Michigan,  
 To meet her I never would wichagain;  
 She'd eat ice cream till with pain she  
 would scream,  
 And she'd order another big dishagain.  
 —Ex.

## NOT RESPONSIBLE.

"I see by the dictionary," said the foreigner who was struggling with the English language, "that 'unbend' means to 'relax' and 'unbending' means 'unyielding.'"

"Don't blame me!" replied his American friend, cheerfully, "I didn't write the dictionary."—Ex.

When a woman says she won't, she will; but when she will, will she?—Ex.



Miss Fisher:—"Eve was the first scientist—she was the first person that wanted to know something."

Lena:—"Bacon lost his death by experimenting."

One of the Debaters went to see his girl and stayed over a year.

The O. Z. O.'s sent the Debaters a jumping-jack for Xmas, while the A. L. S. sent them some hearts. How kind!

Teacher:—"Lionel, are you ever going to quit saying 'I don't know?'"

Lionel:—"I don't know."

Miss Rothgeiser:—"My hand is not my own (?)."

My first is nothing at all,  
It's round like an O or a ball.  
My second is sick: hear it moan;  
It's a state very close to our own.  
My third is just you and I,  
It's a land we'll love till we die.  
My whole is a sheet quite the rage,  
It's name is upon the first page.

—For answer see the local editor.

Miss Gilday says in her experience mankind always embraces woman.

Some One:—"Lois, you and Herman come on this way."

Lois:—"Oh, no, we have a way of our own."

Gertrude says she was very sorry she wasn't around when Raymond had the mistletoe. (Wonder why?)

Mr. Page thinks we ought to get up a donation for some new music in the girls' gymnasium.

Mr. Merrill is taking to Reed-ing lately.

Prof. Miller says that I O U's are simply atoms.

Miss Haar:—"Shakespeare never repeats."

Mr. Christie:—"No, but his inferiors always do."

"Art" Peters:—"A woman always carries an umbrella, a pocket-book and three or four arms full of things."

Prof. Phillips:—"Raymond hasn't yet gotten past his picture-look stage."

"In Christmas memories we now bask,  
Forgetting them's too hard a task,  
If you doubt it why just ask  
Mr. Cowan (or Elizabeth)."

Prof. Shields:—"You'd have to put a cyclometer on South America to number the revolutions."

Miss Drake (after a long pause in the translation):—"Now Lista, haec (hike)."

Mr. O'Brien (a senior):—"The Sophomores are all right!" Can you account for that, Margaret?

Who is Mr. Merrill's greatest admirer? Himself.

Mr. Holiday (in Physiology class):—"Run! oh, ye girls before I vanish."

## ACROSTIC.

**E**ven in school a girl must fear,—  
**D**on't stand under the chandelier.  
**N**ame of the one who did, you know,  
**A**rt Club maid and the mistletoe.

Mrs. Schultz (to the class singing "amen"):—"Don't make the 'men' so soft."

Prof. Chace:—"Mary, solve that improper fraction."

Mary:—"I can't do it."

Prof. C.:—"Why?"

Mary:—"It would be improper for me to do it."

Miss Roth (etc.) said she was going to leave home soon and that she didn't care how we took it.

Mr. Richardson says that while all Gaul may be divided into three parts, the person who took his map of that country has all three of them.

Conundrum: Why does O'Brien coming down the hall sound like the exhaust of a gasoline engine?

Mrs. Elston:—"What is the meaning of Wordsworth's poem 'Intimation of Immortality?'"

O. Z. O.:—"Heaven is with us in our infancy but in our *boyhood* the prison bars begin to close."

Miss Schriber (in French):—"And she raised her arms above the sky from the kitchen table."

Mr. O'Brien is a candidate for M. S. U. If big feet help, he'll go clear through.

Mr. Miller:—"What are you writing, Miss Wiser?"

Miss Wiser:—"A piece of poetry."

Mr. Miller:—"Well, next Friday I will give you something very prosaic to write."

John Richardson, the second Hobson!

Miss Nettleton, favorite of the muses,  
 Can dash off a poem whenever she chooses.

Miss Bachelor (in cooking):—"Why do we put salt on potatoes?"

Bright pupil:—"To keep them from being too fresh."

Why is Miss Young like conscience?

Because she speaks in a "still, small voice."

"Hush little freshie,  
 Don't you cry,  
 You'll be a senior  
 Bye and bye."

Mr. Arrowsmith (to student):—"What are you trying to do?"

Student:—"I am trying to turn up a square ball."

Miss Murphy (in life class):—"Edith, come over here where there is a better position."

Edith:—"Oh, I have a good position here. I can see right through the girls."

Miss Gilday:—"Every time I get on a ferry it makes me cross."

The maids that pose  
 Are the O Z O's,  
 They are full of conceit,  
 But, O! they are neat  
 And sweet as the roses,  
 These up-to-date O Z O's.

If you should get a P. on your report card, what other letter would you be apt to say it was? Ans.—"Gee!"

Our culinary department may go to pieces. There is Call for an epicure. Our Sargent be in arms, our Bachelor go back on her name to tickle the palate of a lord and master.

What drifting maid will find a Haven.

Mr. Shields:—"How do the Gods differ from men?"

Pupil:—"They don't have to work for a living."

Mr. Phillips (speaking of a friend):—"He loved his books and he loved his wife, and he had fine shelves for them, too (two)."

Miss Call went skating the other day and returned with a fever blister. Ask her if it was entirely due to the cold weather.

OZO Critic:—"You have not behaved at all like nice ladies and gentlemen."

In the glorious June of ninety-two,  
With diplomas waving high,  
The seniors will pass the Manual gates  
With the exultant cry,  
"Free! and the world is ours!"

Miss Gilday says if the newspaper editorials were headed "for men only," the girls would read them."

Some of our freshies sometimes get their pronouns slightly twisted. One was heard saying the other day: "Her wasn't calling we, us don't belong to she."

The way in which the local editor says the school has "contributed" is a "beaut."

Did you ever see Mr. Groeb perform some of his slight of hand tricks in the cooking laboratory when they were making candy?

Miss Fisher (to pupil):—"Take this seat up here by me so you won't be near any one."

Teacher:—"Where is your book, Miss Schriber?"

Miss Schriber:—"I lost it last year."

I am a thing of four letters.

My first is a printer's measurement,  
My second is supper,  
My third is what an Englishman always  
drops,  
My fourth is the beginning and end of  
success,

As a whole I am often seen on a pin.

—For answer see local editor.

Mr. Dodd:—"Con, stop rubbing Murphy's head, he is working."

Has Mr. Arrowsmith forgotten St. Louis?

What is the matter with the Science club? The Wynn(d)s are gone.

Mr. Wolf could get rich selling his superfluous talk.

Miss Fisher (criticising Mr. Davis for his attitude while reciting): "Did you ever see one of those old-fashioned doughnuts?"

The boys in the machine shop hope that, above all things, the Board of Education won't cut off their ration of soap.

Miss Burkart:—"Milton married a woman."

Chas (shivering):—"My coat is light."

Con.:—"Put some rocks in your pockets."

Mr. Christie wants to see all students that have not paid their NAUTILUS subscription.

Why is the Art Club like society belles? Because with paint and pencil they rival nature.

Pupil (in history):—"A Democracy is a nation where every single man has a voice in the government."

Miss Gilday:—"What about the married men?"

The most important words in Mr. Holiday's vocabulary are: "At our next meeting, etc.," "the fact is," "data."

Pupil in German (translating):—"She whispered a few blushing words."

Ambitious youths of the Manual, there is a chance for you to rise—in the air ships.

Why won't Bert Rogers go to school much longer? (For answer see local editor.)

Poor Mr. Dart fell off of a horse in the gymnasium.

Miss Fisher:—"You made your girl the wrong gender."

## ASK THE MAN.

Why Herman sings "Home Sweet Home," while enroute for 27th and Olive?

Why Paul Armstrong wears both "De-lator" and "A. Lincoln" colors?

Why the audience is requested to leave while the orchestra is playing?

Why Mr. Phillips didn't finish his elegant dive he started to make from the platform in the Auditorium?

Why Ed Dart fails to be funny?

Why the freshmen don't buy guide books?

Why Lista doesn't go on the lecture platform in favor of "womens' rights."

Mr. Chace:—"If you were in the first year class I would scold you, but as you are about to graduate I will say nothing."

Mr. Sloan says he likes to talk to himself for two reasons: First, because he likes to talk to a wise man, and, second, because he likes to hear a wise man talk.

## MATHEMATICAL PROBLEM.

When Mr. Chace sends a boy to the board to give a demonstration, what help does he give him?

Ans.—He gives him a pointer.

Mr. Perkins says he doesn't like to take a girl driving in an automobile, because he has to use both arms to manage the machine. Wonder what other use he could have for his arms.

Mr. Richardson gives the guttural language of the fatherland as a native born. He will have to loose our tangled tongues before we can follow.

One of the O Z O.'s (fretfully):—"One of the debators stole my pen to-day and wouldn't give it back."

Little Cousin (indignantly):—"Well, I would have told the principal on him."

Which one of our boys was it that

loved a girl because she was so sweet and besides was worth 100,000 (other girls)?

H. is for hat,  
'Tis stunning and all that;  
'Tis comical and neat,  
And when it passes by  
The girls exclaim, "O my!  
Now isn't it too sweet."

How does Mr. Brownson know he is handsome? Through mirrors and ladies' eyes.

A Bluff. First girl:—"What a Websterian brow he has!"

Second girl:—"What a lobsterian brain it hides!"

Why is Harrieti so distracted and far away of late? Some one with blue eyes may know.

Mr. Shields (in Modern History class):—"How did Napoleon get across the Alps."

Mr. Pierce:—"He walked."

Teacher:—"Mail (male) persuasions are often maintained by the force of arms."

Freshman:—"Why does a hen lay eggs?"

Sophomore:—"Well, she can't lay bricks, can she?"

Edith:—"I wrote about circles."

Mrs. Elston:—"I'm sure that is an endless subject."

Paul:—"What was it that just struck me?"

Chas.:—"Possibly it was an idea."

How well Mr. Gilmore looks with his hair cut. He can commence talking to the girls again.

Prof. Richardson (awakening a slumbering French pupil):—"I should think from your name, Mr. Dosey, you should be a more wide-a-wake member of the class."

Miss Fisher:—"Women can smile and smile and still be villians."

Ask Florence if she ever gets her hours mixed.

Mr. Page:—"Where do you get your energy? You don't seem to have much this morning."

Miss Faris (in cooking):—"O Miss Call! I have forgotten my cook book again."

Miss Call:—"O! this is so sudden."

Mr. Chase casually remarked the other day that the process of adding now is the same as it was when he was a boy. How strange that we have not progressed in all these long years.

Which of our girls, like early spring violets, will be caught by Frost?

Miss Van Meter:—"Is anyone in this room talking?"

Boy (from back of room):—"No Mam."

Grace says her name is Miss Call—at present.

Freshie (in girls' gymnasium) pointing to Miss Hovey in uniform:—"Who is that girl in black over there?"

Miss Paxton says, although an O Z O that her interests are with the Manual Society of Debate.

Mr. Oppenheimer (mournfully):—"I haven't a friend in the whole world." Poor boy.

Miss Fisher says she can hear people singing in their heads.

Miss Gilday's prophecy for the A. L. S. They "all live single."

Since when has chicken become a salad vegetables?

Marie: "Oh Charlie why don't you wear your old suit so I can know where your pockets are?"

Miss Murphy:—"Get into line Marie, so the others can see past you."

Edith—"O! Miss Call, that potato has a face on it."

Miss Call:—"So have most of us."

Our Drake is no quack. She is an Orthodox Latin teacher—no mistake.

What if some of the little freshies should take a tumble into one of the fire buckets? Janitors watch and abide over them.

Mr. Dart:—"Louis, why are you looking so sad of late?"

Mr. Sills:—"Because all the girls have left me out of their wills, I mean their good wills toward men."

Mr. Richardson (to four boys who couldn't answer):—"Four more souls without a thought."

Ida says that some teacher was so mad with her that she started off talking like a busted boiler.

A quadratic equation: Clarence and his girls.

How many boys admire Miss Evelyn's smiling face?

Puzzle:—Pupils gather in the sewing rooms, rip, tear and cut up; there are many scraps, gore and fell work, yet it is a seamly and fitting place.

We now know what Mr. Davis does for his complexion—he drinks milk.

Harriet says one never knows when one is going to have a husband.

Mr. Frost and Miss Gerhart talking. Mr. Phillips: "Young ladies stop talking over there."

Why does Candace blush when Raymond talks to her?

Gertie had a little lamb,  
His hair was white as snow,  
And everywhere that Gertie went  
That lamb was sure to go.

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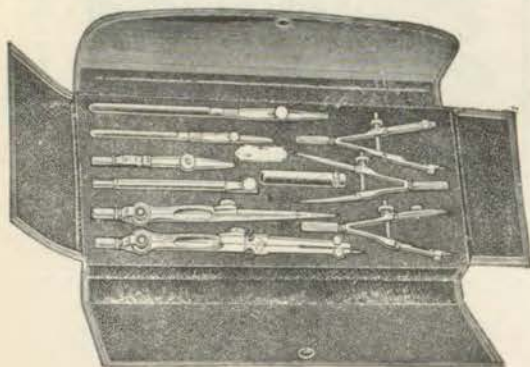
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**VOL. 5.**

**NO. 3.**



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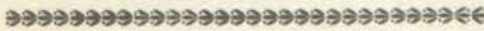
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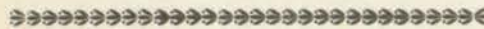
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### OUR ANNUAL ENTERTAINMENT.

**I**T is impossible to make the halls larger. Last year we gave our annual entertainment in the halls; the crowds were so great that it was both uncomfortable and unpleasant. This year the entertainment will be given entirely in the assembly hall and the faculty have allotted time for each of the societies to provide its portion of the entertainment. Last year it was a great success; why not improve upon it this year? It can be done, we must either go forward or backward, we cannot stand still; so let us put our heart and soul in this undertaking and go forward.

### QUERIES ABOUT PRINCE HENRY'S VISIT.

**W**HY did Henry visit the United States? Why do people differ so much about it? Why do some people think the visit will foster a friendly feeling between Germany and this country, and why do others think it will not? Why is so much space given to this visit in the newspapers? What elements of American society contributed most to his entertainment? What effect will the manner of his reception have on our relations with other European nations? Is this reception a sign of growing altruism

between men and nations? What will be its effect on the idea of "The Divine Right of Kings?" Why did brewers quarrel over the privilege of sending beer to the visiting party? Why should this form of hospitality be questioned by anybody? Is this not a free country? Will this visit impart democratic tendencies to the German Government? What effect will the visit have on American trade and commerce? Is Henry a scholar or scientist? Why did Harvard University confer upon him the title of L L D? What does L L D mean? Will this title make Henry a better scholar or scientist? Will it make college degrees more honorable? Will it help to throw light on the meaning of college titles? Why did Emperor William present the University with German casts? Are they valuable to the University? If so, why? Will the familiar slap on the shoulder which Henry received from the Governor of Minnesota, be good for Henry? Will it make him more Democratic? Will such familiarity breed contempt or a greater feeling of mutual respect? Why does the English press characterize Henry's visit as "an outburst of sickening sycophancy?" Why do some people say that his reception is simply "wealth prostrating itself before inherited rank?" Is this criticism unkind or beneficent? Will the visit have great political consequences? Why did Senator Tillman belittle Henry in a speech delivered in the United States Senate? Will this speech injure Mr. Tillman? Will it injure our government? Will it have any effect on the German government? These questions are too "open" to be answered by the NAUTILUS. Perhaps some of them might be "settled" by the societies.

## OUR SOCIETIES.

THE tendency of pupils to organize scientific, historical, art and literary societies is growing in our school. This tendency is increased by the encouragement given to it by the faculty. These societies—now six in number—receive their charter from the faculty and are in full fellowship with the general interests of the school. They are open and above board and do not indulge in any dark lantern proceedings. Their primary object is the intellectual and moral improvement of their members; incidentally the pupils get from them considerable pleasure of a social nature. When this phase of society influence is carefully guarded and kept subsidiary to the main purpose it adds to the strength and efficiency of the organization. For there are no ties stronger than those of social intercourse and friendship. But these friendships will be helpful to the extent that they are unselfish and do not mean enmity to other societies, to those outside and to the school at large. As the membership is usually limited to relatively small numbers the advantage of a large number of societies becomes apparent. All who wish to belong to a society can thus be accommodated. The tendency of societies to become exclusive "sets" diminishes as their members multiply, and keeps before all the wholesome consciousness that "there are others" and that there is liable to be more. The free action of natural selection and the necessary heed to the survival of the fittest will thus have full play and act as checks to selfishness and exclusiveness. To be "fit to survive" societies are amenable to the same laws as are individuals. That individual will survive long-

est who does most for mankind as a whole. That society survives longest which does most to add to the well-being of the school as a whole. In loyalty to the school, generosity toward one another and careful preparation of assigned program duties will be found the secrets of society longevity. Long may they live and prosper.

## THE FRIDAY MORNING ENTERTAINMENTS.

THE Mutual Training High School was indeed fortunate in having Rabbi H. H. Mayer speak to us on Friday, January seventeenth. Under his guidance we visited the wonderful clock at Strassburg and learned some beautiful lessons which cannot be gotten from the professional guides or the guide book. We left, filled not only with wonder at the intricate clock but with an intensified admiration for the intelligent interpreter. We then listened to a song by Ollie Renfro. Mrs. Schulz's accompaniment was very well played.

The program for January twenty-fourth opened with a number by the M. T. H. S. Orchestra, led by Miss Elizabeth Russell. Professor Rothwell then introduced a pupil, Mr. Malcomb Dale, to demonstrate exercises for Droop Neck, Round Shoulders and Spinal Curvature. The third number was a fencing match between Professor Rothwell and Miss Mercedes Greenwood, followed by club swinging, juggling and fencing. The fourth number showed what might be accomplished by a persistent effort to cure awkwardness.

On January thirty-first, a musical program was given under the direction of Mrs. Cora Lyman. Mrs. Lyman had the assistance of Mrs. Ella J. Hedges, Mrs. Josephine Bruce Fa-

vor, Miss Maude Russell and Miss Hilliker. The first number was a piano duet "Airs from Mignon," by Mrs. Hedges and Mrs. Lyman. The second number was a vocal solo, (a) "The Message" (b) "I Love and the World is Mine." The third number was a piano solo, "Toccato," by Mrs. Lyman. The program ended with a vocal duet, "I Live and Love Thee," by Miss Russell and Miss Hilliker. Mrs. Grace McKensie Wood was the accompanist.

The program opened on February seventh with an excellent number by the M. T. H. S. Orchestra. The remaining time was taken up by a scene from "Rip Van Winkle." Mr. Edward Dart showed a great deal of dramatic ability in his impersonation of that lovable old reprobate, "Rip." Miss Bertha Ferris took the part of Dame Winkle with a skill which showed that her ability in elocution is not on the decrease. Mr. Dart and Miss Ferris were assisted by little Miss Helen Lebason in the part of Meenie. Her clear childish treble and perfect unconsciousness lent the part a charm all its own. The sketch was given to show the correlation between the departments of Elocution and American Literature, and its success was sufficient reward to Professor Phillips for his earnest work as trainer.

On February fourteenth we listened to an eloquent address by Colonel Warder, who spoke to us on the subject "The Function of Poetry in this Practical Age." He showed us, to use his words, how the ideal is the foundation of real, and said "the province of poetry in this practical age is the same as in all ages, to beautify, adorn

and elevate the common things of life." The address was preceded by a number by the M. T. H. S. Orchestra and followed by a fine piano solo, "The Cascade," by Mr. D. E. Harley.

The program for February twenty-first was furnished by a well-trained corps of our young athletes under the direction and training of Professor Hall. The curtain went up on a brilliant and unexpected scene. About twenty boys in crimson suits were swinging torches which flashed back and forth with dazzling precision. Then followed a flag drill, and many feats of skill and strength by Mr. Hall and his pupils. It is needless to say that the school is very proud of its athletes.

Last year we had the pleasure of listening to Dr. Barrows from Oberlin College, and this year on Friday, February 28th, Dr. Alice Luce, Dean of the Woman's Department and director of the English Course at Oberlin, honored us by speaking from our platform. Her clear enunciation made her words heard at the very rear of the room, which is something for which to be grateful, and we listened with pleasure to her remarks on the German Universities and the American schools. Dr. Luce's talk was preceded and followed by excellent piano solos rendered by Miss Bernice Lake, one of "Manuals" pupils.

On March seventh, Dr. Kirtley gave us an interesting address on "Conversation and Culture." Miss Nora Schenk, a pupil of Professor Schenrman, gave two piano solos. Mrs. Stevenson sang "At the Fountain," and for encores, "Croquet" and a "Lullaby."





## A Romance of the Flowers.

AN EASTER STORY.

**Q**UENE quiet summer's eve, just as the glorious sun vanished over the mountain top, sending forth its beautiful purple and golden beams, I strolled through a lovely garden resplendent with its brilliant flowers. O'er the tree tops, with only the lustrous frills of her golden gown of state in view, came the moon, the queen of the night, riding in her splendid chariot.

On this eventful evening, there was unusual buzzing and humming of voices. The flowers were gathered in little clusters talking so low that only now and then I heard a faint whisper; evidently something important and of great interest had fallen into their uneventful lives. The wild clematis was bending low over the hyacinth, telling something interesting, I was sure, for both their faces beamed with radiant smiles. The Tulip—I was shocked when I beheld it—stole a kiss from the Violet. The Johnny-jump-ups, in their wild joy, capered about making believe they could waltz; no one thought so but themselves, however. The Trumpet-flower blew a shrill blast. "Oh! dear," sighed little Miss Primrose, "why will boys act so naughty!"

In another group were the gossips

of the flowers, and as the gossips always insist on talking very loud, there floated to me on the soft wings of the night, these words: "Do you suppose the Moss-rose sisters will have new bonnets?" said Miss Marigold. "What will the Ragged Sarahs do," asked the neat little dress-maker, "their gowns are perfect frights." "Do you think," asked the tall and stately Calla Lilly, "that the bride will ask her country cousin, the cheap-looking Black-eyed Susan? How out of place she will be to be sure, in her homespun gown!" And Miss Lilly looked down with pride on her satin robe. "Whom do you think the bride will choose as her maidens?" asked the proud Miss Bridal-rose, taking a few light, tripping steps on the velvety carpet and looking at her many furbelows, as if to say "I know."

I was quite excited; evidently there was to be a wedding. If only the good fairies would bring me an invitation. As I sat meditating, imagining I had been bidden, one by one the weary flowers closed their charming eyes and went away to dreamland. The Moon-vine climbing gracefully 'round an old fountain sent out a sentinel to see if all were asleep, that none might gaze on his splendor. Be-

ing assured that all was well, with a majestic tread he stepped forth from his magic castle.

An excellent opportunity thought I. Perchance he can tell me the reason of all this confusion. As it happened he was in a jolly mood, and letting a broad smile play upon his genial face while his brown eyes twinkled merrily, he said to me, looking around to see if anyone else was within hearing, "Do you know that Sweet William and Easter Lilly are going to tread the golden path together? These flowers," he continued, pointing significantly around the garden, "think that they know a great deal about it, but a moonlight night, as you perhaps know, is the very best time for courting. I saw Sweet William come a wooing; listen and you shall hear the story.

"Easter Lilly is our queen, the fairest of all our maidens. She had been courted and courted and courted again but in vain they came a-wooing. They say, you need not tell it, she has broken many a good man's heart. Jonquille was a suitor for quite a while, and I ween no fairer suitor I e'er had seen until Sweet William came. He fairly worshiped our queen; he said nothing, but one could tell by the looks of his eyes—eyes tell a great deal you know—how much he loved her. Jonquille became quite angry, and he and Sweet William exchanged some words, while the moon with shame hid her face behind a friendly cloud. What happened I do not know, I generously hid my face—only Jonquille bothered Sweet William no more.

Did you ask about Easter Lilly? O! a delicate pink was spread o'er her face and her step was light and gay

as a fairy's. I leave you to judge of her feelings. Night after night when no one was near Sweet William wooed his maid, until one night she must have consented, for he kissed her pallid brow and hair, placing a ring of gold on her finger. Soon they are to be married."

Every evening after this I visited the enchanted garden. One night little Miss Spring Beauty brought me an invitation to the wedding. It had been written with silvery mist and sunshine on a pure white delicate rose petal. I accepted with pleasure. The invitation said "that because the bride wished the Misses Four-o'clocks and the Mr. Moon-vine to be present, the wedding would take place at sunrise before they went to sleep for the day. Would I honor them with my presence?" I spent most of my time after this in the garden watching the preparations. Mademoiselle Azalea was kept very busy making the bride's shimmering white gown, for a bride without a wedding gown would be extremely out of place. Everything was in confusion, everybody was busy. At last the long-looked-for morning came bright and clear; the sun had on his most gorgeous robes. I made my way to the garden very early dressed in my best. What a sight met my eyes! It made a lasting impression upon me.

At the appointed hour the Bluebells rang their joytul, tinkling chimes. From every nook and dell the guests came forth, the Lilly from the Valley, Miss Primrose in all her primitive beauty, the Marigold family with all their wealth of golden hair, the Misses Pinks with all their sweetness, and to the disgust of the cold, proud and wealthy, the bride's country cousin, Miss Black-eyed Susan came, in a chariot made of a Pond Lilly leaf

drawn by a Honey Bee in a bright yellow coat.

Then began the bridal procession. The bride, leaning on Sweet William's arm, never looked more queenly. Her diadem was made of dew drops that glistened in the morning sunlight. Her dress was a shimmering gauze trimmed in dew-drops. In her hand she carried a bunch of orange blossoms sent from the Sunny South. The bridal path was bordered by stately palms; Daisies tripped before the bride strewing gold dust in her path, and dainty pedals sent by Miss Bridal Wreath. The Bridal-roses, true to their expectations, had been chosen bridesmaids. In their hands they carried white Camelias, and dark blue was the color of their eyes. The Jonquille brothers were the groomsmen. I looked in vain for the Ragged Sarahs; alas, alas, their gowns were in rags. Who ever heard of ragged gowns at a wedding? The Pansies in their simplicity, the Poppies in their splendor, Narcisses and Mr. Dandelion came in their glowing colors. The dainty little Sweet Pea sisters and courtly Miss Marguerite graced the wedding; the Wisteria, the Daffodils and Violets were there. The courtly train started. At the other end of the garden stood Jack-in-the-Pulpit under

a canopy of beautiful flowers among whose lovely leaves the sunbeams played at hide-and-seek. The bride and groom knelt on a pillow of moss. Jack-in-the-Pulpit spoke a few short words. The Forget-me-nots bowed their heads in sweet repose, softly echoing Jack-in-the-Pulpit's words—"forget-me-not." The mother of Easter Lily, melancholy Mrs. Bleeding-heart, shed many bitter tears; Mr. Mock-orange stood off at a distance jeering, otherwise all was blithe and gay. Sweet William kissed his bride. The Jonquille brothers followed his example. The bees and birds, hidden in a bower of flowers, made the sweetest music a wedding ever had.

Soon all of us accompanied Sweet William and his bride to a little brooklet, wending its joyful way through the garden. The brook was bordered by Weeping Willows, whose branches intermingling shut out the now too brilliant light of the sun.

They stepped aboard a Water Lily attended by the sweet musicians. The oarsmen, little fire-flies, lifted the paddles, the musicians sang, the Anemone threw Lady Slippers after the bride, as she and Sweet William sailed down the silvery stream on their wedding journey.

KATE HANKINS.

## Love Affairs of a Pirate.

HIS UNEXPECTED BLISS.

**S**OME few years after his last adventure, our hero sat dejectedly on his noble crew. In his bronzed hand he held a mouldy, worm-eaten ship's biscuit. One glass of Vichy was his only sustenance for many days to come.

"Pox on the cook!" he growled under

his sandy van dyke. "Shall this continue unto eternity? Nay, not so! Tonight will I take my whiskey bottle on my shoulders, and devastate the land if I find not a maid to change my sorrow to joy." Here he looked heavenward, and gasped in ecstasy. "Oh waffles! Methinks I smell 'em now,

arising from the deep!" E'en as he thus spake, a carrier pigeon bumped against his nose, a lecture-bulletin of Boston's Clubs in his beak. "Bejabber, the very thing!" he quoth, as perusing the document, he learned that Fate at last had been kind to him; that Miss Roarer would deliver a series of heart-to-heart talks to the Bureau of Ethnology on "The Beneficent Influences of the Well-Cooked Waffle on the Physique of the Figeo Islander."

He arose from the crew in haste, and roared: "Belay there! Shin up the mizzen mast and clear up the forward rigging. Make all fast below, cast off the anchors and man the poop! All speed toward Boston." Obedient to his command the crew got out and pushed, and the ship flew through the water at a rapid transit.

On his arrival he wasted no words, but tremulously scooted up Tremont Street, the tails of his Prince Albert coat floating behind him, and dashed desperately into the Bureau of Ethnological Research. The gentle Miss Roarer stood transfixed in her classic drapery, as two quivering daggers pierced the wall on either side of her robust form. He flung an arm about her 36-inch, athletic waist, fired a few shots, to the surprise of the assembled Ethnologists and disappeared with his prize into the navy blue mists of the gathering dusk. As, heavy-laden, he galloped up the gang plank of his glorious sloop, he whispered in her blushing ear, "Waffles; now and forever, one and inseparable."

SARA H. BIRCHALL.



## Cures for Public Distresses.

**W**E have public distresses. Anyone will acknowledge that. But how to temper them? How to cure them? These are questions which may well perplex the wisest minds. Many men and many nations had thought they had solved the problem; and just as many have found that they have not. Conditions are improving, but we are not yet done.

It has been said that upon a nation's youth depends its hope. Then it may be inferred that a city's hope is centered in its rising generation.

But, as men in responsible positions often forget the influence they wield, and the power for good vested in them, so also do our little folk often fail to realize that by their efforts alone, shall their beloved country one day "sink or swim, live or die, survive or perish."

There has long been one point agreed

upon by all reformists, and that is that the children of the city must be made to realize their responsibility before any real and lasting good can be done that city. But beyond this point the paths diverge.

One reformist says, "It is all in our environment. You can't expect the children of a great city to be good and upright characters unless you provide them with at least a small fraction of a chance. How are the children to know anything of why they are here and what good they are, when all their youthful days are spent in a neighborhood where to know anything is to be peculiar and open to the jeers and jealousy of others less fortunate, or less ambitious, or both? Habits are formed in babyhood when the child is under the supervision of its parents, and is ruled by them. Can you expect much of a child whose

parents have been taught to despise learning, or aught that pertains to anything beyond the dirt and ignorance they have already known? Certainly not. Then I say, better the environments, and you will better the child. If the parents do not know what is good for the child, take it away and place it with people who do know how to raise it."

A brother philosopher now speaks. Let us hear his words of wisdom.

"No," says he, "it is not that at all. It is heredity. Environment has very little to do with the forming of a child's character. You can't make a statesman out of a born idiot, any more than you can keep a naturally bright child from rising in the world. Look at Lincoln for example. What were his environments? He had nothing but an hereditary love for knowledge, and an exceptionally large baby brain. The rich man's son has everything,—but brains. No, you can't convince me that it is environment, else why would the minister's son be the proverbial bad boy?"

"Well," says a third, "I think you both right, if taken together. But neither is entirely right alone. Your example of Lincoln is well taken, but he was one in a million. Not many persons, of an intelligence even more than ordinary, could have fought his battles, and come out even known, much less famous. In every ten generations there is not more than one Lincoln given to the world. And what of the others? Are they to be passed by as unworthy of a saving effort because of their lack of hereditary genius? No, they form the vast majority, and our efforts must be for them. The very rich man's son is under just as great a disadvantage as the very poor or ignorant man's. What we want to do is to get and preserve an equality of chances for all children.

Make them know the value of their chances by working for them. Give the school child a chance to earn his books and schooling, and help him to set an ideal. Let the college boy work his way through college, but don't make his way so rough as is that of the working student today. Let a child surmount his own difficulties, and the victory will be dearer to him than all your well-meant help. But don't discourage him. If he loses heart, strengthen him and start him once more uphill. Yes, indeed, a child must have more than a bright mind or a good chance. He must have both, coupled with a loving and wise instructor."

These speeches represent the substance of three current theories, but theories on ideals, generally, and from the ideal to the real is a long step, but let us take it. Let us see what the world of today is doing for its children.

Wherever we find governments, we find schools. This is a significant fact. It shows that the governments have realized from whence comes their support. We will compare the educational facilities of, say Germany, with the United States.

In Germany they have schools enough for all their children, as evidenced by the fact that they have compulsory education. But in America,—well, if Kansas City is a fair sample of an American city, the educational advantages are not quite up to the standard.

Here our schools are crowded almost beyond the working limit, yet if you go, any fine day, down into the districts known as the east and west bottoms, you will see hundreds of little children of the school age, playing about the streets, at marbles or juvenile boxing matches without gloves. Many of these children would go to school if they could be accommodated without an un-

reasonable amount of crowding, or if there were schools close enough.

One cold morning not long ago, had you been going down the Twelfth street incline, you might have seen two little boys walking up. They were undoubtedly from the district down around the packing houses, and had come quite a distance. They carried books under their arms, showing that they were on their way to school. Both were shabbily dressed and wore no mittens. Though they tried by conversation to divert their minds from the cold, one could see tears in their eyes, and readily guessed the cause by looking at their hands which were stiff and blue. Do you suppose that when the cold of actual winter arrives, these little fellows will be able to go to school? No, I think that they are ruled out because of the lack of enough school buildings.

In connection with schools it may be interesting to state that in the Indian Territory, there are no schools for educating the children of the white settlers. The Indians and the negroes are provided for, but the vast majority of the white children there would not know their own names if they saw them in print.

Let us now return to our German-American comparison. So far as I have been able to ascertain, Germany has no provision for the correction of children, such as a reform school, while America has them in great numbers. Is it because Germany has less need for them, or is she less progressive? Or, as might be the case, has she found a better method of dealing with delinquents than subjecting them to prison discipline?

This leads us to another consideration. Are reform schools a benefit to a city? Do they really reform the persons placed in them, or do they merely rid the world of them for a brief space of time?

New York is a great city, and a good place to study this subject, so let us go to New York.

Here we find a good field for observation. The institutions here are very large. One, the "House of Refuge" on Randall Island, having about eight hundred inhabitants. There are several others of similar proportions.

In the "House of Refuge" a strict routine is adhered to. During meal time no talking is allowed. Everything is done on "the tap of the bell." The officers are a sort of supreme beings, demanding the most tacit obedience, and generally getting it. No confidence whatever is placed in the inhabitants. They are under the strictest surveillance during the day, and at night the older ones are locked in cells. Any breach of law is punished by locking the culprit in a cell where he must stand, and feeding him on bread and water for a certain length of time, according with the offense.

The mental training consists in the studies of the grammar school, together with an equal amount of time spent in manual training. The manual training is principally trades, such as shoe-making, forging, or carpentering.

Everything is compulsory; and the natural consequence of a system where a boy is consulted about nothing that he does, is to make the boy suspicious, taciturn, and scheming. This then is the sort of class graduated from a reform school.

When a subject gets through "doin' his time," he is placed out in a situation can be found for him. If not, he is returned to his old surroundings. In a short time he is back again, here or elsewhere. Some are recommitted for the third or fourth time.

But all rules have their exceptions. To this rule of reformation, we find an

exception in what is called the "George Junior Republic." It was established in the fall of 1895 by one Mr. W. R. George of New York, who had grown tired of seeing the results of ordinary reform schools.

The republic at present owns about two hundred acres of rich farm land; and is equipped with buildings, machinery and other necessities for its cultivation.

In the beginning Mr. George, or daddy, as the children call him, was frequently in requisition. But now the little republicans do all their own managing. They have their own currency, a set of aluminum coins manufactured by them, and conduct their own hotels and manufactories. There are farmers, machinists, policemen, and health officers, just the same as in a large republic.

They make all their own laws, which must be passed by the town meeting, and then referred to the president. His signature makes them laws, and a two-thirds vote of the entire population is required to pass them over his veto. Mr. George has the power to veto any law if he sees fit, even though it bear the president's signature. But he prefers not to meddle. He says the ones who make the laws are the most concerned by them, and they will be the first to suffer

by a mistake, and hence the first to correct it.

The little citizens see the underlying principles of all they do, and learn by experience. Everything is voluntary except in rare cases. They have found the necessity of compelling the individuals to work for all they get, and consequently everything is on a strictly cash basis, and vagrancy is not permitted. The inhabitants of this republic come from all over New York. They are here for all kinds of crime, from murder to idleness. But once here, they are all on an equal basis. They are all treated alike. "In fact, general 'badness' accompanied by ordinary intelligence is, according to Mr. George, the chief requisite for admission to the republic."

During the six years this scheme has been in operation, and among all the graduates it has turned out, only seven have been marked unsatisfactory. Only one has been arrested. Four are working their way through college. Five are in preparation. Many are in responsible positions, while the rest are self-supporting.

One of the prisoners in jail remarked, "It's the worst place if you're bad, and the best place if you're decent, I ever was in."  
DOT HEWITT.

## Culture.

**I**T seems to the writer that the term "Culture" is being a good deal overworked. The word seems to be used most in those quarters where there is the least evidence of it. It is not the person who has it who has to be labeled. The person who works, who thinks, who improves his opportunities, who grows in strength and usefulness, who puts his talents to practical uses, who

possesses the spirit of kindness, who tries to be just and generous will justify his existence. If this is not "culture" then he will be able to stagger along without it. We want no learning "for learning's sake," no culture "for culture's sake," no art "for art's sake," but we want all of these for humanity's sake.

We want nothing for a mere abstraction. We want it because it contributes to our well being. SIMON SEEDLING.

## A Romance of the Transvaal.

VINCENT BARTLETT COATES.

CHAPTER I.

**T**HE sun was beginning to say its last adieux as it slipped over the edge of the endless kaiki colored succession of kopjes that stretched away to the westward, and like a dull ball of fire it left the golden-tinted embers of the smouldering day on the rugged scenery that was presented to view. The bright red deepened, as night approached along the sun's path and smothered with his shadowy cloak the last faint streams of brightness which radiated from there-treating god of day.

Darkness is ever following the light, but night ever fails to overtake its antagonist in the race of ages. Soon the west was a blackened fireplace, another day had disappeared in ashes; and night, the dark, deceitful and guileful, yet withal, enchanting time of tranquil repose, reigned supreme.

Two forms appeared in the filmy pallor of twilight which now blurred the landscape; horsemen of rough outlines are wending their way eastward toward the dim, uneven line of the Winterberg mountains which stretch away through the brown, rough plains of the Transvaal.

The younger of the two men turned in his saddle and addressed his companion, "I say, Jan, we've got to unlimber if we expect to make head-quarters by mess time." The other simply responded by urging his tired horse into a reluctant canter. Jan Schrader, a man of about forty years of age, was the silent rider in the gloaming of the ungenerous veldt, a typical and ideal Boer, massive in build, heavy in features, his shoulders high and slightly stooped,

his eyes small and suspicious of every movement. Yet these keen eyes had a merry twinkle when a bit of crude humor would emanate from between his thickly bearded lips. In the peaceful silence of the veldt he had been reared in a life of simplicity, a training which in South Africa, clears the brain, steadies the nerves, and puts a vigor into the sinews which makes such successful fighters of these men.

Jan, a man of indomitable resolution, great shrewdness and remarkable courage, came from a fighting stock of sturdy, honest, liberty-loving Dutch, and had wielded a weapon from his infancy; sometimes fighting the natives and again hunting the wild animals of that uncultivated country. He was deeply religious, as all true Boers are, pious, robust and patriotic; always carrying himself with an air of natural dignity, and was noted for his good common sense. He was one of the many Boer farmers who were pitted against the hordes of well drilled and equipped soldiers of Great Britain; but their success in the field has been due to their remarkable marksmanship and ability to judge distance in the peculiarly deceptive atmosphere of South Africa. This is what has made the Boer warfare so fatally effective.

"You know, Jan," said his companion, "that I am curious to see that remarkable stronghold of yours up there," pointing to the cliffs above them. "I imagine from your description that we could show Tommy Atkins a warm reception if he ever ventured to disturb our tranquility." A gruff "ya" came from the figure at his side, and they proceeded up the rocky path amid tropical underbrush



and trees. A challenge from a sentry compelled them to halt, as they approached the outermost part of the Boer stronghold to which they were journeying. Presently they came to a second sentry stationed at an iron bridge which spanned a yawning chasm that descended into the very bowels of the earth.

Soon they arrived at the fortified building which Jan had described to his younger companion. They were admitted to a room wherein sat several officers of the Boer army at an ample but not elaborate meal. They very willingly joined in the repast, and after the introductions of the younger man, all partook of the food before them, with a zest, and the young stranger who had come to take charge of this fort enjoyed a jovial conversation with some of the leaders of the Transvaal army.

After the meal and customary smoke of the Dutch, they repaired to a comfortable bed and enjoyed a needed repose. Hubert Stanley, the soldier journeyer of the night before, arose early the next morning and strolled forth to enjoy the brisk mountain air. He had not walked far from the fort when he encountered a stone wall. Looking over this he beheld a scene of singular loveliness; the wild, rocky, African ranges towered on every hand; below the rich valley was overgrown with luxuriant foliage, freely mingled with mimosa and other trees typical of South African growth; thousands of the red African aloe flowers on their long spikes were blooming all over the valley and the mountain crags, while a mantle of sparkling dew was lit up by the first rays of the glorious sun, making as fair a view of God's great handiwork as there is to be found in all of that southern land.

Hubert was standing on the brink of a krantz or precipice, which descended sheer over two hundred feet into the beautiful

valley below. In this valley beneath him ran the Dingaana river which lay like a silver streak amid the green, its sheen dazzling the eye as the rays of the morning brightness.

After fully drinking in the beauty of this wild scene, Hubert turned in the opposite direction and walked towards the bridge that had aroused his curiosity the night before. He learned from the sentry there, that the yawning depths which opened before them, completely cut off a large section of the cliff from the rest of the mountain, making an immense pillar of stone, earth and vegetation, whose summit could only be attained by crossing the bridge which spanned this chasm.

African mountains, their crags and precipices, are composed largely of a peculiar rocky formation which very readily splits vertically into huge blocks, and causes some very singular constructions. Thus it was that the chasm was formed, probably by an earthquake many years before, when none but the black man roamed through Africa, clothed only in his superstition and ignorance. Modern engineering had overcome the difficulty with a finely constructed and adjustable bridge, similar to those used when chivalry spread its cloth of gold over mediæval knighthood and the turreted and gloomy moated castles of feudal times. And thus had been made an impenetrable stronghold, which could only be gained by crossing the yawning depths of that black nothingness. The Boers had seen the strategetic value of the secluded place and had made out of it a valuable fortification.

Hubert Stanley was a natural soldier of youthful appearance for his thirty years. His lithe, powerful and well knit frame, ruddy complexion and energetic movements all expressed the fact that he had always been a soldier used to

hardships and inclement weather. His father had been a United States officer, and having been reared at an army post in New Mexico, Hubert had centered all his energies in military tactics. His father had been killed by the Indians, and he himself had fought these elusive red skins through years of Indian warfare. In this way he had seen some of the hardest campaigning experienced in army service. He was only a rough frontier soldier whose love of adventure and sympathy for the Boers, inspired in him by Jan, an old acquaintance and comrade, had led him to cast his fortune with the Boers in South Africa. He was now a captain, and had been given the command of this queer base of supplies in the mountains. All during the day he familiarized himself with the topography of this isolated point of land over which he now had control. This tall captain was a handsome man with light wavy brown hair and mustache, blue eyes of great penetration, high forehead and a smiling mouth that usually disclosed a fine set of teeth, but which was often set with a firmness which would brook no undue interference. In his tour of investigation he stumbled upon a lieutenant Aregi in charge of the stables. This man was a dark skinned individual with a keen shifting glance and a slouching powerful figure, which revived in his memory a vague something which repelled him. The stranger, on seeing his new captain, and saluting, gave him a glance which contained an evil look of recognition; he remembered the captian, who himself had failed to place this man in his memory. Hubert thought nothing more of the matter until a report was brought to him in a few days of valuable papers which had been stolen from the fort. Then he began to investigate the lieutenant's record, for the supposed Spaniard was immediately associated in

his mind with the theft that had been committed.

#### CHAPTER II.

Sir Percival Clarington sat in reverie before his roll top desk littered with the ordinary debris of the average business man. His gaze was directed through a window on his right, which afforded a good view of one of Kimberley's greatest diamond fields, the De Beer's mine, and he was reflecting regarding many workmen who were busy hoisting, digging and assorting the precious stones that lay hidden within the folds of mother earth.

Lying before him was a short letter written in cipher which proved to be a communication from a Boer friend. It warned him of the impending siege of Kimberly by the Boer army, but instructed him to impart his information to no one. "Thank God for this warning," he murmured, "now I must quickly devise some plan for the safety of Aldyth and my accumulated treasure of diamonds. How shall it be done? And whom can I trust to accompany and care for them?" Sir Percival's mind was troubled and he thought intently and anxiously for several seconds—the exigencies of the moment demanded quick and decisive action. He must immediately find some one capable of this hazardous undertaking. There was only one man in his employ whom he knew, that so far as honesty and integrity were concerned, he could fully trust and safely rely upon. He had been a family servant for many years, and excepting for one weakness, was ever ready, willing and trustworthy. But he was a dreamer and was often so absent-minded that many important duties were neglected and forgotten. But it was necessary for Sir Percival to act quickly, and it being impossible for him, in so short a time, to search for and find a more thor-

oughly business person than Thomas Ripple, he was obliged to trust him even though he was fully aware of his great weakness. Upon finally deciding this question he arose, closed his desk and sent for his man and gave him minute directions for the journey.

Sir Percival, a part owner in the De Beer's mine, was a piece of England's far famed nobility, and was a man esteemed for his honor and integrity in a business way and beloved by all with whom he came in contact. Sir Percival was usually a bland individual with a deferential style begotten of the habit of long intercourse with the business world, but now he dropped this air of preternatural sagacity which had come to him from the assiduous control of men and finances, and hurried to the Grand Hotel where he was greeted by as fair an individual as man could wish to see in this day and generation; she was tall and she carried herself with stately grace. A generous mass of black hair shadowed a face as fair as a lily and a cheek as delicately pink as the lining of a seashell, while her black eyes, under their sooty lashes, shown with a brilliancy which out-ripped the diamonds in which her father had made his fortune.

This beautiful prototype of noble womanhood was the daughter of the rich mine owner and had come to be with her father in Kimberly, he being obliged to spend a few months there in looking after his interests in the diamond mines. Aldyth was left motherless when a mere child, and in the eighteen years which followed she had been her father's constant companion. This close association had thrown her in contact with the world; they had traveled far and wide, and she had become quite fearless and resourceful for her age, having learned much from her father's observations and knowledge of mankind.

Thus it was, after the usual greeting, that Sir Percival Clarington drew his beautiful daughter to a seat, and said: "My dear Aldyth, could you take a little journey tonight if I thought best?"

"Yes father, but—"

"You must leave Kimberly within the next twenty-four hours for by that time the city will be besieged and my darling must not be within the sound of shot and shell, privations and possibly starvation, and then my bag of diamonds must be transported to a place of safety, and so you must get ready to travel to Cape Town where your cousin is now stationed, and who will take care of you until we meet again."

"But, father, you must go too," she said falteringly. "I cannot be separated from you and leave you to the fearful chances of war."

"No, my child, the interests of the company are at stake, I must see that the mines are kept from danger, and being the only one in authority here now I must remain until the manager returns, which will probably not be until after the siege."

Aldyth Clarington with her French maid and her father's valet, Thomas, left the hotel late that night in a closed carriage for the nearest station where they could make connections with the railroad which would take them to Cape Town. This man who accompanied her had charge of an ordinary traveling bag which contained the diamonds, and he was fully armed. He felt the importance of the trust imposed upon him and sustained with much composure and dignity the part of protector to the two treasures just starting on this lonely trip. They entered the waiting carriage, Aldyth and her maid occupying one seat and Thomas and the treasure the other. Thomas, lounging comfortably back against the soft cushions, after many

hours of riding and as night approached, fell into his old habit of dreaming. He became oblivious to the world and his Utopian fancies ran riot. There was evolved from his fertile brain a beautiful palace embellished with the choicest paintings and the grandest statues of the finest marble. In it he sees a wife beautiful as the Houries and wise as Zobeide; diamonds sparkle everywhere, pearls and rubies, topaz and emeralds of the greatest value are in profusion, everything that heart could desire surrounds him, his ample grounds are planted thick with tropical vegetation, yielding abundance of luscious fruits, and the most beautiful and gorgeous flowers, whose redolence makes the air heavy with their delightful fragrance. And there dwells Thomas Ripple, the great lord of that manor surrounded by an army of menials and liveried servants ever ready to do his bidding. But lo! What is this? Ye gods! does anybody dare to trample on his dignity? The carriage comes to a sudden halt. He is rudely awakened from his dream by a stentorian voice which thunders at the side of the vehicle: "Hold up your hands and get out of the carriage." And then to the driver, "You do the same and be quick about it." The lights of the carriage fall full upon the driver and himself but the man in the darkness is not touched by their rays, and he has a decided advantage over them. He then completely and quickly disarms both men, bade the driver again ascend the box, and having bound the legs and arms of Thomas, he ordered the horses turned in the direction of the distant mountains. The French maid had swooned, and Thomas was helpless, but Aldyth was calm and collected, and sought to learn what was to become of them. She could get no answer from her captor, except that they were prisoners of the Boer army,

and that they were journeying to Fort Cronje the nearest Boer stronghold where prisoners of war could safely be confined. She tried to explain that she was no enemy or messenger, but the scout would say nothing more. This highwayman proved to be a forward Boer scout of the advancing besiegers, who on the morrow would commence that memorable bit of history, the investment of Kimberly. On perceiving the lonely carriage he had taken it to be his duty to intercept any outgoing news from Kimberly. But if it had not been for the wandering mind of Thomas, who should have been watching for such emergencies, the lone man could never have stopped the escaping treasure that had now nearly reached the railway station.

The rest of the journey was completed in silence, for Thomas, overcome by the mortification and disgrace of his misbehavior, did not break the monotony of the rumbling, creaking drive.

#### CHAPTER III.

Aldyth Clarington, with her badly frightened maid and the non-plussed and chagrined valet, duly arrived at Fort Cronje, her mountain destination, in charge of the scout. She was received by Captain Stanley with a deferential anxiety for her comfort and welfare, after so long a ride in the darkness of the veldt. He very willingly gave up his room, which was the finest the fort afforded, and did his best to make her captivity the least irksome that was possible. He had never seen so beautiful a woman before, and a strange something laid hold of him after the first look at his fair captive, a delightful sensation which was altogether new to him.

He saw much of Aldyth, being in charge of the fort, and spent a great deal of time in her society, for he thought it a very pleasant duty to help

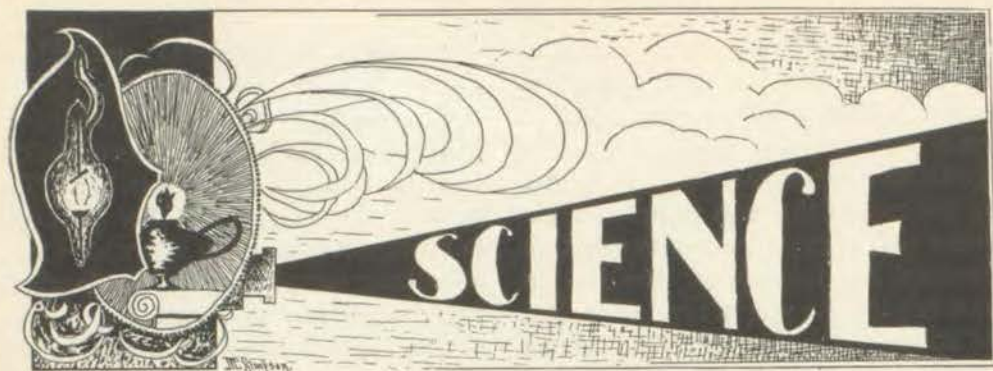
this beautiful, charming and vivacious woman pass away the time. She was pleased and touched by the captain's simple courtesy, and his strength and dignity for she had never associated with any but men of the most polite and exclusive society circles, and this new type interested her immensely. Besides she could tell that he was in love with her, and although she was betrothed to another in distant England, she was flattered by the unmistakable devotion of this unsophisticated warrior. He grew more desperately in love each day, and he showed it in many ways. Yet the thought of possessing this divinity never occurred to him; he simply worshiped from afar. And she was gradually growing to love him also, though she did not realize it. She was aware that he was greatly beneath her station in life, and so much so that she could never hope for an alliance with him, for in far away England there resided a man to whom her father had promised her in marriage, when she should reach twenty-one years. This man, to whom her father felt he could safely trust the happiness of his child, she respected and admired, and as she had never realized anything nearer love than this sincere respect and admiration, and desiring most earnestly to please her father in every way, she had willingly consented to an engagement? Her betrothed was a gentleman, lovable, sincere and brilliant. But, for him, she had never felt, for one moment, the thrill of exquisite happiness that filled her whole being when meeting the ardent gaze of Captian Stanley, and observing the many acts of devotion and gallantry which he found so much pleasure in constantly bestowing upon her.

It never occurred to her to seriously consider these unmistakable evidences of a deep and lasting affection, which, in all her life, had never before been so strongly revealed to her. The promise of her father and her past unflinching acquiescence in his wishes was something sacred to her, and nothing would tempt her to an act that might, or could reflect upon the honor of her father or herself. And thus she felt herself strong, and could not realize all the pain and anguish that might come to both herself and this humble, honest, brave and noble stranger, who had come so suddenly and unexpectedly into her life.

Besides his attentions to Aldyth, Hubert found time to devote his talent to a little detective work, and had woven about that queer individual, the rather suspicious Spaniard, whom he suspected of being a British spy, a strong web of conclusive proofs, which showed that he had stolen the war maps and valuable papers from the small safe which contained the treasures of the fort. This man had, in some way, discovered the combination and had profited by this knowledge.

One morning while busy in a store-room, in an extreme end of the fort, Hubert while looking over a supply of rifles, pistols, sabres and uniforms, which had arrived the day before, was surprised to see the guilty Spaniard enter the long room, quickly close and lock the only door to the apartment, and coolly put the key into his pocket. Then he turned to the defenseless captian and confronted him with a look of hatred and defiance, uttering these cold and blood-curdling words:

(TO BE CONTINUED.)



## Leather.

**W**RITE this article with two objects in view. The one is to give the seeker after knowledge only a very general idea of the processes through which hides and skins go before they are converted into that insoluble, imputrescible, pliable, and durable state called leather. The other, or my most sincere reason, is that the thoughts of this article might creep into some active brain and work and develop until they develop in after years into a tannery for Kansas City, which possesses great advantages for such a business in being so near the large packing houses, etc.

There is probably no industry more directly affected by the advance in chemistry than this. Whereas a few years ago, it used to take from six months to four years to tan heavy hides, within the last few years the heaviest hides have been tanned in even less than forty-eight hours. The chemist is now an important person at the tannery. Just as the girls in our modern cooking classes have found, guess work is being done away with. The tannic acid, water, and all materials used are tested and just what effect they will produce is known before they are tried. Then chemistry is al-

so, besides showing new methods, much to the disgust of old tanners, revealing their secrets.

Leather is made in three ways, (1) by tanning, which is the most important, (2) by tawing and (3) by shamoying. The tawed leather is made principally from thin skins as the sheep's skin, goat and kid skin, etc., by means of mineral salts instead of tannic acid. It is pure white. We can see it in gloves and those fancy white leather covers over the tops of perfume bottles, etc. The shamoyed or oil method is probably the oldest and is the method practiced by many half-barbarous people of today. The hair and outer layer of skin are removed as in our tanning method. Oil is applied which becomes oxidized within the skin and combines with it to form leather. The skin most commonly used in this process is that of the chamois of the Alps, hence the name. Its distinguishing characteristic is that it can be washed like cloth.

In the tanning of leather, advantage is taken of the fact that certain wood extracts precipitate or remove gelatine from skin and with the gelatine forming tissue form leather. The materials used for tanning contain acids formed in the bark, leaves and some

other parts of trees, their function in the tree being unknown. It may be interesting to note a tannic acid is found in one animal, the weevil. The tannic acids are compounds of carbon, hydrogen, and oxygen, and are derivatives of benzine. They are divided into two classes, the one giving up what is called catechol. This class contains about 60 per cent of carbon, and gives a dark green precipitate with ferric salts. Some of the main materials from which catechol tannins are obtained are oak bark, white oak bark, canaigre, mangrove, cutch and gambier. The second group of tannins consists of those giving up what is called pyrogall. It contains 52 per cent of carbon and forms a dark blue color with iron solution. They are obtained from Sumack, chestnut and pomegranate. The tannins are extracted very much as the coffee that we drink is made except that the boiling process is continued a little longer. The bark is ground as fine as possible and its tannin extracted with boiling water.

The most important hides and skins used for tanning are the ox hide, the horse hide, the sheep, goat, kid, hog and seal skins. It is easy to see why the ox hides should be so important. They are obtainable in such large numbers and are the most generally useful. They are imported in large numbers from South America, North Africa and Australia. These skins are all covered with hair and have the outer layer of skin or epidermis in a scaly condition. So the first step in the leather tanning process is to remove this skin and hair. This is accomplished by an operation called

depilation. The hides are soaked in a solution with an excess of lime. Although other materials have been tried with some success, this is the best as it dissolves the outer skin, loosens the hairs, and opens the pores of the skin so that the tannin can most easily enter. Then with large knives workmen scrape off this hair, outside scarf-skin, fat and flesh. Then the hides are placed in a large revolving wheel and washed of all lime. The next operation is where the real tanning commences. It is the forcing of the liquor into the hides. In the older methods the hides were allowed to stand in the tanning material for six weeks, then taken out and placed in a fresh tanning material. This process was repeated three or four times. In the quickest and latest methods, the hides simply revolve in large drums made so that they carry the hides to the top and then drop them back into the liquor. When taken out of this the hide has been converted into leather. It must be dried, rolled, made smooth, and then sole leather is ready for market. Beside sole leather there is what is called upper leather used largely in making the upper parts of shoes. It is prepared principally from hides split into two or three portions. Then there is patent leather prepared by grinding the surface of the leather till it is perfectly smooth and then applying several coatings of varnish and polishing. The other leathers are the kangaroo leather of Australia, and the alligator leather tanned almost entirely from the Florida alligator.

BETH BORIGHT.

## The New Transit.



AS spring arrives and winter's frost surrenders to the sun his claim on mother earth the teachers in the laboratories of geology, botany and zoology begin to plan field excursions for studying the structure of the soil and the various forms of plant and animal life that exist thereon.

But theirs are not the only departments that can substitute the open fields for the closed school room. The students of mathematics after three and one half long years of puzzling over triangles by day and dreaming of circles at night are now about to take up the deepest branch of that subject, practical trigonometry, or the elements of plane surveying.

The surveyor's instrument, called a transit, which enables him to map out the course of a railroad, must be studied carefully before its use can be understood. The principal part of this instrument is the telescope, carrying beneath it a level, by which the line of sight can be made perpendicular to the radius of the earth. This enables the operator to make a perfectly level surface; for instance, in building a river dam he can make both ends lie in the same horizontal plane. At right angles to the line of sight and about half way from end to end of the telescope is the horizontal axis. To this axis is fastened a vernier scale, so arranged that as the telescope revolves in a vertical plane, the angle through which it moves is indicated on the scale. By means of this attachment the height of a flag pole may be found; this is done by sighting the highest and lowest points

and reading the angle of elevation as shown on the scale. The third movement of the telescope is about a vertical axis. Before using it in this way the plane of the instrument must be perfectly level, which can be accomplished by means of two levels at right angles to each other. There is also a vernier scale to measure the angle through which the line of sight moves in this case. An example of this use of the transit is the measuring of distances between points so situated as to make actual measurement impossible. Take for instance two bridge piers on opposite sides of a river. To find the distance between them the transit is set up at one pier, called A, and the opposite pier, B, is sighted. Then the telescope is revolved a quadrant's distance to a third point, C, on the same side of the river as the instrument. The transit is then moved to this point, C, and by sighting both piers the angle between the sides is found. If the distance, A to C, is measured by a tape line, the required distance can be obtained.

This description of the transit, covering also its practical use in surveying, is intended to show the work which our trigonometry class is about to do. We have an excellent Gurley instrument with which to take measurements, and we expect this class to get a comprehensive idea of the numerous applications of plane trigonometry.

This field work will, no doubt, be the most interesting part of the course.

T. R. ANSIT.



## Production of Cold by Evaporation.



THE subject, the production of cold by artificial means, seems rather inappropriate for the season, as we can still almost feel the tingle of the cutting blasts of winter; but it is not too early to begin to think of how to produce cold, when we recall those scorching days of last summer.

The simplest and most common way of keeping cool is by fanning, but this would be useless if one did not perspire. We constantly make use of our fans all summer long, but how many of us stop to think why fanning is a cooling agent? A person becoming very warm from exertion, or exposure to the sun's rays, usually perspires. This is a provision of nature to keep him from becoming over-heated, because the body is cooled by evaporation. The heat required to change the perspiration into vapor is drawn from the body; for, when a liquid is converted into a vapor, the heat required to cause this change of state, is taken from the surrounding bodies. If the person begins to fan he becomes cool sooner, as the evaporation is hastened, for, as the air next to the skin is saturated with the vapor from the perspiration, it is removed by the motions of the fan, and a new layer of dry air takes its place. It becomes saturated and is driven away as before.

When water evaporates the surrounding bodies are cooled. This we illustrate by the following experiment:

A stopper was fitted tightly into the neck of a thin glass flask, and the end of a glass tube was passed through it. We inserted the other end of the tube in a glass of water, leaving the flask inverted on the free end of the tube.

Enough water was poured on the flask to spread over the surface, and the flask was fanned to make the water evaporate more rapidly. Heat was consumed by the evaporation of the water, and the air within the flask cooled. When it cooled it contracted, causing a partial vacuum. The air from the outside pressed down upon the water in the glass in its attempt to rush in and fill up the vacuum, and by this pressure the water from the glass was forced to rise in the tube. It continued to rise as long as there was any water on the flask. Fanning the flask when it was dry had no effect upon the water in the glass. If ether instead of water be poured on the flask, the water will rise in the tube faster, for ether is a more volatile liquid than water. This same principle of refrigeration may also be illustrated by pouring ether, gasoline, or alcohol into the palm of the hand. Their rapid evaporation, caused by the air and the heat from the hand, produces a sensation of cold.

The Mexicans, Arabians and other people of warm, dry climates make a practical application of the above principle. They keep the water for drinking purposes in porous earthen jars. The water in these jars makes its way through the pores, and is exposed to the dry air all over the outer surface. The air takes up the moisture thus exposed, and by this evaporation heat is consumed, and the water in the jars becomes cool.

Water can be frozen by the evaporation of ether. We proved this in the following manner.

We took a large test-tube and filled it over half full of ether. We filled a small test-tube full of clear water, and

made it air tight with a cork. We then placed it within the large test-tube so that it was immersed in the ether. Then taking a small glass tube, we put one end of it in the ether, and attached the other end to an air pump. By setting the pump in motion, we caused a continuous current of dry air to pass through the ether. Since the heat from the water in the small test-tube was constantly being used up in vaporizing the ether, it was presently diminished to such extent that the water was frozen.

A demand for producing cold artificially for the preservation of articles in transportation has caused the invention of many different kinds of freezing machines. The ammonia ice machine is about the best and most economical machine constructed for freezing purposes.

Several members of our physics class had the pleasure of examining the large ammonia ice machine of the Armour Packing Co. It operates on the ammonia compression system, which includes the compression, condensation and vaporation of ammonia. We noticed the three different parts of the machine by which these operations were performed. The compression side is composed of a gas compression cylinder, which is operated by a steam engine. The downward stroke of the piston in the cylinder draws the gaseous ammonia by suction into the compressor from the coils where it has performed its office as a cooling agent. Many people have the false idea that ammonia is a liquid. In its original form it is a gas, and when it has been converted into a liquid, it always has a tendency to return to its gaseous state. The return stroke of the piston compresses the ammonia and discharges it into a coil which leads to the condenser. The pressure which the gas receives in the compressor causes it to become heated. When it enters the condensing coils, which

have a continual stream of cold water running over them, it at once condenses into a liquid, on account of the pressure and cooling of the water.

From the condenser the liquid ammonia, still under pressure, is forced through a minute opening in the expansion or regulating cock—the door, so to speak, of the expansion coils. The pressure in these coils is very slight compared with that in the condenser; so, when the liquid goes from such high pressure into a lower one, it instantly flashes back into its original gaseous form. The ammonia suddenly changing into the gaseous form takes up a large amount of heat, in compliance with the natural law, that heat is consumed in vaporization. The expansion coils are arranged in a large tank of strong brine. Into this tank galvanized iron ice moulds are lowered. These moulds are about two feet long, by two feet deep, by six inches wide, and contain the clear water which is to be frozen. The ammonia in the expansion coils absorbs the heat from the brine in which they are immersed, and the brine in turn absorbs from the water in the moulds, thus that water is frozen into a block of clear, pure ice.

The brine is used because strong salt water can be reduced to a very low temperature without freezing. The ammonia is kept in constant motion, and when it performs its part in cooling, it is drawn into a compression cylinder, and goes through the three stages as before. In this way the ammonia is used over and over again. To remove the ice from the moulds they are placed where they are surrounded by steam. As soon as the ice melts away from the sides, it can be lifted out very easily. The complaint about ammonia being put in manufactured ice is groundless, because if any ammonia leaked from the expansion coils it would be mixed with the brine that surrounds them and it could not possibly go from the brine through the iron moulds into the ice. If any ammonia gets into the ice it is there by accident. Veva P. Hawkins.



## The Relation of the Alumni to the School.

**T**he class of 1902, upon the completion of the school course will experience an emotion which even the most skeptical will reluctantly admit. The activity in preparing for the Commencement Night, with its enthusiasm and honors, completely occupies the minds and no time is spent in contemplating the serious side of the future. Nor in moral reflection or sentiment.

Reminiscences of school days become dearer to us with the increase of years, and a carefully tabulated diary would be of inestimable value. Its pages would recall all the pleasures and fancied hardships of our school days. Incidents which at the time of their occurrence appeared gigantic will have been long since forgotten, and to remember them would be to live through them again.

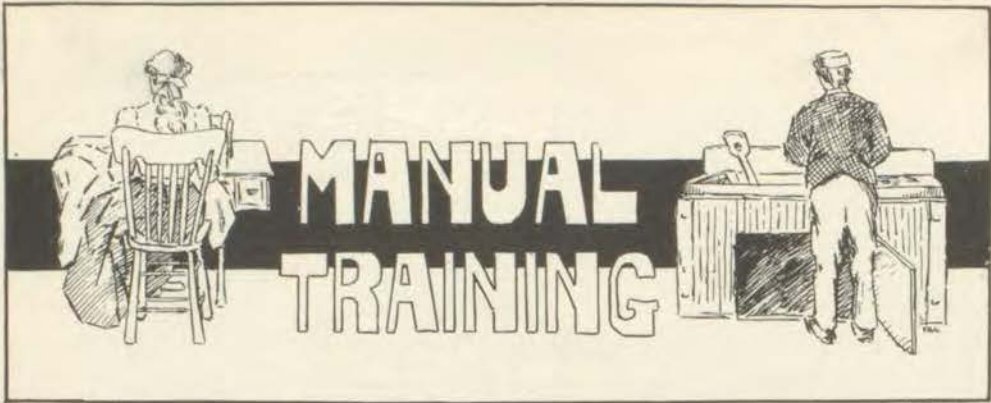
Jewels of great price serve to gladden the eye, but memories appeal to the heart. Friendship is cemented by the ties of school life, and when the graduates of the Manual assemble to welcome the new class, the harmony of the meeting is enriched by the memories of the past. History is a narrative of past events, and to exist is to make history. The Alumni has a dual existence: its artificial existence is its corporative powers of act-

ing and its visible results; it also has an ethical existence which involves intellectual efforts, and may be assigned as the predominant characteristic of its formation. It would be a lack of appreciation to place an Alumni within the limitation possessed by an institution in pursuit of social pleasures. Its greatness consists in the fact that the spirit of the school of old is united with the spirit of the school of life, and the recollection of old unite and blend harmoniously with the present. Can there be a grander ambition than to perform well all the duties we owe? What of the duty which a graduate owes to his school? Does the love of a child forsake its mother when the boy becomes a man? A man without such love is an object of pity. The school that educates and broadens the minds of its students, laying the foundation of future successes, deserves all the affection which gratitude can bestow on it.

In conclusion, it may be said that in addition to the social pleasures to be obtained, every graduate should attach his support to the Alumni because of the duty he owes the school, so that in after years when we look back upon those ever dearer scenes, we may have the privilege of saying:

"The prosperity and honor which our Alma Mater possessed and still possesses is inherited by our Alumni, and the worthy aims of its members are its gifts to the school in gratitude for what the school did for the members of our Alumni."

LEON E. BLOCH, Class of '99.



**I**N the throbbing world of business every successful man has his particular line of work along which he exerts all his energy.

The merchant studies the problem of supply and demand and cannot neglect it for that which concerns the building contractor.

The same is true in the realm of science.

The electrician engages in his particular work leaving the study of the human mind to the psychologist.

This condition is a matter of course, not a result of human planning. And as a consequence of this condition there is a tendency on the part of business men to neglect the training of their children, so it devolves upon other people to counteract this neglect by establishing institutions of learning.

It is the duty of these latter to make the advances in their department, but it is the duty of every one to keep informed of their progress.

The purpose of modern journalism is to facilitate the performance of this duty.

Not many years ago the leaders in education became convinced that high school pupils needed more manual development and the result of their conviction was the introduction of

manual training as an experiment into the high schools of several cities.

As I have before said, it is the duty of the leaders in education to make known to the public the benefits they have found to be derived from any particular branch of study

We, who have had the privilege of taking the manual training course, feel it our duty to join with the promoters of manual training in making known its benefits.

Five years ago when this high school was started there was a great amount of prejudice against it indulged in by some persons who thought it degrading to engage in manual labor. Now I consider this prejudice practically overcome, for by our works are we known, and the minds of the public are ready to receive a common sense argument of its benefits.

Every thoughtful person knows that there is a vast amount of energy, both physical and mechanical, wasted in the performance of every kind of work, and every economical person realizes that competition is made possible by the invention of cheaper methods of production.

The tendency of manual training is to enable men and women to bring about such inventions. If every boy who intends to become a tiller of the

soil, would devote a part of his education to a study of the manufacture of farm implements I predict a speedy revolution in agriculture. I have spent several summers on farms and have worked as a hired man, but those days were school days to me, for I learned why the average farmer is looked down on by some and pitied by others for having to work so hard for a livelihood. This drudgery is not necessary; I feel tempted to say it is the fault of the farmer himself; but I remember that in most cases he has not had the privileges of education which I enjoy. For centuries the humble farmer has followed his plough from one end of the field to the other, and at night has returned almost exhausted. Contrast this with the twentieth century ploughman who rides on a soft spring seat with an umbrella if he chooses and at night sits down to read under a brilliant gasoline light where he studies the latest improvements in agriculture and plans the best way to dispose of his crops.

The addition of a seat to a plow is the simplest improvement I can imagine, yet it took many years to secure it.

Another thing that surprises me is that it took until the last half of the nineteenth century to invent a device by which farm products, such as hay and straw, could be loaded from the fields and stored in barns by other means than human labor.

It is not my intention to give the impression that I despise the agriculturist. Indeed, I recognize him as the feeder of the world but I deplore the lack of knowledge possessed by him in most cases.

The remedy for this is simple. He should learn how various implements are made, and then, when he sees the

need of an improvement, he will know how to supply that need.

I have taken the farmer as a model because I have been so impressed with the great waste of energy of which he is guilty; but any other branch of work, manual or mental, presents the same necessity for a thorough understanding of all sides of the subject.

We are constantly reading of labor strikes in the United States. A strike, to use scientific terms, is merely friction between employer and employees. Scientists are striving to reduce friction to the minimum because it hinders progress. So also this labor friction hinders progress and must be stopped before the best results can be obtained per unit of capital invested.

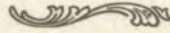
The name of Alfred Krupp, the German steel magnate, is familiar to many men as a capitalist who was never annoyed by strikes among his men. By reading his biography we learn that when he was fourteen years of age his father died, leaving for the support of a widow and son only a small foundry which employed four men. He had to work as hard as the men he employed and we have his own word for it that these men "earned more and lived better" than he did. But he learned the business thoroughly and grew as it grew. Everything he asked his men to do he had done before them. The result was perfect harmony.

Large industries are often inherited by a son whose entire knowledge of the work has been obtained by visiting the shops. This leads me to conclude that much of the labor trouble is due to unintentional overworking of the men caused by ignorance on the part of the employer of what a days work is.

Having shown that ignorance causes much of this labor-capital trouble, it is my duty to suggest a remedy, and this remedy I believe is in manual training in the public schools. After spending a term in the forge or machine shop, the pupil

cannot be ignorant of that business, and besides learning what the work really is, he learns the most approved method of carrying it on.

In the face of these facts can it not be said that manual training is beneficial?



**T**HE yearly increase in the number of girls enrolled for the cooking and sewing classes of this school prove that girls' manual training continues to grow more and more popular. The idea that Manual is an institution merely for the training of girls who wish to become seamstresses and cooks is being forgotten and every one is heartily glad that the people are realizing that Manual fills a long-felt want. The domestic side of a girls nature must be cultivated as well as the intellectual, and while this education may be obtained to some limited extent at home after graduation, still in the excellent and thoroughly scientific departments of Manual schools, better and more satisfactory results are produced. There the subjects are treated in a manner that gives one a clear and connected idea of the different stages in the progress of sewing and cooking.

In the sewing department the first practical lesson is the demonstration by the hand-loom of the weaving of cloth, when we learn the relation of the warp and woof threads and also what changes in the weaves form various patterns. A number of lessons after this is devoted to the teaching of the different stitches such as even and uneven basting, heming, overcasting, overhanding and whipping. After having made models of the stitches

and placed them in our books we are taught to make button-holes, eyelets and to sew on buttons. At the beginning of the second term of the first year and after we have learned all that is necessary for the making of a white skirt, the skirts themselves are begun and at the end of the term are completed. During the second year each girl makes a shirtwaist and dress skirt, the closing six weeks of the same year being devoted to learning the first principles of millinery. Trimming hats is an entirely new experience and every girl thoroughly enjoys the work. This comprises the present sewing course in its entirety but it is hoped by Miss Casey and her assistants to be able to continue millinery during the whole of another year.

In the fourth year of the girls' course in the Manual departments comes cooking, which is also popular with the boys.

The cooking department is an interesting laboratory to visit. The room itself has been made exceedingly attractive and when the girls and boys don their white caps, jackets and aprons the sight is a pleasing one. Each student has his own cooking utensils, while he and the student next him use a stove and zinc in common. It requires but a few lessons for the students to become accustomed to the new situation and then the cooking is begun. The simple foods such as tea,

coffee, cocoa, apples and tomatoes are cooked first and following them come lessons in the preserving of fruits. Later on in the year the students are taught cake and bread making and the cooking of meats. In fact the cooking course is a very complete one and before the close of school nearly every article of food has been discussed and cooked in class.

While the students themselves have taken much interest in the Manual departments of our school and have done much to make them the successes they have proved to be, the credit is due Miss Casey, Miss Bachellor and Miss Murphy and their very able assistants for it is through their unfailing efforts that such desirable results have been obtained.



## COOKING.

**H**AVE just awakened to the fact that the cook holds the most important place on this mundane sphere. It logically follows that woman has a most exalted situation, not as a suffrage lecturer, or some other equally conspicuous position, but as commander-in-chief of the great human system.

The fate of nations, cities, homes, would be at stake if they were presided over by a race of dyspeptics. What philosopher could think, what scientist discover, what author write, what speaker talk, what ruler govern, if the pangs of indigestion had laid its torturing claws upon him? No mortal can perform his particular duty in life, as God intended, unless he is morally, mentally, and last but not least, physically prepared. Therefore, I firmly believe that cooking has done more for civilization than any other science. For one specific example, the eating of raw meat certainly induces a savage spirit.

Now, I have come to the conclusion that there is cooking and cooking, and these two words, although spelled alike, do not convey the same mean-

ing. Cooking in any form is a taming influence. But cooking as we learn it in our Manual Training High School, gives as results, strong muscle and an upbuilding of gray matter.

From a hygienic and scientific standpoint, we ought to draw from nature's product the best flavors, the most nourishing essence, and the most desirable particles for the rebuilding of the wasted human tissues. To know the how, why and wherefore of any subject insures greater success in handling it than merely knowing how.

If all things were equal, a method of procedure would be all we need learn, but circumstances and conditions are continually changing.

Then scientific knowledge comes to our aid and allows us free action of principle and insures the success of an undertaking.

Happy beings, we! Grateful surely to live in an age when cooking—common, lowly cooking—left to the servant, is raised to the position of a science.

Yes, knowledge wipes out caste and class, and so the kitchen art is placed side by side with aristocratic geometry.

GERTRUDE ROTHGIESSER.



**W**e are justly proud of the gymnastic exhibition given by the school Friday, February 14th.

It was particularly effective because it originated in our own school, and was therefore a home product. It showed that good results require only persistent practice, and not especially gifted talents. It suggested to everyone the boundless latent force and power secreted in every one, if only the thought and time be expended to elicit it. The performers, none were particularly athletic in build, yet evidence of careful training and precise drill made every movement appear comparatively easy and deceptively simple.

Did you ever give thought to the fact that a nation's growth or decline was dependent upon the physical welfare of those that constitute its people? Some will doubtless say it is the mental vitality of a nation's individuals that makes or mars its progress. This is beyond a doubt true. But mental stamina is a secondary factor of the problem and is dependent upon a primary cause, a sound physical basis. Let physical health degenerate, and the brain, or the superstructure, will become diseased and rot.

Let the body go without its intended nourishment and exercise, and the general mind will be mediocre.

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The managers of the four high school teams, representing Manual, Central, Westport and Kansas City, Kansas, gathered at the first league meeting held in Manual, Friday, March 7. Central takes the field against Westport on the initial day, April 12, while Manual will engage Kansas City, Kansas, her old Waterloo of 1901, on Missouri soil on the same date.

Everything seems indicative of a successful season for the league, as has been the nature of its past history. The teams seem to present more equal chances than they have in past seasons, because of the loss of seasoned material by the strong teams, and a corresponding gain in experience by the teams heretofore needing that requisite. At present a prophesy of final results would be but a hazard, for with the given conditions the running in the finals cannot be reliably picked before the majority of games have been decided. The following is the league's schedule:



April 12—Westport vs. Central; Kansas City, Kan., vs. Manual.

April 19—Manual vs. Westport; Central vs. Kansas City, Kan.

April 26—Manual vs. Central; Westport vs. Kansas City, Kan.

May 3—Westport vs. Manual; Kansas City, Kan., vs. Central.

May 10—Central vs. Manual; Kansas City, Kan., vs. Westport.

May 17—Central vs. Westport; Manual vs. Kansas City, Kan.

The editor of this page wishes to here insert a preliminary plea, or rather warning, to those who are in any way interested in base ball, or the school's success. It is this. No matter what the latent ability of a team may be, the energy and enthusiasm that stimulates that team, will be nearly in exact proportion to the interest and enthusiasm manifested by the school as a whole. This is invariably true with few and rare exceptions, and I think I can say without an apology for the source, that Manual has, for four years, been an exception. I have always wondered at the spirit that has imbued the team, when there was no appreciable display of interest from the school at large. One could hardly expect a team to withstand such tremendous odds as are presented by so strong an aggregation as this team has to meet in Kansas, with the ten times more discouraging nucleus, their great army of rooters. I can yet but firmly believe the great falling off in the team's playing at mid-season last year was due to the discouraging support given at the side-lines. While I believe every game should be decided by the relative merits of the contestants, so long as one side takes such an advantage it is but a fair equalization of conditions that the other side have their rooters.

The warning, therefore, is: Support your colors, if you expect them to re-

turn from conquest symbols of victory, and with their dignity unsullied.

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Our fellow athletes of St. Joseph assure us that the field meet there will be a gala day unrestricted. Every effort is being made to have this year's meet surpass all previous ones in point of conveniences, and in the handling of events. They have pledged themselves to so arrange preliminaries and final events systematically and practically. They will in this way eliminate all unnecessary delays so tedious to the spectators and fatiguing to participants. No reason exists why the meet this year should not exceed in numberless ways the two previous ones. The association may now profit by its short comings in its maiden efforts, and this year eclipse the successes of 1900 and 1901.

The coming test to be given by Mr. Hall should give an idea of the athletic status of the school. Every one contemplating trying for an event in the Inter-scholastic meet, should be interested in this local event. If you can exceed some one or qualify with the best ones in any particular line of work in this test, you may be reasonably sure of a chance to compete in the grand tournament.

The weather is moderating continually, and the "early birds" will soon be at work in fresh air. Remember it is the "early bird" that gets the "grub." So don't nod until the last minute and then realize it is too late, but be at it *now!*

**WANTED! A SHOWER BATH.**

Please get particulars in gymnasium, Manual Training High School.

Of all things needed most in a gymnasium, a bath is the most essential. This equipment will be the more urgently needed from this time until the close of school. We could dispense with every

piece of apparatus in the gymnasium, rather than be without this accessory. Classes may be put through the most rigid physical exercises imaginable, without the aid of any apparatus whatsoever, yet a class cannot be dismissed before a cold bath without subjecting every member to every ill a severe cold can gener-

ate. No true, useful training can be conducted there without the aid of a bath, because the proper amount of exertion for such would leave the athlete stiff and sore in joint and limb. The inevitable cold contracted each time from exposure, settles on the sore muscles and joints, leaving its victim a good subject for rheumatism.



### “An Incident.”

**I**F one should wish to ascertain the growing popularity of our school let him note the increase of attendance on Friday mornings, especially if the entertainment consists of home talent. It is upon these days that the manual training classes become objects of interest, but it is only upon occasion that at least one other department of the school is brought to the notice of our visitors.

However, this occasion arose one morning as a group of ladies walked leisurely down the stairs, wondering at the vast improvement in our orchestra (for they had been with us before), and commenting upon the excellent opportunities the children of this generation have for advancement, when they were passed by two young ladies who were evidently anticipating even better times, for their speed was remarkable to the strangers since the girls were only walking, yet appeared to be running.

Desiring to know the cause for such haste, the visitors quickened their steps and soon saw the door of room one open and—then the girls were out of sight.

The glimpse the strangers had caught of the room was not inspiring, but they were determined not to be abashed so they turned the latch and walked in.

As they sat down the command was given to “fall in line” and our friends

must have expected to see a literal translation of the clause, for they looked disappointed when the girls walked leisurely to their places.

But something was in the air, for the girls, who had first attracted their attention, were counting how many stood between them, and they could not imagine why one young lady insisted on changing her place.

However, this became clear in the course of a few minutes. The “balancing boards” had been used, the “fancy steps” had been taken, and the “Indian clubs” had been swung, when a sigh of relief went round the class, and then the girls straightened up and prepared for their game of “Captain Ball,” which they consider the reward for two weeks hard work.

All signs of indifference disappeared, as the class was divided as equally as possible, which necessitated a change in the position of at least one young lady.

The girls were then asked to do the duty which lay nearest to them, and, as they made the circles, the teacher explained that the center circle was the “captain’s base” and those around the room were occupied by girls doing base duty.

The rivalry between the two sides was very apparent from the fact that so much care was shown in the selection of

the guards who were to prevent the opponent captain from catching the ball. In fact, the contest rested mainly with these guards and the score was a thing of beauty and a joy forever to the victorious side.

When the game was over, the guests felt as though they knew the girls who had led them thither, and they asked if that was the usual method of procedure.

The answer came promptly, "O, no!

as a rule only half the class take, and some of those who do are afraid to exert themselves.

And then another chance for character study presented itself, for the other girl said, "Why it isn't as bad as that, but if you come to visit us next year we will entertain you with a fencing match or horse vaulting, or if we should fail in these, we will at least be able to turn somersaults on our large new mats."

R. L. B.



## Physical Culture in the High School.

**Q**UONE of the most neglected branches of education, is the development of the physical nature. It is most needed by the average High School boy or girl. If we were altogether to discontinue physical exercise, and devote all our time to the development of the mental faculties, we would soon be unable to live.

What good is it to anyone who is intellectual, refined and clever, if he has not good health and a well developed figure. No matter how intelligent anyone is, he should aim to make himself as attractive in body as in mind. With this thought before us, it is a surprising fact, that so few of our pupils, especially the girls, of today, take an active interest in physical culture.

The most noticeable effect of physical culture is a clear skin, and what girl does not envy and long for a clear, beautiful complexion? Moreover, gracefulness is acquired, and do we not always admire a graceful person? These and many other benefits are derived from the scientific study of physical culture. The most attractive

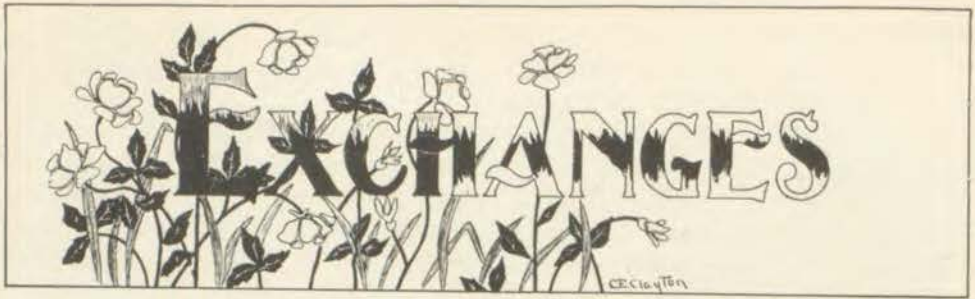
things about young ladies are those which they obtain and make use of themselves.

Mrs. Sigourney says, "The true order of learning should be first what is necessary." What is more necessary than to learn how to keep the body as well as the mind, healthy? Furthermore she says, "Second, learn what is useful." Will not physical culture be useful? It will help us to solve the harder problems of life. Then again, she says, "Third, learn what is ornamental." If we are bright, energetic and graceful we are ornaments to home and society.

As it is in every High School boy or girl's power, let them avail themselves of the opportunity of developing the physical as well as the intellectual sides of their bodies.

Physical culture is one of the most necessary and the most useful departments in any high school. In this scientific and progressive age, we hope it shall not be long before physical culture is taught in the entire course of the school, from the kindergarten to the university.

LORENA SCHERER.



Again it is the old cry, we have had so many excellent exchanges showered upon us that we have not the space for the mention of all, so don't think you are not appreciated because you are not commented upon.

We were glad to see the picture of the editors of the "Pulse," and would like to see the pictures of all the editors with whom we exchange, it makes us feel better acquainted. With such a bright, good looking set of editors it is no wonder that the "Pulse" is such a pleasing little magazine.

The February "Messenger" is even better than it has been all year and one of the good things in it is the picture and biography of our former teacher, Mr. Knight. Glad to see you again, Mr. Knight, and we send you our best wishes.

As a word of friendly criticism to the "Wm. Jewell Student," we would suggest that a little wit and humor in the shape of an Exchange or Local Department would liven up the thoughtful and solid subject matter of the magazine and would not detract anything from its æsthetic or religious tone.

Dear "Students Herald" we regret to say it, but your affectation of "pho-netic" spelling is most wearisome. Where is the wisdom of using "ph" when "f" is shorter and will do just as well?

As usual, the "Blee's Monthly" is bright, attractive and interesting. The wit and humor is very keen, indeed the "Locals" read almost like a column from a comic weekly.

"Don't you think Mr. Houles sings with feeling? "No, I don't. If he had any feeling he wouldn't sing."  
 He writeth best who stealeth best  
 Ideas both great and small;  
 For the great soul who wrote them first,  
 From nature stole them all.

The most disastrous times have produced the greatest minds. The purest metal comes from the most ardent furnace. The most brilliant lightning from the darkest clouds.—Ex.

Eyes are full of laughter,  
 Heads are full of whirls,  
 They are very pretty,  
 Our little "Junior Girls."

A little boy on the way home from church with his mother heard her saying that the sermon was not worth much. "Oh mother," the youngster immediately exclaimed, "What would you expect for a penny!"

He formed the purpose dire  
 A suicide to be;  
 The pistol though missed fire,  
 And so did he.—Ex.

The man who lacks faith in his ability seldom accomplishes anything.—Ex.

The following recently appeared in a newspaper: Nathan Price, who was shot in the suburbs last Wednesday, is able to get around.

Student.—“Prof. Bone caught me mimicking him today.”

Girl.—“What did he say?”

Student.—“He told me to stop making an ass of myself.”

A man who leaves a theatre before the curtain is down on the last act jumps at a conclusion.—Ex.

“We rise by things that are under our feet:

By what we have mastered of good and gain;

By the pride deposed and the passions slain;

And the vanquished ills that we hourly meet.”

—Ex.

The best place to get good, plain board is at a planing mill.—Ex.

A man should have a pound of common sense to each ounce of learning.—Ex.

Tell your pipe stories to the plumber. He enjoys them.—Ex.

A strong will is firmness; a strong won't is obstinacy.—Ex.

Wigs, according to the language of flowers, must be lie-locks.—Ex.

Have you read, “Looking Backward?”

Certainly not, it can't be done.

I mean the story.

O yes, of course I have. She turned into a pillar of salt.—Ex.

Minister.—“So you saw some boys fishing on Sunday. Did you do anything to discourage them?”

Small boy.—“Yes, sir, I stole their bait.”—Ex.

Professor.—“Go on, Miss, and read at sight.”

Miss.—“I am not sure of that next word. Is it sweetness?”

Professor.—“Yes, sweetness, go on.”  
—Ex.

During an examination in astronomy, a student, after writing a very little, arose and left the room. The teacher looked and saw on the paper the words, “Sun, moon and stars forgot, upwards I fly.”  
—Ex.

*The Pennant:*

### In Cupid's Retreat.

We went to Cupid's retreat;

We wandered on the sand;

The moon was coming up;

I held her little—shawl.

I held her little shawl;

How fast the time flies;

The band played “After the Ball;”

I gazed into her—lunch-basket.

I gazed into her lunch-basket;

I wished I had a taste;

There sat my little charmer;

My arm around her—umbrella.

My arm around her umbrella;

This charming little Miss;

Her eyes were full of mischief;

I shyly stole a—sandwich.

I shyly stole a sandwich,

Although 'twas hardly fair.

The moon rose o'er the waters,

I stroked her shining umbrella-handle.

There is no moral to this tale

Save one that all may see;

Be sure that when you tell it

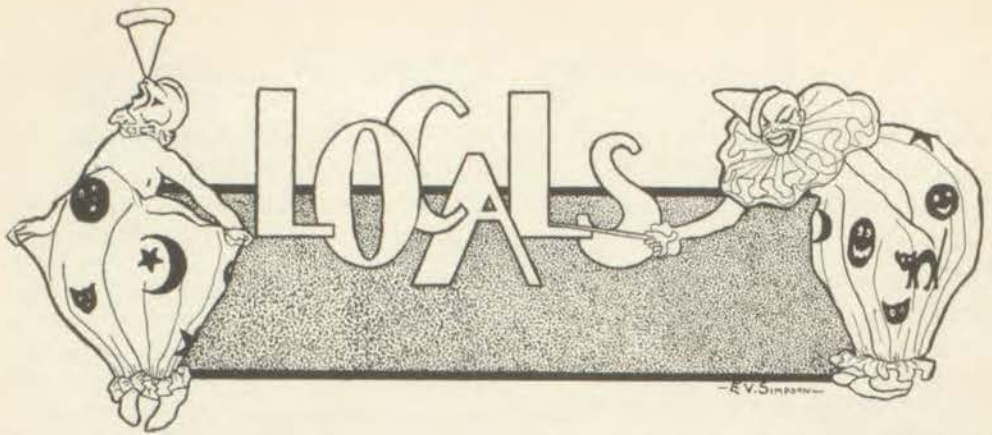
You do as well as we—Ex.

“Well, little boy what's your name?”

“Shadrach Nebuchadnezzar Zoots.”

“Who gave you that name?”

“I don't know, but if I find out when I gets older, they'll be sorry for it.—Ex.



"How 'er it be, it seems to me  
That Manual's girls are all in peril,  
For how can they resist the sway  
Exerted by Will Merrill."

Prof. Phillips:—"Common words are  
mis-spelled ten out of nine times."

Miss Farris, the leading lady for Ed  
Dart.

Shields:—"I done said it."

Stranger (to Constance at dance):—  
"Excuse me but are you Miss Perkins?"  
Conny:—"No, not yet."

Mr. Roger's Song:—"I wish I had  
some one to love me."

(What's the matter with Gertie?)

Miss Drake's Substitute:—The perfect  
stem for "facio" is "fec" (a fake.)

O'Brien:—"When I was young and in  
my prime, I could sing high notes any  
old time."

Boy (reciting in history):—"The  
Carthaginians never like to go home  
alive."

to E. D.

When you get to cutting up,  
And acting like a clown,  
The thing for you to do, Sonny,  
Is to go 'way back and sit down.

Mr. Phillips:—"I have exaggerated  
of course." Why of course; is it so nat-  
ural?

Bright Pupil:—"He received all his  
early education from his wife and  
mother."

Lois says there is just lots of boys she  
would like to go with, but she simply  
hasn't time.

Miss Van Meter (to pupil):—"You al-  
ways take this hour to sharpen your  
pencil for your next recitation."

Pupil:—"I go home next hour."

Lawrence (pointing to Juanita's flower-  
er):—"I see you have one of them on  
this morning."

Work hard Freshie; Napoleon says,  
"Impossible is a word found only in the  
dictionary of fools."

Chaflotte's always trying to test  
Which of the boys like her best.

Miss Murphy:—"Some of you must  
be fine artists, you draw so much on  
your imaginations."

"Don't Margarete look dear in blue,"  
some one overheard Mr. Perkins say.

First Girl:—"Mr. Bryant wasn't near  
so popular last year, but he has come to  
the front now."

Second Girl:—"Oh! He has joined  
the 'Debaters' and besides the best  
usually comes last."

Mr. Peters:—"That table will stay  
where it is, Arthur, it won't run away."

When O'Brien's name was put up at election of senior class officers some of the girls wanted to know if he was a Frenchman!!!

Miss Fisher to Alf Huck.—“The same heart that beats in you beats in me???”

Wanted by Mr. Richardson, a damper for the mouths of the girls in his French classes.

Teacher (to Lionel).—“That was a beautiful guess.”

Why did Bertha sit down in the dough?

When the speaker requested the girls to rise Mr. Coats was the first person up.(???)

Lois says the Art Club people are always teasing her about Herman and things.

Science Club.

Deep, too deep by far.

And we so very shallow.

Its subjects are to intricate

For little minds to follow.

Selma.—“Mr. Dodd, when are these circles going to end?”

Mr. Dodd.—“Circles have no end.”

Mr. Richardson.—“We will have a test this morning.”

Girls.—“O! Dear!”

Mr. Richardson.—“I like to have tests, it makes the girls call me such nice names.”

Mr. Chase gives mathematics in heroic doses.

Laura.—“Ida is racking her brain, don't you hear it.”

Did Bertha find a “Pillow of Rest” on Ed's shoulder?

Mr. Bryant.—“The limit of the members of the Debaters is fifty.”

Miss Stophlet.—“My! Do you ever get full?”

Mr. Bryant.—“No! I never do.”

Miss Rothgeiser (to escort).—“Oh, look how handsome that man is in that pretty colored lunch wagon.”

The inseparable—Miss Lake and Mr. Christie.

Prof. Miller.—“What, besides oxygen and nitrogen, is always in the air?”

Pupil.—“Dust and smoke.”

Miss Fisher.—When you yawn, keep your mouth over your hand!!!

Mr. Shields(in English history).—“Just think, if a man had to be harnessed to a plow and till the ground, as the women do in some countries!”

I was in Assembly Hall one day,

The time was far from the month of May,

When Miss Ione and her friend so fair,

Were quietly, peacefully, sitting there,

Discussing the twist of their *own* back hair;

When out from behind them came a rap,

So loud and clear it made the desk snap.

The girls looked around and upon Ione

Beamed the significant smile of Mr.

Sloan.

The girls arose and went to their doom  
On the lower floor in the fourteenth room.

“Why comest thou here?” the master cries,

And an angry light gleamed from his eyes.

“Because, kind sir,” replied Ione,

“It was the will of Mr. Sloan

To pounce and pick upon a Bone.”

Mr. Dodd.—“Herman, why don't you add the number of calves, sheep and goats to the number of dollars?”

Herman.—“Oh, a—ah—why, Mr. Dodd; you can't add dollars and human beings.”

Miss Gilday must be getting old, for she has been telling us how to dress dolls, (second childhood).

Prof. Morrison must belong to the bakers' union, as he will not let the pupils go down to the bakery and get a lunch.

Prof. Phillips (posing for life class).—“Girls, the trouble is, you didn't get me young enough.”

Miss Drake (correcting pupil).—"There goes that c-u-s-s again."

Prof. Miller.—"What are the chemical constituents of milk?"

Thalman.—"Grass plus  $H_2O$  plus Cow plus  $H_2O$ =milk."

THE DIFFERENCE.

The girls: "O Rachel what pretty writing."

Rachel: "Do keep quiet girls, you make me tired."

A LITTLE LATER.

Clarence, O! Rachel What fine writing.

"I am so glad you like it."

Harriet (in physics)—"Why I thought you put salt on the car tracks because it is cheaper than sand."

Sarah and Louise are the O. Z. O.'s budding blossoms. In a year or so they will be fully out.

Pupil (in Botany) "How can bread mold grow in waters?"

Mr. McCurdy.—"Because you go serf bathing in the summer, you are not a fish, are you?"

The president of one of the new societies is trying to cultivate a mustache.

Mr. Dodd (to sighing class in Solid Geometry).—"This isn't Patsy to what's coming."

Miss Sublett (looking at a corn planter with a spool of wire attached).—"Oh look what a funny surveyers machine!"

Mr. Dawson.—"One of whom I am which."

Prof. Morrison: "I was so interested I didn't know whether any one else but Booth was there."

Miss Jenkins (hurriedly).—"I was there."

Prof. P.:---The bell has rung  
And business has begun,  
But some of the whisperers  
Are not yet done.

Mr. Kent.—"What are the three states of matter?"

Pupil.—"Missouri, Kansas and Arkansas, (solid, liquid and gaseous).

Miss Gilday.—"Mr. Davis, don't you think I could furninsh a local?"

Mr. Davis.—"You look like you could."

Mr. Miller.—"When you boil water what do you do?"

Mr. Cristie.—"You heat it."

Mr. Page, wearily (hearing music from the Physical Culture) "I wonder if we will have a new tune in the new term."

Miss Philips says there is a vacant place in her heart for rent.

Miss Scott.—"O, Mr. Perkins is all right when you are alone."

Miss Rothgeiser.—"Two years hence will be the turning point in my life. (??)

Three is a company and there were three,

He, the parlor lamp and she.

Two is a couple and no doubt

That is why the parlor lamp went out.

May.—"O, John, where is my bottle?"

Davis.—"What do you want with a bottle??"

In the music room was seen this sign: "Finding time." If the classes succeed in doing that they will undoubtedly find a ready market!!

Are there substantial in the Art Club, Why yes! Old ham!

Marie.—"O, Charlie, "I hope it rains Friday night."

Charles.—"Why?"

Marie, "Because then we can go to the party in a carriage."

Ye teacher of the thirty-first room,  
leave German and French and become  
a Fisher of men,



Mr. Dodd.—“If any one is absent let him speak up.”

Mr. Page.—“To find out how much it expands you would first measure it when cold and then when hot.”

Harriet.—“Wouldn't you burn your fingers?”

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Mr. Oppenheimer, sadly.—“I am a young thing and cannot leave my mother,

Teacher.—“What is a simple equation?”

Mr. Merrill.—“It is one that I can work.”

Miss Shepard.—“When I go to the library they don't pay any more attention to me than if I wasn't anybody.”

Chacerhymes with\* grace, but little he shows us when marking our test papers.

Mr. Peters (to student):—“Sit up straight; you are lopsided.”

Miss Casey says we mustn't put any thing sharp in our mouths or let any thing sharp come out of our mouths.



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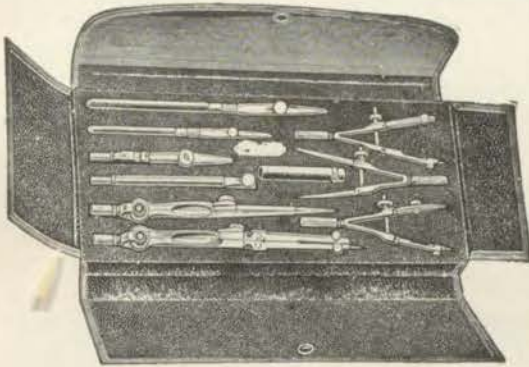
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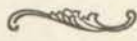
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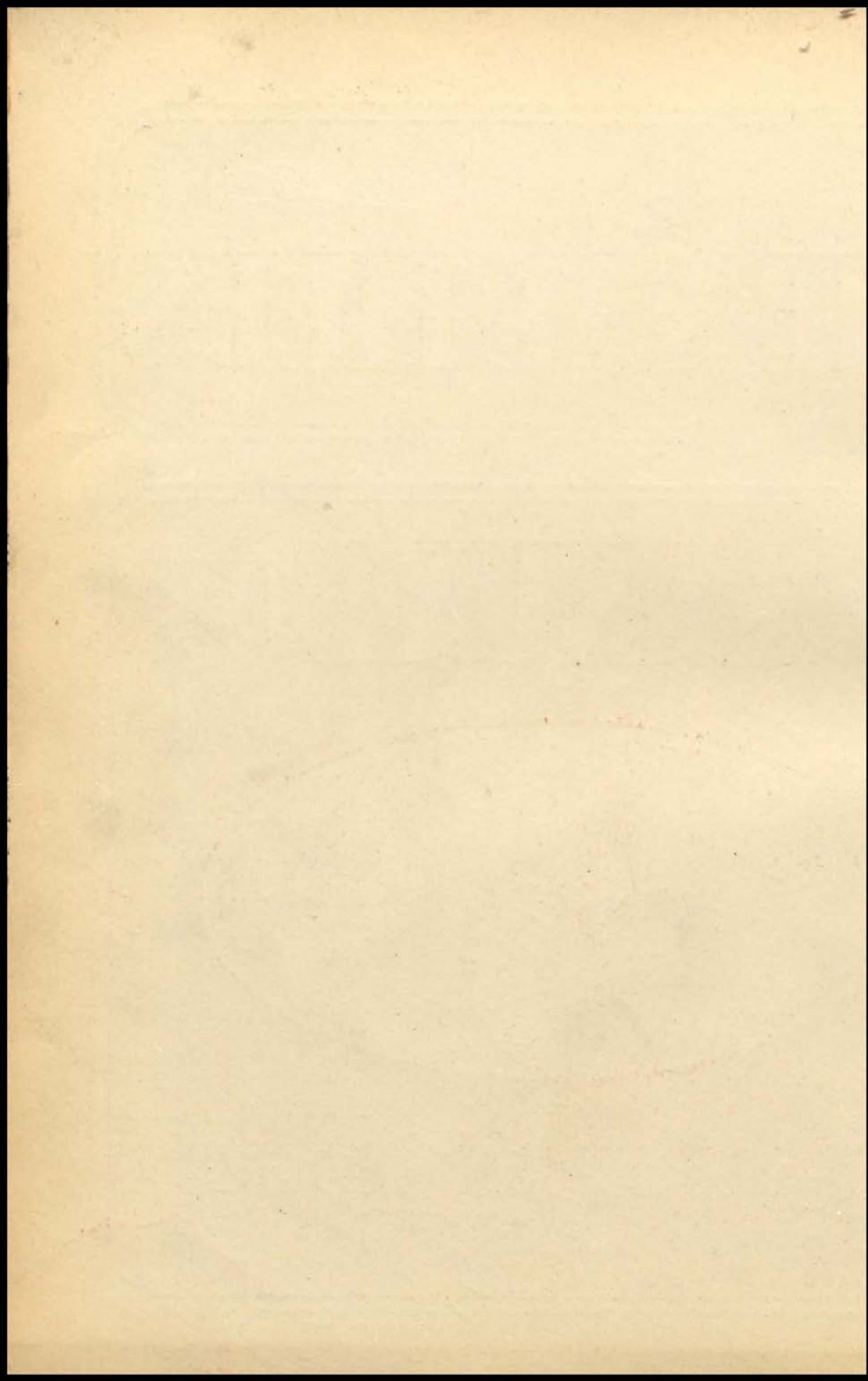
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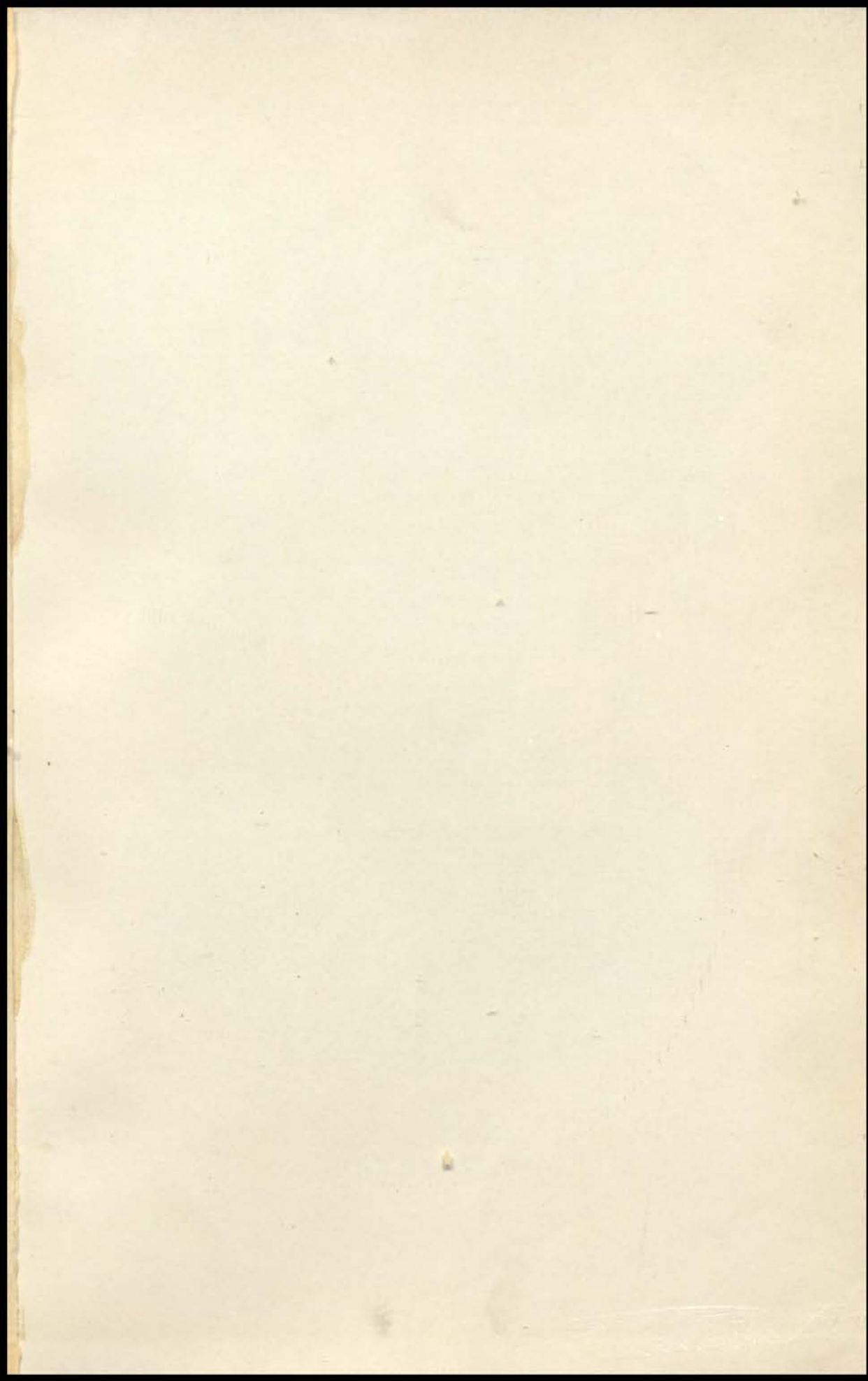
# THE NAUTILUS

19 · ANNUAL · 02



MANUAL TRAINING HIGH SCHOOL  
• KANSAS CITY MO •





**MANUAL TRAINING  
HIGH SCHOOL**



*S. H. H. H.*

**KANSAS CITY  
MISSOURI**



### SALUTATION.

Like a servant of old as he bows to his sultan,  
As in court oriental he kneels to adore  
With incense and myrrh does he give salutation,  
And presents his rare treasures with palm to the  
floor.

So the "Annual" advances and humbly sues favor,  
Bringing hope for the future and love for the past;  
For the thoughts on its pages we pray your attention  
As our vacation number you open at last.





F. A. Faxon



J. S. Harrison.

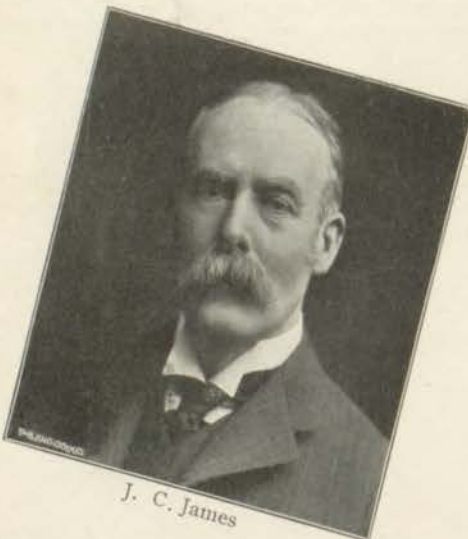


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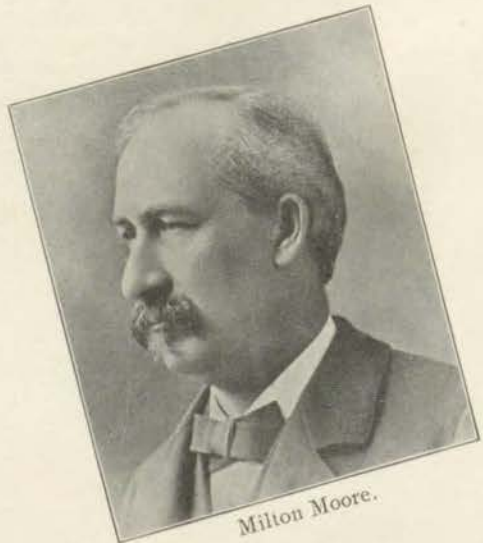
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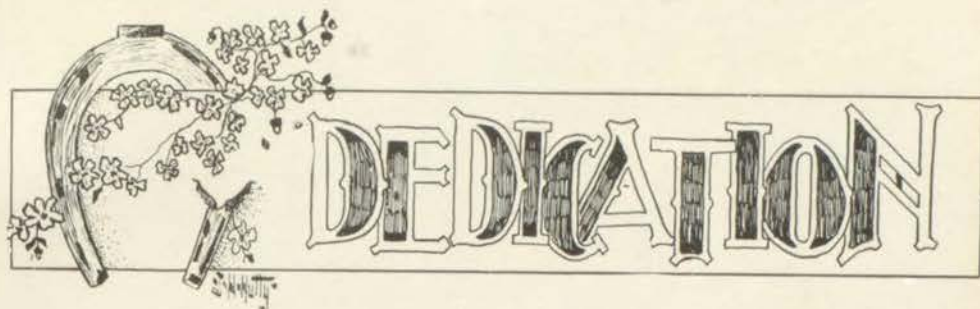


Faculty  
of the  
**MANDALE TRAINING  
HIGH SCHOOL**  
Kansas City, Mo.  
1919



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# DEDICATION

The ideal of our school is to be a Senior, standing proudly at the shrine of graduation and receiving from our "Alma Mater" a Diploma, which commissions him either to enlist in the ranks of higher education or to enter the practical arena of the business world.

The Nautilus, ever loyal to the chivalric school-spirit of the "M. G. H. S." and desiring to honor every graduating class in a manner befitting this momentous occasion, dedicates its last and best issue of this school year to the "Class of 1902."

We have garnered the richest fruits of a varied harvest and strained every nerve to hallow the memory of this commencement. Long live the "Class of 1902." As the years roll by and as inquiries are made touching the whereabouts and deeds of her children, may our proud "Alma Mater" hear nothing but good reports concerning the character and actions of every member of this large and promising class whose brave and spurting motto is:

"There is no Such Word as Fail."



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Charles M. Christie, '02	- - - - -	Subscription Clerk



The title "NAUTILUS" is rendered in a large, bold, serif font. The letters are set against a background of a stippled pattern. The word is flanked by four large, stylized flowers with long, trailing vines that wrap around the letters. In the center, behind the letter 'U', is a small illustration of a sailboat on the water. The artist's signature "F. PRETZ" is visible at the bottom of the central illustration.

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RAYMOND M. HAVENS,  
Editor-in-Chief.



MARIE S. NETTLETON,  
Associate Editor.

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## TO THE BOARD, OUR THANKS.

**T**HE four classes which preceded us have been satisfied to hold their exercises in the School Assembly Hall. Each class vied with the preceding one in its attractive stage decorations, and in making the occasion memorable for its artistic, class and academic associations. But as the members in the classes increased from year to year, it gradually became evident that our stage would

soon be inadequate to accommodate the classes. As the limit of our stage capacity seemed to be reached last year, our present class appealed to the Board of Education for the Auditorium. The request was granted, and we extend to them a vote of thanks for their kind consideration.

**U**NDER the leadership of one of our teachers, another field of industry has been started this year. Fired by the enthusiasm of Prof. Phillips several pu-

pils have designed book-plates for their libraries. In these they tried to show their own individual tastes, as well as to make them attractive and suitable for the purpose intended. In the one Prof. Phillips designed for himself all these attributes are united, and as he was so successful others followed his example. It remains for the pupils next year to carry on the good work with the enthusiasm with which it has commenced.

the earnest co-operation of the faculty, great credit is due for furnishing these numbers.

Several interesting programs have been given by our own pupils. The Boys' Athletic Association, as well as the Girls' Athletic Association, was represented on the stage. The Glee Club furnished an excellent program during the last quarter, with several good local hits which were highly appreciated by the school. The pupils of Prof. Phillips furnished two programs—one a scene from "Rip Van Winkle;" the other scenes from several of Shakespeare's

THE NAUTILUS wishes to express its gratitude to the many kind friends



JOHN H. HUTTY.

ARTISTS.



FLORENCE PRETZ.

and well-wishers of the school who have so generously put their time and talents at our disposal during the past year. Through their assistance the Friday morning programs in the Assembly Hall have not been mere exercises which we dreaded, but entertainments to which we looked forward with pleasure from week to week. We have listened to the best musical talent in the city, instrumental, vocal, and orchestral; great men and women have left their daily employments, or traveled here from distant places, to stretch kindly, helping hands

to us from the heights they have achieved. To Prof. Phillips, who had plays. These, taken together with individual selections by the pupils, served to show how much latent talent our school possesses.

During the year, the lectures given by Dr. Alice Luce of Oberlin College, Rabbi Mayer, and Dr. Quayle, stand out as events. We wish to publicly acknowledge our appreciation of their services, and to all who have favored us this year the NAUTILUS wishes all kinds of success.

## OUR MUSIC.

**M**ANUAL has been especially fortunate this year in having the routine of our academic and mechanical experiences relieved by those strains which bring joy to the heart and drive dull care away. "Music hath charms to soothe the savage breast." The truth of this is of universal application, and applies to all degrees and ranks of savages. At least the NAUTILUS comes in for its share of the application with due acknowledgments of the soothing influence which we have enjoyed. This acknowledgement must not be construed by our gentle readers as an admission of any kinship of the staff with tawny aborigines but it should rather be taken as one of those signs of modest humility which has so conspicuously marked our editorial career. The entire school will share the thanks which the NAUTILUS extends to Miss Emily Russell for her untiring and effective efforts with the orchestra, and to Mr. Chas. Hubach for his successful and painstaking services to the Glee Club. Special mention should be made of the exceptionally fine work done by the orchestra in our carnival and much of the success of the entertainment was due to its assistance. Following are the members:

Director, Miss Elizabeth Russell; violins, Frank Bayerl, Constance Jaccard, Ethel Peters, Roy Pierce, Vincent Brink, Leta Rogers; clarionets, Fred C. Spayde, Harry Bartlett, Merle Rogers; cornet, Charlton Hutchison; flute, Lewellyn Hughes; cello, Flora Rogers; Piano, Jean Norris.

## OUR COLLEGE AFFILIATIONS.

**T**O enter Yale, Harvard, and Princeton Universities or the Massachusetts Institute of Technology an

applicant must stand examination on questions furnished by the University or on questions furnished by the College Examination Board which represents all the leading institutions which admit students on examination only. But a large majority of colleges have a list of accredited high schools with which they are "affiliated" or whose graduates they admit, under certain conditions, without examination. These conditions are that the principal such a high school may sign for the of graduate of his school a certificate that he has passed creditably in the high school the branches required for entrance to the college. The Manual congratulates itself in having secured this certificate privilege from nearly, if not all, of the leading colleges and universities. Many of these have been offered without solicitation on our part, and no college or university has ever refused to grant our application after an examination of our school had been made. It has been the custom of our school to make application to a college for this privilege when the first student graduating from our school expresses a desire to attend that college, and our list is now nearly complete. It is the tendency among colleges to exercise greater reserve in extending this privilege, and it is being withdrawn from many high schools whose students have not maintained a proper standing after entering. As the reputation of a high school for the excellence of its graduates is therefore determined by their success in college it does not follow that because a pupil graduates at Manual he will receive the principal's certificate. He will probably grant it to those only who have been a credit to Manual while taking its course. For a pupil who is not a credit to a high school could not be expected to be a shining light in college.



# LITERATURE AND HISTORY



W. H. Hutton



VINCENT B. COATES.

EDITORS.



SARA H. BIRCHALL.

## The Time of Joy.

THE silent brook awakens, timid, creeping,  
The robins wing again from southern clime.  
The violets peep from leafy tombs of sleeping,  
All nature chants a prophecy sublime.  
The barren leas with miracles are glowing,  
The daffodils are dancing in the breeze,  
With golden dandelions sweetly blooming,  
And cowslips gay beneath the leafing trees.  
The fairest clouds about the blue are wreathing,  
The woods with elfin revels laugh and sing.  
A balmy fragrance o'er the earth is breathing,  
At last! at last she comes! the joyous spring.

FLOYD MAHANAY.



## A Romance of the Transvaal.

VINCENT BARTLETT COATES.

(Concluded.)



NOW die, you cursed wretch, and may the demons of Pluto torment your cowardly soul—vengeance is sweet, and it is mine—mine!

“So you have found out that your supposed Spanish Lieutenant is, in reality, a Mexican, whom you have seen before, and an English spy at that, and you intend to take severe measures with me. Well, my model, dress-parade soldier, I learned that you had come to this part of the fort and determined to lose no time in seeing you about this matter. Ha! Ha! Stanley, you don't remember me, do you? You—don't—remember—me; you didn't think the dead would ever bother you. But wait, I will reveal myself, and after you have heard what I have to tell you, you may recall my face.

“You can probably recollect the fact that many years ago in New Mexico, a troop of United States cavalymen, in charge of a dashing, young Second Lieutenant were gathered around a Mexican horse thief, who stood with tied hands waiting for the noose about his neck to lift him into the dark unknown. The lieutenant gave a sharp word of command, and the soldiers pulled the helpless sufferer into the air; a wild shriek was stifled into a guttural choking, as the careless cavaliers galloped away without turning in their saddles. That young lieutenant was you, Captain Stanley. But you had no sooner turned your back upon the dying man than a small and pretty figure nimbly ran from behind a sheltering rock and severed the hangman's rope; the limp

body dropped and the dainty figure deftly and persistently worked to resuscitate the nearly lifeless figure which slowly and faintly breathed. But your deadly rope did not break the neck of your victim and his dark Indian sweetheart saved his life. He lived to avenge the act that put him so near the open door of eternity, and he will speak now with the keen blade of a sword which shall satisfy his revenge.”

During all this time the Mexican had been working himself into an uncontrollable fury, and Hubert after the first shock of recognition had been cool and collected. Although armed with a revolver, his enemy had chosen to do his deadly work with his sword, not desiring to attract attention by the report of a shot. The captain realized that his life was utterly valueless, but he resolved to sell it as dearly as possible. Several feet away lay two unsheathed swords and he determined to possess one of them.

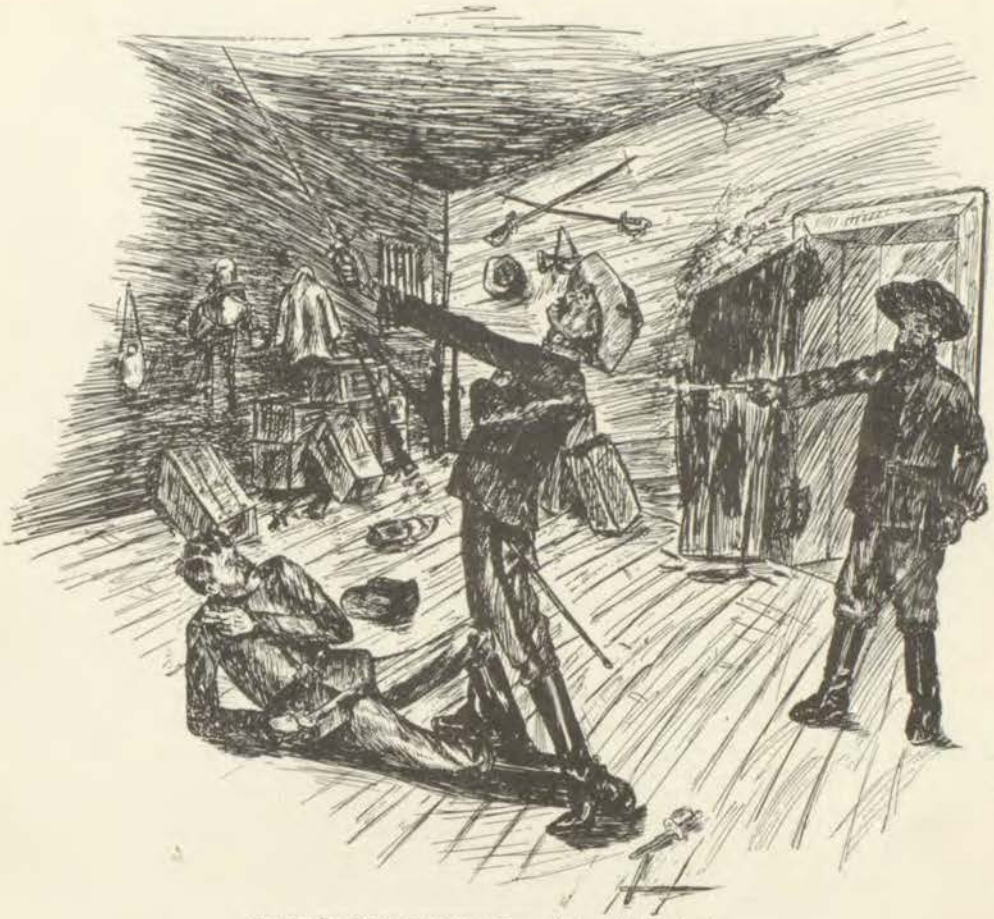
A curious decree of fate placed this man amid an abundance of army weapons, yet the guns and pistols in the room were all unloaded and the new cartridge belts empty, as Aregi well knew them to be. The captain had removed two swords from their cases and laid them aside. These were the only available articles of defense in the room. He gradually shrank away from the furious man in front of him as if in mortal terror, but every instant he crept nearer the desired blades, keeping his eye constantly upon his enemy. The man, now crazed with anger, sprang at him with a fierce cry of vengeance, but the alert American with a quick, agile spring reached the

weapons and seizing one was on guard in time to meet the fierce onslaught of his murderous foe. Blows rained thick and fast for some seconds, then the Mexican's anger cooled slightly as he perceived that he was fencing with a skilled swordsman, and he suddenly sprang back, drew his revolver with his left hand, being ambidextrous, and levelled it at the captain's breast. He was quick at the trigger, but quicker was the opposing sword which severed the fingers from his hand and caused the shot to penetrate the floor as the pistol dropped. The Mexican now had recourse only to his blade, but although in excruciating pain, and crippled in one hand, he kept up the sword play with extraordinary grit; his terrible strength and deftness in handling this weapon was enough to overpower any ordinary swordsman. The man before him was no ordinary one. His father had learned the art of fencing from skilled European masters and had imparted his information to his son, on idle days at the forts, who had added to this knowledge long years of experience in the field. Probably no two such swordsmen could be found in all of South Africa; and these men were matched in a death struggle—a struggle that was awful in its intensity.

Both handled their blades admirably; anything lighter, quicker, easier than the sword-play of Hubert could hardly be imagined, yet the physique of his adversary was too much for the younger man, he was now hot and breathing hard; a sinister smile hovered over Aregi's lips, a red disk on Hubert's uniform showed where the lieutenant's sword had been, and would soon go again, and probably deeper. Hubert has one chance in a thousand, now, for his life, he takes that chance

—his blade wavers and the Mexican seeing an opening, lunges fiercely; but Hubert deftly and quickly brings his sword again into guard and catches the point of the opposing blade fairly against the hilt of his own weapon; an old trick, but a successful one. The fine steel of his enemy's sword is shattered and the sudden impact sent Hubert stumbling backward; before he could follow up his advantage the Mexican has secured the mate to the captain's weapon and was again on guard—the blades clashed and parted and twisted about each other and flew apart again—. A fierce knocking on the locked door is unheeded by the combatants and the one without listens; he hears a cry of anger and pain as Hubert slightly pierces the man before him, a last effort as he feels his senses leaving him. Then the man outside the door hurls himself at the panels and a huge bulk comes crashing through the splintered door. It is Jan; and he arrives in time to see his friend waver, then fall, from exhaustion and loss of blood. Jan's quick eye at once comprehends the whole situation and as the Mexican is about to plunge his sword into the prostrate form of Hubert he sends a bullet crashing through the villain's brain, who falls without a struggle still grasping a bloody weapon.

"Well, boy, I plugged him, he's fixed. So he pricked you, did he, captain? I guess it pains you hard, but it don't look like a bad hurt; guess you'll be sound 'n a few days," muttered Jan bending over the captain's prostrate form. "Yes, Jan, it hurts me considerably, but I think it is only a trifle," replied Hubert, "it's only on account of you though, Jan, that I am able to still breathe, how can I ever repay you? A second more and I would have left



He sends a bullet crashing through the villain's brain.

you, old comrade—you, who have so often said that we would leave this earth together. That fellow's sword came near to spoiling our plans didn't it, old chap?"

Their conversation was interrupted at this stage, for the noise had attracted the soldiers of the fort, and soon Hubert was under the surgeon's care, while the corpse of the poor, deluded and revengeful Mexican is being carried to his last resting place; he had died with his boots on, as almost all such characters do.

Several weeks have passed since the murderous attack upon the captain's life. These weeks have been delightfully pleasant and happy ones to both

Aldyth and Hubert. For with the gentle and careful nursing, so gladly given by both Aldyth and her maid, Hubert has now fully regained his strength, and rejoices in renewed and even greater physical health; for there is no physician so successful, or medicine more potent than love and joy. Life now seems perfect to both these fair young beings, and the sternness of their environment goes unheeded.

The officers of Fort Cronje have hospitably given orders for a banquet to be served to their English guests, and to the officers of Colonel Blake's Brigade and also of the German gunners, who had arrived that afternoon.

And now there is heard a "sound of

revelry by night," not at Belgium's capital, but in far away Africa—in a lonely Boer stronghold, there is a brilliant group from many nations. Besides Captain Stanley, his brother officers, and his fair guest, at this feast is also Sir Percival Clarington, who had just come with an order from General DeWet for the release of his daughter.

About the banquet table is now heard the merry peals of laughter as witty bon mots are lightheartedly exchanged, and toasts are given with all the eloquence and mirth incident to such an occasion. Hubert and Aldyth were among the gayest of all the merry throng, for, almost unconsciously, and not fully realizing their own hearts, this was for them the very happiest hour of all their lives. Mirthful and lovelit glances were exchanged and joy reigned supreme, with not the slightest hint of the horror soon to follow, or of the grief to come to this unrealized love.

#### CHAPTER IV.

The night of revelry and enjoyment was over and the fort slumbered; all except Hubert, who could not rest his feverish brain. The beauty, the sweetness, the gaiety and spontaniety of that fair English maiden had completely captivated him; his heart was lost, completely lost, and he but faintly realized it. It all seemed a beautiful dream to him from the time that their lives had been so romantically intermingled until this time of her departure. Could it be true that she would leave him all alone, among these rough, uncouth men? He would follow her. Oh, he is strong; he will not let her go—his soldiers, the faithful Dutch, will help him detain her—but there, he is about to lose her—she appears to be floating away from

him, and he can not run fast enough; why—why are his feet so heavy and his limbs so weak? She gains upon him—he is losing this awful race for happiness—he labors earnestly, but it is of no use, she is almost out of sight. There she goes, just over that brown-topped kopje, out of sight. Hubert springs from his couch as he awakens from this fitful dream, and hastily putting on his clothes, walks out into the night.

All is as still as the grave; he looks reverently at the room where she now peacefully sleeps, and passes on into the darkness. But hark! What is that rumbling echo that comes faintly through the canyon? A few yards further and the sound is louder. Hubert had now reached the focus of the concave ends of the extensive canyon, and the noise made several miles distant is barely audible. He catches the faint whinny of some lonely horse, and now and then he hears a loud, short word like a command; in an instant it all dawns upon him. The English are acting upon the dead spy's information and are planning a sunrise attack on the fort.

Breathing a few words of thanks to the all-wise Creator for this peculiar phenomena of information, he hastens back to the fort and awakens the slumbering guard. In a few moments the whole fortress is alive; sleeping men and horses are rudely awakened, and the entire place swarms with activity; a troop of cavalry and a commando of sharpshooters are dispatched to ambush and hold the advancing vanguard as long as possible. Breakfast is hastily swallowed and the troops form into battle array.

The Boer sharpshooters are now being heard from, and occasionally the barking of a twelve-pounder is heard. The English have come for work this time, for the artillery that they have brought

with them means business, but the members of Colonel Blake's Irish-American brigade and the German artillerists that had come with the Englishmen, on the day before, were just in time for the affray, and the Boers could show the enemy that they were not altogether unprepared for an artillery battle.

Hubert was everywhere, commanding, directing and helping. By sunrise he had placed in an excellent position, snugly among the rocks, a long-range gun, and the skillful manipulators of this ferocious Long Tom had secured the range of the advancing column and were dropping terrible five-inch shells among the enemies' ranks; after every hoarse-throated growl of the Long Tom, a shell would tear up the ground in immense clouds of dirt and broken rock, and the "Tommies" below would seek some sheltering projection in the jagged mountain side.

The English, knowing that Fort Cronje was impregnable to foot and horse soldiery, had determined to try to blow it off the earth with powder and shell. But they were being checked, and the longer the delay, the more guns Hubert got into position. Smaller guns were run down the mountain side for some distance, and so skillfully were some of them concealed that for hours it seemed impossible for the British to locate a Boer piece, and they fired at random, nearly always pounding the distant cliffs.

The little guns of the British under General French were now getting into action in twos and threes and the big, thunderous reverberations of the Boer Long Toms were answered by the shorter barkings of the English twelve-pounders; intermingled with these was a confusion of noises from smaller weapons. The pom-pom-pom of the Vicker-Maxims, the pop, pop-pop-pop-pop of the Mausers and all

the spare pom-poms are in continued action making a ceaseless roar of manufactured thunder.

Squad after squad of French's main force gained sheltered positions in the rocky hollows against the sides of the towering hill and could do hardly more than hold tight under the projections of protruding rocks and cliffs. The mounted infantry under Hutton, and Hamilton's foot soldiers, are gradually working their way around to the side, away from the artillery, hoping to get a foothold to fight upon; but although the English had seen scarcely an enemy, the zip-zip-zip of their bullets are singing a song of death to the climbing Britons.

Several thousand Boers are now in their hidden positions, with only an eye cautiously exposed while they draw a deadly bead upon some unlucky Englishman. They are all sharpshooters, these sturdy, liberty-loving farmers, and the enemy are feeling the results of their accurate training.

Battery after battery of artillery is dragging up in the foreground, seeking as much protection as possible from the terrific rain of lead and shell, while French's and Hutton's thousands are doggedly hugging tight behind small ridges and rocks. Just back of them, in front, and all around them there arise streaky puffs of dust and broken rocks, as one-pound shells tear over their heads, or light in their midst. Here and there, continually, twelve and fifteen-pounders and Long Tom shells make large, ugly holes in the ground or burst as shrapnel with white puffs of smoke high above their heads. Occasionally a squad or a commando of Boers would be driven from their nests to a higher point of

vantage. Gradually the British are advancing, but the work is slow and the sun is past the meridian; this tiresome climbing, hot, dangerous and exhausting fight is beginning to tell upon the English; their attacks lack vim and the incessant activity has taken away the vigor that is necessary when fighting against such obstacles. The commanding officers order a retreat, and a rest of short duration is taken while the soldiers recuperate for a final and terrible charge. The artillery duel royal is still in progress and the gunners appear tireless.

Hubert, who had been in the thick of the fight all day, returns to the fort for refreshment, and relates to the English party there the happenings of the day. He notices an eagerness on the part of Aldyth for the knowledge of events in which he has figured prominently, and a warning to him escapes her lips which kindles a hope in his heart and gives him renewed strength and vigor. "Perhaps after all she cares for me," he murmurs dreamily." With this thought in mind he returns to the firing line, followed by Jan. They are just in time to witness the second attack of the enemy.

The Gordon Highlanders are to bear the brunt of the fight just now; they are fresh, those gallant, kilted veterans, who have left their dead heroes in rock-covered graves on a dozen battle-fields of South Africa; and they are the ones on whom the dependence for victory rests. They move up the rocky incline in extended order of about thirty yards interval. To their right are the City of London Volunteers, also in the same extended order. The Sussex Infantry are held back as a reserve; while the Seventeenth Lancers, the Colonials and the

mounted infantry are left in charge of the supplies and wagon trains.

The British artillery, with renewed energy, pounds the Boer position from the rear, sending their shrieking, whining shells whizzing over the heads of the Scots, whose plaid kilts rise and fall slightly, to the strides of their sturdy, bare legs. Eight hundred yards from the Transvaalers' position and no sign of resistance from the enemy; six hundred, the artillery has ceased for fear of injuring their own men. Five hundred yards, and amid the deathlike stillness that prevailed after the terrific noise or the large guns had ceased, the Scotchmen moved onward, and the absence of action is well nigh insupportable to the onlooker. It seemed almost inconceivable that English officers of supposed military genius should hurl a large body of troops, in frontal attack, against those almost impregnable positions, when they are held by such determined men, yet such was the case, and dearly will they have to pay for it.

Now! See! The whole mountain side bursts into an awful flame from thousands of death-dealing weapons. A shudder seems to pass over the lines of the sturdy Englishmen, but the pause is only momentary; the line moves forward. Men are falling right and left, poor chaps, they'll ne'er see the bonny lands of guid auld Scotland any mair. The interval is sometimes now fifty or sixty yards, now thirty. Another man staggers—lurches—falls; it is a mortal hit, but a commonplace thing now. Yet on they go, those brave Scots who, of old, were celebrated in song and story for their bravery.

The Highlanders are getting the worst of it, but their neighbors are having no easy time, for many of the pom-poms and steady eyes behind the rifle sights are turned toward the City of London

Volunteers. The British line is now returning the fire, lying prone upon the earth while catching their wind for the charge.

A line of silver flashes greet the eye as the English rise with fixed bayonets. Charge! Charge! The line rushes onward, stumbling and stooping, yet on it goes. What now? Why that gap as the column moves onward? It is parted in the middle for ugly rocks on the right and a steep ridge on the left have separated the two divisions. Hubert sees his chance, a mind of commanding genius directs his movements; he observes the benefit to the Boers and the danger to the enemy of enfilade fire upon the attacking ranks and directs his rifle-shots and artillery accordingly, which is soon enfilading French's soldiers. The effect is awful and French, who now sees his mistake, tries to mend matters by rushing the Sussex Infantry into the gap, but it is too late.

Hubert, closely followed by Jan, at the head of the triumphant Boers was riding bravely on with hope high in his happy breast, for the day was won and Aldyth and victory were the only thoughts that enter his brain as he sweeps over every opposition and forces the disabled and retreating enemy down upon their relief column. But an overruling Providence has decreed that these fond hopes could not be realized, and that he was to leave this earth when life was just beginning to show itself in its fairest mood, that of victory combined with love. A deadly fire is poured upon the charging Boers by the Sussex Infantry, who have just come up as a relief, and both Hubert and Jan fall at the first volley. Over their bodies rush the charging Boers to drive the beaten British from the battlefield. The dead, dying and wounded are left all alone, while from below, on the mountain-side,

still come the sounds of war as the British retire in good order; they were vanquished, but an admirable retreat is being effected by the officers in command.

Aldyth, who had viewed the latter part of the battle with her father from afar, had seen, through her field glass, Hubert fall, and hastened to where he was lying in a pool of his own life blood. Jan is dead and his captain will soon follow him into the mysteries of Eternity.

She reaches the side of the dying hero who feebly murmurs, "Oh, Aldyth, Aldyth darling; you cannot know how much you are to me; it's no harm now to tell you since my fate is sealed and my death shall be the happier for the unburdening of my heart. You are the only woman that ever entered my lonely life, and I have learned to love you with an intensity that is well-nigh insupportable. But it must be all for the best, for you could never become the wife of a poor Boer soldier, and life would be worthless without you"—

"No! no!" cried the distracted girl, who had not until now realized her love for the captain, but the knowledge that this man was dying, and the thought of losing him, opens Aldyth's heart and she, for the first time, is fully conscious that she loves him to distraction. "You must not die; I love you, Hubert, I tell you I love you! I'll publish it to the whole world. Oh, take me with you if must die, my brave soldier lad! Take me with you, and we will go hand in hand to meet our Father in heaven."

"Aldyth—hear me—come closer, my own, my beloved—you must not die, girl; you must live to do the work in life that God has put upon you. Oh, I can die happy now—poor Jan has gone. But I'm coming, pardner—Aldyth—I seem to be leaving you—there, it is all right now, I see the fair outlines of your

sweet face once more. Oh, how cruel it seems, but God's will be done; he knows best."

"Good-by, Hubert. I'll not forget you, and shall ever remain true to your precious memory, never fear. When father and I tenderly lay the last of your mortal remains away beneath the rocky crust of the Winterberg, I will breathe a vow o'er the reposing casket to ne'er wed, and to devote my life and means to furthering the works and commandments of our Savior. And when, after the long years of suffering, denial and expectation—when I knock at the entrance of

heaven, I will find a bright soldier boy, waiting to lead me within the gates of Paradise. Won't I, Hubert?"

"Yes, darling, we were not meant for each other in this life but in the divine happiness of the next world God will unite our separated souls.

Aldyth—is that you? Good-bye—sweetheart——it seems hard to leave you. Join me soon—my—darling. Why there's Jan—I can see him—here Jan—come—come old comrade, we'll—leave this—earth——to—gether."



## Cromwell vs. Napoleon.

AFTER JOHN KENDRICK BANGS.



HIS boat leaves here in 5 minutes—you will have to hurry." The speaker was my old friend, Charon. He stood on the deck of his barge, impatiently waiting the arrival of belated passengers for Hades via the River Styx.

I had wandered down to the banks of the Styx that evening out of idle curiosity, having nothing on hand

for the evening. The boat, owing to the unusually large crowd of passengers, was late in starting, so I had time for a few minutes' chat with my friend, the ancient Ferryman.

"Any special attraction over in Hades, tonight?" I asked. "Nothing much," answered the old boatman and added between cries of "Hurry up, there" to would-be passengers running toward the boat, "Only a prize fight at



the Opera House between Samson and Goliath, a paper before the Women's Club on 'Wives I Have Met,' by Henry VIII and a debate at the Men's Club on this question, 'Resolved, That I am greater than my opponent,' with that old bear, Cromwell, on one side and that piece of conceit, Napoleon, on the other."

This last item caught my attention. I had always been troubled in my own mind as to which of these two men was the greater. I had at different times consulted palmists, astrologers, mind readers and dream books galore but without effect. Here at last was the opportunity to hear the men themselves talk about the subject. So I jumped on board the ferry.

At last Charon could wait no longer so he gave the signal, the gang plank was drawn up and the boat cast off for its voyage on the Dark River.

Finally, after a slow journey across the placid Styx, we reached our destination and soon I was seated in the assembly room of the "Hades Young Men's Literary Club." Soon the meeting was called to order by the president, Dr. Johnson, who in a neat speech, all taken down by the ever present Boswell, introduced the speaker of the evening, Oliver Cromwell, formerly of England and Mr. Bonaparte of Paris, France.

The first speaker was Oliver Cromwell. Amidst great noise caused by the hand-clapping and the clashing of his steel armor, for he still clung to the old styles and hence was called an eccentric genius by his friends and an old idiot by his enemies, Oliver advanced to the front of the stage and holding his asbestos manuscript in his hand began:

"Friends, countrymen and Romans, lend me your ears." Here he was interrupted by a commotion in the back part of the hall caused by Shakespeare and Bacon calling out at the speaker

"I wrote that." They were quieted by the janitor's waving his sword, "Excaliber," at them and the speaker proceeded:

"Napoleon will tell you that his earthly career was greater than mine. He is wrong. I would like to prove it to him in a more manly way than this did not my rheumatism, caused by the cold I caught when I was dug up by Charles II, prevent.

"However, to prove to you that I am greater than the little fat man from Corsica let us contrast our careers. To begin with I am a self-made great man while Napoleon could not help being great! Next, I had to make the furnace fires and wait on table to get an education while my opponent, with a magnetic political 'pull,' was sent to school where he was furnished everything, including washing, by the government and then upon graduation was given a job in the army. Contrast this with the fact that when I finished my education I had to create my opportunity. I had to pose as a fool who could sit in one position for many days without saying anything until at last I became a member of Congress, that is, to say, Parliament. Then think of the exacting hand-shaking campaigns I went through to hold my seat until at last by hard work, I had gained a reputation as the greatest hand-shaker and money dispenser in the realm. See how Napoleon rose. All he had to do was to wait until all his superiors had been killed off in wars so that he by necessity become the commander of the army. He by force of circumstances while I by hard work had reached the same relative positions.

"Now our characters as warriors should be considered. Napoleon carried on with great skill, I must admit, wars with Italians, Austrians, Turks, etc., but mark you this—not with Frenchmen, while I had to fight men with whom I

had associated from boyhood. They knew my tactics and were foes of greater power than any 'Nappy' ever had to oppose.

"I carried on a Civil War with great credit while Napoleon only carried on foreign conflicts. In every day life, is not the man considered greater who can come successfully out of a fireside battle than the man who is only successful in battles outside of the hearthstone?"

"Besides this gr-e-at man could not run his home affairs properly but was forced to have a matrimonial rearrangement while I—"

Here Dr. Johnson called "Time" and Cromwell sat down triumphant.

During the intermission Mendelssohn and Beethoven rendered a rag-time duet and Schubert gave a banjo serenade.

Order again restored, Dr. Johnson called for Napoleon. Then the man who looked like Sir Henry Irving came to the front of the stage. He had given up his familiar suit of white cloth and

was attired in an American Congressman's coat of great length, black trousers and a melancholy tie. With his chin upon his breast and his right hand placed in the heart of his coat *a la* Webster Davis, he began:—

"Gentlemen, Napoleon Bonaparte, Mr. Chairman, Myself, Fellow Club men and Napoleon. I greet you, one and all.

"I did not expect to be called upon this evening but now that I stand before you and see this gathering of cultured and brilliant minds, I cannot resist the temptation to say a few words."

With that he drew from his coat tail pocket a huge roll of manuscript containing his extemporaneous remarks.

But I did not wait to hear him. I could hear Charon's shrill whistle down at the landing as the last call for the final day's boat to the land of the mortals and as there were no owl boats I knew I must hurry. Besides I had decided that Cromwell was the better man of the two, anyway. F. C. S.

## The Girl or the Cup.



HARRY WILLIAMS, that's the third set you have beaten me, and I won't play another game. I think you are just—well, just mean!" said Helen Southwell, a pretty girl of twenty, to her tennis opponent. "Take in the net, and put it away immediately." She tried to frown and look stern, but upon looking at the dismayed, woe-begun expression upon the handsome face of the athlete at her side, broke into a silvery, rippling laugh.

"Yes'm, right away," said Harry in

mock humility, indolently throwing down his racquet, and untying the net from one post. As he stood untying it, looking every few moments over his shoulder at the girl who was bouncing one of the tennis balls and catching it on her racquet, he looked indeed to be "Handsome" Williams, Yale's pet athlete and runner. With curly, brown hair and blue eyes, with a body of a Hercules, he well deserved the nick-name, "Handsome."

He had finished taking down the net, and had thrown it over his shoulder. "Well, come on, Miss Tyrant, you have spoken, and your humble servant obeys. By the way,

Helen," and he suddenly became serious, "I suppose you will be out to the field meet tomorrow? I have decided to run in the mile, and I must, just simply must, win."

"O Harry!" and the pretty, winning face took on a look of disappointment, which only enhanced its beauty. "Don't run the mile race. Please don't, because if you do, you, you will have to run against Phil, and I want you both to win." Phil was her brother, and the best long distance runner Harvard had. "Tell me you won't, now do, please," glancing up as she said it with a tearful, pleading expression.

"Helen, I can't. Our coach kept that for me, and me alone. There is no one else in the whole college that can run against Phil, anyway. I thought I might try the three-quarters, but Coach says we will win that anyway, and he won't hear of my changing. He says the winning of the mile rests in my hands, and mine alone."

The girl did not answer, but her quivering lips showed how deeply she was disappointed. If Harry ran, her brother would lose. And he had worked so hard, too. Every day for months, he had worked for hours, hard, tiresome work, to attain the ambition of his life, the winning of the mile race; and now he would lose.

The two walked the rest of the distance from the tennis lawn to the house, in silence. He sat on the front steps, she standing looking down at him. They had not spoken of the race again, but he knew it was uppermost in her mind. He started to go, came back again, and then came



Went back manfully to where she stood.

manfully up to where she stood. "Helen, I—I, I've got something to tell you, Helen," he said hesitatingly.

"Have you, really? How strange!" she answered, merry once more.

"Don't make fun of me, don't. For days, for years, I thought I would tell you——"

"For years, Harry? why, you have only known me two years."

He became more and more embarrassed, and stood, looking like a school boy who had forgotten the "piece" he was to speak.

"Well, anyhow, for a long time—oh, confound it, Helen, can't you see I love you?" he blurted out. "Helen," and his voice shook, "will you marry me?"

"Harry, listen to me." She spoke calmly, decisively. "You have often asked me to give you some task to perform for me, saying you would do

anything I asked you to. Now you ask me to marry you. If Phil wins that mile race tomorrow, I will think of becoming your—, that is, I will consider your request. If you win, I will not. Good bye." She turned quickly and closed the door.

He stood for a moment like one dazed. He turned and slowly walked away, mechanically. All the way home her last words rang in his ears, the same refrain, "If you win, I will not, if you win I will not." Win, win, of course he would win. It was almost destined that he would win, it had become part of his life. It could not be helped, it was inevitable. Just the evening before his room mate had said to him, "Harry, you are the only senior who has any chance in the runs. The honor of the class rests with you, and, old man, you've got to win!" Yes, of course, but then, Helen's words, "If you win, I will not." Was ever mortal more sorely tried than he? He would go home, and after a night's refreshing sleep, his mind would be clearer and he could think. Possibly it would come out right anyhow. Tomorrow he would decide.

That night little sleep came to the pillow of "Handsome" Williams.

At last the day of the great field meet had come.

The grandstands were crowded with pretty girls, looking among the crowd of athletes for each well known hero. Proud matrons and pompous sires chatted of shot puts, pole vaults and dashes instead of the usual themes of stocks and bonds.

Harry sat in his dressing room, thinking. Thinking of the same old question, should he win or lose? His class mates trusted him; should he play the traitor? If he won the race

he would lose everything else. He was at last aroused from his reverie by the trainer.

"Williams, you must win, man. Save yourself for the last lap, and then sprint for all you are worth. The only man against you that amounts to anything is Southwell, and you can beat him. And you must. They are calling the mile run now, so go on out. And Harry, for the Lord's sake, win." The old man was nearly in tears. "The scores are just even, this is the last event, and everything depends on you."

The scores were even. If he lost, the gold cup, the trophy of the meet, would go to Harvard. If he won it would be Yale's.

He passed out onto the field as though in a dream, not heeding the deafening shout of "Williams—Williams", that greeted him. He glanced up, and the first one he saw in the crowded grandstand was Helen. Helen, more beautiful than ever, as she clung to the arm of her father, pale as marble, but with a bright red spot on each cheek. Her lips moved, and to him they seemed to frame the words, "If you win, I will not." He glanced toward the Yale grandstand, and there stood his mother, wildly waving her handkerchief, and his pompous, dignified father, his high silk hat over one ear, wildly waving the Yale colors, and splitting his throat yelling "Williams" with the rest.

He took his place in line, the number of his position placing him next to Phil Southwell. As in a dream he heard the words "Are you ready?" and the sharp crack of the referee's pistol. He sprang forward with the rest, and instantly his mind cleared. He was running, not for any selfish interest of

"Handsome Williams," but for the honor and glory of old Yale.

Absolute quiet reigned over the vast assembly. The race was on which should decide between Harvard and Yale, between love and duty.

They had passed the first lap, with Williams and Southwell in the lead. At the second lap the others had dropped so far behind that the race rested with those two. As they passed the grandstand, Harry heard the one sound from the whole crowd, his father hoarsely shouting, "Go Harry! go! go!" The young athlete at his elbow was running evenly, smoothly, literally, a race of neck to neck. The third lap. The excitement was intense. The two evenly running figures, one as near the goal as the other, were to decide the supremacy of one of the two colleges. They had reached the home stretch, and Harry, drawing all the air he could into his panting breast, looked straight up to where Helen sat, still and white, and sprinted, sprinted for his honor and his college.

He had won by the fraction of an inch. Pandemonium broke loose in the audience. His father threw his

hat straight up into the air and stepped on it when it came down, then leaned over and kissed the bald head of the man in front of him. Men hugged and kissed each other, and danced around like demented beings. Mrs. Williams just sat down and cried. Harry was hoisted on the shoulders of a hundred admirers, and carried all around the field. Staid, sober business men, who once knew what life at Yale was, fought for the chance to hug him. Yet he, the hero and idol of the whole school and thousands of people, was the most unhappy of them all.

Once more he stood on the front steps, looking up into the face of the girl he loved. The sky was red with bonfires, and on the night breeze was wafted to them the shouts of "Williams! Williams!" The girl impulsively stretched out both her hands to him. "Harry," she said, "you are a hero!"

"Then you will consider my request?" he said joyfully.

"No, you foolish boy, I had considered that a long time before," she said.

E. TRICE BRYANT.

## Love Affairs of a Pirate.



OW it happened, when the gallant captain had taken the peerless Miss Roarer to his barque, that he, thinking his peace assured, gave her three days in which to recuperate, and get up a fancy meal for himself and his crew. At the end of that time, no food was to be seen but instead

a list was presented, which read much like this:

### REQUISITION FOR SUPPLIES.

#### *Pirate Ship Avenger.*

#### Domestic Science Dept.

I. Services of six able-bodied men.

(a) To clean the kitchen floor.

(b) " " dish washing arrangements.

(c) " " walls of kitchen.

II. (a) Full set of Haviland China dishes.

(b) Cooking utensils (Miss Roarer's patent), latest improved designs absolutely necessary.

(c) All present dishes thoroughly cleaned by professional cleaner.

(d) New range, gas stove, modern attachments.

### III. Supply of material.

(a) Sugar.

(b) Milk.

(c) Eggs.

(d) Spices.

(e) Anchovy paste.

(f) Condiments.

(g) Fruits (all kinds).

(h) Prepared health foods.

(i) Health drinks (no coffee allowed).

IV. Five assistants, three must be graduates of Boston cooking school, other two may be from Pratt Institute.

V. (a) Kitchen remodeled.

(b) Drainage thoroughly overhauled.

(c) Various sanitary precautions, which I will superintend myself, cared for.

(d) Hot and cold water system inaugurated.

(e) Ivory soap provided (one carload required).

(f) 500 dish mops provided immediately.

(g) 1000 dish towels provided immediately.

Miss Roarer (Manager of Domestic Science Department, graduate of Boston Cooking School, Pratt Institute, teacher in seven distingue palladiums of culinary art. Instructress of the ladies of Boston, etc.) The captain caught at the nearest rope, and studied the document again.

"By'r Lady! but this is passing strange. I would have sworn that this was one of Shield's exams. Assistants! Patent utensils! Plumbing. None of our former cooks asked this sort of stuff. Where does she think I'm going to get 'em? Soap! China! Fruit! Great heavens!" He stopped short, horror-struck.

"Gosh all hemlock, I clean forgot my middle ages vocabulary. I really mustn't be so careless again." Just then Miss Roarer strode up the hatch-way, saying in her ringing voice: "Are the improvements begun yet? Have you telephoned for salad-oil, and grape fruit, and the lilies of the valley for the table decoration? We must have candles at dinner. Electric light is exceedingly bad form." The buccaneer uttered one wild yell, leaped the starboard rail, and disappeared beneath the waves, while Miss Roarer exclaimed, "Dear me! I wanted American Beauties for my wall decorations." But the captain did not return to hear.

S. H. B.

## Miss Fisher's Story.



THE many friends of Miss Mary Fisher, as well as lovers of literature in general, will be pleased to welcome her latest book—her first in the field of fiction. "Gertrude Dorrance" is the title of the book and the heroine of the story. It is a story of a young, high-spirited and beau-

tiful girl, the daughter of mismatched and misguided parents who live in poverty. The mother was an invalid, the father a gifted musician, with a fugitive ambition to be a great composer, but devoid of the necessary industry. He not only lacked practical sense, but was a tippler, and a type of the shabby genteel. Gertrude, a little too old for her years, is proud, sensitive, and keen-sighted;

though quick tempered and outspoken she is true hearted, and possesses all the elements of true womanliness. Her keen insight into human nature makes her a not altogether comfortable companion for those people who represent the superficial conventionalities of society. Her experience with the "Humanity Club" is a keen though delicate rebuke to ostentatious charity. The other characters in the story represent some of the more common types of modern life, and are drawn with much fidelity to truth. They represent people as they are with no attempt either to exaggerate their virtues or to magnify their weakness. While these characters display many of the foibles and vanities of human nature none of them is taken from the ranks of the vicious or depraved. There is no villain—no deep plot. The story deals with the better side of humanity. The boy Jack—Gertrude's lover—is the star character and is drawn with remarkable skill. He is a type of wholesome, normal, and vigorous young manhood. He is not a scholar, and had little taste for the higher learning of the schools, but his wholesouled ingenuous nature overflowing with mirth and wit, is contagious and at once secures the sympathy of the

reader. His simplicity, industry, and courage furnish a wholesome and attractive example for youthful readers, and his freedom from cant, hypocrisy, and pretense will be admired by all. Young people will read the pretty love story of Jack and Gertrude because they enjoy Jack's society and not because they are consciously imbibing a lesson in true dignity, politeness, kindness, and manly generosity. While Jack possesses all of these qualities he is not the "holy Willie" in the Sunday school books. Jack is the picture of physical and moral health. The book makes no pretension to studied plot, dramatic incident, or tragic situation. But it is clean, pure, simple, natural and interesting. The more mature reader will see in it a delicate treatment of social questions—a treatment which does not exhort or sermonize but which touches vital points with a gentle lance. Miss Fisher writes well, and in an easy and attractive style. Whether describing a landscape, remarking on the weather, picturing a love scene or touching a social problem, she is a master of felicitous expression. The new story deserves a generous patronage. It is published by McClurg & Co., of Chicago. G. B. M.

## The History of Two Flies.

[A VERY PATHETIC TALE.]



**I**T was one of those warm, uncomfortable afternoons in May. The sun had not quite made up its mind to say its last adieu before its disappearance. It hung low and was seemingly tranquil in the heavens. All the people on Wyandotte street were sitting out on their

porches to keep cool.

One old man, with shaggy eyebrows and a snow-white beard, sat out on the front porch of a large brick house, gazing wistfully at the green leaves which surmounted several trees in the yard, and at the grass on the lawn, which was sadly in need of a lawn mower, and this same old man's pushing power.

Suddenly two black spots appeared on the old man's head, on the smooth circular place, where a fine crop of hair probably had once grown. The two black spots became very animated and buzzed about with so much vigor that at last the old man got up and went into the house. He got a sheet of fly-paper (for these two dark objects of animated propensities proved to be flies) and laid it carefully on the porch railing.

The flies had two or three more waltzes on the polished floor of the old man's head after he was seated, until at last, woe be unto them, one of the flies espied the fly-paper on the railing, looking as if it was covered with honey, and off he set in search of adventure and to satisfy his hunger. He was followed by his mate, and they buzzed around the fly-paper not knowing whether to light or not. At last the first fly lit on the paper and ate his fill of the poisonous honey, but alas, when he had finished he was unable to escape. He called to his mate and she

came and lit beside him. He then told her his troubles and she tried to assist him, but found that she also had become fastened so as to be unable to escape. "Well," said the first fly, "I'll stick to my position until my death." "I'll stand by you to the bitter end," said his mate. They left their bodies on the fly-paper and their souls went to the place where all good flies go, to the "land of milk and honey," where there is no fly-paper, or bald-pated old men.

\* \* \* \* \*

The old gentleman had watched them with glee, but when he heard their conversation and saw how bravely they died, he had a great deal of pity and said to himself, "Yes, those are two noble principles; always stick to your positions and never desert a friend in trouble;" so saying, he heaved the sigh of an honest man and fell asleep, leaving the lawn mower to rest in peace for another hour.

GEO. D. BEARDSLEY.

## To the Waves.

OH rock me to sleep in my old red dory  
 Ye murmuring waves that steal o'er the slip.  
 Her bow lies awash on thy breast cool and starry,  
 And the moon floats o'erhead like a silvery ship.

Oh rock me to sleep 'mid the deepening shade  
 Of yon spreading birch that leans over thy brink  
 And tell me, ye wanderers, how far have ye strayed  
 Since last I knelt down by thy waters to drink.

Rock me to sleep, as the breath of the meadows  
 Laden with perfume of clover, new mown,  
 Brings back fond remembrances, here 'mid the shadows;  
 For we are alone, old friends, we're alone.

Oh rock me to sleep, as ye whispering go  
 To rally again on the breast of the deep,  
 And softly, so softly; I love you, you know;  
 Then rock me to sleep, dear waves, rock me to sleep.

HOWARD LOOMIS.





PAUL ARMSTRONG.

EDITORS.



LISTA MAKINSON.

## Our Old Friend, the Bug.



**O**f the many studies in the High School course, zoology proves to many students of deep interest and of much value. Among the insects studied, the order Hemiptera, or Bugs, is one of the most interesting and of great economic importance.

Very many of the uninitiated think all insects are bugs, but that is a mistake. All true bugs belong to the sub-order Heteroptera. Nearly all of them have

half wings, that is the outer wings are thickened near the base, with thin or membranous extremities, which overlap on the back. They have also sharp beaks fitted for piercing and sucking. By these two characteristics they can always be known.

In classification we find that orders are divided into families. So we have the members of the order Hemiptera arranged in families. One of these is Lygaeidae, or the chinch bug family. Most members of this family do great damage to the crops. For example, the chinch bug in many

states proves the destruction of the whole crop. But one member, *Oncopeltis Fasciatus* (Fig. 1), does little harm. It is found chiefly on the milk-weed plant. Its small, conical head is well set back in the prothorax. It is black, except for two broad, red bands across the thicker part of the wing covers.

Of the family Pentatomidae, or stink bugs, *Murgantia Histrionica*, the Harlequin cabbage bug (Fig. 2), is much disliked by the farmers. Unlike many of its family, it emits almost a pleasant odor, but, nevertheless, it is a very bad bug, for it feeds upon cabbages and other plants of the kind and destroys them. The coloration of the cabbage bug is splendid. It is polished blue-black, decorated with spots and bands and margins of yellow and orange. The head has two white spots on the front.

*Brochymena Annulata*, the angular gray tree bug (Fig. 16), is an odd looking insect belonging to the family Pentatomidae. Its head is square, its shoulders broad, its covering unevenly dotted with black and with a small brownish-red spot on the tip of each outer wing. It usually feeds upon caterpillars and other insects, but it has been known to suck the sap from the young, green twigs of fruit trees.

Another member of the same family is *Podisus Spinus*, the spined tree bug (Fig. 17). It destroys potato beetles and other harmful insects. Its color is yellowish gray, dotted with brown.

*Mormidea Lugens* (Fig. 19), has the tarsi three-jointed, the basal segment of the rostrum rather slender, the scutellum with the apex narrowed, with the lateral margin concave toward the apex, the tibia cylindrical and tapering without a groove.

*Cosmopepla Canifex*, or tree bug, (Fig. 20), belongs to the stink bug family. These insects are found in small numbers

on all sorts of plants, but sometimes in large numbers on raspberry and blackberry bushes. In color, they are very gay, black with red or orange sides and bright ornamentations on all parts of the body.

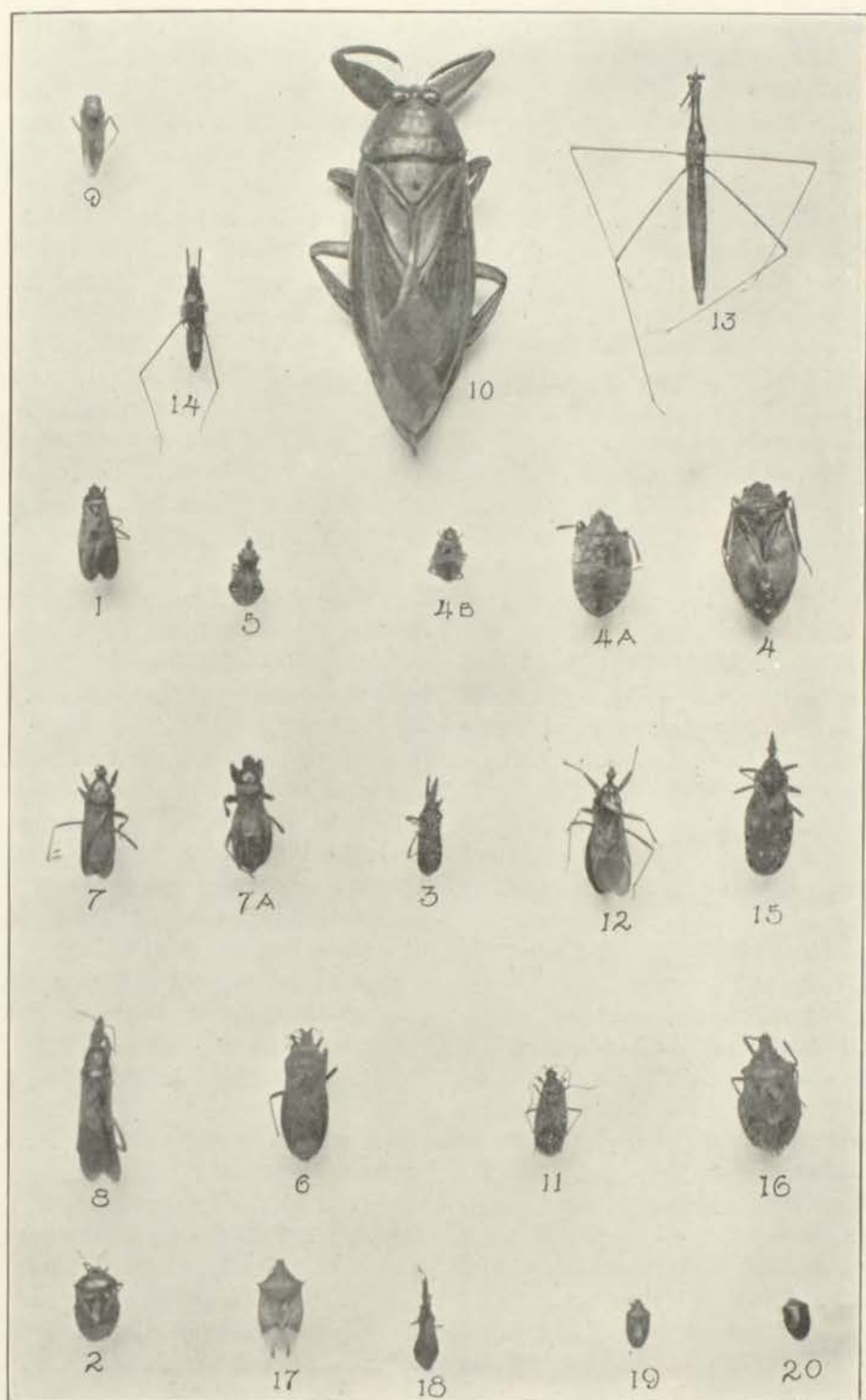
The insects belonging to the family Reduviidae, live upon the blood of other insects, and have won the name of Assassin bugs. They are often beneficial, in that they destroy injurious insects. But one sub-family, Acanthaspidina includes *Conorhinus Sanguisugus*, the big bed bug, (Fig. 3), which is a very disagreeable companion. It does not confine itself to worrying lower animals, but has a decided taste for human blood as well. In appearance, this bug is indeed formidable, for it measures about one inch in length. Pitchy black, marked with red patches, spots and bands, it is very gay and rather handsome. Its surface, almost devoid of down, is rough or wrinkled.

*Melanolestes Picipes*, (Fig. 7), is another Assassin bug of the family Reduviidae, and is a very active, bloodthirsty animal. It is a strong, black bug and hides under boards and stones. The male has wings, but the female, (Fig. 7a), has not.

*Sirthena Carinata*, (Fig. 8), also belongs to the family Reduviidae, but is larger and more slender than the specimen last described. In color, it is a glossy black, with scarlet legs, and with a broad wedge of scarlet on each wing cover.

*Reduvius Personatus*, (Fig. 12), is the "kissing bug," so much talked of a few years ago. In its normal state it lives upon bed bugs and other small insects, but at times it will attack human beings. Its bite is very poisonous and causes severe pain and swelling. In color it is rusty-brown, and it is about half an inch in length.

Farmers consider *Milyas Cinctus*, or the



banded soldier bug, (Fig. 15), one of their best friends. It destroys many insect pests, even the much disliked potato beetles. It is orange in color, marked with bands of black on legs and feelers.

*Sinea Diadema*. (Fig. 18). is a member of the Assassin bug family, and feeds upon the larvae of destructive insects. It is a light, reddish brown in color.

The giant water bugs, *Belostomatidae*, commonly called electric light bugs, have always aroused wonder and interest. The very large ones, *Belostoma Americanum*, (Fig. 10), on account of their great size, the smaller, *Zaitha Fluminea*, (Fig. 4), on account of their curious custom of carrying the eggs on their backs. While they are young they live in the water, but when they are mature their wings are strong and they fly great distances at night. Figures 4a and 4b show immature stages of *Zaitha Fluminea*. The electric lights prove a great attraction for them, and dozens of these bugs may be seen almost any night about the lights. These are all flat and boat-shaped, with their three pairs of legs modified for swimming. They are thus suited for life in water. They are a yellowish clay color.

Among the members of the family *Notonectidae*, or back-swimmers, is *Notonecta Undulata*, (Fig. 9). Like the other members of the family it persists in swimming on its back, with the tip of the abdomen above the water, but unlike some other aquatic insects, the harmless water scavenger, for example, it has a sharp beak and inflicts extremely painful wounds. Although it lives mostly in the water, it is nevertheless attracted to the electric lights, and can live very well on land. In the water it is extremely active, and kills many small fish by piercing them with its beak, and then sucking

their blood. On land it is practically helpless, and so harmless.

Among the aquatic insects is *Ranatra Fusca*, the water scorpion, (Fig. 13), belonging to the family *Nepidae*. It rests in the ooze at the bottom of shallow ponds, standing on its long legs, with the tip of the long respiratory tube, which is at the end of the abdomen, extending just above the water. In this position it sometimes remains still for hours, watching for any insect or small fish which might come that way. Its pale, brownish color harmonizes so well with its surroundings, that it cannot easily be detected. Its front legs are strong, and fashioned in such a way that it can grasp its prey with great readiness.

Another aquatic insect is *Hygrotrechus Remiges*, the water-strider, (Fig. 14), of the family *Hydrobatidae*. It lives entirely on the surface of the water, inhabiting quiet pools. Often they congregate in great numbers, but when disturbed they move away with great rapidity.

*Phymata Erosa*, (Fig. 5), belongs to the family *Phymatidae*, the ambush bugs. They are very strong and ferocious, and are provided with enlarged front legs, with which they can grasp their prey. Of a greenish, yellow color, with a black band on the abdomen, *Phymata Erosa* closely resembles the flowers in which it lies in wait for the insects that frequent them.

One of the greatest pests to market gardeners is *Anasa Tristis*, the squash bug, (Fig. 6). It belongs to the family *Coreidae*, and is the most destructive member of its family. A murky brown in color, mottled with yellow on the ventral side, it is not an attractive insect. It lives on the cucumber, squash and pumpkin, often destroying the plants. Its enemies are welcome to it.

*Leptocoris Trivittata*, or box elder bug,

(Fig. 11), is a member of the family Cor-eidae. It has the abdomen red, the wings and prothorax black, with three longitudinal red stripes on the prothorax, and with red stripes bordering the thicker

parts of the wing covers. The eyes are also red. It lives almost wholly on the box elder tree, sucking the sap from the leaves by means of its pointed beak.

ELSIE WADELL.

## A Spring Procession.



HE flowers appear upon the earth,  
The time of singing birds is  
come."

The sweet-voiced songsters have sounded the bugle notes of spring, and in answer to the summons the hillsides are dotted with a multitude of soldiers, bold little soldiers who have dared to brave the winds of March and April to obey their general. But they are an army of peace, strange to say, and, as if to prove this, the first soldier to arrive is the standard bearer, carrying a flag of truce, the Blood-Root, whose pure, white blossom is an emblem of peace and truth. As we are apt to overlook the little things that count for the more attractive ones, so it is with this delicate flower. How modestly, in an obscure place on a dark, damp hillside, it first puts forth a little roll of brown leaves, among whose folds the flag of truce is cleverly concealed. Then, taking courage, it comes a little farther; the wind plays about it; and a few stray beams of sunshine penetrate the darkness, the leaves unfold, and lo! we have the delicate white blossom in all its beauty. A few days and it is gone, leaving us with the assurance, that a vast army is now approaching.

The Blood-Root is a rare plant, for it takes two years to produce a blossom. The first year the dark, blood

red root sends up one leaf. This root in turn produces another root which, in its turn, gives us the flower. The blossom has from eight to twelve waxy petals. The leaf is heart-shaped and deeply cleft. The Indians used the juice of the root to decorate their faces.

Then the Wood Anemone or Wind-Flower is carried along on the wind and tarries here with us but a little while. There is an old tradition that it opened when the wind



touched its closed petals, and so it was called the Wind-Flower. Its delicate flower is white. Sometimes it may be pink or purplish. The flower is solitary, and in this way can be distinguished from the Rue Anemone which bears its flowers in clusters. They grow most abundantly on a sunny slope, nodding gently to the slightest movement of the wind.

Next comes the Spring Beauty—

"So bashful when I spied her  
So pretty, so ashamed;  
So hidden in her leaflets,  
Lest anybody find."

This little flower is so conscious of its beauty and so modest that its petals close, when taken from its native haunt, so that no one may gaze upon its blushing face. The dainty pink flowers grow in clusters between two slender leaves.

Let us next look for the White-Hearts, or as they are more commonly called, the Dutchman's Breeches. We find this fragile plant among the rocks, seeking protection from the wind. The leaves are compound and fern-like. The flowers, as the name indicates, are heart-shaped, delicate, little blossoms, a number of which



grow in a raceme cluster. The White-Hearts are favorite flowers with the children.

But the army is moving on and soon another flower has its place, the White Adder's Tongue or Dog's Tooth Violet. The white blossom droops gracefully from a tall stem which is guarded by two slender, green leaves, spotted with brown. The plant grows from six to nine

inches high and is found in the same neighborhood with the White-Hearts. One botanist suggests, as the name Dog's Tooth Violet is inappropriate, that this flower be called the "Fawn-Lily," because the leaves are spotted like a fawn and it belongs to the lily family.

Soon the blue and yellow violets appear upon the sunny slopes. They do not seem to be in such haste to complete their journey, but adorn the woods long after other early flowers have perished. We have no sweet-scented violets in this part of the country. Some flowers have a beautiful color and no fragrance, while others have the fragrance without a gay color. They must have one or the other to attract insects to the flower. If you have observed carefully, you have noticed that most of the flowers which bloom at night are either white or pale yellow, with a sweet odor. Although compelled to bloom in the dark, they have adopted a light dress and easily attract the insects' attention. Insects are very important to the life of a flower, as very few flowers depend upon the wind to carry their pollen. The night blooming flowers close as soon as it is light to prevent unfriendly insects, who would only spoil the flower and not carry away the pollen, from sipping any of their nectar. Those flowers which have a long, tube-like structure usually have delicate markings inside, pointing to the place where the nectar is secreted, to aid the insects in finding the nectar. The violet needs no fragrance. It is bright enough to entice insects to taste of its hidden sweets. Violets are a favorite flower with everyone. Poets write about them, the Bonaparte family selected them for their emblem, and Mahomet

called them his favorite flower.

Yellow and white predominate in the spring flowers. Yellow is the "class color" of the season. Under the head of yellow flowers comes one most familiar to all, the proud Dandelion. In contrast with the Dandelion is the dainty Bellwort, whose lily-like blossoms droop gracefully from a tall stem. This is a peculiar flower, for the stem grows up through the leaf. Now come the May-Apple blossoms. They grow profusely in a sunny place, shielding their fragile blossoms by two umbrella leaves. It is hard to see the flower; therefore it is odoriferous to accommodate insects. The fruit or apple ripens late in the summer.

Here comes the chaplain of the army, the staid Jack-in-the-Pulpit. The flower is a light green with markings of a darker shade or purple.

There is a legend which says this flower grew beneath the cross and received these markings at the crucifixion. At last the general of the army arrives, the Columbine, a daring flower that loves to climb about the rocky ledges where it can be just out of reach. None of the spring flowers are more beautiful than this one, red-tinted with yellow. With this flower the vanguard of the army has passed making room for the hardier flowers of summer.

There are many interesting and beautiful lessons to be learned from the greatest of all teachers—Nature. Each flower in nature has its history and everything has its significance and is of benefit to some living plant. By the study of Botany we find—

"Tongues in trees, books in running brooks,  
sermons in stones, and good in everything."

KATE HANKINS.

## A Novel Experiment.



LAST summer a friend of mine bought about ten thousand photograph negatives. These negatives had been used once and were of no value to the photographer. My friend's intention was to clean the gelatine off the plates and use the glass for making *Passe Partouts*. But to remove the gelatine was quite a problem. First we put them in boiling water. This removed most of it, but the rest had to be scraped off with a knife. This being too much trouble we tried acid. But acid was expensive. At last my friend had a brilliant idea. He bought a can of concentrated lye. This pro-

duced the proper result.

While the boiling water would dissolve the gelatine in an hour, the solution of lye had the same effect in a few minutes. We placed about fifty negatives in a large pan, putting slivers of glass between them to allow the solution access to each one. After putting in some lye, the pan was filled with water. Soon the gelatine began to wrinkle up and then came off like a label on a bottle would have done. This left the glass clean, and a little polishing made it ready for use. We took great care in saving the gelatine as we knew it contained silver, but just how much was what we wished to find out.

When all the plates had been con-

verted into clean glass, we had about two quarts of this same gelatine. It was a black, jelly-like substance, possessing an offensive odor. Putting some in a tin can I baked it dry over a gasoline torch. In doing this a large amount of smoke was thrown off.

Placing a glass over the can caused a yellow liquid to settle on the under side of the glass. The odor from this liquid produced a stinging sensation in the nostrils that ammonia gas does, only of different quality. This was caused by the lye in the gelatine. When it had stopped smoking I cut the can open and found it looking just like burned bread.

The next question was how to generate heat enough to melt the silver. This might be done either with a blow pipe or with an electric arc. With a foot pump to compress air into a reservoir and using common gas, we obtained a very hot flame, but not a very large one. After mixing some borax with a small amount of gelatine we turned the flame on it. With very little smoke the gas melted into a red hot liquid. Soon the silver could be seen forming into a globule.

The blow-pipe required too much labor, so we used an electric arc. Having electric lights at our disposal we took a bulb out of its socket and inserted a plug with connections. For resistance we used a bucket of salt water. And to form the arc we had a simple electric lamp as is used in a moving picture machine.

Not having a crucible handy, we used a piece of broken saucer. This served very well. The baked gelatine melted down the same way as with the blow-pipe, only much faster. At first we used a smoked glass to look at the arc, but as the sun was

shining very strongly into the room, we soon became accustomed to the light and laid aside the glass.

The reader may imagine himself within three feet of an electric light, such as is on the street corner, gazing directly at the arc for half an hour or so. This is what we did. Becoming interested in reducing the silver we forgot about the effect the light might have on our eyes.

As a result, when we were through, everything white appeared yellow, or had yellow spots all over it. Brown at a distance looked purple. This lasted during the rest of the afternoon. But that night we were awakened from a sound sleep to find tears running down our cheeks in rivulets. Besides this there was intense pain. That day our eyes looked like danger signals. Truly, experience is a dear teacher.

The only pleasing after effect was the appearance of the street gas lamps at night. Their color was quite beautiful. Even the moon had a pinkish complexion. The scientific cause for this may be found by the reader if he is so inclined.

The quantity of silver reduced was not much, but if we had had a crucible it would have been more. The test we made to see if it were silver was to hit it with a hammer. This knocked off the slag and the silver mashed out like lead. Once, when the gelatine and borax had melted, I poured a drop of the red hot liquid on a piece of smoked glass. Not adhering to the lampblack it formed in the shape a drop of mercury takes when lying on a level surface. After cooling, it turned to a dark brown and was quite pretty—more so than some precious stones. To give an idea of the amount of silver in the gelatine I will make a close estimate that the gelatine on four average plates will produce a piece of silver as large as a pin head.

VICTOR STEWART.



## A Bit of Geological History Indicated by Outcrop at 29th Street and Southwest Boulevard.



THE cliffs on either side of Turkey Creek furnish evidences of previous conditions of this region which would be unthought of by a casual observer. The first one north of Twenty-Ninth Street and west of the Southwest Boulevard, affords an excellent opportunity for this, as its stratification is so plainly shown. The outcrop here is composed of several distinct layers, each, except the top one, composed of horizontal strata.

The lower one is formed of limestone. Now, we know that limestone is formed from the remains of marine animals, whose shells and other hard parts accumulate on the sea bottom. This limestone contains the fossil remains of numerous sea animals, which proves to us that this region was once under the sea. It must have continued in this condition for a long time, for limestone accumulates very slowly, and this formation is of great thickness.

But the next rock above is of very different material, and proves to be shale, which is not laid down under deep water. It formed in shallow water from the mud, etc., washed away and deposited some distance out from the shore. This shows that there must have been an elevation of the land so the limestone ceased to be formed and the shale accumulated. As the shale layer is rather thin, this time probably did not last long.

Above this we find another layer of limestone, very similar to the first in thickness and stratification. So the land must have been depressed and again covered by the deep sea. Other thin layers of shale alternate with limestone, showing that there must have been alternate elevation and depression.

The top layer is composed of small rocks. Some of these are limestone, but a great many are of material foreign to this region, and so could not have originated here, but must have been brought here by some mechanical agency. To find out what this agency was is the next question.

There are two means by which these rocks could have been transported here: by rivers and by glaciers. Both of these agencies carry along with them debris and rocks from the land over which they pass. The first thing we notice about these rocks is the loose way in which they are thrown together, without any stratification. Now, we know that water always lays down its material in layers, or strata, depositing the larger or heavier material first and so on, until only that which is very fine is left at the top. Since this formation is not stratified, we have one proof that the rocks were not brought by water. The pebbles in the mass are somewhat angular in shape, not rounded as is caused by the action of water. Then again, the rocks are too large for water to have carried.

On the other hand we find nothing

to prove that they were not brought by a glacier. A glacier does not deposit its debris in strata. It can also carry much larger rocks than rivers for they work their way up into the ice and do not affect its velocity. So we come to the conclusion that there must have been a glacier here, after the land had ceased to be under the sea.

The glacial debris, consisting of pebbles and fine materials cemented together, was about twenty-five or thirty feet thick at the southern point. Since the top layer is so thick at the southern part, we are led to think this to have been the terminus of the glacier, for a glacier always deposits the greater part of the material carried, at its terminus, on account of the ice melting. In order to make such a thick deposit the terminus must have remained here some time.

The terminus of a glacier is not always in the same place, but varies according to the conditions of temperature and snow-fall. So when we find the top layers growing thinner as we go northward, we conclude that the terminus of the glacier must have been moved backward to the northward, so rapidly that it was not in one place a sufficient length of time to make a thick deposit.

On the other side of Turkey Creek the cliffs are of the same height and materials as here, and must at one time have been connected with these. The depression between was caused by water carrying away the material which once occupied the space where the depression now is.

So, by simply studying the conditions which exist at present, we learn some facts concerning the previous history of the country around here. First, we learn that for a long time—which means in geology a much greater time than when used in the ordinary sense—the land was under the sea. Then it was elevated for awhile, but soon after the sea resumed its former sway over it. Alternate elevation and depression took place many times, until it was finally raised to remain as it is now.

But not yet was this much harassed land to be left in peace. A new element was introduced, a glacier began to form, and plowed its way along the very places so well known to us. Out on these cliffs was the terminal moraine of the glacier and there it deposited a great mass of material brought from distant parts of the country. It moved its terminus back and forth according to the laws of glacial movement, but it was for a long time in this vicinity.

Finally, when the amount of snow which fell no longer exceeded that which melted, the glacier disappeared. Now there is some soil on the cliff, but it has all been formed since the glacier left, as the glacier scraped it bare in passing over it.

The material deposited by the glacier still remains, as does also the shale and limestone beneath it. We find in this much to remind us of the countless ages required to build up this land, and make it able to support animal and plant life.

BEATRICE M. STEVENS.

## Solar Heaters.



VISITOR to Southern California, the "Land of Sunshine and Flowers, especially in and about the city of Los Angeles, may have noticed certain black boxes perched upon many of the housetops and have become curious as to their purport and contents.

These same little, black boxes are the subject of this article and are, in a word, "boxed up science," or, as the manager of the company which makes them and places them on the market for commercial purposes calls his products, "Solar Heaters."

In size the boxes are about 5' x 3' x 10" and are situated upon a part of the roof of the dwelling constantly exposed to the rays of the sun. In the interior of the box are three galvanized iron pipes of a diameter of 6". These horizontal pipes are connected with each other by small pipes at alternate ends. The two unconnected ends are then fastened to the hot water plumbing system of the dwelling which leads to the roof instead of to our familiar hot water tanks and

ranges. Over the top of the box is placed a tight-fitting glass cover.

This all completed and the water turned on, the lazy citizen of Los Angeles who hates to build fires (and *who* does not?) leans back in his easy chair and refuses to worry about the temperature of the water for his toilet for he knows that for a few dollars, the mere cost of material and a little plumbing, he has harnessed "Old Sol" to his water heating plant for years to come.

And as the sun constantly shines in that semi-tropical land with a glare and fierceness terrifying to the man from the East, such an economical and labor-saving service is practical as it would not be in any other part of the United States.

Thus, while learned physicists are working in the laboratory trying to invent a means of utilizing the heat rays of the great celestial body to do work of great magnitude for terrestrial man, this simple, little common-sense, yet scientific device constantly furnishes free hot water to the citizens of Southern California.

FRED C. SPAYDE.





MURRAY HARRINGTON.

EDITORS.



LAURA REED.

## The Engine Lathe.



LATHES are probably used for a greater diversity of operations than any other machine tool, and to this fact is due the variety of classes in which they are designed and the wide range of sizes in each class. The typical metal workers lathe—the most common of all—is the engine lathe; the one to which most of our remarks will be directed.

In cases where the engine lathe could not be used to advantage, special lathes have been designed; among the more common of these are, the Tool Makers' lathe, the Gap lathe, the Axle lathe, the Pulley lathe, the Bench or Precision lathe, and the Turret lathe.

The Engine lathe is a lathe equipped with a lead screw, for cutting screw threads, and power feeds for actuating the motions of the tool; it is driven from a countershaft or



SR.—*Slide Rest*, invented by Henry Maudslay in 1794.

CR.—*Compound Rest*.

TP.—*Tool Post* in which the lathe tool is held.

TTS.—*Threading Tool Stop* used for determining the depth of cut in screw cutting.

SRC.—*Slide Rest Crank* for operating the slide rest.

CRC.—*Compound Rest Crank* for operating compound rest.

CCS.—*Carriage Clamping Screw*.

A.—*Apron*, part of the carriage; contains the feed mechanism.

LSL.—*Lead Screw Lever*, clamps lead screw nut on the lead screw.

CFK.—*Cross Feed Knob* for operating the automatic cross feed.

AFK.—*Automatic Traverse Feed Knob* for operating automatic traverse feed from feed rod.

TPK.—*Traverse Pinion Knob*.

TC.—*Traverse Crank* for moving the carriage back and forth on the ways.

TS.—*Tail Stock*.

DC.—*Dead Center*; most of the lathe work is swung between the live and dead centers.

TSS.—*Tail Stock Spindle*.

CL.—*Clamp Lever* for clamping tail stock spindle in position.

OP.—*Oil Pocket*.

HW.—*Hand Wheel* for adjusting tail stock spindle and dead center.

CN.—*Clamping Nuts* for clamping tail stock to the bed.

SS.—*Setover Screw* for setting over the tail stock spindle when taper turning.

CG.—*Change Gears* for screw cutting and geared feeds.

StR.—*Steady Rest*.

CS.—*Counter Shaft*.

Cl.—*Clutch* on counter shaft.

H.—*Hangers* for counter shaft.

PR.—*Pulley Rest*.

FP.—*Face Plate*.

A SENOR MAC HINIST.

## Course of Drawing and Its Object.



IT is safe to say that there is no other department so beneficial to the student as that of mechanical drawing. It is here above all places that we find the object of the school, the training of the head and hand, is fully realized. Here the student learns to be neat and accurate at the same time. From the following brief outline of the course of drawing some idea as to the work in this department can be formed, but to fully appreciate the extent of the work you must go over the course and see the work turned out by the students.

The first year's work consists princi-

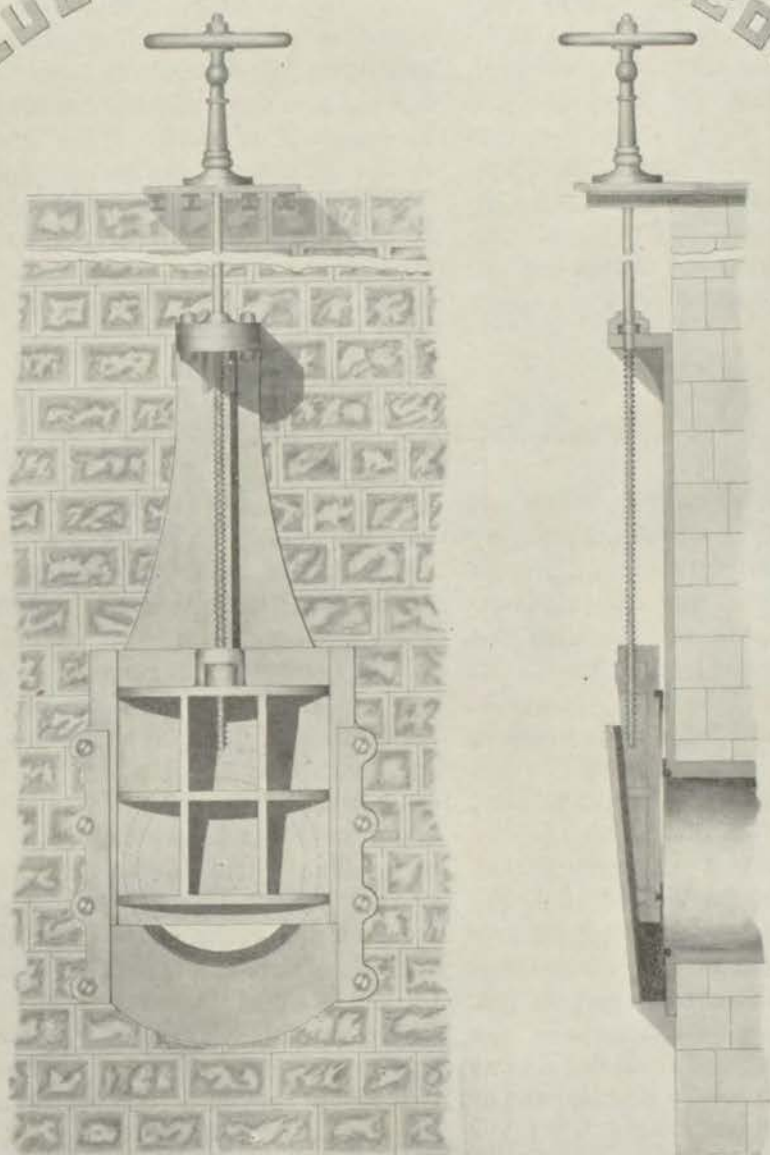
pally of making simple drawings, which are worked out in the shop. This enables the student to become acquainted with the work at hand and to see the relation between the drawing and the object. After this the developments of surface sections and intersections and instrumental drawings are taken up.

In the second year the student works up a drawing of geometrical problems, which covers most of the details for laying out the work. During this year they also draw some orthographical projections of prisms and cylinders and some practical detail work of shop machinery construction, usually a drawing of the lathe.

# SLUICE GATE

## LUDLOW VALVE MFG. CO.

SCALE 1/4"



M. T. H. S.

J. Fred Groebe  
Apr. '02.

During the third year the work becomes somewhat harder, taking up such work as the drawing of ellipses, cycloids, arches, cycloid gears, tracing, etc., with their practical application.

The fourth year work is mainly brush or wash work. Here the student is permitted to follow any line of work he desires, under the supervision of Prof. Sloan. Many of the boys are now working along the line they intend to follow in the future. Some exceedingly good results along the line of architectural construction, washwork of machinery and laying out valves and engines has been accomplished.

The object of this department is not so much to turn out architects as to give to the students a clear knowledge of the work, which enables them to read a drawing at any time. The value of this department has been shown by the large number of boys now employed in architects' offices, and the ever-increasing demand for more. But it is not here alone that the student gets the benefit of his work. If he goes to college and takes an engineering course, he not only gets credit for the work he has done, but he is better prepared to take up more advanced course.

J. FRED GROEBE.

## Needlework Among the Ancients.

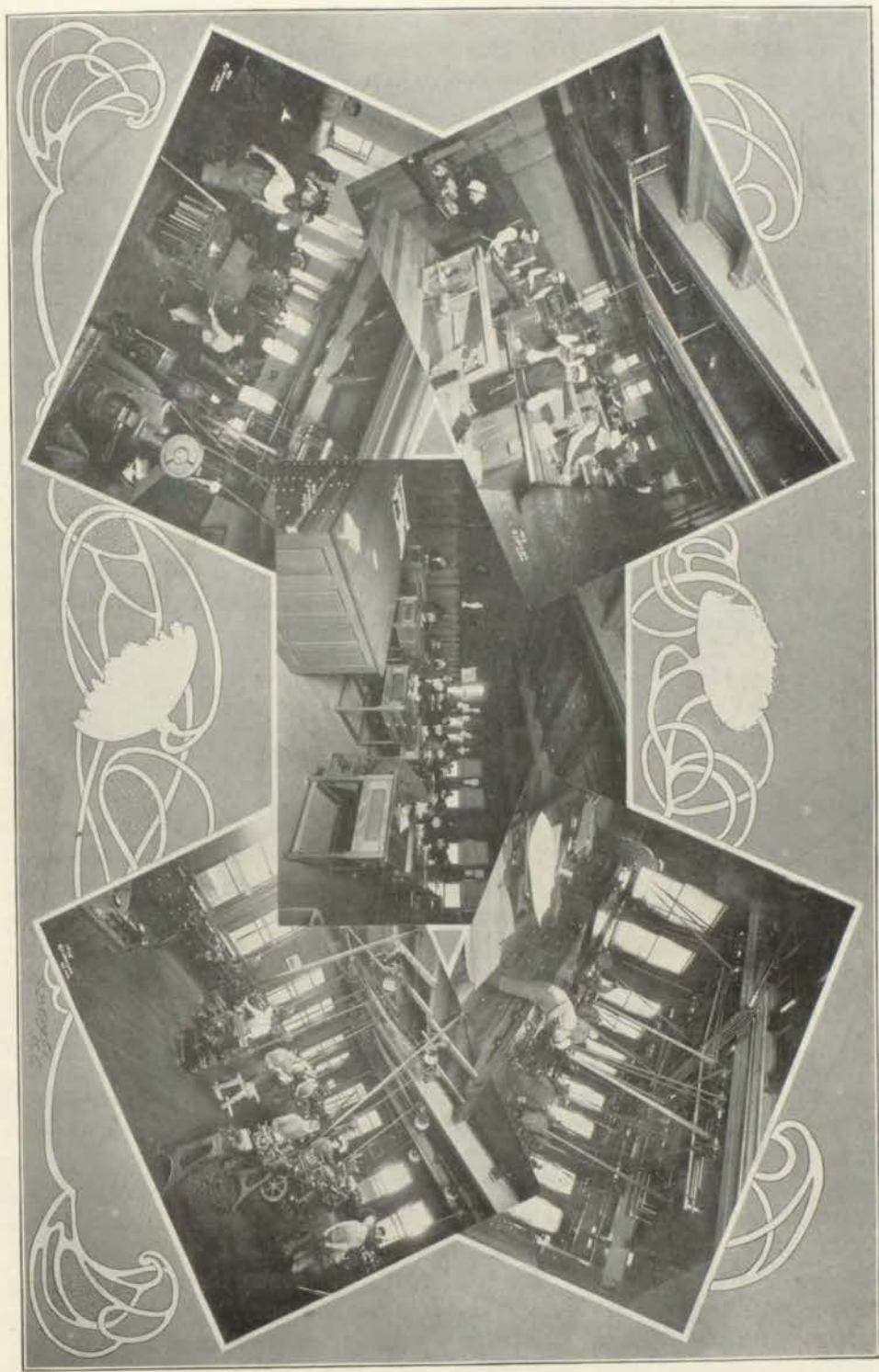


**N**EEDLEWORK is an art just as much as is painting or music; but unlike these it has, not only an ornamental, but a useful and practical side. No one can deny the great utility of plain sewing. It is one of the necessities of life but it can also become a thing of beauty. Here at Manual is taught thoroughly the more useful and necessary part of needlework but, for lack of time the fancy-stitchers are somewhat, though not entirely, neglected. It was not so among the ancient Egyptians and Hebrews. They cultivated the art highly and there has come down to us not only some lengthy descriptions of their wonderful work but a few beautiful remains of it.

Fine needlework, as were so many arts, was taught by the great Egyptians to the world although they were not the originators. They improved everything they came in contact with

in this line and they justly led not only in web-like weaving and spinning but in their use of gold on banners, sails, draperies and dress. They also excelled in the making of woolen goods such as carpets and tapestries. But Egyptian linen was far more wonderful. There are several specimens in South Kensington Museum, some of which have as many as one hundred and fifty threads to an inch. The linen was so exquisitely fine that it was often given and well deserved the name of "woven air". When nets were made, so delicate were the threads that the net could be passed through a lady's ring. Perhaps it was on account of the quality of linen, that Egypt produced such perfect embroideries. Each lady took pride in ornamenting her own dress and putting as much thought and individual character in the work as possible. They also made magnificent coverings for their couches and large chairs. It was in working with gold-wire,





however, that the most gorgeous results were produced. The gold thread used was made of solid metal moulded fine enough to use for embroidering. Amasis, one of the kings of Egypt, presented the Lacedemonians with a corslet made of linen with every thread in it, though very delicate itself, composed of three hundred and sixty other distinct threads. On this corslet the figures of many animals were embroidered. The embroidering was done with a needle and, fine as the linen was, gold thread was used in the decorating.

It was probably from the Egyptians that the Hebrews learned needlework. They afterwards showed in ornamenting the Tabernacle that they had well followed their teachers and could equal if not surpass them. Much linen was

used in covering the walls of the Tabernacle on the interior. This was adorned by embroidered figures of cherubim in scarlet and light blue entwined with gold. The Jewish maidens also worked many magnificent robes for the priests with embroidered flowers in blue, scarlet and purple.

There is no doubt that the women of Israel and Egypt were exquisite workmen in embroidery and spinning. It was more a labor of love than a task to them. It was necessary to know this for the sake of their education and they, studying it and accomplishing works of beauty, for the most part looked upon it as a pastime. Any one who learns and executes the art of needlework will find as the ancients did, both profit and enjoyment therein.

SELMA CROHN.

## The Queen of Tarts.



THE truth of the matter was that Rube Weeks was "settin' up" to Frances Lane. Rube was the village beau, and son of the wealthy squire; Frances, a city bred girl who had come to the little country town to spend her summer vacation. Rube had taken a fancy to the graceful, beautiful girl when he first saw her step from the car to the depot platform. Clearly, it was a case of "love at first sight," on his part at least. And Rube was coming to call that night upon Frances' uncle and aunt, with whom she was staying, and incidentally become acquainted with the idol of his heart. Presently he came, gorgeous in linen suit, flaring red necktie and huge boquet.

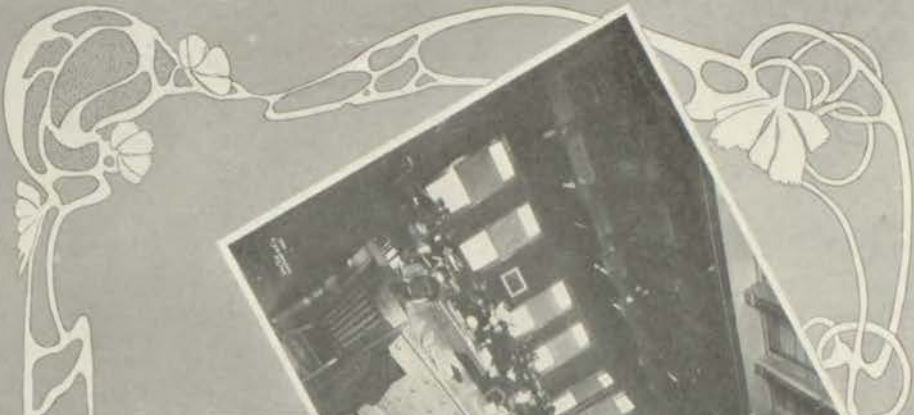
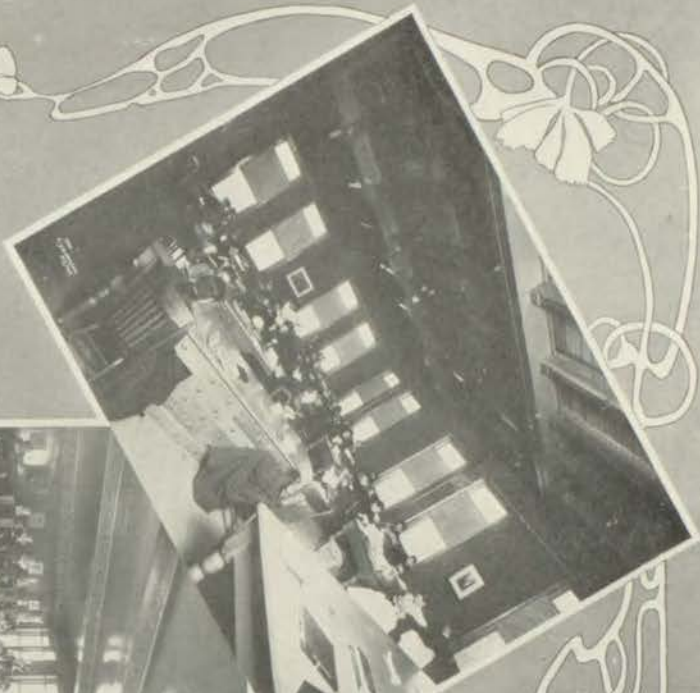
Rube was presented, and he "allowed

he was honored mightily to know Miss Lane," after which he proceeded to captivate her with the charms he had exercised so successfully over the village belles. The conversation, by Frances' skillful manipulation, finally turned on schools.

"By the way, Miss Lane," said Rube, "I hear that you went to that air Manual Training School you have got in Kansas City. Mighty fine institootion, aint it?"

"Oh, yes," she answered, "I went there for four years. It certainly *is* a fine institution. I would not sell my four years' course there, even if I could, for love or money."

Simply the mention of the word love nearly caused Rube to lose his balance and fall from his chair, but the girl rocked on, smiling in such a supremely



*Edison*

unconscious manner, that he quickly regained his composure.

"Well, I dew vum," he said after a moment's delay. "What did they learn you to do that's any account fer anything?"

"I took cooking and sewing. They teach both, you know. I really became quite a good cook; our teacher said I was one of the best in the class."

"Is that so? I would like mightily to taste some of your cooking, some time, mebbe for a long time," and he laughed knowingly as though he had made a very good joke.

"Well, you may. I cooked some very good cherry tarts this afternoon. Excuse me a moment and I will get some of them."

She went quickly into the kitchen, and from the pantry took a half a dozen of the tarts, yet warm from the oven. Just of the right crispiness and shade of brown, they were a triumph of the culinary art.

"Like to taste my cooking, maybe for a long time, would he? I guess he will get a taste this time, that he won't want to repeat." She took the largest tart, and deftly removed its contents through the bottom. She then took the cherries and mixed with them some mustard, flour, salt and to give the mixture the right consistency, a little glue. This she put back into the tart so deftly that it could not be detected from the others. This one, the biggest one of all, she placed temptingly in the middle of the plate. "I do hope he will take the big one; what if Aunt Sue or Uncle John should get it?" she said to herself. "I will just have to risk it," and she walked resolutely out onto the porch.

"Do take that one in the centre, Mr. Weeks, it's such a lovely brown one," and she held the plate laden with the toothsome dainties toward him. Then she and her aunt and uncle each took a smaller one.

"These are simply fine, Frances," said her uncle. "I don't believe I ever tasted any better ones. Don't you think so, Sue?" "Yes, I do. I couldn't have made better ones myself and that's saying a good deal," she answered with a smile.

"Why, thank you, I am glad you enjoy them so much," said Frances. "How do you like them, Mr. Weeks?"

"Mr. Weeks" had taken at first one huge bite, and now sat ruefully regarding the unfinished tart in his hand. "Fine, fine," he answered, with a sickly smile. "Best I ever tasted," and he manfully took another bite. How he ever finished that tart he never could exactly tell, but the memory of its taste will remain with him to his dying day. And Frances, cruel girl, sat by and watched his agony, enjoying it immensely. After he had finally gulped down the last bite, she said cordially, "Do have another, Mr. Weeks, won't you?"

He gave one despairing look at the tart, and then without ceremony, fled precipitately.

"Frances," said her aunt, "I really don't believe Rube liked your tart much, do you?"

"No, I don't, Aunt Sue," answered Frances demurely. And from that day to this she has never told why Rube would not have another tart.

E. TRICE BRYANT.

## A Toast To Manual.

**I** will sing a little story,  
 If the Muse should prove so kind,  
 As to aid in my endeavor  
 Some material to find,  
 And dress it up in proper shape  
 The NAUTILUS to grace,  
 If it interests the reader  
 Why! it's worthy of a place.

It's about our own Great Manual;  
 We are sixteen hundred strong,  
 It takes some active minds and hands  
 \*To roll this ball along;  
 This training of our boys and girls  
 Employs both mind and hands  
 And when the brain is tired, the shop,  
 For recreation stands.

Our teachers and professors all  
 Are masters of their craft,  
 From our shops and from our drawing  
 Where we are taught to draft,  
 We carry out designs we make,  
 In iron, and wood, and steel,  
 At forge, and lathe, and anvil,  
 With plane, and square, and reel.

To the higher walks of learning  
 They lead us day by day,  
 In history, science, language,  
 We have our part to play.  
 A business course is given;  
 Athletics, music, too,  
 Our education's rounded out  
 By the time that we are through.

So here's three cheers for Manual,  
 The people's pride and boast,  
 She leads the van of all the schools;  
 To her we'll pledge our toast.  
 It's Morrison, and Phillips,  
 "They chose the better part,"  
 The memory of whose earnest work  
 Will live in every heart.

—Robert A. Ridgeway.



MELVILLE ARNI.

EDITORS.



LOUISE SCHERER.

## Foot Ball.

**W**HEN we look back over the record of our foot ball teams, there is every cause to be proud of their various achievements. Every team, even the pioneer players, have all times won a majority of its games. To win a majority of games, it may be said, might not necessarily be creditable feat. But when we consider that

our boys have always undertaken a heavy schedule, and have been pitted against larger and heavier teams than themselves, a large amount of credit is due their perseverance.

The teams of 1900 and 1901, perhaps have achieved a more glorious record than their predecessors. The team of 1900 played a harder schedule than the team of last year, but the team of 1900 had a big remnant of veteran players of four preceding years, while



the team of 1901, with one exception, were all colts and were exceedingly light. The team of 1900 won the championship of two states, and out-played every team that was in any way near their class. The team of last year out-played the team that claimed the two state championship by virtue of a subsequent victory over our boys. So the championship really remains in question. While we are to be deprived of many of last year's players, we hope the experience gained in the last campaigning may

be preserved to the team of 1902.

#### BASKET BALL.

We hope to see an interest in basket ball next fall. The rest this year should have the salutary effect, we hope, to produce in track athletics. This year the girl athletes have achieved all the honor in that game. We are justly proud of their performances, too. The Westport and Central girls have found them quite as hard propositions as their brothers had in the Manual lads.

### Physical Culture Class.







ALL good things must have an ending, even school days. Who does not regret having to cease the interest in school affairs a student's license allows? Who does not regret the leaving behind associations of the four epoch making years of every student's life? But time terminates Methuselah's life and greater expanses.

If there is anything prosaic in school life, it is certainly not the recreative phase. If any association holds the esteem of an alma mater, those of the athletic pastime certainly are of these. The disappointments and discouragements climaxed by crowning victories are impressions that claim a foremost place in revery and remembrances.

Yet a conclusion of these should not be a discouragement. The pursuance of physical contest is but one phase of education and acquisition. The effects do not cease with the blazonry of triumphant banners and blasting of trumpets.

Acquisition in this is but a corollary to acquirement in other lines. Practice makes perfect in Latin or foot ball. The fittest survive whether it be in a field contest or in a competitive civil service examination. A victory is the result of a strenuous and concerted effort in a base ball game and in a debate. The one but illustrates the "eternal fitness of things" as well as the other. A credit is to be made at either and lies with the credit aspirant.

\* \* \*

Since the last issue of our paper, the track team of the school has been suspended, but by no means totally

expelled. The reason for this was a very natural cause if not a necessity. The reason was as sensible as advice to rest an arm when it becomes tired until it recuperates its strength. It was thought wise to relax and rest the fatigued interest and muscle for track athletics this spring, hoping a corresponding redundancy for the work a year hence.

Enthusiasm and interest are necessary to all things, and we hope to find out just how much the sport is worth to us by depriving ourselves of it temporarily. We hope the recuperative force of this rest will manifest itself a year from now.

\* \* \*

The base ball history of the school is on the whole assuring, but upon the page of the narration is an occasional tear.

Manual, at the present writing, stands at the top in the school league, yet her spell of triumph has known disheartening reverses. The team has demonstrated its power over every team save Central, whom fate seems to favor. Manual can defeat Westport and Kansas as easily as these teams can wallop Central, yet destiny seems to momentarily strengthen Central enough for them to avenge themselves for their humiliation at our hands in every game for three consecutive years.

On April 12, the team went out into the Kansas prairies to do battle with the aggressive Jayhawkers. They simply struck every tent stake in sight and smothered that team under their own canvas. Score, 25 to 15.

Westport was the next victim, and came into camp with the loser's tale. The game was a good contest, however, and earned by the winners at

every turn and decision. Score, 10 to 7.

Central came next, April 26, and took every piece of luck in sight. First by tying us, and second by winning an eleven inning game. Score, 10 to 5.

On May 3rd, Westport gave another

close skirmish in the wilds of that suburb. Score, 9 to 8.

On May 10, Central broke the heart of every Manual girl present and slaughtered the national game. The boys seemed all to have the blind staggers at bat and in the field. When their senses were restored the score stood 19 to 2.

### Base Ball Team.



BONE, r. field.	PETERS, Mangser.	SHIRLEY, l. field.	GROEBE, catcher.	SHIELD, 3rd base.	HARNDEN, sub.	PIERCE, c. field.	NEEVEL, short.	FORSTER, pitcher.	ARNI, 1st base.	MURPHY, 2nd base.
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## Girls' Basket Ball.



THE Girls' Athletic Association was reorganized last fall for the main purpose of playing basket ball. Every Tuesday found a number of girls in room one, ready to practice. But not until in the spring were there any match games. The first game was arranged for March 11, with the Central High School. The girls were anxious for this game, for they knew Central had a very strong team. The excitement was high. The game was played in the Manual gymnasium, where the red of the Manual was mixed with the white of the Central, as were also the voices of the friends of each school.

Central won in the toss-up for goals and selected the better goal for the first half.

The ball was kept going back and forth except when fouls were called, which were frequent. Two free throws were made by the Central, Manual not scoring in the first half. But we knew the next half our girls had the advantage of the better basket, so we had not lost all hope. After the usual intermission the game was called and the second half began. The girls played very hard and besides keeping the Central girls from scoring, they made three free throws and one basket. This goal was made by Miss Scherer, who tossed the ball backward overhead into the basket. The time was up and our girls were very happy. It was a hard-won game, with the

close score of 5 to 2. The players were: Forwards—Miss Scherer and Miss Barrick; guards—Miss Hewitt and Miss Brown; centers—Miss Warner and Miss Garrett. Referee, Miss Cummings. Umpires—Miss Hoernig and Mr. Freytag.

The next game was played with the Y. W. C. A. team, consisting of young women older than our girls. This game was played in the Junction building gymnasium. We had no idea as to how well they would play. There was quite a crowd to see the game. It was not on our home field and that was a disadvantage, but the girls won the game by their fine team play. The two forwards ran up the score by their excellent throwing. The result of this game was 26 to 7 in our favor. The team was same as played with Central. Referee, Miss Blatchly. Umpires, Miss Cummings and Miss Hoernig.

The last game was with Westport High School, played on their field on May 7th. In this game two of the second team took part. As the game was played on the Westport grounds, the girls were at a great disadvantage, but succeeded in winning the game by a score of 6 to 2. The line-up for this game was as follows:

Forwards—Annie Wynne, Louise Scherer. Guards—Dottie Hewitt, Ruth Barrick. Centers—Gertrude Warner, Nellie Hewitt. Referee, Mr. Freytag. Umpires—Miss Kahn, Miss Hoernig. ETHEL WALKER.

The Girls' Basket Ball Team.



## A Tennis Game That Wasn't Played.



Y goodness, I didn't have any idea it was so warm," exclaimed Bertha Vane as she dropped down on one of the park seats, threw her tennis racket down beside her and brushed her pompadour back from her forehead regardless of the time she had spent in arranging it.

"I told Edith I'd be down here at the park to play tennis at three o'clock." She took out a tiny watch and regarded it slowly. "I'm only fifteen minutes late—Edith never was any place on time in her life."

She looked searchingly up the green park but her friend was not in sight. She folded her arms behind her head, leaned back and gazed dreamily with half shut eyes at a fleecy cloud floating high above her, when her attention was attracted by a saucy jaybird, which was tilting on a twig above her, chirping and blinking his eyes at her in a most ridiculous fashion.

"I guess I am lazy, yet you shouldn't wink at me and tell me so," and she nodded pleasantly at the bird, which uttered a frightened cry and flew away. "If I could fly," she mused slowly, "I never would have to take physical culture or exercise. Flying would be exercise enough," and she watched the bird balance gracefully on a limb farther away.

"A quarter till four and Edith not in sight." She sat up straight and pouted a little. "Mama said I must take some exercise today, but how can I play tennis alone?" and she looked at her racket and then at the inviting court spread out before her.

"Here come the Anderson nurse and the three little Andersons. Someway I always feel sorry for her, she looks so tired and those children are so cross and tyrannical," and a new interest came into her face as she watched the little party approaching.

"How do you do?" said Bertha pleasantly, as they passed her bench. The children stared, while a little boy of seven hollowed "hello" and made a dart for her racket.

"O don't, Master Jack," said the nurse pleadingly, as she took it from him; "can't you speak politely to the lady?" "Don't want to," and Master Jack followed the nurse, pouting and muttering he'd "tell Mama."

The nurse sat down in a shady place and Bertha watched her trying to persuade her charges to "Come, sit down like grown folks and listen to the pretty story." "Don't want a story. Want to run a race. Come, run a race," and Jack stood up and pulled on his nurse's hand with all his might.

"I can't, I must watch baby Helen," and she hastened after the baby who was crawling away as fast as she could. The baby wailed and Jack eased his wrath by teasing Julia, who was younger than himself. The poor, tired nurse looked ready to cry with vexation, when Bertha's voice said pleasantly, "O, Jack, come play with me," and she held her tennis ball out invitingly.

"Do, Master Jack," coaxed the nurse while baby Helen paused in the middle of a wail and Julia forgot her sorrows for a moment. Jack reluctantly took the ball but after Bertha made him believe that he could throw much better than she, he even permitted Julia to join them and

several lively games ensued, while the little Helen slept and the tired nurse forgot her weariness.

"Half-past five!" exclaimed Bertha, after a merry game of tag; "I'd no idea it was so late."

"Come, children, I must dress you for dinner," and the nurse gathered up the sleepy baby and motioned for Jack and Julia to come. Jack began to stamp his feet and declare that it was early, but when Bertha suggested that they run a race to the gate he started out and she allowed him to beat her, which sent him home in such a seraphic state of mind

that he forgot to howl while being washed and dressed.

"What a splendid color you have, daughter," remarked Mrs. Vane, as Bertha came running in, a splendid color in her cheeks and her hair blown about her face. "Tennis is an excellent game and next year I want you to be sure to play basket ball and belong to the physical culture class. Our girls can't help but grow stronger bodily and their brains more active when physical training becomes as necessary in a course as mathematics or history."

LOIS OLDHAM.

## The Athletic Girl.



THE athletic girl, what a strong, noble creature she is, so different from her pale, delicate sister of a hundred years ago, and like the gay, rosy girl that she is, she has come in our hearts to stay. Not that she has in any way depreciated her daintiness in this development of her physical self, nay, rather she has enhanced it a thousand-fold by molding herself into a perfect expression of what nature intended her to be.

Whether she spins, sews, drives or sings, she does it in such a careless, bewitching grace that we wonder how we ever admired her weak, slender sister who never dared go out on a rainy day for fear of catching cold, or who never enjoyed the exhilarating pleasure in an impromptu snowball contest.

But this scientific training which she

receives need not change that womanly grace which characterizes her and which in its highest development gives her a superior position among her fellow creatures. Like the able assistant that it is it strengthens her physical nature so that she may more fully develop her mental faculties.

Wherever she goes she carries an exhilarating air of activity and vigor with her. So the strong, healthy girl of today can count herself most fortunate that she has lived in an age when it is not undignified for a girl to suspend herself in mid-air from an iron bar in order that she may develop the muscles of her limbs or to engage in an exciting game of basket-ball, which brings the glow of health to her cheeks and causes the blood to tingle through her veins with all the freshness of sturdy, healthy girlhood.

NELLIE GARRETT.



# EXCHANGES



GEO. J. HUNT, Editor.

As this issue is the last for this staff we have tried to make it the best number of the year, and we hope it will please everyone.

All this year we have been favored with a great many excellent exchanges. Indeed, at times we have been literally deluged with them, so that we now feel that we at least owe a portion of our limited space for the mention of those magazines which sustained a high standard of merit throughout the year. They are: *The Lowell*, *The Skirmisher*, *The Lever*, *The Crucible*, *The Pulse*, *The Tack*, *The Walk-*

*ing Leaf*, *The Clarion*, *The Holyoke Herald*, *The Industrialist*, *The High School World*, *The Students' Herald*, *The Ottawa Campus*, *The Messenger*, *The Midland*, *The Purple and White*, *The M. S. U. Independent*, *The Wm. Jewell Student*, *The M. M. A. Eagle*, *The Helios*, *The Studentana*, *The Iris*, *The Gitchee Gumce*, *The Mirror*, *The Vidette*, *The Lazonian*, and the *Herald*.

The wind murmurs among the pines; the moon, beautiful, an opal of brilliant glory, set in the rarest of blues, the harvest moon, shines

through the tree tops, making small patches of light, dancing, flickering on the dark earth. I hear the little stream singing and humming, as it dashes over stones, wild and free, or dropping into a slower motion, glides along, a golden band set with patches of silver—ever flowing—onward, onward. The campfire crumbles, a bed of ashes, now glowing with fiery splendor, now fading into a silvery, feathery mass of down. All is still. The breeze, coming from the mountain tops, cools my head. Nature herself is asleep, waiting for the watchful birds to herald the approach of morning with one grand burst of melody. I have no cares. I am happy. I am free. I am—asleep in class!—*Ex.*

Young man, if you lack learning you can apply yourself and get it; if you lack the confidence of your people, be trustworthy and diligent and you will soon win their esteem; if you lack the experience, time will bring it to you; if you lack even the grace of God, you can ask for it and get it—but if you lack *common sense* there is no hope for you.—*Ex.*

Mike—If wan of us gets there late and the other isn't there, how will he know the other one has been there and gone, or if he didn't come yet?

Tim—We'll fix that. If Oi get there first, Oi'll make a chalk mark on the sidewalk and if you get there first you rub it off.—*Ex.*

He told her that he loved black eyes,  
Declared his heart they'd won,  
So when he held his face near hers  
She promptly gave him one.—*Ex.*

It has been truly said that dancing is the poetry of motion. At any rate, much depends upon the feet in both poetry and dancing.—*Ex.*

The hammock fell—I wonder why?

It oft held two before;  
But, figuring it closely, I  
See this time it was more.  
For while the hammock held them  
both  
('Twas really worked to death)  
He held his own and her, and she  
Held rapturously her breath.

—*Ex.*

Some men are measured by feet,  
some by their heads.—*Ex.*

Never shed tears over spilt milk.  
There is enough water lost as it is.  
—*Ex.*

A very loquacious lady, calling one day to consult her physician, talked on and on with such volubility that the latter could not get in a word edgewise.

Growing impatient, he at length told her to put out her tongue, which she did: He then said:

"Now, please keep it there till you have heard what I have got to say to you."—*Ex.*

They were at a baseball game and the umpire had just called foul.

"I don't see any feathers," she whispered.

"No, dear," he replied, "this is a picked nine."—*Ex.*

#### IT WILL NOT PAY YOU

To skip classes,  
To be "too smart,"  
To get discouraged,  
To tell all you know,  
To be rude and selfish,  
To forget our advertisers,  
To neglect your studies,  
To be unsociable or unfriendly,  
To keep out of a literary society,  
To be absent from recitations,  
To let study crowd out your exercise.  
—*Ex.*



An editor of olden time

Who was most wondrous wise,  
In setting forth his thoughts sublime  
Used up ten fonts of I's,  
Then finding that his I's were out  
Used W and E.  
That's why we have today, no doubt,  
The editorial "We."

—*Ex.*

Mistress (angrily)—See, Bridget, I  
can write my name in the dust.

Servant (admiringly) — Oh, mum,  
that's more than I can do. There is  
nothing like eddication after all, is  
there, mum?—*Ex.*

Three very notorious punsters named  
Strange, Moore and Wright happened  
to bedining together one day. After  
dinner Mr. Moore said: "There is  
only one fool among us and that's  
Strange." "O," cried Wright, "there's  
one Moore." "Yes," said Strange,  
"that's Wright."—*Ex.*

#### APPLIED MATHEMATICS.

"My daughter," and his voice was  
stern,

"You must set this matter right;  
What time did the sophomore leave  
Who sent in his card last night?"

"His work was pressing, father dear,  
And his love for it was great;  
He took his leave and went away,  
Before a quarter of eight."

Then a twinkle came to her bright  
blue eye,

And her dimple deeper grew;  
"Tis surely no sin to tell him that,  
For a quarter of eight is two."

—*Ex.*

Joaker.—Well, that's the coolest  
eavesdropper I ever heard tell of.

Croakley.—Who?

Joaker.—An icicle.—*Ex.*

The Closest Hook—Do you catch on?

The Coat—I'll be hanged if I do!—*Ex.*

"Young man, have an ideal. Have  
an ideal, I say, and hug it to your  
bosom at all times and places."

Young Man.—"She won't let me."  
—*Ex.*

Johnny—Ain't it good of de school  
board to shut up de schools in the sum-  
mer, so we can get a rest?

Tommy—Aw, dat ain't de reason.  
Dey have to give de teachers a chance  
to learn some more.—*Ex.*

The chronic story-teller should be  
reminded that he is not the only one  
who peruses the pages of Puck and  
Judge.—*Ex.*

"Speaking about a man who painted  
fruit so naturally that the birds came  
and picked at it," said our artist, "I  
drew a hen that was so true to life that  
after the editor threw it into the waste  
basket it laid there.—*Ex.*"

#### HOW HE WON HER.

Ice cream he bought his darling,  
And she ate, and ate, and ate;  
Till at last her heart she gave him,  
To make room for one more plate.

—*Ex.*

Judge—You say the defendant turn-  
ed and whistled to the dog? What  
followed?

Intelligent Witness—The dog.—*Ex.*

"I wish I was a star," said a Cornell  
Junior, dreamily, to a companion.

"I wish you were a comet," she re-  
plied coolly, "for then you would come  
around only once in 1560 years."—*Ex.*

We were seated in a hammock,

On a balmy night in June,  
When the world was hushed in slumber  
'Neath the guidance of the moon.

I had asked her one little question,

And my heart was filled with hope;  
But her answer never reached me,

For her brother cut the rope. —*Ex.*

# LOCALS

LORENCE PRETZ



J. FRED GROEBE.

EDITORS.



MAY MERIWETHER.

### OUR FACULTY.

Great, Big Moderator.  
 English Department Petagogue.  
 Arithmetical Algebraic Demonstrator.  
 Binomial Theorem Calculator.  
 Bakes Hot Bread.  
 Penmanship, Bookkeeping, Shorthand Phenomenon.  
 Simplifies Hard Machinery.  
 Advocates Civil Government.  
 Analyzes Rare Minerals.  
 Demands Extra Devotion.  
 Has Mastered Physics.  
 Speaks Good English.  
 Moulderly Friend.  
 Walking Bureau Statistics.

Keeps Manipulating Dutch.  
 Exercise Makes Health.  
 Jokes Pretty Regularly.  
 Judges Good Clothes.  
 Just Makes Songs.  
 Study Time Foreman.  
 Makes Attractive Clerk.  
 Leaves Room Clean.  
 Assists Colicky Lassies.

I thought I saw a hungry dog  
 That begged of me for more,  
 I looked again and then, alas,  
 Most wildly did I roar,  
 For I did plainly see it was  
 The "Local Editor."



A poetic debater's idea of an O. Z. O.—a bunch of frills, a box of fudge, a ripple of frivolity and a cloud of perfume.

Visitor (in room 37)—What are you making to-day?

Miss Bachelor—Nothing; we're cooking the things God made.

Miss Walton—Oh, I just love kisses!

Miss Schreiber—So do I! (We wonder what kind.)

Girl (describing Vincent Coates)—He's the boy that walks up and down before the glass.

Miss Fisher—John, isn't there Scotch in you?

Williamson—Not that I know of.

Miss Fisher—Well, there's room enough.

Roy DAVIS



WHEN A

FRESHMAN

Prof. Peters—Define space.

Student—I can't, but I have lots of it up here.

Charlotte—Oh, let me see that ring, Raymond, I just love opals.

Raymond—I might give it to you, but you see mother gave it to me.

Mary at Ball Game—Now, there is Mr. Shields at the bat, I hope he will distinguish himself.

Mr. Oppenheimer—On the contrary he has extinguished himself, don't you see he is put out?

Miss Welsh says it was so windy the other night that her beau (bow) blew away on the way to the party.

Miss Gilday says that the reason she is so cranky is because she never married.

Thanks to our patient teachers  
For all their care and pains,  
They forgive our imperfections  
And know our love remains.

Miss Gilday—Where shall we go on our trip?

Laura—To the penitentiary.

Miss G—No, Laura, you might have to stay.

Did Ed, Dart after Bertha?

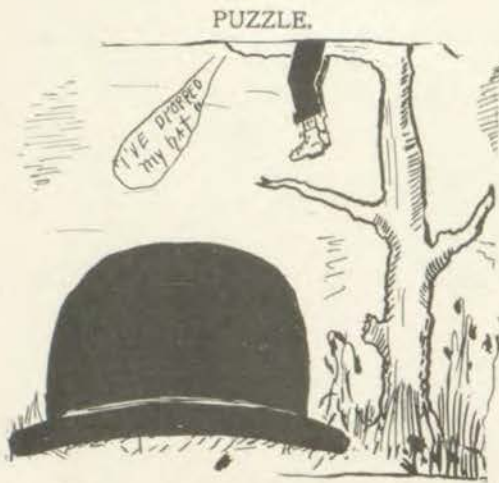
Mr. Coates (reciting in English class)—Miss Lyons, the moon shone until it went down last night.

The Junior President has adopted this plan,

To enable him to save what he can,  
Of eating (for fear of getting thinner)  
Wiener sausage for his dinner.

By this original and unique scheme  
He intends to set the example  
Of frugality, and at the same time seem  
To be spending money ample.

Juniors, take heed and follow the lead  
Of your leader, who is a "winner."  
Eat Bologna for your supper feed  
And wienies for your dinner



How do you know that Will Merrill is in this tree?

#### TO RALPH.

They sat on the porch at midnight,  
And were having lots of fun—  
Her Pa came down the stairway,  
And soon Ralph was on the run.

Prof. Phillips (seeing a street sweeper  
pass by)—It must be near election.

Some of our girls are sporty—they are  
fond of the Chase.

Sewing Pupil—I know a splendid  
dressmaker and she is a poor widower!

Miss Gilday says she held hands and  
it was in the dark, too. Wonder whose.

Pupil (translating Latin to Miss Drake)  
—That man of yours who praised you is  
very foolish.

Love is blind—That is why Juanita  
has to wear glasses.

Mr. Richardson—Let me see, did I  
see any of you at the last ball game?

Pupil—Yes, you and I were in the  
same box.

Prof. Dodd—Mr. Christie, did you see  
the mistake?

Mr. Christie (waking up)—Who said  
Miss Lake?

Mary and Theo have had a fuss,  
Their former affections are all in a muss.  
How and why, where and when,  
Was Theo asked for his O. Z. O. Pin?

Ask Miss Schreiber how she got those  
fever blisters.

Prof. Cowan—You hurt a dog and he  
yelps, that's conversational.

The good order maintained by the  
Junior class is due to their adopting the  
Seniors' rules and by-laws.

Stone really cracked a joke! He said  
the O. Z. O.'s should call themselves the  
I. O. U.'s since they are always in debt.

Roy—Is swell-headed in the diction-  
ary?

Miss Fisher—No.

Roy—It is used more than any other  
word outside the dictionary.

Miss Fisher—Do you hear it often?

If down here I chance to die,

Say in Mr. Chace's room,

In a chalk box let me lie;

Janitors bewail my doom.

Put a dust rag o'er my head

And a pointer in my hand,

Let erasers be my bed

And test questions which I scann'd,

Milne, Nichols, Dodd & Chace,

Compasses and rulers worn,

'Rithmetics upon my face

These my soul have sadly torn.

Then my brain will be at rest,

Algebra no more I'll rue;

It will lie upon my breast

Lighter than it used to do.



The "Soph"—Say, did you pass in everything?  
The "Freshtie"—No; I failed in two epidemic studies



O, where! O, where has our Drum  
Corps gone,  
O, where! O, where can it be?  
For we have not heard of it for many  
a day,  
O, where! O, where can it be?

Harriet—Take my book and don't look  
at anything you see.

Mystery—How did Mr. Christie hap-  
pen to have Miss Hale's admit in En-  
glish Literature?

Miss Mulford—Oh, let's put our ears over our hands  
while the Glee Club is singing.

Mr. Uebelnesser—The Swedes make the best girls—I  
mean servant girls. He suddenly remembered that Ione  
was not a Swede.

Marion—Won't you pull that craw-  
fish's leg?

Why doesn't some one organize a new  
society? We nee-da few more.

Miss Gilday—Woman's greatest right  
is to be protected. By arms if she will.

Alfred Hucke—The boy with a good  
sized imagination, which never rests for  
want of use.

"Some little, delicate, sweet voiced  
maiden sitting on the front seat," and  
the speaker looked at Miss Paxton!!!



A Proportion—J. M.: L. B. :: L. O.:  
H. H.

How Strange—The O. Z. O's address  
their president as Mr.

Clara Webb (seeing a windmill)—Oh,  
that's what they grind water with!

Mr. Cowan says—A fellow always  
gets rattled the first time he proposes.

Prof. Shields (to Miss Savage and Carl  
Hunt fighting for a pencil)—There that  
will do, you can join hands some other  
time.

MAUD'S MISTAKE.

Maud Muller on a summer day  
Dropped her rake and ran away  
With an agent for a patent churn,  
Who had a million—yet to earn.  
The village squire made the splice.  
"Gee," said Maudie, "Aint it nice?"  
But the churn fakir soon did tire  
Of Maudie, which aroused her ire;  
And when she saw that she was "it,"  
She gamely dropped the job and quit.  
The peddler had her savings spent,  
So back to the hayfield Maudie went  
A sad grass widow; and she's to-day  
With the same old rake making hay.



Mr. Havens—Will Merrill had a head on him last year.

Mr. Hutton—*Well, he certainly* has a plenty this year.

Ask Ichabod Craine if he pays pole tax.

Marie says that the name Charlie means so much to her.

Miss Gilday—I smelled a mice.

In whose company does Lois spend her Sunday evenings?

Why her-man's (Herman's) of course.

May—Now, please don't any of you elope with my chair.

Alfred—There is no danger as long as you are in it.

Clarence (reciting in History)—Miss Gilday, why is it a girl will let you put your arm around her when the music is going, and won't let you touch her when it isn't?

In the spring a young man fancies,  
He will cut a mighty dash,  
And with his nobby hat and trousers  
Counts on many a mash.



#### OUR SOCIETIES.

Mercy on us, what a noise!  
Such a racket that annoys,  
Deafening tumult from those boys!  
Art for heart's sake, that is we;  
Clannish set, as you'll agree.  
Ounce of wisdom, yards of tongue,  
Zest for dances, fudge and fun—  
Orange blossoms when school's done.  
Seems hard luck we cannot thrive;  
Cheer up, though, we're still alive.  
In room twenty is our grotto,  
Only this our simple motto,  
Not a girlie have we got, oh!  
Another club has joined our ranks—  
Lot of biographic cranks;  
Save us from their coming pranks!  
O'er and over all together  
Increasing hum—  
Ten girls always talking  
And then some—.

Gorgeous notes of vocal joys,  
Clashing forth from gasping boys.

Bert Rogers, in commercial law—I don't understand the expression, "agreements of marriage otherwise than natural."

Mr. Peters—We'll come to that in a few months, but it may be years before you come to it.

Mr. O'Brian says we'll have to C. Abbott about that,

As parting time draws near, even the delight of vacation is saddened by the saddest of words—good-bye.

Roy Davis—A High School child,

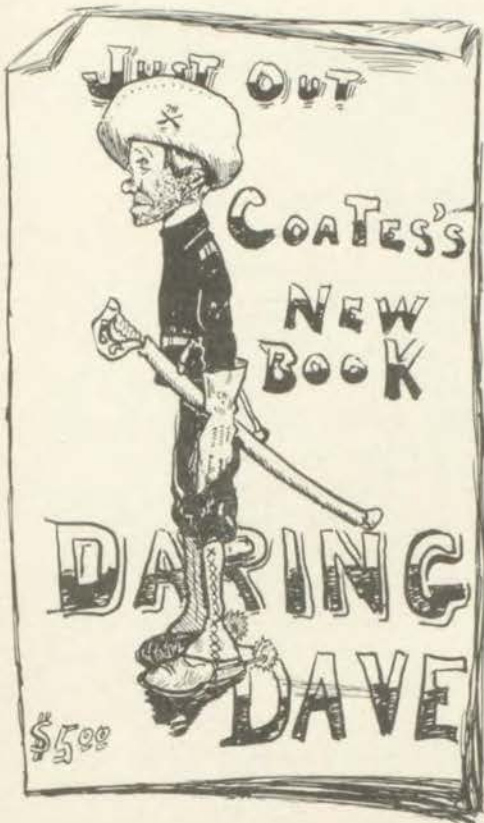
Victor (as Mr. Small draws a triangle)—Why are you like that triangle on its apex?

Nelson—Why?

Victor—Because you are both off your base.

Lista (reading Virgil)—Entellus ah, oh, Entellus—

Miss Drake—Yes, go on "and tell us."



## CONSOLATION.

While Freshmen vain  
 With saw and plane  
 We toiled like grown up men,  
 Till drops of sweat  
 Our chisels wet;  
 We earned our credits then.

As Sophomores good  
 At lathes we stood  
 A sharp tool in our hand,  
 The motor fast  
 Did all the rest  
 Then work was easy, grand!

But now, kind friends, we're Seniors  
 real,  
 And very proud indeed we feel,  
 For whereas once did power rule  
 The movement of the stock alone  
 It now bot<sup>h</sup> governs stock and tool  
 While we discourse in care-free tone,

The moral of my story  
 I am sure is very plain:  
 It is just this, little Freshmen,  
 All your toil is not in vain;  
 For by doing without grumbling  
 All the work that comes to hand,  
 You will some day reach the summit  
 Where you now see Seniors stand.

As the Kansans knew us—  
 Arni—Uncle John.  
 Kilroy—Grandma.  
 Groebe—The Duke.  
 Bone—Baby.  
 Murphy—Irish.  
 Frank Holliday—Gussie.

Harriet (after reading "In Cupid's  
 Retreat" in our last issue;—Oh, I wish  
 I had some one to hold my shawl.

Mr. Small—How many angles are  
 there in a triangle?  
 Sleepy Pupil—There are 360.

The Sills give substantial support to  
 the Senior class.

Overheard as John Richardson passes  
 a crowd of girls in the hall—Isn't he the  
 dearest thing?

Miss Drake—What is the plural of  
 "some?"

Watt—Why "somes," of course.



When Mr. Mor-  
 rison in announcing  
 the baseball game  
 with K. C. K. said  
 he hoped it would  
 be the same old  
 story, he must have  
 forgotten that they  
 were victorious last  
 year.

One Freshman  
 quarreling with an-  
 other—"If you don't stop I'll stick this  
 thumb-tack clear through you."

## WAIL OF THE DEPARTED.

When I have ariz from my sleep,  
I look into the glass and weep,  
For day brings back the knowledge  
That I am at college,  
And I am supposed to be deep!

Visitor, at baseball game, pointing to  
Mr. Cowan, Elizabeth and Charlotte—  
And who are they?

Freshie—Oh, that's the Cowan family.

Miss Gilday made the following start-  
ling statement—A dog has two sides!

## "SENIOR CRY."

Who are we? Who are we?  
Seniors, Seniors, don't you see?  
We're the stuff! We're the stuff!  
Jolly, jolly, that's no bluff!

Raymond thinks Clara has the cutest  
dimples.

## MAY'S SONG.

We have planned and worked together,  
Freddie,  
When wit was ebbing low,  
And now we are going to part, Freddie,  
Perhaps to meet no mo'.  
But we will not forget the NAUTILUS,  
Freddie,  
In the years that come and go,  
And hope it will miss us, Freddie,  
When the locals come in slow.

Mr. Shields—Miss H—, I must change  
your seat.

Miss H—(under her breath)—Oh, you  
old bachelor.

Mr. Shields (continuing his original  
train of thought)—Well, I can't help it.  
Is it any wonder we draw conc'usions?

Sing a song of six-pence,  
Maids upon exam,  
Once the pretty maidens  
Fervently did cram;  
Now they sweetly copy  
From the laddies near,  
And the sharp-eyed teacher  
Says their sheets look queer.

Miss Stophlet asserts that the Tro-  
jans had bartenders because Virgil says  
that some of them carried their bier  
(beer).

Mr. Havens' opinion of the Senior  
class—We're an intelligent layout.

Mr. Dodd (examining class)—Now at  
the top of your paper write the name of  
the study and your present name.

Miss Tripp—Oh, Mr. Cowan, I can't  
read that without looking at it.

A is for Alice, with complexion so fair,  
B is for Bryant, at the President's chair,  
C is for Constance, whose heart is on fire,  
D is for David, whom the girls all ad-  
mire,

E is for Edward, the shortest of all,  
F is for Florence, so stately and tall.  
G is for Gertrude, with smile so win-  
ning,

H is for Herman, who thinks love's no  
sinning,

I is for Ida, who clings to her Haven,

J is for John, who with kisses is laden.

K is for Katherine, who lays aside joys,

L is for Laura, who loves fiddles and  
boys.

M is for Marion, fair-haired and sweet,



COMMENCEMENT  
EXERCISES





N is for Nettleton, dainty and neat,  
 O is for O'Brian, our Sergeant-at-Arms,  
 P is for Paxton, you all know her charms,  
 Q is for Queal, you all know the rest,  
 R is for Rachel, the fair and the blest,  
 S is for Schreiber, precise, sweet and small,  
 T is for Teresa, beloved by all,  
 U is for Uebelnesser, our manly athlete,  
 V is for Vincent, who thinks he is sweet,  
 W is for Waterman, whose authority we doubt,  
 X Y & Z are the ones we're left out.

Why didn't the I. O. N.'s have the cockfight in their Filipino production? Because Mr. Morrison was afraid that the critics would call it a "foul" proceeding.

Raymond says his brother looks just like himself, and added, that his brother was very handsome.

Miss Leonard, as Mr. Blodgett goes down the hall talking to Miss Morrin—Oh, isn't Laurence a dear? I wish that horrid Morrin girl would leave town.

Girl Wanted—By Richard Montigue. Florence Scott, take notice.

Mr. Miller—Oh, you will learn more about sulphur.

He must think his 2 B class pretty bad.

Miss Bachelor has a new ring. (?)

Miss Duncan says the only part of the Bible that she knows is where David killed Goliath.

Mr. Phillips, speaking of a character in a book—He was half beast, half devil and half angel.

One of the Debaters said he knew Florence Scott before he knew any of the other kids.

#### SONGS.

"Our Directors"—The Faculty.

"In a Cosy Corner"—Margarite and Roland.

"Dreamy Eyes"—Paul Armstrong.

"Anchored"—Lois.

"Just One Girl"—Herman.

"Don't Be Ashamed to Come Back Home"—Dwight.

"Hiawatha"—Melville Arni.

"The Explorers"—Maxine and Tom Hall.

"And the Cat Came Back"—Harold.

"She Was Bred in Old Kentucky"—May.

## TO FRESHMEN.

Oh, Freshmen! timid Freshmen;  
 Decorations for our walls,  
 We've heard your footsteps patter  
 Up and down our spacious halls.  
 Your year is almost ended,  
 Its trials are almost o'er;  
 When next we see your smiling face  
 You'll be a Sophomore.  
 When with a rush that year begins,  
 You doubtless will remember  
 How you suffered from the taunts  
 Of a previous September.  
 Then don't forget to pity  
 Those whose trial has just begun,  
 And when you're tempted to guy them,  
 Just remember you were one.  
 Montigue—I never dare be as funny  
 as I can.

## TO ROBERT EARL DASWON.

Would'st thou be eloquent? then al-  
 ways say  
 Plain, simple things, in a plain, simple  
 way.  
 A homely thought is like an honest  
 maid  
 Most ill at ease in spangled garb ar-  
 rayed.  
 Common expressions of Miss Lyons—  
 Dear, sweetheart, pet, baby, cherub and  
 honey.

Miss Leonard—Oh, girls, let's go and  
 talk to the Debaters

Miss Hoernig—You girls can get  
 along with one dressing-room because  
 you will leave your shoes down stairs!!!

Miss Rouse (in English)—I am not  
 much of a Debater.

Never mind, Belle, you will improve.

Mr. Richardson says the day he mar-  
 ried he had thirteen dollars and no  
 cents (sense).

Roy Davis—When I don't recognize  
 him, isn't it the same as ignoring him?

Miss Van Meter's definition of a bear  
 —A poor four-legged quadruped.

Mr. Hutty (on hearing warning bell  
 ring 3 A)—Heap Good.

E. D. P. (excited)—Thunder and  
 mud!

Director Phillips (fiercely)—Shoot  
 the curtain raiser.

Prof. Page (at an x-ray exhibit)—  
 Which one of you girls will give me  
 her hand?

Miss Jenkins has a different room  
 each period; hence her name should  
 not be "Stella," a fixed star, but "Plan-  
 eta," the wanderer!

## PET PHRASES.

Mr. Arrowsmith—Down in St. Louis.  
 Mr. Moore—Read your shop notes.  
 Miss Fisher—Young people.  
 Miss Drake—Now I am sorry to have  
 you make this up, etc.

Miss Shafer—Well, now, that's dif-  
 ferent.

Mr. Miller—Well, well, now do you  
 understand this thoroughly?

Miss Gilday—Such things happened  
 in—Arabia, I am told.

Miss Rapp—In designing class,  
 s-s-s-s-sh!

Mr. Richardson—Yes, next.

Interested friend—Why, Marguer-  
 ite, whose pretty ring have you?

Marguerite—O! it's mamma's.

Roland—No, it isn't.

Marguerite—? ! ! ! ! ! ! ! .

Why is the NAUTILUS Annual like  
 the Ruggles Family?

Because it takes a lot of trouble to  
 give it a send off.

Why were the O. Z. O.'s not men-  
 tioned in the Star's carnival editorial?  
 Because even a star could not aspire to  
 such a lofty height.

Are the Debaters woman haters?

Laura—I walked two miles up the railroad with my brother; I could have walked twenty with somebody else's brother.

Selma (at rehearsal)—What kind of an expression do you prefer?

Miss Gilday—If you have such a supply, any one will do.

Senior—My, look at the ink I spilled!

P. G.—That was a great waste, the Juniors could use it for punch at their party.

"Left again" muttered Miss Hoernig as the careless girl swung her Indian clubs to the right.

A flutter and a flurry, among the girlies  
by the wall,

Some one in a hurry is coming down  
the hall;

They know too well, you see, where he  
will end his walk,

For Waterman does, you know, like to  
the girls to talk.

Harriet—Waterman, let's hear you talk in German.

Waterman (in German)—You are a beautiful maiden, and I love you.

Harriet (not understanding)—How exquisitely charming.

Miss Mallan says she is sorry spring has come because Frost has gone.

Armstrong—I am inclined to be tender-hearted myself???

Roy Davis speaks of us as being "school children"!!!

Alfred—What is a peck of trouble?

Miss Fisher—It is a fourth of a bushel of trouble!

Mr. Holliday (to company)—May I walk your way?

Young Lady—Well, I don't know; I have always been told that I walk pigeon-toed. If you can walk that way, all right.

Miss Scott—How funny it will feel to have your arms around the boys at the dance.

Miss Rothgeiser (to Groebe, who had his arms around Arni)—Please don't do that; you make us all jealous.

Laura—It is a compliment to be called a pig now, because pork is so high.

Mr. Dodd—Yes, Teressa; I think you are the very child.

Veva (looking at Junior officers' picture)—It is not a pretty picture, but a very intellectual one.

Miss Crawford (to teacher in cooking)—Look! this must be done, because it is burning!!

Charlotte—My eyes are just fixed on Roy Davis' face.

Edith—Oh, I love everyone with flowers this morning.

Davis—I wish I had a flower.

Satterlee's face could easily have passed for a tomato after the Westport game.

If you come to school without your lunch,

Uneda biscuit.

If you drift away from the rest of the bunch,

Uneda biscuit.

Don't go the bakery lest you wait

With Mr. Morrison, very late.

Just look up a grocery.

The cracker's your fate—

Uneda biscuit.

Mary—Just to think; I bought these slippers for \$3.98.

Kate—What a perfect bargain; I had to pay \$4 for mine.

Mrs. Schultz—Look at me and you will gain intelligence.

Miss Casey (to sewing class)—You know we are all colored, but not so highly as some of our friends.

Mr. Merrill's favorite expression—  
When I was in Paris.

Edward Dart cheats the tailor when  
he buys his pants!

Miss Gilday (in Political Economy)  
—What is the difference between  
capital and labor?

Student—I lend you a quarter; that's  
capital. If I try to get it back, that's  
labor.

If love is intoxication, what is mar-  
riage?

Ans.—Delirium tremens.

Does Mr. Elmer enjoy himself at  
Senior meeting?

Mrs. Schultz—Now write two over-  
neath the last!!

Lois says Herman has no say as  
to who shall call on her.

Miss Rothgeiser says she has a very  
good friend who goes to see a differ-  
ent play every week, and he brings  
her all his programs.

It was suggested in Senior meeting  
that the Senior class, instead of pre-  
senting something to the school, give  
to Mr. Moore's department a barrel of  
soap. The boys think that such a  
gift should be made before Commence-  
ment.

Poor Mr. Benjamin! He asked Miss  
Pennington and Miss Bangs for their  
company to Junior reception, and was  
told that their respective fathers  
would see them safely there and back.

Miss Faris (in elocution)—She did  
not get the right reflection of her  
voice.

When that Westport boy with hair so  
dark

Fell down the steps at Sportsman's  
Park,

We all did laugh and then surmise  
That Westport's Team would fall like-  
wise.

Why did Mr. Henrici bring that  
milk bottle to senior meeting?

Bert Satterlee is becoming quite a  
"ladies' man." Girls, look to your  
hearts.

Where was Waterman sitting when  
Laura played?

Miss Bachelor—We will study the  
fat paper today.

Lillian, watching the Debaters re-  
hearse—Aren't they cunning? They  
grunt just like pigs.

Miss Gilday—Is Edith ill?

Charlotte—No, she is absent.

Pupil (reading Merchant of Venice)  
—There are land-rats, and water-rats  
—and pi-rats.

A noise, a rush, a dash, a call,  
An O. Z. O. walking down the hall,  
And—that's all.

Mr. Stone to Miss Rothgieser—Don't  
call me Mr. Stone, call me Dodie.

Forever and forever, as long as the  
river flows,  
My heart shall hold fond memories  
Of the charming O. Z. O.'s.

Mr. Page says he spends a great deal  
of time making waves in the bath-tub  
and watching them.

Go to Waterman, girls, to get the  
latest styles in hat pins.

One pupil—Look, Jim has had his  
hair cut.

Another—Doesn't it look nice? now  
we can see how big his head is.

Miss Gilday says that "crams" and  
"exams" always go together.

Raymond tried to make a mash on  
his thumb.

Ida—I feel as if my heart were re-  
pining.

Lois—I feel as if I did not have any.

Mrs. Shultz—I will now pass around  
the Angel.

# BUSINESS



WM. E. MERRILL.

## MANAGERS.



CHARLES CHRISTIE,  
Subscription Clerk.



E. TRICE BRYANT.



IN our last number of the year, the management wishes to thank our patrons, the advertisers, for the kind and hearty support they have given the management throughout the year. We sincerely hope that all readers of the paper will reciprocate. "Patronize those who patronize the NAUTILUS," should be our motto.

From the first issue the advertisements have steadily increased, until now the proceeds from this source enable us to

put forth the finest publication of its kind in the West. Nearly all of the merchants who have given us a "trial ad" have continued to advertise with us, showing that it is a paying investment to advertise in the NAUTILUS.

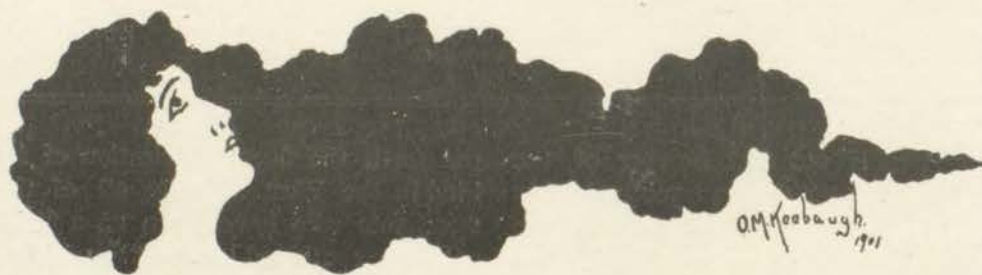
In soliciting advertisements we have approached only the very best business concerns, and in this way have kept up the paper to its usual high standard. A publication is known by the people who advertise in it. If it were not for our patrons, we would not be able to issue the paper at all, as it depends financially

upon the money realized from the advertisements.

The managers have tried to do the best they could for their department and the paper. The department itself is in reality the most important of all, as the others, in greater or less degree, are dependent upon it. Eliminate the financial side of issuing the paper, and it

would no longer be issued. In getting ads we met with greater success than we expected; we were given sixteen pages to fill, but we have contracted for about twenty.

Lastly, we wish to express our sincere appreciation and gratitude to those who in the year past have helped us to make a success of our department.

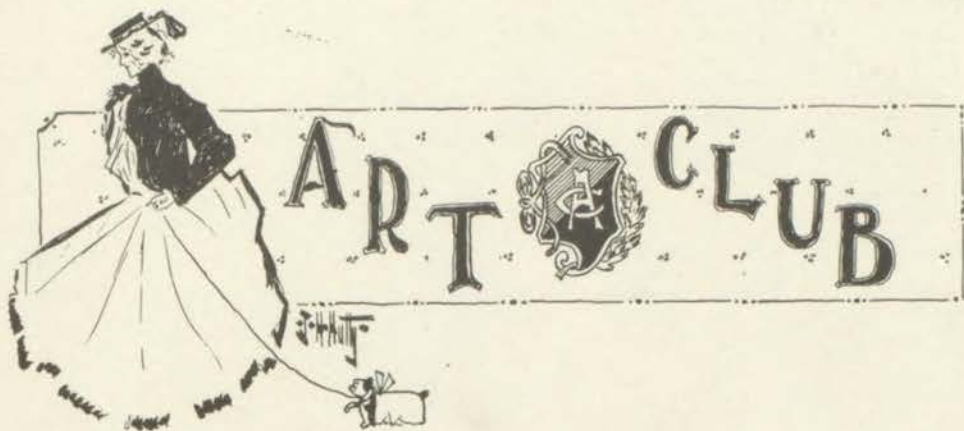






THE ART CLUB.





Colors: Orange and Yale Blue.

Organized: November, 1897.

OFFICERS.

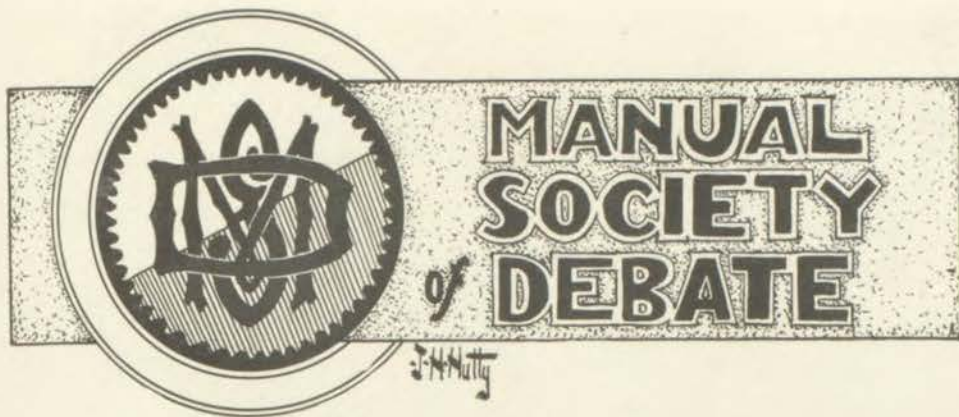
Lois A. Oldham,	President.
John Richardson,	Vice-President.
Candace Confer,	Secretary.
Jesse Oppenheimer,	Treasurer.
Harriet Mulford,	Critic.
Arthur Hallam,	Sergeant-at-arms.
Raymond M. Havens,	Reporter.

MEMBERS.

Robert Bowman,	Jesse Oppenheimer,
Candace Confer,	Marie Phillips,
Harriet Duke,	Gertrude Rothgeiser,
Alice Duncan,	Belle Rouse,
Ralph Ettlinger,	David Rider,
Evelyn Edwards,	John Richardson,
Constance Gerhart,	Bert Rogers,
Arthur Hallam,	Roy Pierce,
Raymond M. Havens,	Hope Stoner,
Katherine Higgins,	Arnold Shawn,
Roy Kendall,	Florence Scott,
Belle Leonard,	Edward Smith,
Richard Montague,	Bertram Satterlee,
Sidone Mallam,	Egbert Schenck,
Juanita Morrin,	Ellen Vincil,
Mary Mitchell,	Clara Lee Webb,
Harriet Mulford,	Edna Welch,
	James Wittenmeyer.



THE MANUAL SOCIETY OF DEBATE.



Colors: Old Gold and Crimson.

Organized: December, 1898.

OFFICERS.

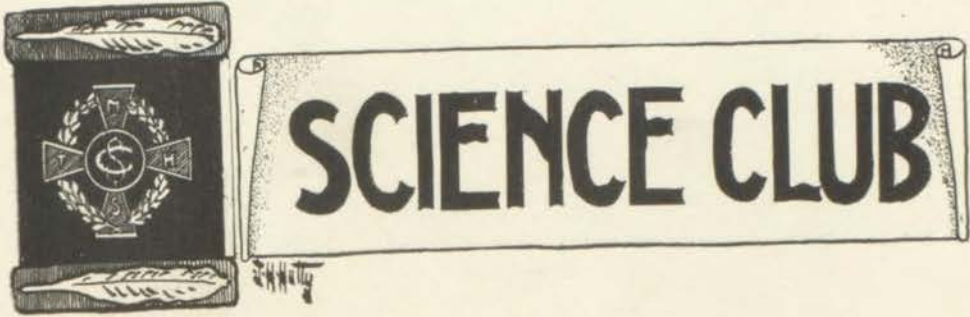
- |                               |                   |
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| Alfred Wagner, - - - - -      | President.        |
| Robert Ridgway, - - - - -     | Vice-President.   |
| Edward Van Buskirk, - - - - - | Secretary.        |
| Edgar V. Simpson, - - - - -   | Treasurer.        |
| Robert Bone, - - - - -        | Sergeant-at-Arms. |
| Paul Pierce, - - - - -        | Librarian.        |
| Raymond Lee, - - - - -        | Critic.           |
| Harry Busch, - - - - -        | Reporter.         |

MEMBERS.

- |                      |                      |
|----------------------|----------------------|
| Melville Arni,       | Edward W. Dart,      |
| Charles Peake,       | Paul Armstrong,      |
| I. Wesley Elmer,     | Guy Roberts,         |
| Trice Bryant,        | Allen Elston,        |
| Louis Sills,         | Svend Busch,         |
| William Funck,       | Frank Uebelmesser,   |
| Herbert Barr,        | Frederick Groebe,    |
| Chester Mann,        | Charles M. Christie, |
| John Gravely,        | Theo. Stewart,       |
| Lester Charles,      | Bruce Gilmore,       |
| George Beardsley,    | Murray Harrington,   |
| Robert Earle Dawson, | George Hunt,         |
| Roy Davis,           | John Huty.           |



THE SCIENCE CLUB.



Colors: Yale Blue.

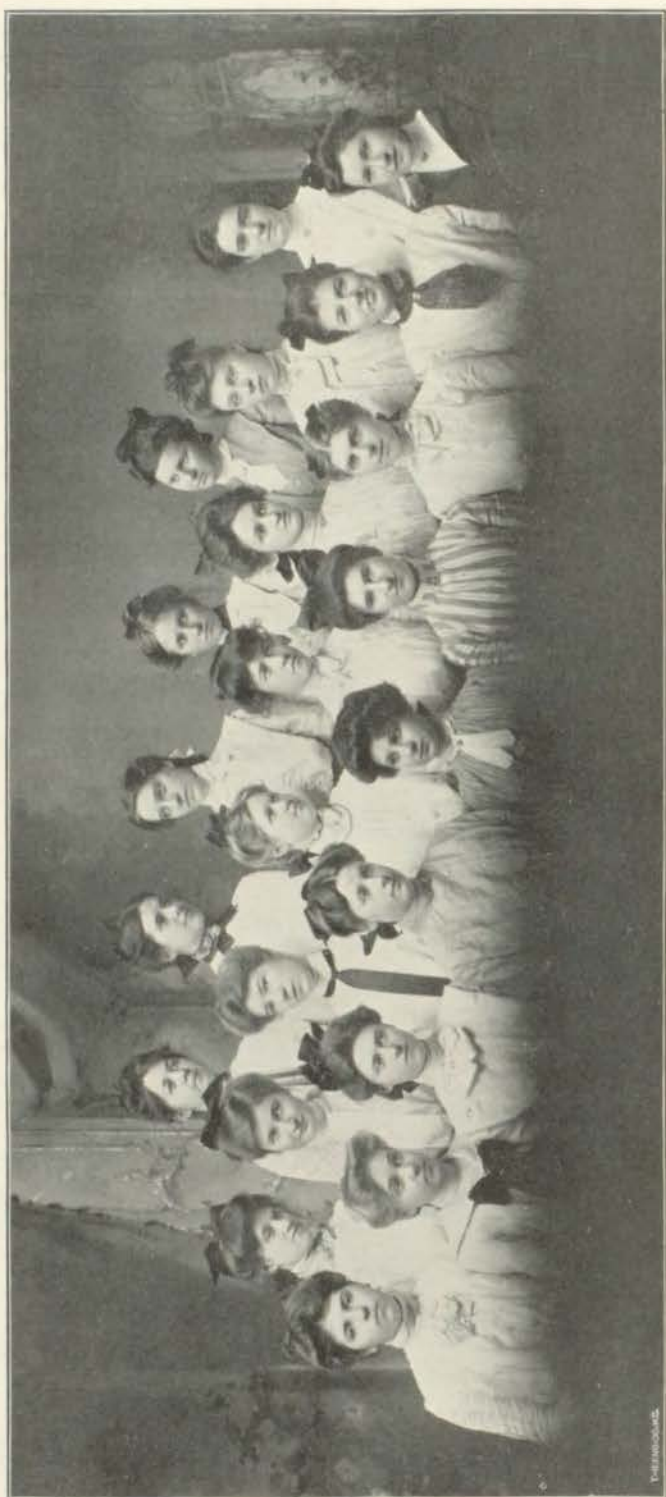
Organized: January, 1899.

OFFICERS.

Ross Flintjer,	- - - - -	President.
Mary Masserve,	- - - - -	Vice-President.
Rossa Stewart,	- - - - -	Secretary.
Melvin Thalman,	- - - - -	Treasurer.
Leo Holtz,	- - - - -	Sergeant-at-Arms.
Dottie Hewitt,	- - - - -	Critic.

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Bertha Griffiths,	Will Kline,
Minette Lede,	Rossa Stewart,
Melvin Thalman,	Lee Henson,
Amy Jones,	Mary Masserve,
Ross Flintjer,	Cooper Milnes,
Clarence Miller,	John Woods,
Leo Holtz,	Anna Kline,
J. Lee Hewitt.	



THE OZO SOCIETY.

THE UNIVERSITY OF CHICAGO



Colors: Moss Green and Cream.

Organized: October, 1899.

OFFICERS.

May Meriwether,	-	-	-	-	President.
Laura Reed,	-	-	-	-	Vice-President.
Rachel Brinkerhoff,	-	-	-	-	Secretary.
Anna Stophlet,	-	-	-	-	Treasurer.
Selma Crohn,	-	-	-	-	Sergeant-at-Arms.
Harriet Young,	-	-	-	-	Critic.

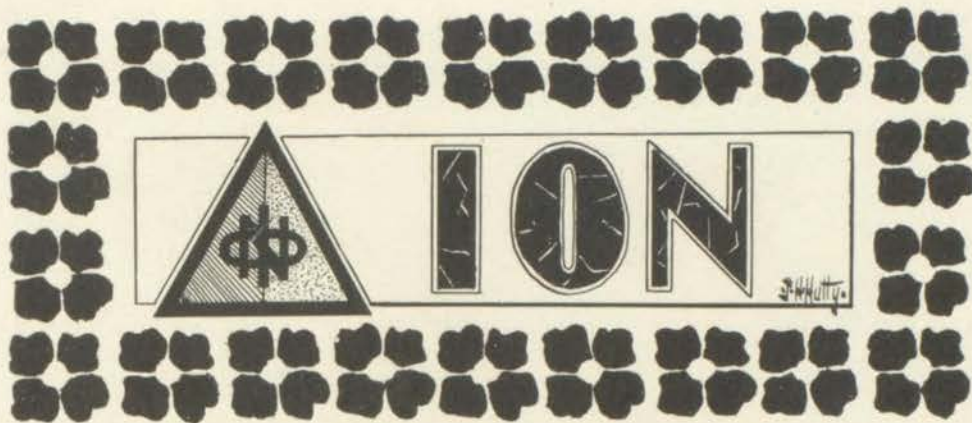
MEMBERS.

Margaret Pettibone,	Edith Shepard,
Laura Reed,	Harriet Young,
Rachel Brinkerhoff,	Marie Nettleton,
Ione Bone,	Marion Bangs,
Veva Hawkins,	Charlotte Tuttle,
May Meriwether,	Kate Hankins,
Ida Pennington,	Selma Crohn,
Helen Leach,	Lillian Carnes,
Mary Paxton,	Marion Leach,
Anna Stophlet,	Emily Taliaferro,
Sarah Moffat,	Louise Campbell.



THE ION SOCIETY.





Colors: Crimson and Olive Green.

Organized: November, 1901.

OFFICERS.

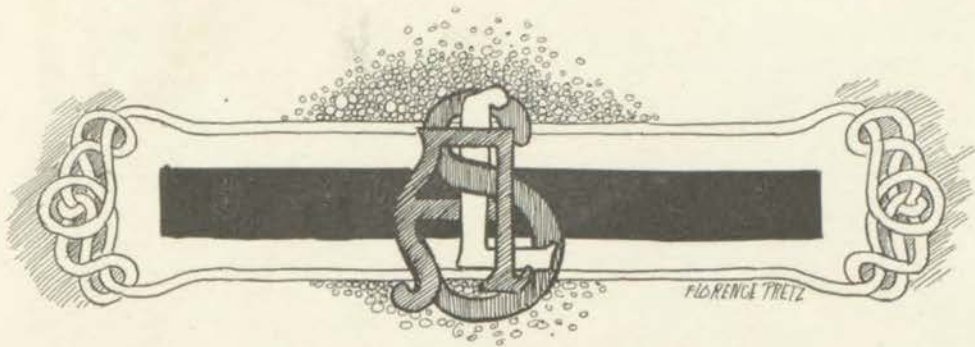
William May,	- - - - -	President.
F. Constant Jaccard,	- - - - -	Vice President.
C. Victor Stewart,	- - - - -	Secretary.
Nealley White,	- - - - -	Treasurer.
Edward S. Manson,	- - - - -	Sergeant-at-Arms.
F. Calhoun Spayde,	- - - - -	Critic.

MEMBERS.

Dan Bonticue,	Lionel Benjamin,
Bert L. Elmer,	Nealley White,
Robert Fairman,	Clifford German,
William A. Bott,	Rolland Niccols,
C. Victor Stewart,	Woodville Smith,
Howard M. Tufts,	F. Constant Jaccard,
Fred C. Spayde,	William May,
Joe Hallinan,	Edward S. Manson,
Ira Pettibone,	Walter Lee Vieregg,
Henry Eyssel,	Howard Loomas,
William Dalton,	James Halloway,
	Harold Stewart.



THE A. L. S.



Colors: Pink and Green.

Organized: November, 1901.

OFFICERS.

Roy Mitchener,	- - - - -	President.
Marie Kurtz,	- - - - -	Vice-President.
Evelyn Canny,	- - - - -	Secretary.
J. George Stadler,	- - - - -	Treasurer.
Charles McAlister,	- - - - -	Sergeant-at-Arms.
Joe Easley,	- - - - -	Critic.

MEMBERS.

Alice Alston,	Roy Benson,
Wingfield Bowman,	Evelyn Canny,
Laurine Derry,	Joe Easley,
Grace Ford,	George Foster,
Rudolph Hogge,	Marie Kurtz,
Bernice Lake,	Hallie Sebrecht,
Edna Kirkwood,	Roy Mitchener,
Charles McAlister,	Herbert Poor,
Edwin Pierce,	Irene Potter,
Robert Randall,	Ray Steiret,
Mary Shortall,	George Stadler,
Oscar Strehlow,	Lillian Schreiber,
Margaret Walton,	Roy DeVasher.



THE O'ITA SOCIETY.



# THE O'ITA SOCIETY

Colors: Old Rose and Silver.

Organized: March, 1902.

## OFFICERS.

Nelle Gillespie,	President.
Maud Ingraham,	Vice-President.
Burtie Harr,	Secretary.
Bertha Faris,	Treasurer.
Jean Morrison,	Sergeant-at-Arms.
Helen Dickey,	Critic.

## MEMBERS.

Anna Brown,	Helen Dickey,
Gertrude Elliott,	Bertha Faris,
Nelle Gillespie,	Burtie Harr,
Maud Ingraham,	Eugenia Jaccard,
Alice Marquis,	Jean Morrison,
Mildred Schenck.	



THE GLEE CLUB.



# CLUB

*Hubach*



Flower: Red Carnation.

Organized: December 17, 1901.

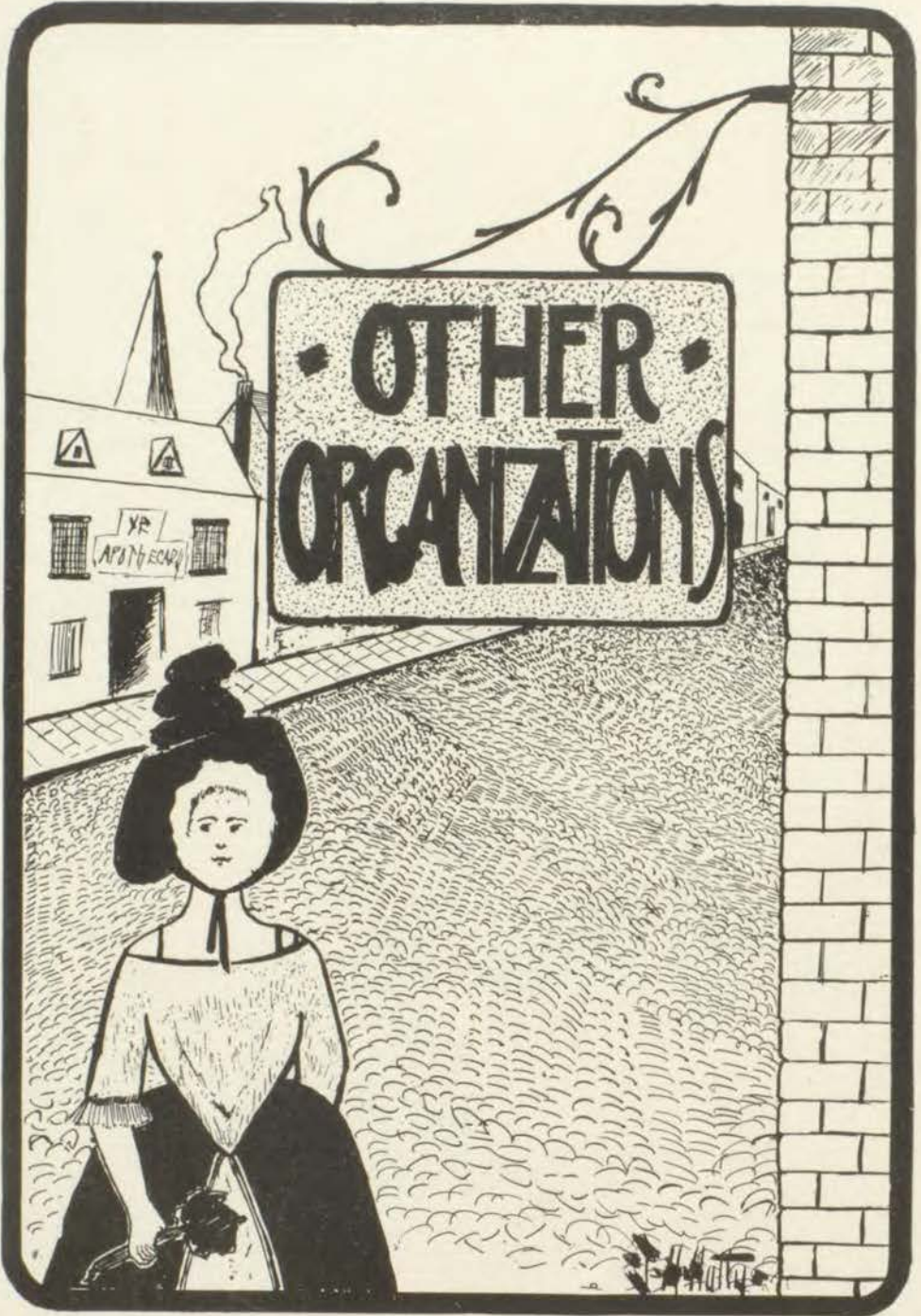
### OFFICERS.

Chas. Edw. Hubach,	- - - - -	Leader.
Hermann Henrici,	- - - - -	Director.
Paul L. Armstrong,	- - - - -	Sec'y and Treas.
Chas. M. Christie,	- - - - -	Business Manager.
Murray Harrington,	- - - - -	Sergeant-at-Arms.

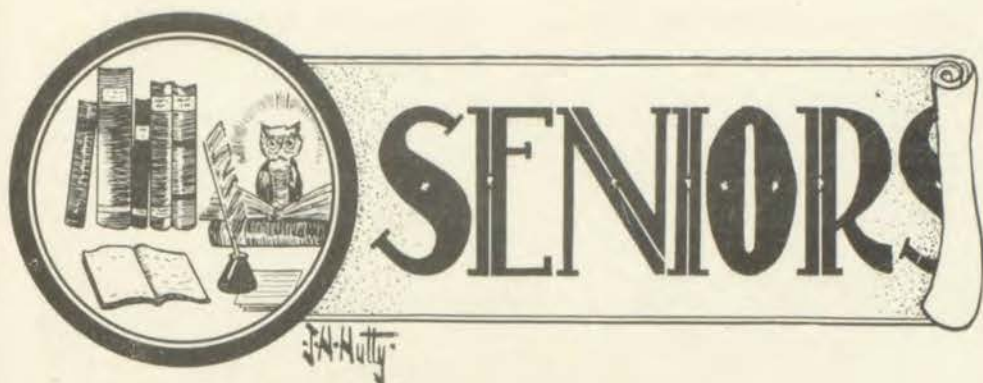
### MEMBERS.

Paul L. Armstrong,  
 Chas. M. Christie,  
 Tod Davidson,  
 Jno. E. Richardson,  
 Robt. Ridgway,  
 Edward Roxbury,  
 Earl Shields,  
 Woodville Smith,  
 C. Abbott O'Brien,  
 Frank Holloway,  
 Louis Sills,  
 Ralph Burrell,

Ralph Jessup,  
 Stanley H. Moore,  
 Earle Dawson,  
 Frank Evans,  
 Geo. Fitch,  
 Fred Groebe,  
 Murray Harrington,  
 Raymond Havens,  
 Hermann C. Henrici,  
 Ralph Gilbert,  
 Bert Rogers,  
 Dick Montague.







## The Class of 1902.



THE first meeting of the Senior Class was called to order by Prof. Morrison on the 18th of February. After a few suggestions regarding the purpose of such an organization, the gavel was turned over to the preceding president, Mr. Arni. Then the class proceeded to the election of their officers.

By the acceptance of the by-laws of the class, it was decided that all meetings should be called by the President when important business was to be transacted.

At the first meeting, over two hundred students who expected to receive their "sheepskins" were in attendance. Out of this number one hundred and eighty had the required two years each in mathematics, science, mechanical drawing, manual training, and four years in English. All meetings were well attended and the amount of work accomplished bespeaks great credit to the class.

The "Class of 1902" introduced the idea of buying class pins in their Junior year. The class pin, which has been purchased by nearly every member of

the class, comprises the class colors, maroon and white. In future years it will serve as a happy reminder of the school days spent at dear old Manual.

The "Class of Ninety-Nine," desirous of being remembered, left the school a picture of Roman architecture. The "Class of Nineteen Hundred," following in their footsteps, presented the school a bust of Abraham Lincoln, mounted on a very beautiful pedestal. Last year's class, believing that such a gift was the proper thing, greatly embellished the old familiar wall by hanging on it the "Frieze of the Prophets." The "Class of 1902," following the precedent set by the preceding classes, will be remembered as the donors of the bust of William McKinley. This gift is mounted on a very neat and attractive pedestal, and is the most appropriate gift that could possibly have been purchased at this time.

Through the courtesy of the Board of Education our commencement exercises will be held on the night of Thursday, May 29. The honor of appearing on this program was won by contesting before the faculty. Out of forty-five contestants eighteen were chosen. Their respective numbers may be seen on the

commencement program, which appears in this issue.

The Class day program will be held in the Assembly Hall on Friday morning, May 30, following commencement. On this occasion an excellent program will be rendered and "Our Day" will be a fitting close to our High School life.

equal the graduating class at the Central High School. With this new institution the old idea of class honors has been relegated to the past.

Speaking in behalf of the class I can truthfully say that the happy school days spent at "dear old Manual" can never be forgotten. With sincere ap-

### Senior Officers.



C. ABBOTT O'BRIEN,  
Sergeant.

LOUIS SILLS,  
Reporter.

VINCENT COATES,  
Secretary.

GEO. HUNT,  
Treasurer.

MARIE NETTLETON,  
Gifforian.

ROY DAVIS,  
President.

LISTA MAKINSON  
Vice-Pres.

The "Class of Ninety-Eight," the first to graduate at Manual, was composed of eighteen members. "The Class of Nineteen-Two" will graduate about one hundred and seventy-five, while the "Class of Nineteen-Three," if the same rate of increase continue, will more than

precipitation for the many marks of kindness shown us by the Board of Education, the Faculty, the Alumni, the Juniors, and the school at large, I, in the name of the "Class of 1902," bid you all good-bye.

ROY S. DAVIS.



THE SENIORS.



THE SENIORS.

# LIST OF GRADUATES.

Class of '02.

## MANUAL TRAINING HIGH SCHOOL.

Adams, Frances,  
Balgue, Laura R.,  
Baker, Marion Ruth,  
Bates, Lillie May,  
Barrick, Ruth L.,  
Birchall, Sara,  
Birdsall, Sadie,  
Bower, Florence A.,  
Brothers, Dixie,  
Brownell, Grace L.,  
Burge, Duane,  
Burkhart, Stella,  
Burtch, Alice Kathryn,  
Byrd, Bertha,  
Campbell, Cora Elizabeth,  
Campbell, Milbra Ingel,  
Cline, Edna,  
Clemons, M. Angie,  
Crumm, Nellie May,  
Cooper, N. Corinne,  
Confer, Candace,  
Coleman, Edna,  
Dawson, Margaret Ethel,  
Dennis, Atha Marie,  
Duncan, Alice,  
Edmundson, Kathryn V.,  
Elliott, Florence Josephine,  
Eusminger, Anne Evelyn,  
Frye, Edith Bonita,  
Garrett, Nellie M.,  
Gleason, Nellie,  
Gilbert, Emily Zella,  
Godsac, Mabel,  
Green, Ivy,  
Haar, Burtie,  
Hale, Agnes,  
Hare, Lulu May,  
Hold, Emilia.

Henneberry, Mary Agnes,  
Hewitt, Ruth,  
Hoernig, Clara,  
Hoffman, Margaretha,  
Hubbard, Daisy Elizabeth,  
Huckett, Margaret M.,  
Hunt, Mary Jessica,  
Hutton, Carrie Lou,  
Huyler, Pearle,  
James, Montova,  
Jaudon, Eunice,  
Jenkins, Ethel,  
Johnson, Esther,  
Johnstone, Lena Lee,  
King, Jennie W.,  
Kramer, Bertha Cameron,  
Lattstrom, Olhianna B.,  
Lindsay, Lena,  
Leggett, Lillian Ethel,  
Lindgren, Elsa Emerentia,  
Little, Annie Amy,  
Lauffer, Lillian,  
Marsh, Maude Ethel,  
Makinson, Lista,  
McGlynn, Nellie,  
McLevy, Grace Lucy,  
Miley, Gladys,  
Miller, Maude,  
Miller, Elizabeth Stratford,  
Miller, Lucerne Nineveh,  
Murrell, Theresa,  
Nettleton, Marie Stanton,  
Nickerson, Alice M.,  
Oldham, Lois Ashbrook,  
Opie, Grace,  
Orem, Anna M.,  
Pike, Sarah Pearl,  
Rankin, Mary,  
Roddy, Mary,

Rogers, Mabelle Jewett,  
Rothgiesser, Gertrude,  
Sage, Lulu Elizabeth,  
Savage, Hannah Ellenor,  
Scherer, Anna Lorena,  
Scherer, Clara Louisa,  
Shrewsbury, Margaret Alice,  
Siersdorfer, Frances,  
Simms, Nellie,  
Skeffington, Estella K.,  
Smith, Bessie M.,  
Smith, Adele,  
Smith, Mamie,  
Stahl, Wanda,  
Stern, Clara T.,  
Stevens, Beatrice,  
Stieg, Helen E.,  
Stone, Calla,  
Stophlet, Anna Clare,  
Strarup, Katie,  
Tolle, Amelia,  
Tripp, Annis Lee,  
Tripp, Georgia,  
Tschudy, Fannie,  
Tschudy, Mary B.,  
Tudhope, Sadie L.,  
Waiker, Ethel M.,  
Walton, Margaret Craven,  
Warner, Florence,  
Warnky, Maud Ethel,  
Wells, Dada,  
Wells, Willmette,  
Welch, M. Myrtle,  
Wheeler, Katharine Marian,  
Williams, Imogene,  
Wiser, Edna,  
Woolery, Pearl,  
White, Beulah.

Armstrong, Paul L.,  
Arni, Melville Irving,  
Carpenter, Albert C.,  
Coates, Vincent,  
Christie, Charles Morley,  
Church, George N.,  
Cocks, Bert,  
Coleman, William Frederick,  
Conkey, Henry R.,  
Crane, Harold,  
Dart, Edward,  
Davis, Roy S.,  
Dawson, Robert Earle,  
Dose, George,  
Evans, Frank B.,  
Easley, Joseph W.,  
Elmer, Irving Wesley,  
Fuchs, Henry,  
Frost, Harold E.,  
Gibbons, Norvin H.,

Gilbert, Ralph W.,  
Groebe, J. Fred,  
Harrington, W. Murray,  
Henrici, Herman Charles,  
Havens, Raymond Merriam,  
Hayne, Dan C.,  
Henson, A. Lee,  
Hinson, Ralph,  
Holloway, James G.,  
Hucke, Alfred,  
Hunt, George J.,  
Hutty, John H.,  
Hogge, Rudolbb,  
Jacobs, Floyd E.,  
Jessup, Ralph W.,  
Jeffers, George E.,  
Kingery, Frank,  
Knight, Clark,  
Manson, Edward S.,  
Marshall, Harry Edward,

Mitchener, F. Le Roy,  
Murphy, Myers P.,  
Murphy, Cornelius,  
Neeval, Raymond B.,  
Oppenheimer, Jesse,  
O'Rielly, Frank,  
O'Brien, C. Abbott,  
Parsons, Lynn,  
Pirschell, William,  
Richardson, John E.,  
Roberts, Guy C.,  
Ryden, George H.,  
Rogers, Merle,  
Rugg, William F.,  
Sampson, Guy E.,  
Sappenfield, Arthur G.,  
Sills, Louis,  
Shields, Earl,  
Thalman, Melville,  
Woods, John Anderson.



THE SENIORS.

FIFTH COMMENCEMENT

—OF THE—

MANUAL TRAINING HIGH SCHOOL

—IN THE—

AUDITORIUM THEATRE,

Thursday Afternoon, May 29, 1902.

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Program.

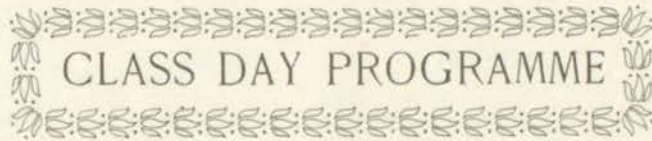
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- |  |  |
|--|--|
| 1. MUSIC.....  | M. T. H. S. Orchestra                          |
| 2. INVOCATION.....   | Rev. Matt S. Hughes                            |
| 3. ADDRESS OF CLASS PRESIDENT.....                           | Roy S. Davis                                   |
| 4. ESSAY—"Lucretia Borgia".....                              | Agnes Hale                                     |
| 5. SONG.....   | Nellie Crimm                                   |
| 6. DECLAMATION—"Her First Appearance".....                   | Paul Armstrong                                 |
| 7. ESSAY—"The Secret of Power".....                          | Elsie Lindgren                                 |
| 8. VIOLIN SOLO—"Cavatina".....                               | Clara Hoernig                                  |
| 9. STORY—"Dreams".....                                       | George Hunt                                    |
| 10. ESSAY—"Modern Chivalry".....                             | Maude Marsh                                    |
| 11. SONG—"A May Morning".....                                | Louis Edmund Sills                             |
| 12. DECLAMATION—"Lord Plunkett on the Irish Parliament"..... | George Ryden                                   |
| 13. ESSAY—"Labels".....                                      | Alice Burtch                                   |
| 14. PIANO SOLO.....  | Candace Confer                                 |
| 15. THESIS—"Airships".....                                   | Herman Henrici                                 |
| 16. RECITATION—"Hagar".....                                  | Gertrude Rothgiesser                           |
| 17. SONG—"The King of the Winds".....                        | Raymond Havens                                 |
| 18. ORATION—"The Heroes of Revolution".....                  | Melville Arni                                  |
| 19. ESSAY—The Usual Commencement Essay: "Obstacles".....     | Lista Makinson                                 |
| 20. SONG—"All For You".....                                  | Georgia Tripp                                  |
| 21. PRESENTATION OF DIPLOMAS.....                            | Joseph L. Norman, President Board of Education |



THE SENIORS.





CLASS DAY PROGRAMME

In the M. T. H. S. Assembly Hall, Friday Morning, May 30, 1902.

- 
1. M. T. H. S. Orchestra.
  2. Address of Welcome, - - Roy Davis, Pres.
  3. M. T. H. S. Glee Club.
  4. Declamation, - - - Joe Easley.
  5. Junior Charge, - - Marie S. Nettleton.
  6. Senior Response, - E. Trice Bryant, Junior Pres.
  7. M. T. H. S. Glee Club.
  8. Senior Farce.
  9. M. T. H. S. Orchestra.

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CLASS DAY COMMITTEE.

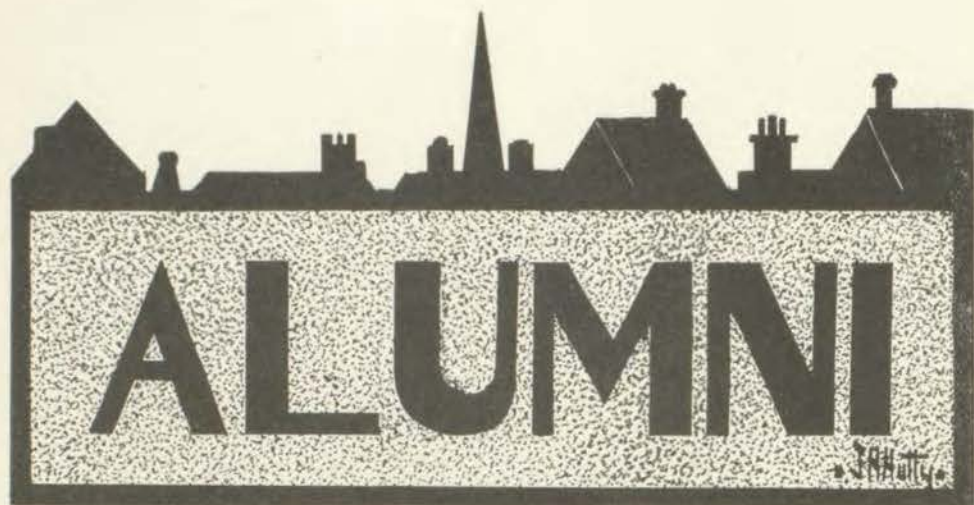
Raymond M. Havens, Chairman.

Marie S. Nettleton,

Sara Birchall,

Agnes Hale,

Fred Groebe.



# ALUMNI

**D**EAR SCHOOLMATES: Of course we know you are not nearly as much interested in us as we are in you, but we intend that you shall be, and for that reason we want to write and tell you what we have been doing all the time you have been going to school and studying so diligently.

You see it won't be very long until the greenest freshman of to-day will become, perhaps, a very mighty and pompous senior, and, after receiving his diploma, will be numbered among that throng which has gone before him and which is known to all under-graduates and the world at large, as the Alumni. It is, therefore, your future we would interest you in.

The "Manual Training High School Alumni Association" was organized on the fourth of June, nineteen hundred, for the purpose of bringing the graduates in touch with one another, and in touch with the school and its interests, for the purpose of keeping an authentic record of all Manual graduates, and for the

purpose of entertaining the senior class during commencement week.

In view of the last purpose of this organization, the Alumni determined to entertain the senior class of 1901. This was the first time that the Alumni Association was brought prominently before the eyes of the school and the first time, we may add, that a really deep interest had been felt in its undertakings by any of the students. The affair was one of importance and the evening of the entertainment one of real pleasure. To the Alumni it brought back "sweet memories of the past" and to the seniors it gave a hearty welcome into a "bright and undimmed future." At that time a hundred and thirty new members were added to our list.

About the middle of this school year there arose the important question regarding the language courses at Manual, and their discontinuance. The interest of the Alumni was at once aroused and an enthusiastic mass meeting was called at the Y. M. C. A. where Father Dalton, H. M. Beardsley, and other prominent citizens addressed the Alumni on that

subject. A committee was appointed and resolutions were unanimously adopted to the effect that all action of the board of education in regard to discontinuing the language course at Manual should be suspended. These resolutions were presented to the board at its next meeting by the president of the association, Leon Block.

The final decision is a matter of school

classmates and friends. His upright character, his unassuming manner, and his unselfish nature made those who knew him respect and love him. He was keenly alive to the interests of the school and had been actively engaged in many of its undertakings. His life will ever remain a record for the noblest and best.

We, the Alumni Association of the

### Alumni Officers.



HARRY FRAZER,  
Treasurer.

LEON E. BLOCH,  
President.

CLARA LINDSLY  
Cor. Sec'y.

THEODORE STEWART,  
Sergeant.

RALPH SEGAR,  
2nd Vice-Pres.

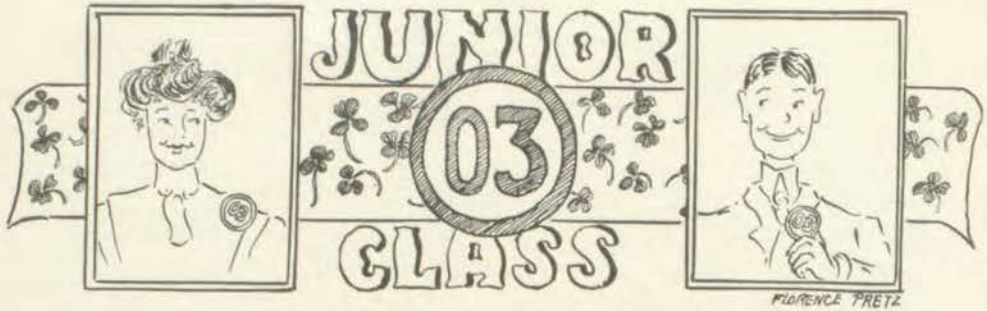
MISS JENNIE SUBLÉTT, 1st Vice-President; and MR. LEE STALEY, Recording Sec'y; are not in the group.

history, and though the Alumni do not claim to have been the "all persuading power" in the settling of this question, nevertheless they stood strongly and firmly by the school and did their part, whatever that may have been.

The sad news of the death of Howard Whitehead came as a great shock to his

Manual Training High School, do therefore take great pleasure in extending to the class of '02 a most cordial invitation to become associated with what we feel to be the most distinctive of all Manual's organizations.

Your old-time schoolmates,  
THE ALUMNI.



## The Class of '03.



THE Freshmen who entered the halls of Old Manual with fear and trembling three short happy years ago, have now attained the proud position of Juniors—Juniors of the Class of '03. A proud position it is, and we are proud to occupy it. We have safely passed the snares and pit-falls which beset the path of the innocent and unwary Freshmen; the struggles and trials of the Sophomore are fond memories of the past, and now, the Junior year, the ideal high school year, is coming to its close. The ideal year, because the anticipations of the future are brightest, and the finish of our course, graduation, draws close at hand, clad in gayer and rosier colors as it comes nearer and nearer. But one year more, when we must say good-bye to Manual and its fond associations, lies between us and that goal of our high school life.

We organized into a class for several reasons. First, to bring the Juniors closer together and make the Class of '03 one which future classes will point to with a just pride and pattern after. Secondly, to be fully prepared to become the Senior Class of next year.

We have departed from the well-

beaten track made by preceding classes, and have tried to be original. Instead of following the methods and procedures of other classes, we have tried to establish precedents which will be followed by classes yet to come. And, without any conceit, we believe we are strong enough to establish these precedents, which if followed by others, will be beneficial. If we have done this and in any way helped our successors, surely the Class of '03 has not been organized in vain.

To avoid any unnecessary meetings, all were called meetings. They were held about every two weeks, and all were quite well attended. We adopted a constitution and by-laws, selected a class pin and class colors and provided for the annual Junior reception to the Seniors. It was necessary to hold the reception, which heretofore has always been held in the school building, in an outside hall.

The colors are gold and white, and the class flower the daisy. The interest shown in the meetings was an evidence of class spirit and class pride. Whatever success we may have achieved is due, not to the class as a whole, but to the individual members, all of whom have given their active and cheerful support to all its undertakings.

To our friends, the Seniors, we extend our heartiest congratulations, and at the same time bid them bon voyage. Not farewell, for we will always remember them, for "Should auld acquaintance be forgot?" We have known them so long and so well, that next year when they are gone, Manual will hardly seem the same. We wish them all success on "Life's unresting sea."

Now, one word of thanks for the

cooperation and help we have received from the faculty. In every way in their power, our well-wishers, the teachers, have helped us make our class a success. But above all, thanks are due to the members, who have given so much time and trouble in carrying to a successful end everything we have undertaken. They will be fully recompensed, however, to be able to say in the future, "I helped make the Class of '03."

E. T. B.

### Junior Officers.



KATE HANKINS,  
Vice President.

E. TRICE BRYANT,  
President.

MAY MERIWETHER,  
Reporter.

FRANK UEBELNESSER,  
Ser. at Arms.

BERTHA PARIS,  
Treasurer.

ALFRED WAGNER,  
Secretary.





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Dog Collars,


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etc., of

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---	--

SCENE: THE GENTLEMEN'S SHOE STORE."

*“Ach, Himmel!”*

Said the Prince, looking down at his new clogs, as he laid down—5—Thalers, —“it is refreshing to find a store where they cater exclusively to gentlemen's tastes in fashionable shoes! And they are so reasonable, too!”

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Secretary.

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H. METZGER.

P. MARGOLIS.

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**T. MULFORD, Manager.**

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Established.

1902.  
\*

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## Studebaker Style

is not mere outer ornamentation, or mere novelty, but a happy combination of many details in harmonious relationship. It represents the experience gained by fifty years constant improvement.

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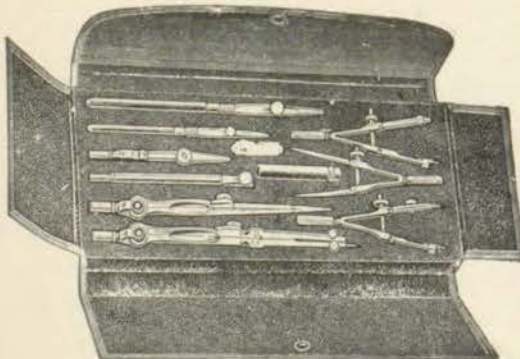
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