

The M. A. C. Record.

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DOMESTIC SCIENCE.

[PROF. EDITH F. M'DERMOTT.]

It has been said our "After thoughts" are our best thoughts. It would seem such was the case with the M. A. C. The College has been organized for years, but only this fall has it opened its doors to women.

In one of the most beautiful spots of the campus, Abbot Hall, the women's dormitory is situated. Here domestic science is to be taught and practiced.

Perhaps the most interesting part of "The Abbey" is the laboratory kitchen. It is a large, well lighted room, with cloak room, storerooms, etc., opening from it. The kitchen is furnished with soapstone sink, around which are roomy draining boards, lockers (for caps and aprons), china closet, dressers, and two long tables, subdivided so each student has her own desk. The desks are provided with knife and fork, vegetable knife, two teaspoons, one tablespoon, pepper and salt boxes, two half-pint cups divided into one-quarter and one-third for measuring, a scrubbing brush and soap, desk board (on which all the work is done) and a pastry board.

Besides the large range, there will be individual gas stoves and an Aladdin oven.

Our work will begin with canning and preserving, the making of pickles, and jelly, followed by a thorough course in plain and fancy cooking, invalid cookery, serving of dinners, and luncheons. Special attention will be given to the preparation of 25c and 50c dinners for a family of six, and will be put into practice in the dormitory dining room.

Lectures will be given in the "ologies," chemistry, the chemistry of foods, etc.

Of the chemistry of food much might be said, and because of so many questions as to what it is, and where information might be obtained regarding the same, I will endeavor to briefly explain the meaning of the term, and give the chief sources of information in regard to investigations in that line.

Some books have been written on this subject, but many more are to be a product of the future. Public sentiment has been steadily growing in this respect. Cooks, books, lectures and classes have all helped to disseminate knowledge on the subject of the cooking of food.

As a result, people are gradually coming to realize that the food question is a very broad one. Thus far but two factors in regard to it have been emphasized—the preparation and the cost.

The average woman who goes to buy clothes for her family, has a very definite idea in her mind as to the relative value of different materials, their fitness for different purposes, and their ability to meet the requirements of her individual needs. She passes from the store to the market, and in this place her purchases are determined by what the seller can persuade her to buy, and her pocketbook.

She has little knowledge concerning food principles, no definite ideas as to the amount of nutriment various kinds of food contain, and only a vague theory as to the relation between nourishment and cost. Because of this ignorance she sometimes pays an exorbitant price for nutriment which might be obtained at far less expense if the proper principles guided in the selection of food.

Prof. Atkinson says: "If it were a question of feeding horses, cows or pigs, all the necessary information could be found in almost innumerable popular treatises, magazines and agricultural papers, but if you had asked, only a little while since, how to select the right ingredients and proportions of food nutriment of men and women, you could only be referred to some abstruse and scientific treatise. Even yet the more popular treatises of Prof. Atwater, Prof. Church and Mrs. Richards are but little known."

Another difficulty in the selection of food arises from the fact that our standards of dearness and cheapness are based upon the price per pound or quart, rather than upon the proportion of nutriments which the food contains. It is just at this point that chemistry has greatly aided in forming right conceptions in reference to the value of food.

By chemical analysis, not only the composition of food but the proportion of nutriments in food may be determined. In the very nature of the case much abstract inquiry and research along the lines of chemistry and physiology was necessary before any state-

ments could be formulated concerning the subject. Hence the lack of popular treatises on the chemistry of food.

The Germans lead in this line of investigations. Most of the work in the United States has been done in the laboratory of Prof. Atwater, Middletown, Conn.

The Farmers' Bulletin usually has much valuable matter.

—*Domestic Economy and Household Science.*

M. A. C. BOYS GETTING UP IN THE WORLD.

HENRY G. REYNOLDS, '70.

Pretty old "boys" I suppose the class of 1900 would say, considering that the youngest graduated before the College yell was born; but boys we all once were, and, by virtue of continued bachelorhood, boys half of us are still called, and any one who heard the M. A. C. yell given on the topmost pinnacle of San Jacinto Mountain might have thought us all still worthy of the name.

The overland train on the Santa Fe R. R. as it started eastward from Pasadena, Cal., on the morning of Sept. 8, carried with it Llewellyn Reynolds, lately of the class of '95, M. A. C., on his way back to the Michigan Mining school, after his short summer vacation at home. With him were his father, Henry G. Reynolds, of '70 M. A. C. and Rodney Abbot of '84 M. A. C., who is now an orange grower at San Gabriel, Cal. At Claremont, 40 miles to the east they were joined by Prof. A. J. Cook of '62 M. A. C., now on the faculty of Pomona College at Claremont. At San Bernardino all of the party, but Llewellyn Reynolds left the train, and as it carried him through the Cajon Pass (Pronounced Ka-hone) on to the Mojave Desert (pronounced Mohah-vey) eastward bound, they took train to the south, on past Riverside and into the San Jacinto Valley, where, at Hemet, ten miles from the base of the mountain, they found waiting for them with a carriage and a fine pair of horses, another representative of M. A. C., Charles McDiarmid of '84, who soon brought them to his ranch, where, with his brother Marshall, his mother, sister and uncle, he has lived since 1892. In that four years they have developed from the naked land which they found, a typically beautiful California home, surrounded with vines and shade trees that a Michigan home would feel proud of as the result of a dozen years of effort.

Until supper we spent the time looking over and sampling the products of a beautiful vineyard of White Muscatelle raisin grapes and orchards of peaches, apricots, nectarines, pears and prunes. Hemet, being about 1,400 ft. above the sea, is liable to too low a winter temperature to make oranges a safe crop, but for deciduous fruits it is hard to beat. We took off our hats, metaphorically, to a field of alfalfa which yielded five or six cuttings per year, aggregating as much as eight tons of dry hay per acre.

The apricot and peach trees, four years set, already begin to touch one another across the rows.

Mr. McDiarmid is carrying out the spirit of his college teachings in being practical enough to be his own blacksmith and often does a good turn in that line for his neighbors. In his barn yard we noticed a handsome Hereford cow. Instead of visiting the poultry yard we were called to the dining room to test the quality of a Hemet turkey, served with such abundant accessories that we were soon all secretly sighing for more capacity.

The evening air was so soft that we hated to go indoors when bedtime came, but, attractive as the hay stack looked, we were still too much bound by habit to think seriously of sleeping out of doors when there was a house at hand.

THE TRIP TO MT. SAN JACINTO.

Daylight the next morning found us busily preparing for our departure to the mountain and while the others each attended to various details, the writer made it his business to fill a generous basket with the delicious white grapes and George the Fourth peaches.

Soon after six we were under way and for ten miles rode through a broad, smooth-floored valley, dotted here and there with emphasizing hills and bounded on almost every side by mountains that rose

from one to two miles above it. The summit of San Jacinto as seen from the base has more the appearance of a crest than of a peak, and as we drew near it seemed to sink away behind the intervening foothills, and we did not again come in view of the highest point until we were within a quarter of a mile of it. By lunch time we had made a good start up the canyon which served as a gateway into the mysteries of the mountain, and refreshed ourselves and the horses by the side of a leaping brook which even this unusually dry year had failed to discourage. In the afternoon came work that tried the powers of the horses, as the road zigzagged up the steep slopes, giving us at each turn broader and more magnificent views, until at last we reached a height from which we looked ahead down a gentle grade into Strawberry Valley, hidden away 6,000 feet above the sea and offering a most tempting retreat from the heat of the valley below.

Here was the limit of the wagon road as well as of any resident humanity, this being in summer time the site of a U. S. post office and the resort of health and pleasure seekers, sometimes to the number of several hundreds at once. But the "season" was already past, and we found but few people as we looked around for a camping place to suit us. We soon had a good fire with the kettle boiling merrily and after supper the fire, casting its gleams of light and gusts of smoke up among the branches of the great pine trees, gave a picturesque zest to our reminiscences of college days. But we were early ready to exchange reminiscences for dreams, and, with no other shelter between us and the stars than the atmosphere, we rolled up in our blankets and—proceeded to find out how many hard spots we had failed to cover up with dry leaves and ferns. But the night had not seemed long when Prof. Cook exclaimed, "Hello, boys, there are the Pleiades directly over us," and sure enough there they hung, not like Damocles' sword, because there was no string tied to them! So it seemed the part of wisdom to try to get out from under, and soon we were once more on our upward way; this time with burros instead of our horses and wagon, and climbing such steep paths that one needed to be careful of his footing.

A CLIMB UP THE MOUNTAIN.

On the eastern side of Strawberry Valley towers a splendid mass of white rock that rises almost vertically 2,000 feet above the valley and as we began our toilsome climb, we cast frequent glances of wonder and admiration up toward its majestic head, and it added much to our self-esteem when, two or three hours later, we were able to look back and down upon that same grand crown.

Seven hours of alternate long climbs and short drops into successively higher and higher vales, brought us at last to the highest of these, called Tamarack Hollow, possibly because it is hollow or void of tamaracks.

Here we were nearly 10,000 feet high and here we left our luggage and proceeded in light marching order for the last hour and a half's scramble to the summit, where we arrived at 3 o'clock in the afternoon.

Here, instead of the long crest or ridge, which the view from below had led us to expect, we found ourselves high and above anything near us, so that it seemed more like the pinnacle of a high steeple than like the roof of a house, and all around, but ever so far below us was a wild and rugged sea of earth waves. To the north the descent was so steep that it gave the impression that one could almost jump to the very bottom, that is, to the level of the pass between this and the San Bernardino range, through which the Southern Pacific starts on its eastward journey. To the east and southeast stretched a broad desert, traversed and broken by many a range of hills and mountains; those deserts which the awakening touch of irrigation may yet convert into gardens. To the west, away toward the sunset and the Pacific, lay the orchards and fertile fields, the pride and beauty of southern California. These are the secured triumphs of irrigation and the promise of what will yet be still farther to the east.

THE M. A. C. YELL 11,000 FEET ABOVE THE SEA.

The recorded height of the mountain is 10,987 feet and on the topmost rock some zealous predecessors had reared a pile of stones in a steep cone that near-

ly, if not entirely, makes up the lacking 13 feet of the even 11,000. On a broad smooth face of granite near by was painted in bold letters, "Cornell, Yell, Yell, Yell, Cornell!" We had no paint pot, nor do I think we would have used it if we had, but we did manage to give our college yell with a vim and none the less heartily because we had learned it since our own college days. Moreover, we added a small stone to the top of the pile and under it carefully deposited a paper with our names and the name of the Michigan Agricultural College. Before starting down, I must not fail to mention the brave but dwarfed and stunted pines that grow in the neighborhood of the summit, where they have but little of the sheltering arms of Mother Earth to protect them from the fury of the winter's storms. These trees have trunks in many cases not less than two feet in diameter, but the entire height of the tree is not more than ten or twelve feet, and their forms are so twisted and bent as to give eloquent testimony to the severity of their struggle for existence.

Farther down the mountain are splendid specimens of evergreen beauty; many pines showing trunks of six or seven feet diameter and spruces and cedars four and five feet in diameter. Of the journey down, it may suffice to quote part (only part, be sure), of a familiar Latin proverb, "It is easy to descend."

On our return to San Bernardino we had the pleasure of meeting still another member of the class of '84, M. A. C., Andrew Park, who showed us through the car shops of the Santa Fe system, in the office of which he is working, apparently very much to the advantage of his physique. There is only one thing wrong with these boys of '84—they are all bachelors, and unless some nice girls take pity on them ere long, there is danger of their even becoming "old bachelors." Such good fellows as they are ought not to let their race die with them."

AT THE COLLEGE.

J. A. Thompson, with '88, called at M. A. C. Saturday.

Mrs. Charles E. Marshall has charge of the classes in music.

Miss Grace Fuller, '91, visited at Mrs. Gunson's last Saturday.

We have another Armenian student. His name is G. A. Bodourian.

R. J. Robb, '98sp, has been employed for the ensuing year for evening work in the library.

About 30 students are putting in their spare time husking corn by the bushel in field No. 16.

Dr. Edwards will have charge of the Business Men's Bible class in the congregational Sunday school.

J. T. Berry, '96, made us a visit several days of last week. He left Friday for his school in Cass City.

Sunday services in the chapel were conducted by the Rev. O'Dell, of the First Baptist Church, Lansing.

Prof. Hedrick has organized a bible history class which meets immediately after the Sunday services.

R. C. Bristol, '93, and O. R. Cole, with '98, were among the visitors at the Y. M. C. A. reception last Friday evening.

The half acre of Kaffir corn in field No. 8 was cut Sept. 22, giving a yield of green fodder from the plot of eight and a half tons.

The King's Daughters will meet with Mrs. Brooks one week from tomorrow, and the word chosen for the verses is "come." It is "pound week."

Mrs. Ella Kedzie returned Saturday evening from a ten-days' visit in Chicago, where she spent considerable time in the annual ceramic exhibit.

Employees of the College and Experiment Station, who have not yet secured a copy of the recently issued Farmers' Institute bulletin, are invited to call and secure one at the office of the Superintendent of Institutes.

There are now 101 new students enrolled, and they are divided among the courses as follows: Mechanical, 34; agricultural, 33; women's, 28; special, 6. There are 37 ladies, of whom nine entered college previous to this term.

On Friday evening, Oct. 2, the ladies of the First Presbyterian Church of Lansing, will tender Mr. Frank Yebina a farewell reception. All College people, faculty and students, are cordially invited. Special buses and rates have been arranged for.

The educational labor of the sophomore class has been suspended for a few weeks to allow members of the class to avail themselves of the opportunity during

the present favorable weather of earning money by husking corn and doing other farm work.

Those interested in the status of the College ten years ago will find in the *State Republican* of Nov. 11, 1886, a full-page description of the College, with a list of its officers and students, cuts of the principal buildings and an account of the work of different departments.

There is good base ball timber in the class of 1900. Last Saturday, in a game with a picked nine, including the first nine battery, first baseman, shortstop and center fielder, they were defeated with the small margin of one score—10 and 11 were the figures. Charles Fisher, a brother of Roy Fisher, occupied the box and succeeded in striking out no less than seven men in the five innings.

The young ladies of the College met in Abbot Hall last Saturday morning to organize a Y. W. C. A. Miss C. G. Seymour, State Secretary of the Y. W. C. A., was present and assisted in the organization. The following officers were elected: President, Prof. Edith McDermott; vice president, Miss Hattie Chase; recording secretary, Miss Amy Vaughn; corresponding secretary, Miss Alice Georgia. The annual state convention of the Y. W. C. A. will be held in Lansing Oct. 16-19.

THE SUMMER'S WORK IN FARMERS' INSTITUTES.

[K. L. BUTTERFIELD.]

I have been occupied, during the summer, largely with two duties, one that of publishing the report of last winter's work, and the other that of visiting various county societies of the state preparatory to next winter's institutes. We issued an edition of 12,000 copies of the institute bulletin for 1895-6, 2,000 being bound in cloth. We have sent out the larger portion of these books, consigning them to the secretary of each county institute society, by him to be distributed to the officers and members. Here comes in the use of our cloth bound books, the man or woman having had the honor of being elected to an office in the county institute society getting one of the cloth-bound books. We are making an effort to have every paid up member of every county institute society supplied with a copy of this bulletin. We have had numerous applications for the book from those not members, but invariably refer them to the secretary of their county society.

The other portion of my work has been the visiting spoken of. I have been in sixty of the counties of the state during the summer, and have met the officers of the institute societies in consultation about the desires of the county as to place, times, topics, etc. and have given and taken suggestions in regard to the general improvement of our work. There have been splendid meetings, varying in attendance from the secretary alone in a few cases, to fifteen or twenty of the officers and members in many other cases. It has been very gratifying to discover that, although many of the meetings were held during exceptionally busy seasons of the year, officers would often drive across the county to attend a meeting. Everywhere, almost without a single exception, I have found interest in the institute work, and in many of the counties this interest positively amounts to enthusiasm. Several of the counties have held summer institutes, taking the form of picnics often, or something of that sort. In a few counties in the north the institute society has held monthly or quarterly meetings during the year, this practice being pursued in counties where at present there are no granges or farmers' clubs.

In almost every county I met one or more M. A. C. men, either graduates or former students. This indicates the progressive interest of the men whom M. A. C. has touched. The sentiment among the farmers regarding the College is very marked. It is rarely that I heard any bitter criticism, although occasionally picking up a good-natured suggestion. I am satisfied that our institute work the past winter was very effective in bringing the College and the people into close touch.

As noted in the last Record, we are holding at present a series of four meetings in the upper peninsula at Marquette, Iron River, Norway, and Stephenson. The workers there are Hon. Wm. Ball, Prof. C. F. Wheeler, Mrs. Mary A. Mayo, and Mr. J. H. Brown. We were forced to omit Ontonagon on account of the recent calamity of fire. Prof. Wheeler talks on weeds and smuts and rusts; Mr. Ball takes the stock and general farm side; Mr. Brown will discuss dairy mat-

ters; and Mrs. Mayo, while not holding a regular woman's section, will have a couple of talks at each meeting. We hope by Mrs. Mayo's work to secure a much larger attendance of women at the meetings than we had last year in the upper peninsula. Prof. Wheeler and Mr. Ball will spend a day in each county where an institute is held making what we may term a brief "survey" of the country as to its capacities agriculturally. This is for the purpose of doing better institute work in the future, because of the knowledge thus gained.

Our plans for the rest of the winter have not yet assumed definite shape. We expect to have a "round-up" as last year, but the place has not yet been decided. We purpose holding two "long" institutes this winter, one a fruit institute on similar lines as the one held last year at South Haven, and the other a dairy institute. Our season is likely to be longer than last year, and will probably continue from December 1 to March 1, omitting the holidays. We shall probably not send so many speakers in a corps as last year, but otherwise the trips are likely to be arranged in the same way, and the same general plan followed. We see no reason for changing the general plan of our work, although details will be adapted to experience and varying conditions.

There is one element of change forced upon us by the changes at the College, due to the fact that it seems impossible for the College workers to take anywhere nearly as large a part of the work as in previous years. Doubtless this is unavoidable to a large extent, but in many ways it is a misfortune; a misfortune to the institute work, that we cannot have the services of men upon whom the farmers have come to depend for the best and latest in practical as well as in scientific agriculture; a misfortune to the College, because of the favorable impression produced by our workers upon the farmers, the good will secured, and thus the value of advertising gained; a misfortune to the College employees themselves, who cannot fail to get in closer sympathy and touch with the actual wants and needs of the farmers by reason of extensive institute experience. I mention this not as a criticism but merely as a fact.

Before closing I might describe briefly an experiment that we are trying. In Ionia and Sanilac counties, which were chosen by ourselves for the experiment, we are pursuing the following plan: There are to be five or six one-day meetings around the outskirts of the county in the smaller towns, or even right out in the country where good halls can be secured. To these places we send one state speaker who remains during the day and passes on to his next appointment. These one day meetings are held successively, and the week following there will be a county round-up somewhat on the plan of our state round-up, at some central point in the county, a meeting of perhaps three days in length, where we shall make a special effort to have a huge success. Our theory is that under this plan we can reach from three to five times the people in the state that we reach under the present system, at an expense of not over 50 per cent over the present appropriation. We shall keep a record of the cost in these two counties and use this as a basis for future plans, provided they are as successful as we anticipate.

—Superintendent of Institutes.

THE "CURIOSITY STRIP."

A. R. ROGERS AND J. W. RIGTERINK.

(Concluded.)

SILVER HULL BUCKWHEAT. The seed of this was planted in the same time and manner as that of the Japanese variety and the crop received the same treatment. On July 29 it was in full blossom. It was however, smaller in growth than the Japanese variety and did not yield as well. The seed also is smaller and lighter in color. Four rows produced six pounds of seed.

MARTYNIA. (*Martynia proboscidea*.) The seeds were sown May 29, but did not come up until June 25. In the meantime plants from self sown seeds of last year's crop had made their appearance and were transplanted. The young plants look much like okra but are more pubescent and sticky. They have a very pretty flower and are sometimes grown for ornament. The fruit is used for pickles when about half grown. When mature the pods are horny and have long curved extremities, which when dry hook on to passing objects, and assist in distributing the seeds.

OKRA. (*Hibiscus esculentus*.) Seeds were planted May 28, but owing to the dryness of the soil they did

not come up until June 25, and some of them not until July 28. The plants made a slow growth but produced pods about five inches long. These pods are used while young in making soup.

BORAGE. (*Borago officinalis*.) Seeds were sown May 28, but they failed to grow. Young plants were then transplanted from last year's plot where they had come up spontaneously. These did well all summer. Borage is an annual, the leaves of which when young are used as a salad. The plant has also medicinal uses. It grows about one foot in height and bears numerous light blue flowers.

SESAME. (*Sesamum orientale*.) This is a comparatively new plant to the curiosity strip, the first seeds having been sown last year. The seed came from the Japanese department of the World's Fair. It was sown in drills ten inches apart and grew rapidly. The plant is an annual, with a single, stout upright stem about two feet high, bearing many large pods containing numerous small white seeds. The seeds are used, chiefly in eastern countries, for food, both in the whole state and in the form of an oil. Sesame is sometimes called the "oil plant." One other species, *Sesamum Indicum*, is known but is less widely cultivated. The name "Sesame" will be remembered as the pass-word to the treasure cave in the Arabian Nights.

GUIZOTA OLEIFEVA. This is an annual plant from Abyssinia, from the seeds of which an oil is extracted. While young the plant resembles smartweed, but when larger it bears large heads of yellow blossoms.

UPLAND RICE. (*Oryza sativa*.) Seeds of this variety were sprouted in water and then planted in the open ground. They came up readily and the plants grew nicely for awhile, but when dry weather came on the leaves curled and ceased growing. The plants reached only about one foot in height and produced no panicles.

STACHYS AFFINIS. Tubers raised last year were planted May 27—also seed at the same time, which failed to grow. The plants grew slowly during the hot weather, making most of their growth in the latter part of summer. They produced numerous small white tubers which look and taste much like artichokes and are sometimes used for making pickles.

BROOM CORN. (*Andropogon sorghum* var. *technicus*.) Broom corn is easily grown, though the plants are rather small and feeble when young. The canes are tall, much like sorghum, and bear a more open or bushy panicle or head. After blossoming it is customary to bend the heads down so as to keep the rays or branches straight and in good condition for making brooms. This year the seeds planted for broom corn proved to be sorghum.

CHUFAS. (*Cyperus esculentus*.) This is a species of sedge which bears small, round, dark-colored tubers having a sweetish taste. The plant is easily grown from the tubers which are kept over winter in the dry state. It is cultivated as a curiosity and is sometimes grown for swine but is somewhat inclined to become a weed. The plants did well this dry season.

TEOSINTE. (*Euchloa luxurians*.) This is a forage plant, native of Central America, which is sometimes grown in the Southern States. It looks somewhat like Indian corn, and has a tassel at the top of the stalk, but the kernels are produced in single rows instead of on a cob, and each kernel is surrounded by a horny shell. Last year the plants reached about six feet in height but this year only about two feet. The plant stools wonderfully, producing 30 to 50 stems from a single root and in favorable localities reaches ten to twelve feet in height.

HUSK CORN. (*Zea tunicata*.) This is thought by some to be the original of our Indian corn. The species comes from Mexico. It is peculiar by reason of the fact that each kernel on an ear is surrounded and entirely covered by an independent husk. An interesting fact connected with its cultivation, here at least, is that although none but these husk kernels are planted a large portion of the crop always consists of ears having bare kernels like our ordinary corn. The kernels are smooth, usually white in color, but sometimes blue.

CONSTRUCTION OF TALL BUILDINGS.

[Read before the Hesperian Society September 19, by L. S. Christensen, '99m.]

It is but a few years since it was considered among the wonderful accomplishments of the time to erect and equip an office building of ten stories in height, in a period of twelve months, starting on the first day of May to remove the existing building, and in the

following May turning over the finished production to the owner. Something more is expected of the architect and builder of the present day. In place of ten stories, twenty are considered only a fair year's work, providing the conditions and season are favorable.

It is not difficult, at the close of one of these quick building operations to trace the reasons that led to so successful a termination.

In the construction of a large building the time consumed may be divided into two parts, as follows: Foundations ready for superstructure, five and two-thirds months; superstructure, eight months; the roof or eighteenth tier of beams being reached in about three months after the foundations are ready.

The time spent in preparing the foundation may seem to those unfamiliar with this work, scarcely consistent with the progress afterwards made, but it is generally found, owing to the unsatisfactory nature of the ground, sometimes composed largely of quicksand, that the usual methods employed, such as piling and masonry are sometimes inadequate for the purpose of a foundation required to sustain the great loads. So that in order to reach bed rock below, sometimes fifty-seven feet below the street, it becomes necessary to resort to the pneumatic process used in sinking piers to rock.

The magnitude of this work may be better understood by reducing to cubic yards of masonry. This sub-structure which starts on bed rock and continues up to the level of the cellar floor, consists of as many as fifteen piers, varying in size from ten feet in diameter to twenty-one by twenty-five feet square. The caissons, made of steel, correspond in size to the piers they sustain and are about eleven feet in height. The caissons are filled with concrete and contain altogether 1,260 cu. yards. The number of bricks used amount to 1,500,000.

From this it can be seen that a good sized structure is sunk out of sight before any part of the superstructure can be begun.

The superstructure when once begun proceeds rapidly. Indeed in one case, 5,800 tons of steel were raised into position in three months' time. Some of the girders weighed forty tons, and the columns ten and twelve tons each. The cantilevers weighed eighty tons each, their length being nearly 67 feet. On account of the great risks where material must be raised 300 feet in the air, and the haste with which the work must be done, the setters of iron and stone work are picked men with certain qualities, the most prominent being good judgment and steady nerves. The work is greatly facilitated by the use of a traveling frame, with a derrick at each angle, by which material can be raised from the street and easily disposed of and placed in its proper position.

It is generally considered advisable to begin the brick masonry when four stories of the steel frame have been set in position. This enables the frame setters to keep in advance of the other trades.

Rough piping, both for plumbing and steam, begin when the masons have reached the fourth floor, and continues without interruption until all the lines, vertical and horizontal, with all their branches, are in place.

In the meantime the fire-proof block forming the partitions have been set and as far as practicable carried along with the advancement of the outside walls. When the partitions of a story have been set in, the electrician runs his wires inclosed in conduits to the various fixture outlets. One can hardly realize how this "roughing," as it is called by the workmen, is concealed from view—that more than five miles of gas, water, waste and vent pipes, five miles of steam pipes and 35 miles of electric wires are sometimes required to perfect the respective systems.

To follow all the different trades, and describe the various methods employed to force the work almost beyond human endurance, would be an interesting story.

Take the laying out of the engineers' department—the boiler and engine, the electric and elevator plants, the plumbing and heating system contained in a building of this magnitude, the decorative treatment of the interior, employing the carpenter and cabinet maker, plasterer, marble and metal worker, the mosaic and tile flooring, gas and electric fixtures for lighting to say nothing of a more or less ornamental exterior—and it seems almost a miracle that all these different interests, all large because the building is large, could have worked so harmoniously together and achieved such satisfactory results.

A tonic for those who are back in their studies—ketchup.—Ex.

FOOT BALL.—M. A. C. vs. LANSING HIGH SCHOOL.

M. A. C. and Lansing high school opened the football season at Eltom Park last Saturday afternoon. An element of uncertainty as to the outcome, from the fact that six of the M. A. C. boys were new men, and that Cole, Judson, and Rork, three old M. A. C. men, were to play with the high school team, gave interest to the game and brought out a good sized crowd.

Promptly at 4 o'clock the teams lined up as follows:

M. A. C.	Position.	L. H. S.
Thomson	center	Wattling
Vanderstolpe	right guard	Childs
Becker	left guard	Hayden
Vanderhoef	right tackle	Hinchey
Price	left tackle	Graham
Bishop	right end	Rork, F. C.
Redfern	left end	Rork, C. E.
Miller	right half	Cole
Laitner	left half	Tompkins
Elliott	quarter	Judson
Wells	full back	French

Wells kicked off for twenty yards, and Cole returned the ball ten yards. Cole went around the left end for ten yards more. In the next play Becker broke through and got the ball. M. A. C. advanced the ball fifteen yards and then lost it on downs.

After Tompkins had gone around right end for seven yards Lansing lost the ball on downs. M. A. C. took the ball and Wells went through the center for ten yards. Successive gains through the line and around the ends by Miller, Laitner and Wells, put the ball over the line for a touchdown in 27 minutes. The goal was a difficult one and Wells failed on the kick. Score, 4 to 0.

Cole kicked off and Becker fell on the ball at the fifteen yard line. M. A. C. put the ball through the center for five yards, Miller took it around the end for ten yards, and successive rushes put the ball ten yards farther when time was called for the first half.

In the second half Cole kicked to the 25-yard line and the ball went down there. M. A. C. advanced the ball three yards, then Tompkins broke through and downed Wells with the ball five yards back of the line. M. A. C. attempted to punt but fumbled and the ball went over.

In the next play Tompkins fumbled and lost two yards. Third down, no gain, and French punted. Wells caught the ball and by a splendid run recovered all that had been lost. After gaining three yards, M. A. C. again lost the ball on downs. Three plays advanced the ball 15 yards and then Lansing lost on downs. M. A. C. gained five yards and then lost the ball on a poor throw. Lansing could not gain and punted again. Wells was again on hand and brought cheers from both high school and college students by his magnificent spurt, going down the right side of the field like a storm and turning Lansing's punt into a gain of five yards for M. A. C.

Lansing did not again lay hands on the ball. M. A. C. gained at every play, around the ends and through the center, until Wells was pushed over for the second touchdown. Time, 28 minutes. Wells kicked a goal and time was called. Score: M. A. C., 10; L. H. S., 0.

The game seemed to demonstrate the fact that the class of '00 has some good football timber as well as base ball timber.

TRAPPING THE HESSIAN FLY.

A. A. CROZIER.

The Hessian fly, which seriously injured the College wheat crop last summer, threatened to invade also the wheat sown this fall. To ward off such an attack the twenty-acre field to be sown this fall had a strip a rod wide on two of its sides adjoining this year's wheat fields sown to wheat in the latter part of August as a trap for the flies. In this early sown wheat the flies from the old fields laid their eggs abundantly, and on the 24th of September, after the rest of the field was sown to wheat, and after the flies had ceased depositing their eggs, this border was plowed under, burying both wheat and Hessian flies out of sight. This it is believed will materially reduce the liability to injury from this insect in the coming crop, and were there no other source of infection it would no doubt prevent it entirely, but as there are unplowed stubble fields near containing volunteer wheat, and other fields sown to wheat in the neighborhood which have not been protected from the fly, it is likely that the flies which hatch in such places next spring will attack to some extent the college field.

Experiment Station.

The M. A. C. Record.

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For various reasons THE M. A. C. RECORD is occasionally sent to those who have not subscribed for the paper. Such persons need have no hesitation about taking the paper from the post-office, for no charge will be made for it. The only way, however, to secure the RECORD regularly is to subscribe.

BIBLE STUDY.

DR. HOWARD EDWARDS.

That which is under our very eyes we most often overlook. We go far afield to discover facts of the insect-world, while the front yard, were we close enough observers, is the scene of the most stirring insect dramas. So with the bible; our young men ransack a thousand books to find moral teachings, spiritual truths or literary models, while the old family bible lies on the table day after day untouched. Now, as some one has said, we may as well study art without reference to the marvels of Grecian achievement in sculpture, or law, without a glance into the jurisprudence of Rome, as attempt to delve into spiritual truth without reverent study of Hebrew prophecy, Hebrew history, Hebrew poetry. But, leaving all that aside, there goes out from our authorized version of the English Bible an influence for sane, simple, forceful, graceful, melodious expression that no other book can boast of. Hear what Ruskin has to say concerning this influence:

"I have next with deeper gratitude to chronicle what I owed to my mother for the resolutely consistent lessons which so exercised me in the Scriptures as to make every word of them familiar to my ear in habitual music—yet in that familiarity reverence, as transcending all thought and ordaining all conduct.

"Thus she affected, not by her own sayings, or personal authority; but simply by compelling me to read the book thoroughly, for myself. * * * She began with the first verse of Genesis and went straight through to the last verse of the Apocalypse, hard names, numbers, Levitical law, and all, and began again at Genesis the next day. After our chapters * * * I had to learn a few verses by heart, or repeat, to make sure I had not lost, something of what was already known. It is strange that of all the pieces of the Bible which my mother thus taught me, that which cost me most to learn, and which was, to my child's mind, chiefly repulsive—the 119th Psalm—has now become of all the most precious to me.

"And truly, though I have picked up the elements of a little further knowledge in mathematics, meteorology, and the like, in after life—and owe not a little to the teaching of many people, this maternal installation of my mind in that property of chapters, I count very confidently the most precious, and, on the whole, the one essential part of all my education.

"Once knowing the 32d of Deuteronomy, the 119th Psalm, the 15th of I. Corinthians, the Sermon on the Mount, and most of the Apocalypse, every syllable by heart, and having always a way of thinking with myself what words meant, it was not possible for me, even in the foolish times of youth, to write entirely superficial or formal English."

Now the political question suggested by all this is, if John Ruskin, thus trained, "is certainly the greatest master that the present century has produced of pure, idiomatic, vigorous, and eloquent English prose," why may we not in our schools and colleges make use of this marvelous power in training our students along this line. Why may we not have here and now a volunteer week day evening class in Bible study? It would serve more purposes than one. Let us hear from others on this subject.

English Department.

The Prince Regent of Bavaria has conferred upon Professor Roentgen, discoverer of the X-rays, the medal of the crown for his notable service to science.

ENTERING COLLEGE.

DR. CHARLES FORSTER SMITH in *Nashville Advocate*.

John Sherman, while in Nashville the winter preceding the Republican Presidential Convention of 1888, visited Vanderbilt University, and made the best impromptu short talk to the students that I ever heard made there. He began as follows: "Young men, I would give all that I have accomplished in the world, all that I hope to accomplish, my dearest hopes and ambitions, for the privilege of sitting in those benches and doing it all over again." This remark has the greatest significance when one recalls that John Sherman was just then at the height of his fame. He made that night in the Capitol at Nashville what Colonel Colyar pronounced as, "all in all, the greatest political speech he ever heard." John Sherman then expected to be, and everybody conceded that he would be, the nominee of the Republican party. And yet, even at such time, he felt that the greatest privilege of his life would be to start over again in college—he was not a college man—and do it better.

When John Bright went to Oxford to receive his D. C. L. degree, they took him to a point whence he could look down on "that sweet city with its dancing spires." Rousing himself at length from the spell which the scene seemed to cast over him, he remarked: "How glorious it would be to be eighteen years old again and to be coming here." This remark, too, is the more noteworthy when we remember that John Bright was not a college-bred man, and that he had already made the greatest speech to which the English Parliament has listened during this century.

But no man like John Sherman or John Bright would ever want to do it over again except to do it better. No such men would ever want simply the fun and excitement of athletic contests, the delight of students' balls, the happiness of taking one's ease instead of studying hard. Such men, if they could turn back to college days after the experience of years, even of successful public life, would be hard students, unwearied readers. Their delight would be not endless talk about some sprinter's ten seconds, or the last foot-ball game, but, as was the case of Macaulay and his chums, to take long walks over the hills, discussing great books, eminent men, notable events.

But the suggestion of how a John Sherman or a John Bright would have worked, could he have turned back to eighteen and entered college, might be met by the oft-repeated assertion that the hardest workers in college, in other words, the "honor men," rarely do anything in life. There never was a greater fallacy. Macaulay was right when he said: "Men who distinguish themselves in their youth above their contemporaries almost always keep to the end of their lives the start which they have gained. . . . Take down in any library the Cambridge calendar. There you have the list of honors for a hundred years. Look at the list of wranglers and of junior optimes; and I will venture to say that, for one man who has in after life distinguished himself among the junior optimes, you will find twenty among the wranglers. Take the Oxford calendar and compare the list of first-class men with an equal number of men in the third class.

. . . The general rule is, beyond all doubt, that the men who were first in the competition of the schools have been first in the competition of the world." Goldwin Smith said, not long ago, that Oxford honor men had governed England for fifty years. Sir Robert Peel, Lord Derby, and Mr. Gladstone were all double first-class men at the University—that is, they won the highest honors in both classics and mathematics.

It pays to work hard while in college, and it pays to read hard. But hard students often answer the suggestion to read much while in college with the remark that their studies leave them no time for general reading. If they only knew it, they will never again have so much time to read. If they succeed in the world, their work will always be more exacting than their college studies. And it is the reading men of college who accomplish most in the world, as a distinguished author once said to me, citing by way of example a group from his own college days. There were seven of them—students at Williams College in the sixties—who used to meet regularly to read and discuss great books. The seven are now Hamilton W. Mabie, editor of the "Outlook;" G. Stanley Hall, President of Clark University; President Dole, of Hawaii; Henry Loomis Nelson, editor of "Harper's Weekly;" Francis L. Stetson, the noted New York lawyer, and two judges.

Students ought to have while in college their own copies of the greatest poets and prose writers, to have them always in reach to pull down when the humor to read comes on. A very large proportion of students could manage to spare for books in general literature during a four-years' course \$100, and this amount judiciously expended would probably purchase most of the greatest works of the greatest writers of the world. I heard once a distinguished University President say to an audience of students that he had worked his way through college, and yet, poor as he was, had spared money enough to buy and had read, in his Freshman year, a dozen good books. And nothing, he added, in his whole career, had given him so much pleasure.

If I could do it over again, I would take Dr. Carl's advice, and keep on hand all the time a good biography, that I might get constant impulse and inspiration. And I would read much of great poetry. Not all youths love, but all can learn to love great poetry. True it is "that he who would understand the great poets thoroughly must even study and grow older." Bishop Spaulding said recently that the two authors of the century who have come to mean the most to him he did not learn to appreciate and love till he was past thirty-two years of age. They were Newman, in prose, and Wordsworth, in poetry. But one must begin to make the acquaintance of the great authors in the golden days of college life.

Some one objects, perhaps, that poetry is not practical, the stock objection to so much that is best in college studies. True, one cannot make a living by reading even great poetry; but one cannot live the higher life without it. Great poetry is food and drink for the soul. It lifts, it refines, it sweetens, it consoles. Everybody ought to read once a year Matthew Arnold's essay on "The Study of Poetry." "The benefit," says he, "of being able clearly to feel and deeply to enjoy the best, truly classic in poetry is an end—let me say it once more at parting—of supreme importance. We are often told that an era is opening in which we are to see multitudes of a common sort of readers, and masses of a common sort of literature; that such readers do not want and could not relish anything better than such literature, and that to provide it is becoming a vast and profitable industry. Even if good literature entirely lost currency with the world, it would still be abundantly worth while to continue to enjoy it by oneself. But it never will lose currency with the world, in spite of momentary appearances; it will never lose supremacy; currency and supremacy are insured to it, not indeed by the world's deliberate and conscious choice, but by something far deeper—by the instinct of self-preservation in humanity."

Yes, we who are of middle age or older would study hard and read much if we could live our college lives over, and we would all live them over if we could. To be congratulated above all mortals, perhaps, is the youth who is just entering college. Such a circle as he may now enter, if he will, the youth will never again find among men. College is the safest place in the world for the boy. College life has its temptations and dangers, but also safeguards. Parents could never choose for a son such a group of associates as he may fall in with in any good college. There are gathered the hope of the country, the youths of ambition of high aspirations, of still unlowered, untarnished ideals. The worthless and the bad go thither, too, unfortunately, but it is the other class the noble and ingenious youths, that dominate college life, as a rule. I would be willing to deny my boy many things in life, but I would not take the risk of deliberately excluding him from a place consecrated to high ideals, where the very atmosphere may become charged with subtle vitalizing and ennobling influences, where lofty and unselfish friendships are possible, in whose warmth the soul grows and expands.

THE STREET-CAR SITUATION.

DR. HOWARD EDWARDS.

One of the most serious problems concerning college interests just now is the street car strike, or rather, suspension of operations on account of a quarrel with the Lansing city aldermen. If our city papers have reported the matter at all correctly, the situation has evolved itself about as follows: Some time ago the city commenced laying quite a handsome and costly brick pavement on Michigan and Washington avenues, and as the old charter of the street railway, dating back to horse-car time, required the street car company to pave between the tracks with the same material used by the city, no

tice was served on the company to fulfill their contract in this respect. A fight in the courts ensued in which the city was unconditionally victorious. Then the company surrendered entirely. They said that the plant was making but little more than expenses, with no prospect of an increase of receipts, but rather than bury in an already unprofitable investment the large sum of money required for the paving, they would take up their rails and go out of the city.

Now it seems that the aldermen were not really in earnest after all about the paving; they admit the justice of the street car people's contention, but they are retaining the legal hold in order to realize some ulterior purpose which is not quite apparent to the public. A certain degree of mystery enshrouds the whole matter, but the practical results make themselves painfully apparent. Two weeks ago the city attorney began legal proceedings to enforce the paving decision, and the company promptly ceased running their cars.

We do not care to enter into the justice or merits of the controversy between the two parties, although we have not forgotten how unworthy squabbles in the matter of building the Michigan avenue bridge betrayed the city council into gross, wanton, and outrageous disregard of public rights and convenience; but it does seem time to inquire whether the public has no recourse when, in a quarrel of this kind, it, the party really injured, is totally ignored, and its pecuniary interest and convenience set at naught. Was the charter of the street car company so loosely drawn that it can sit down and twiddle its fingers for an indefinite time? Can it boycott or dragoon the helpless public into making the council consent to its terms? When such parts of the public streets and the public highway—public property, not street car property—were transferred to the street car company to be used for private gain, was not the consideration, the quid pro quo, mainly the public convenience? And was no just and readily available penalty for failure to provide this public convenience attached? If so, then the public interest was grossly neglected, and we have the best right to look to the council for the greatest activity and industry in obviating the results of previous official negligence. If such penalty can be invoked, why does the council allow day after day to pass without decisive action, while their wards, the public, are being defrauded of their rights and just dues and subjected to pecuniary and other loss? The curious phenomenon to us is, not the action of the street car company—they simply show the ordinary soullessness of the average corporation; there is nothing new or strange about it; it has long ago grown familiar—but the inactivity of the sworn guardians of public trust. Are they such guileless innocents as to be completely dazed by the first blow of a corporation contest—laid out entirely by unexpected (?) resistance, so that it takes weeks to recover their usual mental poise?

Perhaps they may tell us that we are meddling with what does not concern us; that we are not citizens of Lansing, pay no city taxes, and therefore have no right to be heard in this or any other city affair. True, we are not legally citizens of Lansing; but we contribute largely to the business done in the city; when the business assets and attractions of the city of Lansing are reckoned up the Agricultural College is invariably counted in for a large and important item. We are doing our utmost to enlarge this source of the city's prosperity. We are now sending out, and have sent out advertisements offering attractions for winter students, and we have every reason for expecting an addition of some hundred or more students during the continuance of the short winter courses. Our dormitories are already full. We had arranged for these men to board in Lansing. Their doing so is evidently conditioned on the existence of street car facilities. Is it unavoidable that the city be mulcted of this amount of business; that the growth of the college be checked just at this point? Let the council take some decisive, positive action, looking to a definite line of procedure. This is a case for the bayonet-charge, the assault by storming, not for slow lines of circumvallation and the starvation process.

Y. M. C. A. RECEPTION.

The program carried out at the Y. M. C. A. reception to the class of '00 was very entertaining. The parlors were early filled to their capacity, and after a short time spent in getting acquainted—a process which was much facilitated by having everybody placarded—President Fulton called the assemblage to order. A quartet rendered a selection, after which Prof. Smith

offered prayer and Mr. Fulton gave a short speech of welcome to the incoming class in behalf of the Y. M. C. A. President Snyder welcomed the class to the College and its many advantages, and gave them a few words of excellent advice.

The visiting was then resumed for a time; games were played and refreshments were served by Misses Fay Wheeler and Pearl Kedzie. Before the conversation lagged Mr. Fulton again called the company to order to listen to a piano solo, "The Old Oaken Bucket," by Miss Phelps. Prof. Edith McDermott then announced that on Saturday morning a meeting would be held in Abbot Hall for the purpose of organizing a Y. W. C. A., and invited all ladies of the campus to aid in the new work. Miss Bristol then gave an excellent recitation, "Jared Barnes' Fiddle." After another selection by the quartet, Prof. Smith made the closing speech of the evening and for a time kept everybody roaring at his witticisms, then settled down and gave them a lot of good, practical advice. With all its good work our Y. M. C. A. does more than any other organization toward putting everybody on a friendly and familiar foundation at the beginning of each term.

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 Y. M. C. A.—Holds regular meetings every Thursday
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 L. R. Love, President. J. W. Rigterink, Secretary.

Botanical Club—Meets first and third Friday of each
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 President. B. Barlow, Secretary.

Dante Club—Meets every Wednesday evening at 7:30
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 Laboratory. G. A. Parker, President. E. H. Sedgwick,
 Secretary.

Club Boarding Association—I. L. Simmons, Presi-
 dent. H. A. Dibble, Secretary.

M. A. C. Grange—Meets every two weeks in the Col-
 umbian Society rooms. G. H. True, Master. H. W.
 Hart, Secretary.

Try and Trust Circle of King's Daughters—Meets
 every alternate Wednesday. Mrs. W. B. Barrows, Presi-
 dent. Miss Lillian Wheeler, Secretary.

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The Farm ...Department

Offers for sale the
 following head of
 live stock:

A Yearling Shorthorn Bull, out of Mysie 3rd, and
 by the prize winning Volunteer, 101205, a
 pure Cruikshank.

The Thoroughbred Jersey Bull, Rettas Averroes,
 35119, bred by G. A. Watkins, Detroit, solid
 color, 4 years old. This bull is by Averroes
 who was a son of Matilda 4th and by Ida's
 Rieter of St. Lambert. His dam was Retta
 of Bloomfield (29520) who was by the famous
 bull Ramapo. No better bred Jersey bull
 exists today in the state.

Three Holstein bull calves, three months old or
 younger, all by Maurice Clothilde and out of
 the selected cows Oatka 3rd's Wayne, College
 Houwtje and College Pauline Wayne.

Owing to the crowded conditions
 of the stables these animals will
 be sold cheap.

Nine Yearling Shropshire Rams out of thorough-
 bred ewes and by a prize Shropshire ram.

Poland China and Duroc Jersey Pigs of both
 sexes.

These Animals will be registered,
 transferred and placed on
 board cars at Lansing on
 receipt of price, which will
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Director and Superintendent
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 AND BICYCLE SUITS.

NEWS FROM GRADUATES AND STUDENTS.

Tracy Gillis, with '94m, is a stenographer in Mayor Pingree's office.

Miss Bertha Holdsworth, with '98, is attending the Ferris Industrial school at Big Rapids.

Dr. John Hinkson, '92, with his father, made the College a call on Monday of last week.

Prof. L. G. Carpenter, '79, Fort Collins, Col., has been having a long siege of typhoid fever and is still quite sick.

Dor. N. Stowell, '92, writes Dr. Edwards: "I am the free silver candidate for surveyor in Barry county. Hope you will get into the Bryan wagon soon."

J. C. Patrick, with '95m, visited college last week a couple of days. He is superintendent of the Grosse Isle stone quarries, and has about sixty men under his direction.

Mr. and Mrs. Partridge write that they are comfortably settled in their new home at Provo City, Utah. They are keeping house, and Mr. Partridge has begun teaching.

John W. Rittinger, '94, writes from New Carlisle, Ind.: "I am still at my old business, teaching, at Hamilton, Ind.; have a good school and enjoy my work very much. W. B. Jackways, '76, is a fellow teacher in this county."

Our alumni will be pleased to read the following letter from Prof. H. T. French, '85, agriculturist in the Oregon experimental station: "The Record I surely want for I am just as much interested in the welfare of old M. A. C. and of the changes which are taking place there, as when I was a student. I am now entering upon my eighth year in connection with the Oregon Agricultural College. I enjoy the work and the surroundings of the College. The development of the state rests very largely upon the work of the Agricultural College and experimental station. We are receiving much encouragement from the people of the state both in attendance at college and in station work. Am glad that provision has at last been made at M. A. C. for women students. We admitted 134 young women in our college last year. The total attendance last year was 396. Oregon is solid for McKinley."

CLUB BOARDING ASSOCIATION.

Owing to the belief of a number of members of the Club Boarding Association that the object of the association is to furnish board to the students at actual cost, and also to a desire to decrease the expense of those who desire to attend college for a time not sufficiently long to pay them to buy a boarding club certificate, the following amendments have been made:

First: An amendment to article 5, sec. 6, relative to the equalization of board, the amendment being to strike out all after the first sentence, as it conflicts with the amendment to art. 5, sec. 7.

Second: An amendment to art. 5, sec. 7, which gives board to all those not holding a certificate at 15c per meal or \$3.50 per week, instead of 25c per meal or \$3.50 per week as before, and which makes all students' extras payable at the regular price of board for the term, instead of 25c per meal, or 50c per day as was stated in the original article.

REPORT OF M. I. A. A. REPRESENTATIVE

RECEIPTS—

Students' Field Day tax, (105 at 30 c.).....	\$31 50
Dividend " " (105 at 46 c.).....	48 30
Rent for mat.....	4 00
Contribution toward trainer collected.....	3 85
	<hr/> \$87 65

DISBURSEMENTS—

To Field Day Treas. (105 at 30 c.).....	\$31 50
R. R. fare for trainer.....	3 90
Salary for trainer.....	20 00
Board " ".....	8 20
Telegram.....	25
Work on track to Palmer.....	1 90
Dray at Albion.....	40
	<hr/> \$66 15

Applied on note..... 21 50

\$87 65

INDEBTEDNESS—

Note given Oct. 1st, 1895.....	\$39 50
Interest, one year.....	3 90
Bolt, Treas. M. I. A. A., 1893.....	21 50
	<hr/> \$64 90

...ALWAYS ON TOP...

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OVERCOATS, ULSTERS, BICYCLE OVERCOATS, PEA JACKETS AND VESTS, SINGLE AND DOUBLE BREASTED MELTON SUITS, ALL UP TO DATE.

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R. W. MORSE,

... DENTIST ...

Hollister Block.

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Returning, leaves Lansing at 10:30 a. m. and 4:30 p. m.

Packages left at Emery's will receive prompt attention.
Livery or Bus for picnics at reasonable rates.

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WE HAVE MOVED

In our new quarters, we are better prepared to unload lumber on your premises than ever before. Years of experience have taught us a thing or two about the lumber business, and this experience may possibly be of advantage to you if you think of building. Our facilities are unexcelled and we are at your service.

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