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My Trip from Siberia to Japan—A few Pages from my Diary.

V. A. SOBENNIKOFF, A STUDENT FROM SIBERIA.

On the evening of July 23d Mr. Simonoff, an officer from Caucasus, and I were approaching Vladivostock. We were driving in a four-wheeled vehicle (tarantas) filled with our victuals and baggage, and drawn by three horses abreast (Russian traditional troika), with its bow and bells underneath. The road ran over a hilly, wooded country. On both sides were pines, birches, oaks, maples, and climbing vines—that mixture of northern and southern flora so peculiar to that region. As we approached the town our road lay along the seashore. Crossing the grade for the new Siberian railroad, where exile convicts from European-Russia were at work, we reached Vladivostock. This city of about 25,000 inhabitants is situated on a narrow strip of land between the mountains and the gulf of Golden Horn. Its location is on the north-western shore of the Sea of Japan. It is a new city, full of life, unlike many other semi-dead Siberian cities. In the streets one can see sailors, naval officers in uniform, and foreigners, mostly from Germany. This is our naval station of the Pacific squadron. The harbor, one of the best in the world, contains many vessels of all descriptions from large men-of-war to numerous Chinese and Korean boats called shampoons. The importance of this port will be greatly increased, as it is to be the terminus of the Siberian railroad.

After removing the geological deposits of dirt and dust of our journey, we called on Mr. Soovoroff, my old chum. Not finding him at home, I left my address and returned

to our inn. About ten o'clock P. M., when retiring, my friend appeared. After Russian customary greetings and kisses a samovar (a tea machine) was immediately ordered and the following four hours were spent in friendly conversation and tea-drinking. I remained here two weeks which proved to be the most pleasant of my journey. After spending our forenoons in visiting the dock and museum, floating dock and various other things of interest, I and my friend would take dinner at Mr. Sh——'s, a wealthy merchant. After dinner we would sit on the veranda sipping our tea and talking on different topics.

Our company usually consisted of the hostess, a kind hospitable lady; her daughter, an intelligent, sympathetic girl, somewhat shy and pessimistic like many young men of Siberia; Mr. B——, chief of the committee of emigration to the Amoor region, a general, with liberal ideas, never wearing uniform, and disliking to be called your excellency, etc. He is a talkative, aged man, rather corpulent, with silver beard and locks, and a sympathetic face.

These, with some clerks of Mr. Sh——'s, Mr. Soovoroff, and myself, discussed current events, immigration, Siberian railroad, Amoor region and life in Kidekhta (my native town) and Vladivostock. On other days we listened to music on the *Nimbei Donskoian*, a Russian man of war; looked through opera glasses at the beautiful harbor, observing the maneuvers of torpedo boats, arriving vessels, or the practice of newly built batteries.

On the 6th of August, '92, I took my last dinner, bade good-bye to the company and immediately started with Mr. Vahovitch (a clerk of Mr. Sh——'s) for Fidelity (the

steamer). A slight wind was blowing. We hoisted sail, and soon the shore was rapidly receding from our view. For the last time we saw the verandah on which we spent so many pleasant afternoons and evenings. Our friends waved hats and handkerchiefs, bidding us farewell. Soon they disappeared from view and I said,

"Welcome, welcome, ye dark blue waves
And when you fail my sight,
Welcome ye deserts and ye caves,
My native land—good night."

* * * * *

SEA OF JAPAN, August 9.

It is getting late. The darkness settles so thick that we can see the phosphorescence of the sea. My companion and I are sitting on the deck. We are enjoying the beauty of the scene—the dark blue cloudless skies where the stars are appearing. The red, blue, golden stars are kindling one after another; glittering and reflecting in the waves. Everything in my surroundings is new and strange to me from the limitless breadth of the sea to the still more limitless breadth of the firmament. My company consisted of my friend whom I have known only a few days, and the steamer's crew consisting of German officers and Malay sailors, a Chinese cook and Japanese and Corean servants.

The stars only are familiar; the same great bear, arcturus and blue vega as I had known many years ago when a child. Involuntarily I remembered our popular song: "Evening has many, many, bright stars, but dark night has much more. They are burning in skies with twinkling lights, speaking to our poor hearts about days past by—days which will never come again. Speaking about our joys and our sorrows." Yes, they were speaking. Very gentle wind blows, carrying no dust but fresh and pure air—fresh and pure like the kiss of a child. Everything seems perfectly calm in this shadowless twilight. The sea only is not calm—it never knows rest—one wave

rolls after another and each in turn rolls, strikes the side of the steamer, glitters with phosphoric sparks and dashes itself to foam. The steamer slowly and steadily, as if thoughtfully, swings her mass to and fro. Around the steamer there are many islands among which boats of Japanese fishermen swarm, each carrying a light. Sometimes they are so numerous that at a distance they make it appear like an illuminated town. Now the full moon arises between an immense rock and a picturesque island emerging from her bath in the waves and covering the waters with silvery light far out beyond the long narrow vista through which her shining beams are thrown. It is not our moon of dry land that rises like a copper ball shining through dust and smoke; no, she rises here from her bed in the blue waves to the blue firmament like a golden globe, clean and bright as on the first days of creation when "God saw everything that he had made and behold it was very good." We were so enchanted by this picture that we stood in silence. From this catalepsy we were awakened by a German mechanic of our steamer, a fat, clumsy, red-faced and large-eyed fellow, whom nobody would have suspected would have a single atom of poetry in his nature, but who could not suppress his enthusiasm at such a sight as this. Such scenes produce a peculiar sensation. One wishes to pray, to laugh, to weep. The heart beats strongly and quickly in the chest as if there was not room for it; as if it wants to get out and join the solemn skies and these waves covered with gold. Sometimes one wishes to jump overboard—in short one becomes much more foolish than ordinarily.

Next morning we were entering the harbor of Nagasaki, Japan.

Mr. Setsusaburo Tanaka, assistant professor in the Imperial University, and agriculturist of the Central Experiment Station, at Tokio, Japan, visited the college October 2.

Utah and The Mormons.

JOSEPH L. HORNE, UNION LITERARY SOCIETY.

The impression has gone out that the Mormons are the worst people on earth. This is because they are not understood.

Just to give an idea of the peculiar notions many have held about Utah and her people, permit me to give some few questions that have been asked me and others from Utah. They are as follows: What ocean do you cross to reach Utah? She is ruled by a king, is she not? How large is Utah City? Is it true the Mormons have horns? Utah has a high wall around her, has she not?

Observing these questions briefly, I will say, Utah is nestled in the sentinel hills and dales of the Rocky Mountains, lying between Colorado and Nevada. She belongs to the United States and is still a territory, though she has been knocking for admission into the Union as a state since 1852. Her king is a governor, appointed by the president of the United States. There is no Utah City. Regarding the question,—“have the Mormons horns?” we will lay it aside, it being too erroneous for reply. As to the question, “is she walled?” Yes, she is walled with a wall longer, higher, and broader than the walls of Babylon. They are the towering peaks of the Rockies, whose gate-ways are the rocky defiles, welcoming the traveler or whoever may chance to seek a home in that far off land.

The name “Mormons” was given to that people as a nick-name, because they have a book called the Book of Mormon. As Christians, they call themselves Latter Day Saints, and their church is named “The Church of Jesus Christ of Latter Day Saints.”

The story of their journeyings to that far-off desert, I will not prolong, for it has been told, lo, these fifty years, and it is as pathetic as it is old. They suffered hunger, cold and privation, many pulling hand carts

one thousand miles across the weary waste; they played the triple part in being their own oxen, their own drivers, and their own cooks. Lying down to rest, foot-sore and fatigued, many never awoke from that sleep, and their bodies are to day the unseen mile posts from Omaha to Salt Lake City.

The exodus of the Mormons, as one of their leaders said, was made willingly because they were forced to go.

After arriving in that sterile country, for it was smitten with the desert's withering breath, they suffered untold hardships; some ate thistles and roots, and others, somewhat more fortunate, scraped the hair off old rawhides, cooked and ate them. This was their tenderloin. Now and then a little meat could be obtained. The bones were boiled, time and again, to make soup, and it was not wholly uncommon for a child to go to a neighbor's and say: “Ma wants to know if you will loan her your soup-bone to day?” And, as one writer amusingly said, “even after the bone had lost its substance and savor as an appetite annihilator, faith, as a hope for things not seen, would perhaps induce the hungry children to hang the bone in the window and boil its shadow in the pot.”

From the spring of 1855 to the autumn of 1856, about the only thing in Utah was appetite, dry, hot, unrelenting appetite. “The most unhappy men were the doctors and dentists; the people were so thin they could not be bled; having nothing to eat they had no use for teeth; and those who had tooth-ache loved it because it made them forget their stomachs.” That time has long since passed, and to-day there is not a beggar in the midst, nor one that goes hungry.

There are now 172,500 Mormons in Utah and 72,000 non-Mormons. The Mormons all told throughout the world are 250,000.

Throughout the civilized world there is no place where so many own their own homes as in Utah; statistics showing that

only five per cent of the Mormon's homes are under mortgage.

Most of them are farmers, though thousands follow other pursuits, as stock-raising, mining, merchandising and manufacturing. It seldom rains in Utah in the summer, and therefore the farmers are compelled to irrigate most of their land from two to five times a season or forego the pleasure of reaping a harvest.

Irrigation is done by conducting water from small rivers or creeks into ditches from one to thirty miles. The water, after it reaches the farms, is subdivided into smaller streams, and the farmers take their turns in using the water; so scarce is it in most of the Territory that there is none to spare, and therefore, when the farmer's turn comes, if it be twenty-four or thirty hours, he will stay with it night and day until his turn is ended. Even with this method of farming they raise about 3,000,000 bushels of grain a year, raising as high as ninety bushels of wheat per acre, but such a crop is rare.

In mineral wealth Utah stands fourth to any mineral district in the world, and she has the greatest varieties of any place of equal size. The following are some of the most valuable mined within her borders: gold, silver, lead, copper, zinc, iron (by the mountain), borax, saltpeter, coal, emery, salt, potassium, sulphur enough to supply "Night's Plutonian Shore" for a century hence, red and yellow ochre, bismuth, cobalt, manganese, mineral wax, and almost every useful stone mentionable. Utah has produced between two and three billion dollars from her mines, to say nothing of her other resources.

Until the last five years no county was financially embarrassed, and the territory owed not a dollar; but since then the government affairs have passed mostly out of the Mormon's hands and to-day she is somewhat in debt, but nothing compared with other territories. For forty-two years the

Mormons governed the affairs of the territory and but two or three have ever been guilty of malfeasance of office.

As stated in the beginning, the Mormons have been considered a very rebellious and corrupt people, but come with me to the criminal record and let it tell the story. Of all the crimes committed in Utah in 1887, 15 per cent. were Mormons and 85 per cent. were non-Mormons, showing that one third of the population, non-Mormons, furnished 85 per cent., while two-thirds, Mormons, furnished but 15 per cent. of the criminals. The Mormons have been accused of being disloyal to the government, but this is not true. They believe the constitution to be a divinely inspired document, and that the republican form of government is the grandest and purest temporal government on earth. Would time permit, I could tell of their loyalty to the government, that, although being driven from the then United States in 1845 they furnished 500 of their best men, though in an almost destitute condition, to aid in a war against Mexico, in 1848. When the call came from the government, Brigham Young asked the *young* men to volunteer, and, if not enough *young* men, he would call on the *old* men, and, then, if not enough, he would call on the women.

When they reached Salt Lake Valley, they unfurled the "Stars and Stripes" on Ensign's Peak, though the country was then under Mexican rule. Also, when organizing the territory, it was resolved that they welcome the constitution of the United States—a legacy of their fathers—over the territory. They greatly assisted the Union during the civil war. Did this seem like rebellion?

To-day Utah stands as a pattern in sobriety. The people are divided on political lines, and at the last election the territory went democratic by a small majority. Truth, morality, and temperance are their guiding stars. They do not believe nar-

cotics in any form good for the body, except for medicinal purposes, and the use of such is strongly preached against. But if any wish to go contrary to these instructions they are at liberty to do so and there is no intimidation save that too grievous offenses are rewarded by disfellowship. They are not priest-ridden as is claimed by their would-be defamers, for there is no people more free than the Mormons to act as they choose. They discountenance saloons and dens of vice with utter abhorrence, and no Mormon could be a Mormon and take any such course. The Mormons are liberal and industrious. There is a saying that "A Mormon's word is his bond."

From their doors no one is turned away hungry, not even the tramp—and I have sometimes thought that the latter were aware of this fact since thousands on their continental pilgrimages bask in the sunlight of charity in Utah.

As to the Mormon's belief, it has been asserted they are not Christians for they do not believe in the Bible, nor are they a church. This is far from being true, for no creed takes the Bible so much at its word as they do. Henry Ward Beecher said, "If the Bible is true, the Mormons have the true religion, for their doctrines are wholly in keeping with the Bible." He made this statement in New York shortly after his visit to Utah in 1882. 'Tis true they have other books they believe in, as the Book of Mormon, and Doctrines and Covenants, but none of these differ in doctrine from the Bible.

Their church is organized after the pattern laid down in the New Testament by Jesus Christ. They believe in apostles, prophets, pastors, priests, teachers and deacons, as given in the fourth chapter of Ephesians. They believe in paying tithes and building temples, and to confirm the latter belief, they have five temples completed, which cost them \$10,800,000; these buildings may be classed with the grandest structures in the world.

Another grievous offense of which they are charged is that they are a very ignorant class of people, and do not favor education; that their children grow up in ignorance. Let facts and figures speak for themselves. The first house built in Utah by the Mormons was a school-house. Does not that fact alone speak volumes considering the condition the people were in financially, 1,000 miles from civilization. You or I would have thought first of homes and the wherewith to subsist upon, and then the education of our children, but these were the reverse; though they were battling with famine, they were determined that their children should not cry for intellectual bread and not be fed.

Expand your imagination and come with me back to 1848, and let us stand upon one of the neighboring peaks and gaze below into a valley destitute of rivers, trees and habitations, save far below us in this desolate scene is one lone log house; 'tis the famous Mormon school house. Within this house are bare-footed children, six to one book, and four books to one back.

To-day there is not a town, village, nor hamlet without a school, and Utah stands No. 4 in the union in education, there being only five per cent of the people who cannot read nor write. She has two universities, seven colleges and thirty academies. Nearly all of the teachers in the district schools are graduates from some normal school, academy, college, or university. Colonel Parker, one of America's greatest educators, said last summer, "Utah is not behind the East in education," and E. S. Kellogg, that educator and publisher, says, "she is ahead of many of the Eastern states."

Then, in conclusion, let me say—The Mormons have chosen a land, and wrested it from Time's horny grasp, and the desert's withering breath—the most favored among any I know. They are nestled within rock-ribbed dales, almost defying the flood gates of hell to wash them out; where the breath of the hurricane or tornado is warded off by

those faithful hills and peaks; where the throat of the volcano has been forever hushed; standing high above disease's poisonous fumes; where the sun-stroke's deadly shaft scarcely ever falls; where the sentinel hills act as lightning-rods, warding off the lightning's fiery stroke. Yes, they are far from the earthquake's home, that it may not raze their homes to the earth nor hurl their bodies from their graves. They are so elevated in their mountain homes that they are bathed in the purest air.

This is the territory whose summers are just warm enough to raise the tropical fruits in the south and the hardy pine in the north; cool enough in winter to keep the mind vigorous and active, without which the mind would become dormant and the inhabitants little better than barbarians. Yes, they have planted their standard in the heart of the mineral wealth of the world.

'Tis here that nature has piled up her most valuable and numerous volumes, so plainly written that you may read as you run. The pages of those volumes are the rocks of the earth, telling of God's earliest creations and all succeeding creations up to the present time. The hills, cliffs, and mountains are the library shelves, and the volumes are bound in lasting lava and time defying basalt.

John Brown.

F. S. ROSE, DELTA TAU DELTA.

There is one thing that can be truly said of men of every generation, and that is, they do not seem to know or appreciate a person's worth or motives until he is laid in the grave. Such is it in the case of John Brown. Shall we continue to think of him as people of his time did, as a fanatic, a lunatic, a man wishing to gain notoriety, or show people we have minds and know how to use them by taking a candid look at both sides of the matter? Let us see if all the calumny heaped upon his name is just.

First, let us look at the time in which he lived. During the few years preceding the civil war, affairs were serious in Kansas where he lived. It was on the border between the North and South, between the states that did not allow slavery and those that did. Pitched battles often occurred between the slave owners and abolitionists, and Brown was not at all backward in defending the rights of the slave.

In his earlier years Brown had a chance to visit a military encampment and while there formed such a disgust for military life that he resolved never to take up arms except for the cause of liberty. About this time he began to study our slavery system. His love for the poor, forsaken black must have been great, for, soon after his removal to Kansas, with a small band, he would take runaway slaves from the neighborhood to Canada in the face of such odds as would have terrified another.

He fully expected, before starting east, that he would be able to hold the arsenal at Harper's Ferry until he could rally the slaves in the neighborhood, then escape to the mountains and inaugurate a general servile war. He indignantly repelled the idea that he was trying to overthrow this government. During his confinement at Harper's Ferry, he had discussions with several southern clergymen on the question which so much agitated his mind. It cannot be said that any of his replies were those of an insane person. Indeed they were quite the opposite, full of clear sound logic.

Gov. Wise called on Brown a short time before the execution. These are the words of the Governor after his visit. "They are mistaken who take John Brown for a madman. He is clear headed, courageous, full of fortitude and simple in manner. He inspired me with trust in his integrity and as a man of truth. He is a fanatic, but firm, truthful and intelligent."

In the eyes of prejudiced people, John Brown was a fanatic, guilty of treason and

murder. For them his name has been a signal for outbursts of sarcasm and ridicule. To the less prejudiced, he appears as one not responsible for his actions, therefore they pity him. These two classes of people look at his actions from their own standpoint, never seeming to think that his character and motives must have had a good deal to do with his work. Therefore they did not think to study closely these two characteristics, the great foundation of every man's actions.

Let us look at his character and motives and see, if our opinions are like the foregoing, if we cannot change them somewhat.

First, John Brown was not a coward. When he found what appeared to him to be right, he upheld it to the best of his ability. There were many stockholders in the Underground Railway, but few dared to rescue slaves as he did and take them to Canada in the face of all opposition.

The story is told of how he left the Free Masons and exposed their secrets. I cannot vouch for the truth of the story, but as I get it from a religious paper of course there is no doubt in my mind. He had hardly reached his majority when he was induced to join them. It was not long before Brown thought he had enough and decided to disclose the inner workings of the lodge. He was followed about for months by men who tried to kill him but they could never take him unawares.

Secondly, he was honest, he tried to be straightforward in all his dealings with his fellow man and that is more than can be said of many of his enemies. By reading the story of his life you can find many incidents of his integrity.

Thirdly, his pity was as sincere as it was severe. He was a direct descendant of the Puritans and inherited their strict religious principles. It is said of him that, at one time, he met a band of profane Missourians and compelled them to kneel and pray under penalty of being shot. While he was pre-

paring for Harper's Ferry, he ordered his followers to take part in daily prayer and reading of the Scriptures.

People said that he accomplished nothing by his attack on the arsenal. The news of his attack, spread broad-cast, served to rouse the people, to open their eyes to the condition of affairs, and to prepare them, in some measure, for the great struggle which was sure to come.

Morality in College Life.

F. M. NICHOLS, OLYMPIC SOCIETY.

A large percentage of the people engaged in the business world, regard our colleges and universities as a harbor for sin and vice. It is often intimated, that nothing but the restraining power of stringent requirements will keep college students from falling into habits that are injurious in building up a true and noble character. This is founded on a belief that college students are too young to be left alone, and that therefore they must have constant "watch and ward."

Probably some believe that in student life itself moral obligations sit rather loosely as compared with the life of young men in other occupations. The college men have much to be desired. But it must be admitted that some times facts favor such a supposition. It would be very difficult indeed to collect a large body of men without having a few evil doers among them.

The manner of the times, moreover, gives publicity to every offense. Sobriety and industry attract no attention, while profligacy and idleness have a marvelous knack of getting themselves reported. If at any time any indiscretion arises the community and even the country are told about it.

The people generally characterize a student as being different from anyone else, either from jealousy or some other contemptuous reason. They are apt to notice first, any mistake that he may make, no matter how small, and if it be sufficient to

supply their imagination they characterize the whole college by that one man.

The college, to the outside or business world, is sort of a monastery. People know little about the hard, honest conscientious silent work that is going on. It is only the scandalous events that are given to the public for comment. The moment any disturbance occurs the reporters of all the newspapers are on the spot. They protect themselves by claiming to tell nothing but the truth. But they often tell only one side of the truth. It may say what has all the effects of the most dangerous kind of falsehood. It is the partial truths that are the worst lies, and this may be said of life in college. In regard to the conduct of students, it is these partial truths, often reported in an exaggerated form, that go to make up too many of the popular impressions concerning college life that give a wrong characterization.

Influence of life in college upon the moral impulses and habits of students. The "Intellectual Life" may be influenced in two distinct ways. On one hand it is evident that successful training of the mind increases the power of perceiving the force and benefit of moral obligations. But, on the other hand, it is doubtful whether such training does anything to increase the power of resisting impulses of an immoral nature. But it has to be admitted that in intelligence pure and simple there is very little moral power. Something more than a knowledge of evil is necessary to prevent evil. Evidently, then, the only way to improve morality is to weaken the powers tending to immorality. But it may be possible to have a perfect understanding of evil and yet not avoid it. Men do not do evil because they do not know the nature of evil, or that evil is wrong, but because the evil impulses are stronger than the good impulses. It is impulses, therefore, we must study, and these may be treated in two ways, viz.: public opinion and example.

Morality in a simple person may need only one of the impulses, but in a community it needs them all.

In the influence of public opinion, we shall find that here, likewise, a comparison will reveal college life at a disadvantage. It is no doubt true that the ethics of student's are peculiar to the students themselves. This may be shown in the firmness by which a student will stand up for his class directly against his own rights. The persistent refusal of students to testify, one against another, has often been unfavorably commented on and even denounced. But whatever attitude is taken of this subject, it cannot help showing great firmness.

Whoever has had much to do with college life knows that such opinion among students is quick and tolerant. It is for this reason several colleges have recently found it safe and wise to intrust matters of conduct largely to the students themselves.

The judgment of students may sometimes be faulty. But their impulses and moral tone will always be found correct.

Example: The college student has an advantage over his brother in the street and shop. It is usually the picked youth that comes to college. Let outsiders say what they may, every college man knows that the great mass of students are honest, industrious working fellows, devoting their time to preparation for the duties of the outside world. Some colleges may be slightly modified in this rule, but not generally. Students usually have a manly purpose and it would be slanderous to intimate that they were not honest men.

The student who devotes twelve to sixteen hours per day to his work is passed unnoticed by the public. But the *college men* notice his work. Such men influence the tone of the whole college. They lift it to a higher moral and intellectual standing. They are the men that make up the main business part of college life.

It cannot be denied that the forces tending

to immorality in our colleges are strong and in need of constant restraint. They are usually highly physical in their nature. The students are therefore influenced by physical, as well as moral considerations. Here is a young man of strong physical vitality, obeying the will of his parents, a hard working student; or following the desires of his own will. He may be a strong scholar. Yet physical energies must have scope. Years ago, such energy found relief in tearing down fences, destroying property, etc. But to-day we find less of this. Why? Because of the moral power of regular prescribed gymnasium work.

It is often stated that a college gymnasium is only used by those who do not need it, and is unused by those that do need it. But they have taken a wrong view of the truth. They think that the function of physical training is to invigorate the body. But they have over-looked another point, that of moral importance to colleges.

Unless regular gymnasium work be prescribed, the best results cannot be obtained. All students during the first two years of their college course should have regular gymnasium work. Juniors and seniors may be left to their own choice, as by this time, they are supposed to know what is best.

Every one knows that when college boys, as well as every one else, incline to mischief it is in the evening. When their day's work is done, and with no fear of coming examination, the temptation to physical exuberance is just in proportion to the degree of healthy, physical vitality they possess.

Now if these idle hours could be taken up by athletics, the physical energies of the student would find exit through a more moral and beneficial source.

By keeping his arms and legs going for an hour or so, he would feel more like retiring quietly to his room and do good work in his studies, instead of "making night hideous."

Foot-ball is a game in itself, and exercise

of moral and mental, as well as of physical benefit. It requires the vigorous use of all the muscles in the body, and also calls into play the mental and moral qualities of a man. It calls for constant determination of what to do and how to do it. As there is no higher exercise of the mind than that of determining in an emergency precisely the line between too much and too little, it is of great worth.

Also, there is no greater moral test than that which calls for self-restraint at the moment of over-whelming temptation.

Hence, the weak are developed and the physically strong are kept in a moral, as well as a physical tone. And by these methods morality in college life is not so immaterial as it may seem.

SCIENTIFIC.

Extracts from a Student's Note Book in Zoology.

LECTURES BY PROF. A. J. COOK.

Under the class *Platyhelminthes* we have the order *Cestodes* or tape-worms. The word *Cestodes* means a girdle, an especially appropriate name for these worms often attain a length of twenty or thirty feet. They are pretty common. We very probably may all of us have been their hosts at some period of our lives. They are all entozoa, have no nervous system and no alimentary canal.

The best known, if not the most common of these is the *Tænia Soleum*, or pork tape-worm. It is found dormant in the hog in the cysticercus stages. The pork is seen to contain many little white spots which look much like homeopathic pills. Pork in this form is known as measly pork. Beef, chicken, mutton and other meats are all likely to be thus specked and so may often be described under this name.

When pork containing these pellets is

eaten, the lime which compasses the case-like covering, is dissolved off and the worm is set free. It now commences to grow and in a few days becomes an immense tape-worm. The worm is made up of many, possibly 2,000 segments, and may be thirty feet long, the posterior ones of which are all sexually complete. At this period in the worm's history it is ready to lay its eggs, and it does lay eggs—millions of them. Now if these eggs are eaten by a hog, in less than three days, the hog is attacked with all the symptoms of typhoid fever and acute rheumatism. Microscopic examination shows that the young larvæ have penetrated every portion of the hog's muscular system in great numbers. These worms are most harmful in the hog; in us, they usually produce no serious results. Because of a more highly developed nervous system, women are more affected by these worms than men.

Nemathelminthes: These are round worms, they have a complete alimentary canal and are bisexual. The best known species of this class is the *Trichina Spiralis*. Dr. Owen of England was the first man to trace these out through all their various changes and much credit is due him for the thoroughness of his work. Yet, the subject at that time was so entirely new and so little understood that his work contains many inaccuracies. It was not until the year 1860 that the complete life history of these most dangerous of human parasites was made known to the world.

These worms are found in little distinct capsules in the muscles of the hog, mouse and rat. The capsules are never over a fortieth of an inch in length and, of course, the worms are much smaller.

When a piece of uncooked pork containing these capsules is eaten by man, the juices of the stomach dissolve off the capsule and the hair-like worm is set at liberty. It now commences work and in less than a week gives birth to millions of minute

trichinæ. These young and very small worms bore through the walls of the intestines, enter the circulation and thus find their way to every portion of the body. They now settle down in the muscles, each one absorbs the juices of the fibers for its own nourishment and in so doing causes the greatest pain. If the person survive during this period, it is probable that he will live; for as soon as the young worms have grown to their full size they like the immature tape-worm become encysted. They then remain in a dormant state until eaten by some animal which sets them free again. It is thus seen that it requires two different animals for the worm's development and also that they may lie in the dormant state for years without any detrimental effect to themselves.

About one hog in every three hundred is affected with these worms. The disease is known as trichinosis. The remedy is to cook pork and its various products, sausages, frankforts, etc., thoroughly. The importance of this subject practically is shown in the fact that the United States government has a commission of able scientists whose duty it is to examine every hog that is to be shipped to foreign markets, to determine whether it is trichina free or not. Many European countries have experts to examine all pork before it goes onto the market.

Under the sub-class *Myriopods* we have the two orders, *Chilognatha* and *Chilopoda*. The Chilognatha, or Millipedes, or thousand legged worms, are all cylindrical in form, and often contain as many as sixty segments. As each of these segments contains only four legs, the popular idea of a *thousand legs* needs to be somewhat modified. They live on organic matter and are perfectly harmless. In some parts of Africa, these animals are used as food. They are first dried, and then ground between two stones into meal. This meal is then used for making puddings and other delicacies.

The order *Chilopoda* have only two legs to each segment, the antennæ are somewhat longer than in the *Chilognatha* and they are all carnivorous. They are often called centipedes and are thought to be poisonous to man. This is a mistaken idea, however, so far as ours here are concerned, as they are perfectly harmless.

The sub-class *Arachnoidea* have a head, thorax and abdomen. They always have eight legs and nearly always eight simple eyes. They have no antennæ and no transformations. Under the order *Acarina*, we have the mites; these include the much feared Texas tick. We usually think of the wood mite or wood tick as meaning something very small, but these mites are nearly as large as hazelnuts. Their mouth organs contain many little sharp barbs all pointing backwards so that when they once thrust them into the animal, the tick has to be pulled to pieces in order to be taken off. When the Texas pony is imported in the spring, these mites come with them in great numbers and if brought on cattle often bring with them the germs of Texas fever. A number of horses have been seriously injured in this State because of the work of these ticks. The remedy is to import these ponies in the fall so that the cold weather will kill the ticks, or kill the gigantic mites by rubbing on a mixture of kerosene and lard.

The common itch mite which produces the "seven year itch," is killed by rubbing on this same mixture. The little face pimple mite is more difficult to dispose of, yet there is a remedy known to science which will kill them. The ordinary method of getting rid of them by squeezing them out, is not of much benefit; for every one squeezed out a dozen or more eggs are left in its place. (We hope to give it next issue.) The red mites on chickens and birds can be readily disposed of by rubbing the birds under the wings with kerosene and lard. It is well also to grease the roosts

and spray the yard with kerosene emulsion.

Sometimes mites get into the sugar box or flour barrel. The fact of mites in these places is not a good indication of a woman's neatness. These receptacles should be thoroughly scalded, and dried in the sun as often, at least, as every two or three hundred pounds of flour or sugar are used.

Prof. W. J. Beal on Parochial School Exhibit at Chicago.

The last number of THE SPECULUM under the head of Education at the World's Fair made mention of the "striking fact which one was obliged to admit to himself in looking over the display in the superiority of the parochial display over that of the Protestant." For a year (1869) I lectured once or twice a week, also questioned the pupils in the leading Catholic schools in Chicago and there learned something of their methods of teaching.

While in Chicago recently I spent two precious hours looking through the parochial, which seemed to be the combined effort of many schools and colleges in numerous states from Maryland to California, and Canada to Florida. There were immense numbers of examination papers of the same grades. The exhibit runs to drawings, many of which were very poor because not true to nature; notes on reading, grammar, arithmetic, and much on the catechism. There was a good deal of needle work, some of which was fine and some shop work. One man, the manager of a school in California, made some very nice raised maps and some of his pupils also made others. Another school tried this work and the tops of the mountain peaks were larger than the bases in some cases. They exhibited large numbers of open books, old newspapers and the like which made a little material go a long way. Numerous paintings of popes and cardinals and priests were always kept in prominent

places. Taken as a whole it was extensive but in many respects it seemed to be thirty to fifty years behind the times when compared with exhibits made by schools and colleges of either the New England states or old states of the North.

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AGRICULTURAL COLLEGE, OCT. 10, 1893.

A Farmer's Revery.

The summer is past, the harvests are garnered. The sun has daily risen and made his circuit a little farther south. In receding from the northern sphere, the shades of evening have gradually settled about us earlier and the morning twilight has come later. His diurnal visits have been characterized by less and less warmth.

The tender leaves of the plants have taken note of this and blushed to see their benefactor treat them so coldly.

The farmer—nature's nobleman—feels at this season that his busiest part of the year is past.

Nature has been putting forth her strongest endeavors, on his behalf; and he taking time by the forelock has labored incessantly, through the long summer days that he may have bread enough and to spare. A halo of contentment surrounds his genial face as he now walks leisurely through the granary, with bushels of grain piled high on either side, or as he strolls down through the long lane, and sees the green carpet on this field and that, giving promise of another year of plenty. The horses, too, have done their part and well may they now be allowed a short season's respite to roam through the vacant fields and meadows, ere the biting frost has withered the last vestige of summer's green herbs. The cattle and sheep, round and plump from perpetual grazing, lie sunning themselves on some pleasant slope. Little do they care that the fields where they have roamed are beginning to take on a paler cast. The husbandman has for so long time provided for their wants that they have not the instinct of the bird, but fulfill the idea to perfection "sufficient unto the day is the evil thereof." A man whose lot is thus cast need not envy the man whose life is spent in a small dingy room, which he calls his office, but which is nothing more nor less than a self-imposed prison cell.

Only one thing more seems now to be of pressing importance, and that is that his children receive the very best education, that he can afford to give to them. The boys and girls have worked hard and well to make his surroundings what they are. In the intervals between the busiest seasons, they have improved their time in making such mental development as environments would allow. They feel a hungering and thirsting after the opportunities that colleges and academies afford.

The farmer anxiously meditates upon the

great need of the times—the education of the country boys and girls—and as the year has been prosperous, he resolves to send his oldest boy and girl to college. He believes in co-education. He wishes his boy and girl to share the benefits of each other's love and care. He must needs make the expense as light as possible and yet have his children live respectably. The few hundred dollars which have been carefully laid away represent laborious hours of toil, ere the sun has scattered the morning dews; and arduous work long after the king of day has bade adieu to earth's teeming millions. Tired hands and weary feet have borne those treasures. Painstaking endeavor and stringent self-denial have stored them for other's needs. It is meet that they should be economically used. But John and Mary must go to college. Where? "There's Albion, there's Olivet, there's Hillsdale, there's Alma and Kalamazoo, there's Ypsilanti—all good colleges. The expenses are not exceedingly high, but will John and Mary be better fitted to lead the life of a farmer and a farmer's wife after completing a course at one of those institutions than they were before they entered; or will they by spending four years there become so unused to physical toil, so exquisitely dainty and citified that they shall have neither the heart, the muscle, nor the will to lead a country life?"

"I have known many who were less able to thrive after graduating from some of these institutions than they were before they entered. If I only knew of some good college, where labor is honored; where the teachings have some direct application to the life of an agriculturist. Where board is substantial, varied and cheap. Where fine clothes don't "cut much of a figure," or polished hypocrisy screen the real man or woman. A college where sturdy honesty and high respect for earnest endeavor with muscle, brain and heart are the leading characteristics. There would I send my

children. Let me see, haven't I heard something about a college for farmer's boys in Michigan?"

"If I remember rightly, there have on several occasions appeared items in the *Michigan Farmer*, about the Agricultural College. Yes, and last winter, John Smith, while visiting over at Cedar Springs, said he attended a meeting conducted by some professors from the Agricultural College.

"They talked about potatoes, general purpose cows, equine dentistry, small fruits and sheep, and showed a lot of pictures.

"If I remember rightly, he said the Agricultural College grounds and buildings were large and elegant, but there were no accommodations or courses of study suitable for ladies. Too bad! too bad! It strikes me that this would be a pretty good place to send John, but how about Mary? Must she go to one of these denominational colleges and learn to sing, play the piano, talk Greek and Latin, become estranged from and perhaps despise the country life to which she owes her strength and beauty?"

"I hate the thought, but Mary too must go to college. I believe I would rather risk John's being spoiled than Mary's. Perhaps both will be able to obtain the culture they desire, and the knowledge of the world that they need and not become estranged from the farmer's simple ways. I guess I will send them both together."

And so M. A. C. loses two would-be students who rightly belong to her.

She doesn't know the one thing really lacking to make her sought out and patronized by the people for whom she was founded.

THERE is one idea that should never be lost sight of at this institution; it is that this college was meant specially to benefit those interested in agriculture and its kindred pursuits. Is article 4990 of its organic law lived up to as closely as it ought to be? Should this college be made a stepping-stone

for the profession of medicine, law, pedagogy, etc.? Do the majority of the students at this institution love the farmer's life? and is it their ambition to enter the ranks of the agriculturists of the land and raise our farming population to higher levels socially, intellectually and politically, by their ardor and devotion? Is it possible that any one would be possessed of such great ingratitude as to come to a farmers' college and enjoy its benefits, and at the same time sneeringly speak of the old "moss-back" and "hay-seeds," and uppishly say, "No farming for me." If they do so we will venture to say that such persons have never earned an honest meal of victuals in their lives. This institution should be popular. Popular to whom? To the rural population, without a doubt. Are farmers opposed to education? No. Then why, of so many thousands of youths all over our fair State, is there so small a per cent here? It is attributed to the financial condition of many of our farmers; to the lack of knowledge regarding the institution on the part of others; to the fact that owing to the lack of female influence, our college has been given a reputation for being boisterous, and our students uncouth. Be this last as it may, let them look here for men every time. Let the people rise as they ought and demand that this college be made first, and always, a model place for the instruction of the farmer's sons and his daughters as well. Fill the halls and the class-rooms with energetic young men and women, and insist on discipline. Fire the toughs, and let them go back to the cities from which the majority of them come. Had our people as a whole a closer communication with the institution in the way of managing its affairs, by having a voice in the election of its officers, there would not be that apathy, not to say antipathy, that now exists. "What is everybody's business is nobody's business" and where individual interests are not at stake, men are loath to bestir themselves and make things "bum" for the general good.

THERE are two classes of men who resemble each other as closely as do the donkey and the mule. They are the "chronic growlers" and the "everlasting kickers." Sometimes they find their way into colleges, not usually by their own energies, but because somebody sends them thither to get rid of them. They lead a very very unenviable life themselves, their "only pleasure being in being displeased" and they are a source of no little annoyance to people in general. But the old saying tells us "there was nothing made in vain" and perhaps such people have their use if it is only to teach us when we chance to rub up against such crusty individuals as they, what a pleasure it is to have men of broad liberal minds and genial dispositions for our associates. There is, however, a characteristic which sometimes is branded with this odium that is in reality very commendable. We mean that independent, self-reliant, free-to-investigate sort of spirit that takes nothing for granted and imbibes no doctrine let it come from whom it may until he is fully satisfied, in his own mind, that it is true. Many of the achievements won by graduates of this institution are due to this independency of thought and freedom of action.

"If thou canst plan a noble deed,
And never flag till it succeed,
Though in the strife, thine heart may bleed,
Whatever obstacles control,
The hour will come, go on true soul,
Thou'lt gain the prize, thou'lt win the goal."

"HONOR to whom honor is due." Much of the pardonable pride that arises in the breast of every man connected with M. A. C. is due to the fact that here, as in no other college in Michigan, we can boast of a model campus, unparalleled perhaps in many respects by that of any other institution of learning in the world. "Is the house more worthy of honor than the builder?" And shall not Prof. Taft receive the credit that is his due for his exceedingly good taste as a landscape gardener. Prof. Taft since his connection with this institution has

proved himself to be an indefatigable worker. If he has erred in any way, it has not been for the sake of gaining popularity, but from a most exacting sense of duty and justice. He is now superintending the building of cement walks—something which has long been needed to make the campus as entrancing to the feet as it has long been to the eyes. The \$3,500 which have been appropriated by the legislature will not be sufficient to make the walks as complete as is desirable, but Prof. Taft will make the amount go as far as would any other man that could be found. Right in this connection we would say that every possible effort has been made so far this term on the horticultural department to give the seniors such work as shall be to their educational interest and value. The agricultural students, class of '94, are indebted to Prof. Taft and Mr. Gladden, his assistant, for a pleasant ride, to the home of the latter, where a large peach orchard was carefully examined and the merits of the fruit full(ly) tested.

WE do not wish to criticise any one very severely when he does what he considers a good act and does it from feelings of duty, but some of the people, on the country surrounding the college, have uttered curses "not loud but deep" time and again for the man, who shut up the gate leading to the grounds, northeast of the Horticultural Laboratory. And when any one considers the inconvenience it puts one to who comes from the east wishing to dispose of produce, at the clubs, or who may wish to enjoy a good road and a pleasant drive of half a mile going to or returning from Lansing, he feels a sort of compassion, for the man who does the cursing. No doubt there was cause for action, for instance although heavy teaming through the grounds was forbidden, the law was constantly violated. If a fine of five dollars were imposed for every violation of the law and the gates left open it would do

good to many and very little injury to any one.

The boarding clubs also would be greatly benefited by being able to secure farm produce at better rates than now. Many farmers have shown their indignation, for not being allowed to drive through the grounds, by refusing to offer their produce in our market.

It is provoking and at the same amusing to see the way some people act, who come to visit the college. This is the State's property. They have paid taxes to support this institution for years. They are happy that for once in their lives, they have the privilege of getting some small return for their outlay. "Every thing here is free." "The boys are fed at the expense of the State." Visitors' horses should be provided with hay and oats, and they themselves with potatoes and bacon, graham bread and Jersey milk.

"Pay for a dinner! Great Heavens! can't the State of Michigan afford to give an old settler one meal in his life?"

DURING the past, the fee to be charged for an examination, when not taken at the close of the study when pursued with the class has been a source of much diversity of opinion and as much diversity of practice among both the students and the professors. Now, the matter is clearly and we think satisfactorily settled. Each student is now entitled to one examination in each study free of charge. For every succeeding examination he shall be charged a fee of one dollar. This will put a check upon many neglectful students, who seem not to care how much annoyance they give a professor by asking for "special examinations." It will also give students who are unavoidably prevented from taking an examination, with their class, and others who wish to pass a study without taking it in the class, an opportunity to do so without paying extra for it. This is now as it should be and the

only wonder is that a wise faculty should have allowed such a laxity and uniformity to run so long without providing a remedy.

OUR curriculum is so crowded now that when any new thing, in the line of study, is proposed, it invariably goes to the wall. The need of some training in music has long been felt here. A resident physician who would also be a physical trainer has also been mentioned. A theologian abreast of the times, who could take charge of the chapel exercises, Sunday services, and at the same time be an instructor in moral philosophy has also been spoken of. All are good. Each is important. Could a man be secured who was at once highly capable of training the voice, the physique, and the heart, we think he would be sought for with alacrity. Some one has said, "Give me the making of the nation's songs and I care not who makes its laws." A nation's character at any time may be ascertained very correctly by the character of its songs. May the same not then be true of our colleges? If this be any criterion, what conclusions would naturally be drawn by a visitor at M. A. C., during last term?

THE fact that this is a very materialistic age is admitted by all meditative minds. Our boast is not of breadth of character and development of soul. Our pride is not in our philanthropy and faithfulness to the God above. But in the thought of Dr. Edwards every speaker will get up and tell you of this wonderful age! This age of marvelous progress in invention—the railroad, the electric telegraph and so forth. Of what great worth are such things as these when compared with soul attributes, such as the imagination, faith, love, hope and beauty?

Is life so very much more noble now than before these inventions? Are the burdens of the poor much lightened? Does our age show men so very far in advance of any who lived thousands of years ago? We think not.

IN this issue we present our readers with a short article from Mr. Sobennikoff, a Siberian student who is studying at M. A. C. While the article has many imperfections—some of which we would not desire to correct—we hope it may not be uninteresting to many of the readers of THE SPECULUM as it will give some idea of the thought of a man raised on the opposite side of the globe and surrounded by influences entirely different from ours. Mr. Sobennikoff, though a good student, is not very familiar with our language and finds it impossible to present his ideas with the strength and beauty of his native tongue. However, we think there will be seen something of that love of nature's works that has thrilled men's hearts in all ages. Perhaps in some future issue he may favor us with an account of his Japanese visit, trip to America, and intentions on his return to his own land and people.

THE class of '94 has always been noted for its quiet, dignified manliness, and as a fitting emblem of these characteristics, and so that they may not be mistaken for members of the faculty, they have adopted "tiles" for their senior year. They become them so well and awaken in the wearers so little vanity that the other class men do not show the least spirit of envy, but proudly say as they pass by, "They have won their laurels fairly, let them enjoy their rightful deserts in peace."

WE wish to call attention to an article in the last *Grange Visitor* by Prof. W. J. Beal on "Manual Labor." We think Dr. Beal has "the right idea." Space permits us to give only a few of the leading thoughts which in substance, are as follows: The labor system as here in vogue has always encountered difficulties, some of which are: To provide suitable work and continuous work on special lines; too many work at once; jobs are left partly done; skilled fore-

men cannot always be provided; bad habits are formed; students are put at the labor they can best do; students dislike to work for less than they really earn. Nevertheless this system, imperfect as it is, is better far than a no manual labor system.

Suggested improvements: All labor should be performed with a view to acquiring skill. When a student is found skillful in any work he should be "passed." If he acquire this skill before coming here, so much the better. If students desire to work for pay, furnish them with work, when possible, and let the compensation be reasonable. Make it necessary to pass as rigid an examination in labor relating to agriculture as in any other branch of training.

It is our candid opinion that when this college adopts such a labor system as this and prepares itself to receive lady students, there shall arise in her history a wave of prosperity "which shall move another and that another, till the last great wave shall roll over the sands of time, and dash against the rocks" of the farthest climes, echoing as it falls, Agriculture! Agriculture! Agriculture reigns supreme!

It has been, and is now, the opinion of many students at this college that the room rent is too high. It does look high at the first glance, and we are not prepared to say that it is not so. However, the cost of heating the rooms must not be forgotten. Our system is an expensive luxury. In our next issue we hope to be able to present a definite and impartial report, after we have had ample time to thoroughly "investigate the matter." Gladly would we receive information from any source in regard to the expense of heating students' rooms here or elsewhere.

WE are always filled with emotions of delight if we get up early enough to see the sun rise in these cool clear autumn mornings in the beauty of its strength, bursting forth like a mighty entrancing ball of fire from the chambers of night, adorning the sleepy

clouds that hang suspended in the blue ethereal dome with the most harmonious entrancing blendings of the ever varied hues. Different feelings but none the less delightful are those which arise in the breast of one whose privilege it is to stand in a central part of our campus on such evenings as these when it is arched over by a dark blue sky, filled with the most brilliant settings and behold rise high above the trees and shrubs that stand like vigilant sentinels to guard the students absorbed in study, the college dormitories with their windows emblazoned with lights from rooms where aspiring youths are diligently searching after truth and mastery.

Need we envy the luxury of magnificent paintings of the rich when they are but shadows when we have the real substance.

"I am owner of the sphere,
Of the seven stars and the solar year,
Of Caesar's hand and Plato's brain,
Of Lord Christ's heart and Shakespeare's strain."

JUST as we go to press news comes to our office of the appointment of Prof. Gulley, class '68, and for the past four years the able and efficient assistant of Prof. Taft on the Horticultural Department at this institution, to the chair of Horticulture and Experiment Station at the University of Vermont. During his labors here he has proved himself to be a faithful and energetic man, and by his genial disposition has endeared himself to all students with whom he has come in contact. With our regrets at his departure we cannot but congratulate Prof. Gulley for this appointment for which he is so eminently fitted.

The second edition, 5,000 copies of Bulletin '94—Birds of Michigan—is just out. We notice a large number of additions. Four species are added making in all 336. Over twenty pages have been added so that the work now numbers over 170 pages. This work has received the highest praise from the best ornithologists of the country. Several stations in other states have written the college expressing the intention of preparing similar works for their states.

COLLEGE NEWS.

President Gorton's sister, Mrs. Avery, from Los Angeles, Cal., spent a few days lately visiting him.

What is more awe-inspiring than a tall shiny silk tile, perched upon the intellectual cranium of a noble senior?

Those who are naturally close observers tell us that several of the mechanical seniors are raising whiskers.

The Misses Pearl Kedzie and Fay Wheeler, who are attending school at Olivet, spent Sunday, October 1, at the college.

President Gorton, at his recent visit to the Experiment Station at South Haven, found everything in a flourishing condition.

The banana tree in the greenhouse is in blossom and promises a large bunch of fruit. The flower is quite an interesting one.

Mr. Gulley has been offered a position at the head of the experiment station at Burlington, Vermont. He has not accepted as yet.

Plans for a hospital building have been submitted, but have not been accepted, and the building will probably not be erected before spring.

A large quantity of nitrate of soda has been given to the college by a Chilean syndicate, for purposes of experiment as to its fertilizing qualities.

The dam in the river, for fire protection and ice, has been repaired and heightened, and a new connection with the fire pump has been made.

Mr. Joseph Cilley Vernct, agricultural engineer at the Agricultural College at LaPlata, Argentine Republic, visited the college a short time ago.

Mr. Bender, who has been employed thirteen years in the pattern shops of the Lansing Iron & Engine Works, has been chosen as foreman of the woodshop here.

The collection of wax fruits belonging to the college was the only part of the State horticultural exhibit at the World's Fair that was at all considered by the judges.

Professor Hicks has discovered a new water plant, a chara, in a lake near Jackson. He has collected some of it for Dr. Allen of New York City, who is studying this class of plants.

Mr. Gladden is now at the World's Fair looking after the college exhibit, Mr. Wheeler having returned. Professor Mumford expects to care for the exhibit the last two weeks of the fair.

The Horticultural Department is trying the comparative effects of common watering and sub-irrigation upon four lots of carnations in the Forcing House. A similar experiment with lettuce is being prepared.

Extensive wheat experiments are being prepared. Forty-two experiments on hant, or stinking smut are

to be carried on, while thirty-five acres are sown to different varieties of wheat in order to test their relative values.

The long looked for and much talked of covered drain between College Hall and Abbot Hall has finally been constructed. All the buildings on Faculty Row not already connected with a sewer are to be connected with this one.

On September 14, Mr. J. N. Hatch, our new instructor in the Mathematical Department, was married to Miss Luie Barber of Ann Arbor. They now make their home in the Terrace. THE SPECULUM extends congratulations.

The plan has been adopted of sending home each month the class standing of all students under twenty-one years of age. Those over twenty-one will receive their own class standings. This is the plan followed at the Massachusetts Institute of Technology.

Plans for the new foundry have been adopted and the building will be erected this fall. The building will extend sixty feet east from the old blacksmith shop. At the south side will be a wing thirty feet square to be used for the smelting apparatus.

The entire state agricultural and forestry exhibits at the World's Fair will be removed here after the fair is over. The forestry exhibit has received twenty-one prizes in different lines of work, more than twice as many as any other state exhibit of the kind.

The Farm Department has recently purchased 100 lambs to turn into their field of rape. They intend to watch the effects of this feed upon the sheep and to experiment upon them with a number of different varieties of feed and manners of feeding during the winter.

The Botanical Department has ordered about seventy-five dollars worth of accessories such as glass-ware and reagents, also a very convenient and quite expensive table with drawers on all sides, to be placed in the class-room, to hold small articles for use with the microscopes.

Work on the new walks is being rapidly pushed and will soon be completed. They are a pleasure to the eyes as well as to the feet, for they add much to the appearance of the grounds and the recent rains have given us a foretaste of the comfort they will afford in muddy weather.

Saturday evening, Sept. 30, the Eclectic Society entertained the faculty. After the program and a short time spent in pleasant conversation, the meet-adjourned to Club C, and indulged in an oyster supper and speeches by the prominent members of the faculty.

Mr. Robert H. Wolcott who has taken three degrees at the university, and who spent last summer in the employ of the Fish Commission, investigating the insect fauna of Lake St. Clair is spending the present term at the college studying entomology with the view of obtaining the degree of M. S.

The Chemical Department is making an analysis of celery which has been sprayed to destroy insect pests, also analysis of a sample of wheat from Buda Peth in Hungary, and five new varieties of wheat raised in Michigan, namely: Red Clawson, Ruby, American Bronze, Reliable and Jones's Winter Fife.

A revolving stand for books and tools is to be placed in the office in the machine shop. On top of this is to be a wrought iron display stand. Plans are being made for a hydraulic hoist for the foundry, also plans for the iron work of a balcony to be placed in the north side of the library building. All of this work is being done by students.

The college is indebted to Ex-president Clute for a large addition to the collection of geodes in the museum. This collection, together with that from the same donor, presented several years ago forms a remarkably complete collection of these curious structures. The collection was made in the region of Keokuk, Iowa.

October 5 and 6, the remainder of the field day program, which was postponed last spring on account of rain, was completed at Hillsdale during the county fair there. Although only a few attended from here they succeeded in capturing many of the best prizes, among which were the Relay cup and the All Round medal which was taken by Mr. Poss.

Professor Cook leaves Oct. 11 for Chicago to attend the meeting of the National Bee Keeper's Association. The meeting will last several days and papers will be read by distinguished apiarists of the country. Among the papers there will be at least two read by graduates of M. A. C. The secretary of the association is Mr. Benton of the class of '79.

At the last meeting of the State Board, President Gorton was made a delegate to the meeting of the National Association of Agricultural Colleges and Experiment Stations, to be held at Chicago, October 17, 18 and 19. President Wells of the board was chosen to represent the college. Professors Taft and Smith were made members of the visiting board.

The chemical department will soon issue a bulletin on the composition of wheat and wheat straw at different stages of growth, forty-six different cuttings having been made. Also the composition of various forage plants such as sperry, *Lathyrus Sylvestris*, and peppermint hay. The adulteration of chops and ground feed, and the mineral residues found in sprayed fruit.

Friday evening, October 6, Professor and Mrs. Cook entertained the members of the junior class in anatomy at their home. The evening was pleasantly spent in games, singing and dancing. Refreshments were served. It was a very pleasant affair, one of the few of the kind that the students here are enabled to enjoy, and was thoroughly appreciated by those who were so fortunate as to be enabled to attend.

The Farm Department is fitting up the northwest corner room in the basement of the Agricultural

Laboratory for dairy work during the winter. All articles necessary for a first-class farm dairy will be purchased and experiments will be carried on during the winter. During the spring and part of the summer the Sophomores will have practical dairy work one day per week. The Seniors who elect agriculture will spend part of the time in dairy work and in making a scientific study of milk and butter.

We wish to call the attention of the students to a course of entertainments to be given at Baird's Opera House, Lansing, Mich. The following are the dates: Nov. 1, Riley and Shirley; Dec. 27, Jahu De Witt Miller; Jan. 26, The Ladies Schubert Quartette; Mar. 2, New York Philharmonic Club; Mar. 30, Fred Emerson Brooks. The first and last two of these occur while the college is in session and special rates will be given to students. President Gorton is chairman of the committee having these entertainments in charge.

The class officers at the present time are as follows: Of the senior class, R. S. Woodworth, president; G. E. Simmons, vice president; C. J. Foreman, secretary; H. R. Allen, treasurer. Of the junior class, W. C. Stebbins, president; E. L. Fugate, vice president; R. L. Reynolds, secretary; I. R. Jones, treasurer; H. W. Lawson, sergeant at arms. Of the Sophomore class, E. D. Partridge, president; I. L. Simmons, vice president; A. T. Cartland, secretary; W. G. Amos, treasurer; R. E. Bateson, sergeant at arms. Of the Freshman class, T. W. Clark, president; E. D. Osborne, vice president; E. A. Calkins, secretary; E. B. Delano, treasurer; C. E. Hermann, sergeant at arms.

One of the things for which Prof. Breckenridge will be remembered at the college is his instrumentality in founding, one year ago, the Michigan Alpha of the honorary society Tau Beta Pi, which originated at Lehigh University, S. Bethlehem, Pa., ten years ago. The object of the society is to furnish those members of the junior and senior classes who have maintained a high grade of scholarship as under graduates, or who have done commendable work in technical lines since graduation, a means of confidential intercourse among themselves, and those similarly honored in like institutions. The society is officered for the ensuing year as follows: Geo. E. Simmons '94, president; Prof. P. B. Woodworth '86, vice president; C. C. Pashby '94, recording secretary; J. D. Nies '94, corresponding secretary; V. V. Newell '94, treasurer. Meetings are held semi-monthly. One member furnishes the program in the form of a treatise on some subject of a technical nature. Observations are exchanged on each member's specialty.

The "Farm Home Reading Circle" course, established last winter by the college, has been carefully revised, new circulars have been issued and it is proposed to push it during the coming winter. The course offered includes classes on Soils and Crops, Live Stock, Garden and Orchard, Home Making and Political Science. Each class comprises five books

and the work outlined requires the completion of one class in one year. The completion of three classes represents a three years course and a suitable diploma will be awarded to all who finish the course. The State Board of Agriculture have provided for the expenses of the course by special appropriation so that members have no expenses except the purchase of books. The books are all recommended by the faculty of the college and they represent the best obtainable literature on the subjects treated. The Reading Circle in connection with Farmer's Institutes can not fail to bring the college closer to the farmer and extend its influence further than simply to those who come here as students.

PERSONALS.

We desire the earnest co-operation of every person who has ever been connected with the college in trying to make this department an interesting one. Let every alumnus and every person who has been with classes here send in news to the editor of this department, often, thus making his work much easier and the department more interesting to all.

The following item, clipped from the Barre correspondence of the Worcester (Mass.), *Spy*, will undoubtedly be of interest to SPECULUM readers: "P. M. Harwood, late Professor of Agriculture in the Michigan Agricultural College, is in town visiting relatives and friends. He has secured a position as manager of an extensive breeding and stock farm in Canada nearly opposite Detroit, and will soon take his family there."

'62.

President Clute of the Florida Agricultural College, expects to attend the convention of agricultural college presidents to be held in Chicago during October. Dr. Clute is very much delighted with his new location, with the climate, the country and the people. He has also improved very much in health since he left Michigan for the "land of oranges."

'67.

W. W. Tracy paid the college a short visit a few days ago.

'68.

It is reported that Mr. A. G. Gulley has been offered a position in the University of Vermont, situated at Burlington.

'70.

Henry G. Reynolds is now settled in his new home at Los Angeles, Cal. Although his health is somewhat improved he has not yet entirely recovered.

'73.

Prof. R. C. Carpenter of Cornell University has been in Chicago for the past six months as a member of the committee of awards on boilers and boiler testing at the Columbian Exposition.

WITH '73.

Frank C. Wells is a practicing veterinary surgeon in Detroit.

'74.

The ladies of Detroit have organized an association for the purpose of looking after their rights in municipal elections. Henry A. Haigh has espoused their cause and will present their case before the Supreme Court.

'76.

Hiram S. Hampton with his wife and two children visited the college recently. The visit was the first since his graduation. Mr. Hampton is a successful lawyer of Bellevue, Idaho, and was a member of the convention which framed the constitution of that State.

'77.

We are glad to hear that Prof. A. B. Peebles of the Storrs (Conn.) School of Agriculture, who has been an invalid for some time, has now entirely recovered his health.

'78.

Eugene Davenport is building a new residence at his home in Woodland. He delivered the Labor Day address at Owosso.

G. E. Breck received several first premiums for his exhibit of Shropshire sheep at the World's Fair.

'79.

Frank Benton is secretary of the International Bee-Keeper's Association which is now in session at Chicago.

'82.

W. L. Snyder, chemist of the Michigan Carbon Works, Detroit, called at the college September 30.

'84.

Joseph R. Abbott has removed from Lansing to Los Angeles, Cal., where he is engaged in the lumber business.

E. Carl Bank, formerly connected with the Lansing Industrial School for Boys was recently appointed superintendent of the Preston Reform School situated at Ione, Cal. Besides his salary of \$3,500 per year, he is also furnished with a residence and provisions. If this is the California way of doing things it is little wonder that M. A. C. graduates are flocking to the Pacific coast. It is an interesting fact that the Reform School of which Mr. Bank is superintendent takes its name from E. M. Preston who graduated from M. A. C. in '62. As a member of the California Legislature he was influential in founding the institution and locating it at Ione. He also used his influence in having an M. A. C. man put at its head.

'85.

W. S. Baird is still in California for his health.

'86.

G. S. French is under treatment at a private hospital in Flint.

'87.

E. A. Burnett spent a few days at his Alma Mater recently.

W. F. Staley called at the college on his return from Chicago in September.

'90.

Wm. Petrie of St. Johns, Mich., met with a serious

accident while bicycling recently. He has the sympathy of THE SPECULUM.

Ben K. Bently and Miss Elizabeth A. Stephenson were married on September 26, at the bride's home in Lansing. After the ceremony they left for their new home in Denver, Col.

Born, on September 4, to Mr. and Mrs. J. H. Freeman, a son. "Joe" is still in Washington where he is one of the assistant inspectors in the pension office.

We have received notice of the marriage of J. W. White of Lakeside, Cal., to Miss Annie S. Reider of Americus, Kas. The wedding occurred August 23.

'91.

V. H. Lowe spent a few days at the college recently. The friends of K. L. Butterfield are all glad to note the wonderful and successful growth of the *Grange Visitor* of which "Ken" is editor.

'92.

Howard B. Baker recently went to Chicago to take a position in the exhibit of the Libbey Glass Co. He also expects to find time to investigate the other mysteries of the Midway.

H. Arnold White, who is in the insurance business at Grand Rapids, paid the college a professional call a short time ago. We hope he succeeded in writing out a large number of policies in favor of college people.

WITH '92.

L. Colfax Gibbs has removed from Grand Haven to Lansing. It is said that the latter city always had a strong attraction for Mr. Gibbs.

L. J. Briggs expects to spend a year at the U. of M. before entering Cornell.

R. C. Bristol and W. G. Smith re-visited the scenes of their college days lately.

Emile Smith is located at 188 North Aurora street, Ithaca, N. Y. He will spend the year in electrical work at Cornell.

Dwight Cole has secured a position as teacher in one of the Detroit night schools.

L. Whitney Watkins is not neglecting science even in the engrossing pursuit of agriculture. He has already collected fifty fine bird-skins, all taken near Manchester. Among them are the turkey buzzard, the sand hill crane and the hell diver.

O. H. Pagelson is an assistant on the Experiment Station staff of the Iowa college. His work is along the line of chemistry and he is now making a specialty of cheese analysis. Although pleased with his work, he is disappointed in the college and considers M. A. C. far ahead.

Mrs. P. B. Woodworth is visiting her mother in Chicago.

WITH '94.

J. C. Patrick entered the Michigan Mining School at the opening of the college year.

J. W. Ritinger is recuperating at his home in Dayton. All of Rit's friends at college will be glad to

know that he expects to return in the spring and finish with his class.

WITH '95

B. D. Parker is employed in the Auditor General's office at Lansing.

George Phillips will continue his studies at the U. of M. this fall.

Yasuharu Kato has entered the University of Minnesota.

WITH '96.

Miss Fay Wheeler attends Olivet College this year. She accompanies Miss Pearl Kedzie who has already spent a year at that institution.

ATHLETICS.

The regular autumn local field day was held at the drill ground on Saturday, September 23. It furnished an afternoon's entertainment for a large part of the college population, but as a means of learning what athletic material the new class contains it was not a success. The day was bright but quite cool, and this fact may have deterred many from entering who otherwise would have done so. Owing to the delay in beginning it was necessary to cut out a number of events to permit time for the game of ball between the classes of '95 and '96.

The list of events with entries and records is as follows:

Running High Jump—Petley, 5 feet 3 inches; Beese, second.

One Hundred Yard Dash—Beese, 11 seconds.

One-half Mile Run—Taylor, 2 minutes 43 seconds.

Running Broad Jump—Poss, 20 feet 10 $\frac{1}{2}$ inches; Beese, 19 feet 6 $\frac{1}{2}$ inches.

Two Hundred and Twenty Yard Hurdle—Petley, 28 seconds; Beese, second.

Running Hop, Step and Jump—Beese, 40 feet 3 inches; Poss, Beauvais.

One Mile Safety Bicycle—Rork, 3 minutes 30 seconds; Clark, second; Thompson.

One Hundred and Twenty Yard Hurdle—Poss, 17 seconds; Beese, second.

The ball game was exciting and resulted in a score of 20 to 19 in favor of '95.

Batteries, Anson and Fisher for '95; Beauvais and Simmons for '96; D. J. Crosby umpire.

The board of directors of the M. I. A. A. met at Hillsdale, September 30, and arranged a program of sports for the unfinished field day to be held on the Hillsdale county fair grounds Thursday evening and Friday morning, October 5 and 6. Since most of the colleges submitted no form of constitution for the M. I. A. A., none was adopted. It is probable, however, that an altered form of the constitution of the American Amateur Athletic Union, together with their rules and regulations, will be adopted for the Inter-collegiate Association. Owing to the shortness of the present term and the rush of work the faculty have decided to excuse no one to attend the meeting at Hillsdale.

The department is indebted to Dr. Beal for a notice of an article in *The Harvard Graduates' Magazine* September number on "College Athletics." It is well worth a careful perusal. From a somewhat minute statement of the changes in the ideas of the American people, two of special interest to college men are singled out and form the basis of this most striking passage: "The first is the general disappearance, most fortunate as I esteem it, of the literary society, formerly so flourishing, and the decay of oratory, declamation, and debate, which to many once made up the main interest of college life; the second is the rapid growth of athletics, in which immense honor is given to young men because they are strong, swift, enduring, and brave; in which the blood of the whole community is stirred by physical contests among the picked youth of the land, as once it was stirred only by tales of battles."

This is a remarkable statement coming as it does from an LL. D. It should receive more than a passing thought. No matter how distasteful the study of oratory and no matter how futile the attempt to cultivate a fine literary style may be in this institution where nearly fifty per cent of the entering classes choose technical instruction, we certainly are not ready to transform our society halls into gymnasiums, nor are we ready to devote the time given to literary work entirely to athletics. These things will adjust themselves. That athletics are coming to their rightful place is shown by the size, strength, and better health of the students of to-day over those of former years. As this is done oratory and debate, principally useful in entertaining assemblies and impeding pernicious legislation, will receive their just allotment of attention.

COLLEGES AND EXCHANGES.

One of the latest additions to our exchange list is *The Collegian* of the New Mexico Agricultural College. The college is only four years old and the paper only one year. It certainly makes a very good appearance considering its age, or rather lack of age.

Exchanges are rather slow in coming in after the vacations. So far we have received the following, *The Collegian* from New Mexico Agricultural College; *Thielensian*, Thiel; *Scholastic*, Notre Dame; *Aggee Life*, Massachusetts Agricultural College; *College Student*, Franklin and Marshall; and *Herald*, Hillsdale. We hope soon to receive all our old exchanges and some new ones.

Cornell has 512 scholarships, aggregating \$150,000.—*Student.*

The receipt of the athletic association of Harvard last year were \$12,115.15; the expenses \$10,991.10.—*Ex.*

The Chicago Naval Academy has accepted the Pennsylvania building at the World's Fair.—*Ex.*

A hydraulic testing machine at Washington University exerts a pressure of 1,000,000 pounds.—*Ex.*

The school directors of Pennsylvania are kept very busy at present preparing the new books for the pupils. All the books, under the new law, are to be labeled and numbered, and will be given to the pupils to be used free of charge.—*Ex.*

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