

# THE SPECULUM.

VOLUME IX.—No. 6.

AGRICULTURAL COLLEGE, MICH., MAY 10, 1890.

WHOLE NO. 44.

## Prof. George Thurber.

### ABSTRACT OF AN ADDRESS AT THE THURBER MEMORIAL SERVICE.

The friend in whose memory we meet to-day was a native of New England, and exemplified in himself many of the most generous of New England traits. He was born September 2d, 1821, in Providence, R. I., and in that city received his early training. He studied pharmacy with an apothecary, and afterwards followed the business. This enabled him to spend some time in study. He had an exceedingly clear and retentive mind, and soon became quite familiar with the natural sciences. In boyhood he had been attracted toward the study of flowers. In early manhood he continued this study, and ere long was familiar with the flora of his home, and was known to such eminent scientists as Drs. Torrey and Gray as a promising botanist. This secured to him, in 1850, a position on the United States and Mexican boundary survey, which he accepted for the purpose of studying the flora of a section into which botanists had scarcely gone. On his return in 1853 he received an appointment in the United States assay office. After leaving this in 1856, he spent some time in the study of his Mexican collections. In 1859 he was appointed Professor of Botany in this college, and filled the chair with remarkable ability until 1863, when he resigned to accept a position on the editorial staff of the *American Agriculturist*, where he remained until his death, April 2, 1890.

There seems a special fitness in honoring in this building Dr. Thurber's eminent ability as a teacher. In the class-room over where we are now assembled he taught bot-

any for several years; in the upper story directly over this chapel, he had his bedroom and his study, which he called his "den;" in the grounds surrounding this building he taught us boys of that time, much more of flowers and their cultivation, than was laid down in the curriculum; on those portions of the grounds where now are the armory, the parade ground, and the green-house we grew choice vegetables under his direction, and caught from him a spark of his knowledge and enthusiasm in horticulture; and in the dining-room of the old "Saint's Rest," we ate with him the products of our gardening skill, and listened to his genial flow of talk about the lusciousness of the new variety of peas, the superiority of the cauliflower, and the crispness of the well-blanchéd endive.

As a teacher Prof. Thurber had excellent success, due in the first place to his thorough acquaintance with his subject. His knowledge of botany was broad and deep. Of this knowledge he had ready command. His mind was a vast storehouse of facts, which seemed to be disposed in such orderly fashion that any fact came forward when wanted. Then he had such an alert brain and such a facile tongue that he put his knowledge into clear and forcible speech, which was often lighted up with that true humor that brings a smile and does not leave a sting. His enthusiasm in botany knew no limits. Plants were his friends, in whose companionship he had constant delight. Knowledge, alertness of brain, clearness and vigor of speech, humor, enthusiasm,—surely he was well supplied with the requisites of a good teacher.

In estimating Dr. Thurber's success as a teacher we should consider the conditions

under which he worked. When he began the college had no botanical library, no laboratory, no herbarium; it did not own a single microscope. There was nothing of the prestige that attaches to a department after it has been doing successful work for many years. The gardens and orchards had indeed some land from which the stumps had not been all removed, and they had little else. Our present broad and beautiful lawns, our miles of pleasant walks and drives, our numerous exotic trees and shrubs, our botanic garden, green-house, forcing houses, laboratory of horticulture, fruitful orchards and berry fields had no existence. Prof. J. C. Holmes had labored faithfully for two or three years, and had accomplished much in preparing the way for future work; but when the department of botany and horticulture came into Dr. Thurber's hands it was as thin and poor as Pharaoh's lean kine. His knowledge and genius were equal to the occasion. The fields, the woods, and swamps gave him plants which he brought every day to his class-room, where he soon had students in botany only less enthusiastic than himself; his familiarity with vegetables and with the best methods of cultivation filled the vegetable garden, not only with the old-time favorites, but with the promising new varieties also, that had not before been grown on Michigan soil; his artistic eye located large masses of annual flowers at suitable points, and soon our narrow, incipient lawns were aglow with the rich colors of phlox and petunia, of poppy and marigold; and he planted here and there clumps of stately cannas, daturas, œnocheras that gave to the lawn, during the short intense summer, a touch of tropic luxuriance. The great general will take a mob of undisciplined men and so organize them into an army as to win victory. Surely it requires a genius no less great and no less worthy of honor to make from untrained boys enthusiastic students of botany, with no aids except those held out by the generous hand of

nature; to create gardens stored with usefulness and beauty where before trees and stumps had precluded all culture, or a thin soil had yielded little of use and naught of beauty.

Prof. Thurber taught us in the class-room and the gardens; he taught us also in the fields and woods and swamps. He used to say that a circuit of ten miles radius from the college was very rich in rare plants. Nothing gave him greater delight than to explore this circuit and gather its treasures. Nothing gave the boys greater delight than to be his companions. Naturally social, he was glad to have one or more go with him on his rambles. He made these rambles most attractive and instructive, for he knew where and when to look for rare things, so that on every walk we found something rich and strange to us, though usually, to him, it was an old acquaintance. Concerning everything we found he had stores of information and anecdote. This species was remarkable for its wide diffusion, being found in sections very remote from each other; that one belonged to a family that gave to man a great number of useful plants; another was first cousin to a species he had found growing in abundance on the rocky plains of New Mexico. Then he would run off into an account—quaint, instructive, interesting—of his experiences in that then almost unknown region.

Park Lake was a place at that time full of interest to the botanist, and parties not unfrequently made excursions there, with Dr. Thurber for leader. Sometimes the stay was for a day only. Sometimes we took a tent and camped under some beautiful pines on the north shore. The woods, the banks of the lake, and of the small streams flowing into it, the wide area of swamp at the west of the lake, and the waters of the lake itself were rich in spoils for our spirited scientist, to the search for which he led us with untiring activity. At night, in our camp under the whispering pines, he told us stories of

his wide wanderings, of his life in the great city, of the many distinguished people he had met, until our imaginations were on fire with pictures of the stirring life of the world into which we, it might be, by and by, could enter.

The teacher can in the long run be judged by his students. The teacher who is alive, who is vitally interested in his subject, arouses life and interest in his students. They enjoy their study; they acquire a love for it that leads some to pursue it as a profession, and others to recur to it with happy abandon whenever the pressing cares of life permit. Prof. Thurber was such a live teacher. His vast stores of knowledge, his enthusiasm, his genial humor, his clearness of statement, his love of nature in all her enchanting moods, awoke vital interest in his students. They became lovers of botany and of horticulture, and to-day, east and west, not a few of them are following practical horticulture as a business, while the colleges and the agricultural press have in professional or editorial chairs many who were his students, or were students under his students. He had the knowledge, the method, the personality that go to the make-up of a leader and inspirer of men.

O. CLUTE.

### How a Town is "Boomed."

W. D. GROESBECK, DELTA TAU DELTA  
FRATERNITY.

No American needs to be told what a "boom" is, but not everyone may know how one is carried out. Residents of Kansas City, Seattle, Tacoma, Oklahoma City or any of the towns of central and southern California, or those who may have visited them during the last two years, realize all that the word means, many of them to their sorrow.

The first step in building a town is of course to secure an eligible site. What may be considered such depends altogether upon

the height to which the speculative fever has gone. If the buyer no longer thinks of occupation and improvement, but rather of making a "quick turn" at a large profit, a barren "*mesa*," that never was and never will be good for anything but sheep pasture, possesses greater advantages than a Broadway lot; a gravelly "*arroya*,"—the dry bed of a winter stream,—or a cactus patch becomes in the eyes of the boomer a better residence lot than a corner on Brooklyn Heights.

The next essential thing is to name the town, and the more euphonious the name the better. A schemer's brain readily transforms a barley-field or mustard-patch into the town of "Whittier;" clay bluffs and salt marshes into "Redondo Beach," a duck pond into "Ballona Harbor;" or a section of land taken up as a desert claim, into a "Hesperia" or a "San Gorgonia." After the name has been decided upon, the surveyor is called in to give the town a "local habitation." If a company have a really valuable site, as is many times the case, a topographical survey is probably made and the streets and avenues made to conform to the surface. Many an eastern city may well envy the arrangement of some of the boom towns of Washington and California. If, on the other hand, some unscrupulous speculator hopes to sell most of his lots to people who have never seen them, any "tin horn" surveyor may drive the ground full of pine stakes, paint them white and stencil numbers on them. Probably enough "two by two's" have been hammered into the adobe of Missouri, California and Indian Territory to build a "cob house" as high as Pikes Peak.

Now that the town is staked out, it remains for the owner to improve it. In go reservoirs and miles of pipe lines as fast as John, with his cue coiled under his slouch hat, can make holes for them. Teams of eight and ten horses haul heavy road machines over cactus patches, through tilled fields or, it may be, vineyards in full bearing. Down go concrete pavements on

either side of this turnpiked strip and there is your town, a town that Yankee Doodle could see without any trouble, for houses are by no means a necessity in a "boom" town.

When the owner has proceeded thus far, the site is ready for the market. The Sunday edition of some daily contains a full page advertisement, setting forth the advantages of location, soil, water supply, scenery and, above all, climate of the said Whittier, or whatever its name may be. It is also stated that "these desirable lots are for sale by the——Land Co, No.——, ——St." The next day, the small boy races around the corner at breakneck speed to locate the band he hears playing, but all he sees is a large wagon, fenced in with white cloth bearing in lurid letters the announcement that on such a day there will be an excursion to such a town together with a free dinner and an auction sale of lots. It is just possible that at the rear of the wagon, or on the driver's seat, there is visible the bass-drummer, an artist in his way, with a delicacy of touch that would make a Liszt envious.

The town is now an assured thing, from the boomer's point of view, and all that remains to be done is to build it. The former owner loses interest in all but the payments to be collected, for the most of such real estate is sold upon contract and no deeds are given until all payments are made. Coincident with the speculator's loss of interest, usually comes the buyer's loss of—his first payment; for, unless he invested before the speculative mania reached its climax, he is left in most cases with his contract and no money to fulfill it. Such has been the lot of hundreds of clerks, laboring men and schoolma'ams who have invested all their savings in a first payment, with the hope of an advance and a chance to sell.

But it is pleasant to know that "picked from the chaff and rubbish" of some booms are towns whose natural advantages must

have given them rapid growth under any circumstances. Such towns have been settled and built up with marvelous rapidity under the impetus of a boom. Beneath the cloudless skies of southern California, lies many a village surrounded by orange groves, vineyards, orchards of apricots, figs and pomegranates and fanned by the breezes of the Pacific, in which even a dyspeptic with the toothache would enjoy life. And these have sprung up in the parched and dusty valleys in less than half a decade because some boomer, in serving his own ends, has developed the hidden springs of water and the wonderful fertility of the soil surrounding the site of his once "paper town."

### A Letter From Paris.

PARIS, April 15, 1890.

DEAR OLD SPECULUM—It is the fashion, you know, to write home to some paper, when abroad, but as I have no friends on any greater journal than THE SPECULUM, I will risk staying *au dehors* that treasury of literature, the waste basket.

So far I have seen little of Europe except Paris and its life. I was in time for the Exposition, with its glories of art and industry. Probably this is the "greatest show on earth" up to date. To an art student it was as good as any other two years in Europe even to see the collections of the finest works of modern painters and sculptors from all parts of the world. What pleased me, and interested me as much as any thing, was a collection of photographs of the college grounds, in the United States Building; some fine, large photographs, well shown too. I bored my friends by showing these to them and telling all the old stories over again. Think of it! on the Champ du Mars in Paris, pictures of that far-away college in Michigan.

The United States was poorly represented, but Mr. Edison made up for much with his wonderful lamp. One of our

American day railway coaches also took a first prize. This seems just, after one has had the pleasure (?) of riding in the miserable affairs in Europe.

When the Exposition was over Paris gave a sigh of relief; Paris was again Paris. All that is now left of the spot is that majestic piece of scaffolding the Eiffel Tower. How tired you get of it. All the jokes are Eiffel Tower. The French have it on the brain, on their watch chains, in their hair, in their mouths and on their walls. It is rumored that when the tower was getting pretty high the French hadn't the nerve to work on it and Americans were imported; anyway we built the elevator for them.

The French have a neat way of disposing of the sewage here that would do well in American cities. Every one has heard of the Paris sewers, but not of the sewage farm. This farm consists of about 1,500 acres, underdrained at a distance of six metres. There is a large central collector into which all the other sewers empty; this runs out to the farm, where a large pump throws the water onto the farm, where it is connected in irrigating drains over the entire place. Only certain places are submerged at a time, thus giving a chance to drain away the water and allow the plant life to do its work. This farm is highly cultivated, producing garden truck and fruit trees. At the outlet of the drains my friends drank a glass of water which was as clear as crystal and one would not think that it was once running in the gutters of Paris.

Paris well deserves her name of the wickedest city, and it is a good thing for Harvard that Cambridge is not a suburb of Paris. The city has two lives entirely different, one by day, the other by night. In the day time Paris is civilized, at night she is—well you have all seen pictures of ancient Bacchanalian orgies; imagine then, the figures to be dressed as modern persons are, and you have the scene. The French are not such heavy drinkers as they are sup-

posed, although a great deal of absinthe poison is consumed. The favorite drink is sweetened water flavored with some essence or syrups. *Vin ordinaire*, often called Bordeaux, is the favorite table wine. It is a poor kind of claret.

Parisian women know better how to dress than any other nation's fair ones, but the men know the least about the art of looking well. A straight, flat-rimmed silk hat, that looks like a stove pipe with a rim of sheet iron at the bottom, a Prince Albert coat, very tight at the waist, and short, spreading skirts, like a ballet dancer's, very tight trowsers and long, pointed shoes make up the wardrobe. From this mass looks out an idiotic face covered with moles. This creature can be seen sitting before all the cafés sipping his sweetened water and smoking a vile cigarette. His only amusement is watching the beautifully dressed women pass by, or now and then playing a game of dominoes.

The French are not a sport loving people. A few ape English sports, but not from love of sport, and it is done in an effeminate manner. Horse racing is very popular, but only to gratify a taste for gambling. Most of the jockeys are English. The names of their sports are English, such as sport, football, cricket, tennis, etc.

I thought when we beat Ann Arbor that base ball was ended for me, but no; every Saturday we have a game at the Bois de Boulogne. There are some fine players here among the students, graduates of American colleges. Along in the summer Julian's Academy is to play all Paris. She has always held the pennant before, but we have fears this year, as there are some strong men in the University of Paris and the Sorbonne; all are Americans of course. It is fun to see the Frenchmen watch the game. At first they used to get out by second base, but we said nothing; when two or three "liners" laid them low they beat a retreat and now stand behind trees.

The carnival in Paris is about dead, though the streets are crowded with people on Mardi Gras, but all that you see is a few advertising vans and now and then a costumed individual acting like a fool. The better class celebrate by dressing their children in fancy costumes and sending them out with the nurse to be admired. The fête of Micareme is a repetition of Mardi Gras, with a grand ball in the evening at the opera.

Of course the theatre is a great attraction here; but, with the exception of the opera, the theatres themselves are no better than those in our large cities. Only two, that I know, have orchestras. Between acts people amuse themselves promenading on the balconies. What we call the orchestra chairs are reserved for men, and while the curtain is down the gentlemen put on their hats, stand up with their backs to the stage and gaze around the galleries of loges at the beautiful (?) women in their boxes.

We saw the opera of Romeo and Juliet, with Miss Eames as Juliet; she is a young Boston lady who has made her debut here. Miss Sanderson, a California beauty, is singing in Esclarmonde at the Opera Comique.

"Varnishing day," the last day for receiving pictures at the Salon, was droll. All the artists of lesser note surrounded the space opposite the doors of the Palais de L'Industrie, to see the pictures come in. All kinds of scathing criticism was indulged in as the pictures passed the crowd on the backs of porters or in big vans. Some were cheered, others jeered, yet all was good natured fun.

I met Mr. Potter, of Pine Lake, at Julian's the other day; he is studying art here, showing a great deal of talent and sincerity.

I have come to the conclusion, after a winter of freezing to death in Paris houses, where a fire is a forbidden luxury, that Paris life is all very nice in books, but I would rather have again those four years at M. A. C. The parks of Versailles, Fon-

tainebleau and St. Cloud are nothing to the old college lawns with their paths made by the feet of dear old friends.

I heard with sadness of the burning of the old cathedral (the botanical laboratory), but you are Americans and will have another.

*Bon jour, mes amis souvent je pense a vous.* "CAN."

39 Rue Chateaudun.

### A Day's Ride in California.

WILL M. CLUTE, ECLECTIC SOCIETY.

It is an April morning in the valley of San Gabriel. For two hours the vast bulk of the Sierras has been outlined in the sea of fire, and now, as the sun shines on the glistening peaks of San Jacinto and Grayback, and the snow-crested ridges round about them, the whole valley for miles and miles is bathed in a golden haze. The fresh incense of the mountain breeze carries with it the song of the mocking bird in the live-oak, while songsters of less pretensions are twitting in the chaparral. The water gurgles quietly in the canyon as if it, too, would like to linger in the sunshine. The awkward bumble bees are clumsily passing, their low drowsy hum being in perfect harmony with the stillness that everywhere pervades.

The night still lingered in the deeper gorges, as we packed our burros and started back along the base of the Sierras, after a two-weeks camp in one of the many canyons found in that grand range of mountains. Slowly we picked our way down the steep mountain trail, one of us leading the train, astride a wiry roan broncho, the other, on a dun pinto, bringing up the rear, while between were the heavily laden burros, whose memory in regard to locomotion needed frequent reminders from a swinging riata.

We were soon enveloped in a dense growth of chaparral. The trail was nearly level, but the close proximity of the manzanita and cherry made riding an impossibility. This barrier of the canyon was but a fitting guardian to the valley below, and as we emerged through a parting in the chaparral, at the mouth of the canyon, there was spread at our feet one of the sublimest views of mountain grandeur and floral beauty that ever pleased the eye of man. Far away to the south blazed the foot-hills in a flame of glory, immense billows of hazy fire. The bloom of the *eschscholtzia* was at its height, and one could easily conceive how the sailors on the Pacific had christened these same hills "the hills of fire." Then too, there was the gorgeous shading in the valley; the deep green spots are the orange groves; the white, the apricots and prunes, now in their prime of bloom. The ripened wheat lends an old tinge to the landscape. There are hundreds and hundreds of acres of the gaily colored *collinsias* and *columbines*, the *lupines*, and the *verbenas*. On the north and on the east were the seemingly impregnable ranges of the Sierra Madras, snow-capped, and occasionally covered at this time of year with a raging blizzard. On the south and west the colored hills of fire—a strange contrast, yet not strange in California. When the impression of such a scene had somewhat left us we continued our way down the mesa to a lower trail in the valley. The warm breeze comes and stirs the fields of golden *compositæ*. They sway gently and shimmer in the sunlight, a veritable cloth of gold in the Golden State. The fat, lazy buzzards are soaring overhead in graceful curves. The monotonous hum of the bees, and the soothing rustle of the blossoms are the only sounds. We wade along in liquid gold which reaches to the ponies' knees. If you choose you may turn in your saddle and look for the trail of your broncho's hoofs, but in vain. So thick do the plants grow that the crushing of a few

counts nothing, others close in and fill the gap.

In aimless, drifting hours the day keeps on, and at noon the stillness is intense; no breeze among the live-oak trees to stir the smallest leaf. It is a balmy, hazy California day. We stop for dinner at a gulch in the mountains. Our camp has lilies ten feet high for a background, while all around are the most luxuriant ferns, and over all spreads a magnificent manzanita, whose deep brown wood glistens amid the clustering bells of blossom. A short distance up the gulch we catch a glimpse of a prospector's shack, and before leaving examine it; built of half hewn logs and roofed with the bark of the mountain pine, its rustic look and wild surroundings at once remind us of Cowper's longing for "a lodge in some vast wilderness, some boundless contiguity of shade." Surely he would be satisfied here.

Late in the afternoon we approach one of the few Spanish haciendas now left in California, and decide to leave our burros and camp traps, and, after supper, ride to town, having the burros brought on later. The shadows of the cypress were beginning to creep across the corral as we rode in. A couple of peons came forward to take care of our animals, while, with a genial "bien venido," the Senor greets us on dismounting. A short conversation and we are informed that is "la hora de cenar," and after hastily plunging our heads into the stone wash basin of the inner court, we are escorted to the long, whitewashed dining room of the adobe mansion. The family is well educated; the Senor and Senora hospitality itself, and their daughters, the dark-haired, dark-eyed, handsome Senoritas of Spanish America; is it necessary to say the supper was excellent? But we try in vain to take sauce with our chicken; it is a compound of the hottest chilis that ever ripened in a garden, and we relapse to conventional salt of '49 days. Spanish cookery delights in spices, so

beware, thou Easterner, of the first meal in the house of a dark-hued Californian. Remember, too, to "look not upon the wine while it is red," but take Angelica or Muscat; the vintage of these brands in the humble adobe wineries of the Pacific is above reproach. "Would we have some of the world-famed Mexican beverage, aguardiente?" asks the Senor, kindly. He brought it in, apologized for its recent distilling, and handed us each a glassful. Unsuspicious looking stuff it was, clear as water, smooth as oil, but—Car-r-ramba! how it tore its way down my throat; the oldest bourbon in the State would have been as a gentle salve for a chaser. I can still bring tears to my eyes by the simple remembrance of that fiery draught.

The sun was setting in the foothills as the supper company adjourned to the veranda. In that favored land there is seldom a cloud to vary the slow, deep graduation of the sunset. Old Sol sinks to rest in a halo of subdued colors, and with a parting shot at the higher mountain peaks, as the rosy tints fade rapidly from the western sky, he disappears in the Pacific.

It is a dry, cool, dewless California night. The Senoritas bring out a tray of tobacco and roll and smoke cigarittos with the rest, meanwhile playing on zither and guitar with a skill that is worthy of their national instrument. The stalk of the yucca palm, covered with its snow-white blossoms, shows ghost-like in the twilight. The bright-eyed narcissus peeps out from under the sculptured stem of the date palm, while the orange trees along the garden walk fill the air with soporific balm. It is a perfect night. The moon sails among the silver peaks, and the harsh outlines of the hacienda and valley are softened and subdued in the moonlight that flows over all. The dense odor of the roses that clamber over the veranda, the soothing fragrance of the cigarittos, the tinkling of the guitar, cause one to fall into a realm of reverie, where he dreams that dis-

appointment is unknown and pleasure reigns supreme.

Reluctantly we bid our host good-bye. The bronchos enjoy the bracing air, and go loping along the trail in a spirited fashion. Occasionally a coyote slinks across an open spot, but is lost a minute later in a clump of prickly pear. The festive jack rabbit is enjoying himself in the open spots or gnawing carefully the fruit on some succulent cactus. The few miles intervening between us and the hotel are soon covered, and after turning our ponies over to the hostler we change our clothes and proceed to the rotunda. The regular evening hop is in progress, and although the greeting of old acquaintances, the meeting of new arrivals, and the dances that follow, awaken us somewhat from the lethargic state we are in, the day's ride across the valley of San Gabriel will influence us for many days to come.

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### Objects and Benefits of Trades Unions.

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L. B. ALLISON, PHI DELTA THETA.

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Trades Unions are combinations for the regulation of the relations between workingmen and masters, or for imposing restrictive conditions on any business or industry.

The present condition of trades unions is the outgrowth of a struggling for existence during a number of centuries.

In years gone by both England and the continent sold privileges to some favored ones. At one time the meat trade of Paris was restricted to twenty families, Paris containing 300,000 inhabitants then. From this resulted small unions of all kinds, for the purpose of driving out the favored one. The first organizations, spoken of in history, is a tailors' union, which lasted for 246 years (1530-1776); but in 1776, by an edict all trades were set free except four, namely those of the barber, the chemist, the goldsmith and the printer or bookseller. This gradually increased the trades and trades unions also.



In 1848 there were eleven, while now there are over one hundred in the city of Paris alone, having in all 15,000 members. In England we find unions existing under greater difficulties during their early history, as they were considered contrary to the public policy as well as a conspiracy for the restriction of trade. Those who belonged to such organizations were liable to fine and imprisonment. At first it was impossible to secure a hall of any kind in which to hold their meetings and they were compelled to resort to the public places where intoxicating liquors were sold and it is not strange that some drank. The people finally became accustomed to the unions in this light; but the latter gradually growing stronger were able to secure better places for their meetings, and steadily outgrew the public prejudice. In our day, however, all unions are based upon temperance principles, a fact which is shown by their kindly feelings toward all temperance and Christian endeavors. No man is allowed membership if he is a lawyer, a banker, a broker or a handler of intoxicating liquors in any form, either as a brewer, a bartender, or an agent thereof.

In England they have doubled their membership in the last sixteen years. In the last six, they have spent the sum of \$10,000,000, for their benefit, of which \$1,000,000 went to charity, \$750,000 to men out of employment, \$800,000 for the settlement of strikes, and they now have \$1,800,000 on hand. American labor societies have also had many difficulties to contend with, but within the last quarter of a century the organization known as the Knights of Labor, has grown from a small to a mighty society, before which all political parties and corporations are beginning to tremble.

The objects of trades unions are to make industrial and moral worth, not wealth, the true standard of individual and national greatness; secondly, to secure for the worker the full enjoyment of the wealth he creates;

thirdly, leisure time in which to develop his intellectual, moral and social qualities.

A strong point in favor of many unions is that a literary program has been adopted, in the exercises of which are discussed subjects of peculiar interest to the members: Such as "Convict Labor," "Eight Hours," "Child Labor," and "How can the Toiler Secure a just Share of the Wealth he Produces." All these, united with beneficial and friendly objects, help to gain friends for these societies.

It was but a few years ago that the temperate laboring man plodded on from day to day, eating and living mechanically, perhaps reading a cheap newspaper before going to bed at night. This was all that was left for the laboring man unless he spent his extra time at gay but dangerous saloons; but there was no advancement in either of these for him. Now he can put on his best clothes, once or twice a week and, taking his wife perhaps, meet his fellow workingmen at some public place, where he can engage in debate on some subject of interest.

The Labor Party is growing stronger every day. Never has there been as much enthusiasm shown for it as at the present time. At a recent trades-union congress which met at St. Louis, Mo., 500,000 men banded themselves together to struggle for their rights, and they will surely be successful if they stand together for the final rush, which will overpower all opposition if any is offered.

Every day brings us nearer to the time when the laborer and the capitalist will be considered equals. As capital becomes stronger labor becomes weaker; and unless the working men act before it is too late by standing together and demanding their rights, they will be reduced to slavery, held down by the foot of tyrannical capital.

There is a wide difference between unionism and socialism; the first seeks to get what rightfully belongs to him; the latter to

take from all, whether it belongs to him or not. The socialist says, "all men are created equal," but this does not compel us to give up our hard-earned money to a shiftless neighbor, who, through his lack of energy has made himself what he is in life.

While socialism is this, true unionism is the advancement of its members by legitimate ways. A well-organized body of men can gain their point, where a dozen mobs will fail.

The decrease of crime is attributed to the better education of the working class. Now the trades unions tend to educate their members and therefore they help in the decrease of crime.

In following the course of history we see the rise of the laborer from the condition of slavery nearly, to that in which he seeks to be a man.

The American nation, as a whole, is a noble great-hearted people and loves justice and mercy. In no country is it possible to arouse such a high degree of enthusiasm for right, and right will surely prevail when once clearly recognized.

## SCIENTIFIC.

### Natural History Society.

Meeting, April 11, 1890, called to order by President Lowe. Mr. Gardner gave a short paper on Aleurone, describing it and telling where it is found, and of its importance. Mr. A. B. Cook then gave a very racy and interesting talk on Michigan owls, illustrating his remarks with stuffed specimens of the Great American horned owl, which, next to the barn owl, is the most common species here; the snowy owl, which is sometimes found in this vicinity, but is more abundant farther north; the barn owl, which is the most common of our species, and the red or screech owl. In the discussion which followed several interesting observations were reported. Dr. Beal had

known an owl to break a trap chain and carry the trap for more than a month before being taken. Mr. Teller had seen one catching mice and storing them in rows on the girth in a barn for future use. Prof. Cook spoke of an owl in California which has the curious habit of sitting on a post or shrub by the roadside and bowing to passers by.

Mr. E. J. Rowley read the following paper on Veterinary Dentistry: "The special class in veterinary, this term, have been occupied in dissecting the legs of the horses killed last fall, and also in dissecting a fresh specimen. They have also spent considerable time in making plaster casts of horses' teeth. The legs of the specimens killed last fall were preserved in a bath consisting of 10 lbs.  $KNO_3$ , 140 lbs.  $H_2O$  and 50 lbs.  $NaCl$ . A second bath consisted of salicylic acid 1 lb. and 140 lbs.  $H_2O$ , but Dr. Grange considers the first to be the better preservative. Both anterior and posterior limbs were taken from the bath and converted into natural skeletons. This sort of dissection is laborious, for one has to work slowly in proximity to the ligaments, and the operation of scraping the bones to make them entirely free of muscles and peritoneum is a slow process. After finishing their special dissections, the class commenced to make plaster casts of horses' teeth. The clay was obtained from the brick yard, and the first used was in lumps; later the clay was ground before being mixed with water. In the laboratory the clay is mixed either with warm or cold water until it is in such a plastic condition that it will hold its shape and yet not be brittle. To get the clay in this condition several minor experiments were tried; we mixed the clay with varnish, glycerine, kerosene, linseed oil, suet, etc., but all to no avail. The effect of oils upon the clay was to render it granular, and hence brittle. The method finally adopted is to mix the clay with water and apply it to the object to be cast. We have used wax and

the world, from 60 degrees north latitude to as far south as Patagonia. In habits they vary much. Most of them prefer dry, sandy places, but some live in trees and others in water. They are both herbivorous and carnivorous. The Iguana, of the southwest, is a good type of lizard. Under Iguanidæ we have the horned toads, which are, therefore, not toads at all, but lizards. In these the legs are short and placed well out on the sides of the body, which is depressed and squatty; the tail is short and covered by scales and spines. On the head are two long ridges over the eyes, which, with the jaws, form deep grooves in which the eyes are situated. The Chameleon is a highly specialized lizard. Its feet are peculiarly adapted to its mode of life. The eyes are large and peculiar in being nearly covered by the lids. Another peculiar lizard is the Brittle-tail, or glass snake, of which Mr. Mullett exhibited a specimen that had been recently received from Texas. This lizard is very snake like in appearance and motions. It derives its name from the fact that it requires but a slight blow to snap off its tail, which grows on again.

Prof. Cook next gave a short talk on the Agricultural Ant of Texas. It resembles our common red ant very much, but is about three times as long. It probably exhibits more intelligence than any other invertebrate. This is especially shown in their methods of constructing their habitations. If they build on low land that is liable to be overflowed they build mounds and cover them with a cement, but if on high ground they do not build mounds. Around their habitations they clear a circle of from six to sixteen feet in diameter, and in almost every case around this circle is a row of ant rice. It seems, therefore, that they not only clear the land, but sow the seed, as this rice is always in a circle. If their grain becomes wet after it is stored they remove it from the store-room until it is dry and then return it.

# THE SPECULUM.

PUBLISHED MONTHLY DURING THE COLLEGE YEAR,  
BY THE STUDENTS  
OF THE MICHIGAN STATE AGRICULTURAL COLLEGE.

TERMS, 75 CENTS A YEAR; SINGLE NUMBERS, 10 CENTS.  
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AGRICULTURAL COLLEGE, MAY 10, 1890.

STUDENTS and alumni, subscribe for THE SPECULUM. However, don't do so because you wish to be charitable. Try the paper awhile, and if you have the least bit of interest in your Alma Mater or your old class-mates you will not go without it. Remember, our business manager is very obliging and will gladly write your receipt at any time it is convenient for you to send in your money.

WITH much reason many of the cadet officers are greatly dissatisfied with an arrangement by which an alumnus and an assistant in another department is given an office in the corps of cadets. It is felt that to the students, and to the students only, belong the officers of the corps. If a cadet is not given the opportunity of commanding, the chances are he'll not show any great ability in that line. It is not a sufficient rea-

son to say that an assistant is needed in the Military Department, when that assistant, from the fact that he holds a cadet's office, prevents the students, for whom the drill was instituted, from advancing. Possibly an assistant is as advantageous to the Military Department, in some respects, as such a person is to any of the others; but so far as he occupies places that might be filled by students, just so far he becomes a disadvantage.

THERE will be no *Harrow* this year. When the *Harrow* was first published, in 1887, it was hoped and expected that each sophomore class would carry out the work of publication, but here, after only three successful issues, comes a discouraging failure. Of course, the obligation to publish an annual is simply a moral one; there exists, outside the class of '92, no authority over the matter, but the failure is a serious one, and one which most of us regret. Had legitimate reasons for making the omission presented themselves no fault could be found, but with the flimsiest of excuses the present sophomore class has shirked from the responsibility.

An annual has been found to be almost a necessity, and a plan to put the publication into more responsible hands should be devised at once. It is now proposed that the societies, through a board of editors, similar to that of *THE SPECULUM*, publish an annual. This would certainly be better than depending upon the caprices of a single class, though, of course, it would not necessarily prevent the continuance of the present annual. The plan is worthy the careful consideration of the societies.

THE committee appointed last fall to draft amendments to *THE SPECULUM* constitution appears to be quietly sleeping. Those who have good memories will recollect that the amendments required were to be relative to admitting the Mechanical Club. The plan of establishing a new department expressly for the club was rejected, while a scheme to

put more than one editor on a department, though advocated by a new committee, failed to assume a very definite form. The plan of having a plurality of editors for one department has not proved satisfactory elsewhere. One of our exchanges, over each department of which are two editors, finds that it is not an unqualified success. Its patrons are awaking to the fact, that as the blame for a poor department is divided, each editor finds it more convenient and pleasant to neglect his college paper work. So too, neither will exert himself particularly, since his negligent colleague will receive as much credit as himself. This is the condition our exchange finds itself in, and we shall be wise if we profit by its experiences. The way to settle the matter is to allow the Mechanical Club to come in, creating a department expressly for it. It is true there are objections to this plan, but of the two horns of the dilemma this seems to be the least harmful. However, as usual, it has been found easier to offer objections than to propose suitable remedies, easier to tear down than to build up. It is about time the affair was decided and the club allowed a chance.

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### COLLEGE NEWS.

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Tennis, base ball, foot ball.

Lieut. and Mrs. Simpson—a girl.

Mrs. Reynolds is visiting her mother at Mexico. Mo.

Pipes for the heating of College Hall are being put in.

Arnold White was re-elected steward of the bath-house.

The base ball grounds are undergoing an overhauling.

Messrs. Wheeler and Toumey are working up the local flora.

A new bridge across the run between College Hall and Abbot Hall.

An elementary class in German meets at Prof. Cook's every week.

Mrs. Abbot was at the college at the memorial services of Dr. Thurber.

The veterinary laboratory is being fitted up for the study of *Tuberculosis*.

Mrs. Dewey went to Chicago the 30th ult., expecting to stay the rest of the term.

Some flowers from the greenhouse here were in the flower exhibit at Detroit, recently.

Mrs. Colburn is spending the last two or three weeks of the term visiting her parents.

Mr. Langs is carrying the mail between Lansing and the college in Mr. Breining's place.

Mrs. C. L. Moore, or better known to us as Miss Mary Abbot, is with her husband in Italy.

Four young foxes were found by the farm hands in No. 16. They may be seen in the piggery.

Lieut. Simpson has charge of the fire brigade. They are making good progress in their drill.

At the auction sale in Lansing, recently, Prof. Cook sold a fine Hambletonian colt to Lieut. Simpson.

The Edison lights are already up in the library and the electric lighting was successfully tried the 5th inst.

The advanced German class, which has been under the leadership of Prof. Anderson, has closed for a vacation.

The decoration of the chapel with flowers on Sundays by Mrs. Knapper has conduced much to a pleasant appearance.

The engineering class went to Grand Ledge the 8th inst., and put in the rest of the week surveying and triangulating there.

A fire started by an oil stove started in Howard Terrace the 3rd inst., but timely discovery prevented very much damage.

The memorial services of the assassination of President Lincoln were represented by a beautiful design of flowers from our college.

Prof. Cook has lately sold six fine head of cattle to Hon. O. Palmer of the State Board. He has also sold two head to Geo. E. Breck, '78.

Ex-Senator Horace C. Spenser of Flint has been chosen to fill the vacancy on the State Board, made by the resignation of Col. McCreery.

Prof. Cook's book on "Silo and Silage," issued first in 1889, has sold to the number of 14,000. The second edition was issued early this year.

The Y. M. C. A. social, April 25, was a success. It was similar to the one given a month before, a literary and musical program and games being in vogue.

Quite a few additions have been made to the library. They may be enumerated as—twenty-nine volumes by purchase, and by donation eight bound and twenty four unbound.

Mr. K. S. Thabue, our Burmese student, gave a lecture in the chapel, April 18. It was very interesting, being accompanied by many curiosities. Two ladies in the native dress represented the costumes of two classes.

Officers of the Mechanical club for next term have been chosen: President, William Petrie; vice president, E. A. Stricker; secretary, G. A. Hawley; treasurer, P. A. Barlow.

The tennis players of Howard Terrace enjoy a new "skin" court, the only one of the kind on the grounds. Clay was drawn and packed to a hard, even surface, making a fine court.

A set of some three hundred and sixty Canadian mosses have been purchased, at a reduced price, of Sir John McCoun, to replace those lost by the burning of the botanical laboratory.

The college has just received from E. R. Lake, '85, a pair of beautiful Mongolian pheasants which have become very valuable game birds in Oregon. They will be kept for breeding purposes.

W. Will Morrison represents us on the inter-collegiate field-day committee, and C. F. Rittinger is our local manager. The faculty have granted a dismissal of college for June 5-7, for the field day at Albion.

The stewards of the various boarding clubs have been elected as follows: "A," W. O. Hedrick; "B," B. O. Johnson; "C," F. W. Ashton; "D," K. L. Butterfield; "E," Fred Goodenough; "F," C. T. Cook.

Drs. Beale and Kedzie have lately been visiting the jack-pine experiment stations. They were both at Grayling the first of the month, as was also Prof. Taft, who was overseeing the planting out of an experimental orchard.

A package of seven hundred elegant herbarium specimens from Texas and New Mexico have arrived at the botanical department and are being mounted. They were collected by C. B. Pringle, who is perhaps the best professional collector in America.

Prof. Woodworth's lecture, April 16, on "student life with an electrical company," and Prof. Noble's lecture, April 30, on "James Russell Lowell, the poet and his poetry" were two very interesting and instructive discourses of the month.

Officers of the senior class were elected as follows:

President, H. L. Bunnell; vice president, H. E. Bunce; secretary, J. H. Heard; treasurer, E. A. Stricker; marshal, E. G. Cooney.

Literary officers for class day are:

Orator, C. F. Rittinger; statistician, Chas. Ferris; historian, B. K. Bentley; prophet, R. B. McPherson; poet, H. F. Hall; toast master, J. H. F. Mullett.

All old students will be interested in hearing of the present condition of Dr. Abbot. He is manifestly feebler than last fall both in body and mind. He cannot walk, but is able to leave his bed every day, being wheeled around the house in a chair. He is able to sit at the table, and partly to feed himself. He understands a part of what is said to him, recognizes a few of his most intimate friends, and replies in monosyllables to questions immediately concerning himself, but the past seems to him mainly a blank. Mrs. Abbot's health is good, enabling her to devote her entire time and strength to the care of her husband.

Dr. Geo. Thurber, professor of horticulture and botany here from 1860 to 1863, died at his home at Passaic, N. J., April 2. Since leaving the college he had been actively engaged on the editorial board of the *American Agriculturist*. Memorial services were held in the chapel, April 20, at which President Clute, Dr. Beale, Prof. Cook and Dr. Miles gave eulogies.

Prof. Comstock of Cornell University has resigned his position as Entomological Editor of *The American Naturalist* on account of ill health. He recommended Prof. Cook for the position. Prof. Cook was urged to take the place by Prof. E. D. Cope, the editor of the *Naturalist*, but for lack of time could not accept the position. Prof. Cook in return recommends Prof. C. M. Weed, '83 of the Ohio University, who has accepted the position. All who know Mr. Weed will feel sure of his success. He is to be congratulated, as this is a very responsible position.

The societies have elected officers as follows:

*Union Literary*—President, Howard G. Hall; vice president, William Petrie; secretary, W. E. Hall; treasurer, W. A. Maxfield.

*Olympic*—President, H. Z. Ward; vice president, C. T. Cook; secretary, G. W. Davis; treasurer, H. W. Mumford.

*Hesperian*—President, H. B. Fuller; vice president, S. C. Dundore; secretary, A. N. Bateman; treasurer, D. Trine.

*Delta Tau Delta*—President, B. K. Bentley; vice president, W. D. Groesbeck; secretary, L. C. Slayton; treasurer, W. F. Hopkins.

*Phi Delta Theta*—President, H. F. Hall; secretary, G. F. Bristol; treasurer, C. F. Weideman.

A service in memory of Dr. George Thurber, who was Professor of Botany and Horticulture in this college from 1859 to 1863, and what recently died at his home in Passaic, N. J., was held in the college chapel on Sunday, April 20. Excellent music was rendered by the choir, under the leadership of Mr. Peebles. President Clute read the scriptures and conducted the devotional service, and the whole congregation joined in a responsive reading. Dr. W. J. Beal paid the hearty tribute of an able botanist to the memory of his eminent fellow worker in the same field. Prof. Manly Miles of Lansing, who was associated with Dr. Thurber in the faculty here, gave many reminiscences of his old friend, that were both humorous and touching. Prof. A. J. Cook, who as a student under Dr. Thurber knew him intimately, spoke of him most cordially as a man and a friend. President Clute, who was also a student in his classes, spoke strongly of his ability as a teacher. We print elsewhere a large part of his address. Appreciative letters had been received from Prof. A. N. Prentiss, who was a student under Dr. Thurber and followed him as Professor of Botany and Horticulture here, and also from Dr. F. M. Hexamer who has been for many years associated with Dr. T. in the editorship of the *American Agriculturist*. Our florist, Mr. Knapper, had brought to the decoration of the chapel many of the plants which the Doctor had loved so well. It was a service long to be remembered.

## 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.

'61.

Prof. A. N. Prentiss of Cornell University sent an admirable letter for the Memorial Service of Dr. Thurber.

WITH '61.

Judge Allen B. Morse read a very touching paper at the Memorial Service of Judge Campbell.

'62.

Prof. Cook of M. A. C. has been offered the position of entomological editor of the *American Naturalist*. It is evident that the professor could not bear the idea of leaving the M. A. C. campus; and further we might say that the boys could not bear the idea of his going, so he modestly declined the envied position, and recommended Clarence M. Weed, of '82, for the position. Mr. Weed is of the Ohio experimental station.

'62.

Frank Hodgman has just published two pieces of sheet music, one on the "La Grippe," with which he had a severe struggle. He has sent them to the college to see if the boys can "grippe" any harmony out of them.

'67.

Daniel Strange of Grand Ledge writes very happily, and is certainly basking in the beams of prosperity. He heartily advocates the idea of a history of M. A. C.

'69.

Prof. J. Satterlee, assistant secretary of the New York Agricultural Society, recently visited the college and pronounced everything on the boom.

Richard Haigh, Jr., was a guest at the residence of Pres. Clute lately. Mr. Haigh is in the life insurance business at Kalamazoo. He and our foreman of the gardens, Mr. Gulley, were pards.

In our last issue, we regret to say, that we had the Gulley brothers pretty badly mixed up. A. G. Gulley of '69, not O. P. Gulley of '79, succeeded Mr. Crandall as foreman of the M. A. C. gardens.

'70.

C. W. Garfield writes a cordial endorsement of the project of preparing a history of the College.

'71.

E. M. Shelton has arrived at his new post of duty in New South Wales, Australia. He reports everything moving vigorously, and plenty to do.

'73.

One of the many brilliant stars of the class of '73 is Jno. P. Finley, Lieutenant Signal Corps, U. S. A. He is a member of the Meteorological Society of France, and has recently made his name famous by his Ocean

"Meteorology." Another book on "Tornadoes" is in the hands of the publishers. Mr. Finley is in charge of the New England division of General Weather Service and the Atlantic division of Military Telegraph. Since October, 1889, he has made two inspection trips through the New England States, New York, Pennsylvania and New Jersey.

'74.

H. B. Jenny is a successful lawyer and surveyor at Capac. He took an important part in the Farmers' Institute held at Imlay City.

Perhaps it will be interesting to the students of '74 and '75 to learn that E. H. Hume, the genial foreman of the farm during those years, was elected supervisor of Lansing township this spring.

'77.

Albert Dodge, chairman Prohibition State Central Committee in 1888, is now busily employed organizing Good Templar and Temperance lodges throughout the State.

W. C. Latta, formerly of Ligonier, Ind., late professor of Agriculture at Purdue University, has had charge of the Farmers' Institutes of Indiana for the past year. He says that he will have the Hoosiers waked up by another year in a manner that will astonish the natives, and we know that the staying Hoosier qualities of Prof. Latta will enable him to make his word good.

'78.

G. E. Breck is about to start on his second trip to Europe to import Cleveland Bay horses. No matter what George takes hold of, he seems to get there all around.

Prof. C. C. Georgeson received a half-column notice from the Topeka, Kansas, *Farmer*, highly commending his recent address before the Ohio Dairyman's Association.

We are sorry to note that C. J. Strang buried his young wife on April 30. The blow seems greater when we consider that Mr. Strank has three motherless children to care for. The Rev. A. B. Peebles of the College officiated at the funeral.

R. H. Gulley, principal of the Mason high school, has been offered the position of superintendent of the Jackson schools. Mr. Gulley has made a brilliant record in Mason, and it is thought he will accept the offer.

'81.

Sherman Upton is devoting his surplus energies to the manufacturing of entomologists out of school children at Elm Creek, Nebraska. He expects to send some of them to catch bugs on the M. A. C. campus soon.

'82.

W. H. Coffron is still chemist for the Flint, Marquette and East Saginaw railroad at East Saginaw, Mich. He spent a few days at the college recently.

'83.

H. W. Baird expects to graduate from the law department of the University in June.

H. W. Collingwood is now managing editor of the *Rural New Yorker*. The paper has changed hands, and under the new arrangement Mr. Collingwood has full sway.

O. C. Howe spent May Day at M. A. C. He owns a fine farm of 160 acres near the Indiana line, and is genial and good-natured enough to be a Hoosier.

'84.

O. L. Hershiser, for a number of years apiarist at Big Tree Corners, N. Y., is studying law at Buffalo. He says that he very much regrets that he did not commence the study of law earlier.

Prof. C. E. Smith of Schoolcraft will send some young men from his school to the M. A. C. next fall. That is the kind of talk we like to hear. O. K.

'85.

C. B. Collingwood expects to be here at next commencement to take an M. S. degree. He is still chemist at the Arkansas experiment station, and reports the world using him well.

WITH '86.

Guy Osborne, traveling salesman for a wholesale drug house in Chicago, spent some time at the M. A. C. a few weeks ago.

'87.

J. C. Duffey, recently foreman in the Horticultural Department of Dakota Agricultural College, has accepted a position in Shaw's Botanical Gardens, St. Louis, Mo.

WITH '87.

T. A. Berker is married and making money, and by present prospects will be rich enough to engage in Hoosier politics before long. He lives near the home of the "tall sycamore," at Terra Haute, Ind.

'89.

Alex. Moore is rustivating at 1422 Pleasant street, Port Huron, Mich. He says that everything is booming in that section, and that he expects to commence the study of law this month.

G. L. Flower is making a railroad survey in the wilderness near Pineville, Ky.

W. Rossman is in the employ of Park, Davis & Co., Detroit, Mich.

F. N. Clark and his best girl are getting tolerable intimate. They are going out sailing this summer. We have reason to think that it will be the "honeymoon."

WITH '89.

A. L. Free is taking a course in elocution at Ann Arbor. Not long since he took a leading part in a play entitled "Six Months Ago," in the city opera.

WITH 90.

J. P. Lockwood is in the insurance business at Fremont, Ohio.

A clipping from the *New Era*, Albion, Ind., reads as follows: "Harry M. Williams is now local editor of the North Baltimore *Beacon*, North Baltimore, Ohio. He is exceptionally well qualified to fill the position, and we wish him unbounded success."

N. C. Smith and J. L. Morris are rooming together at 49 Ada street, Chicago. N. C. is working for the North American News Co., while Jack is at his old trade. N. C. ordered a copy of THE SPECULUM, and says he has seen the famous J. R. Stack in the city several times.

W. E. Wallace is working for the Northwestern Furnishing Co., at Burlington, Iowa.

## ATHLETICS.

At a meeting of the Field Day directors, from the various colleges, at Jackson, April 12, the 5th, 6th and 7th of June were chosen as the dates for holding the third annual meeting of the Inter-collegiate Athletic Association. The place selected for the meeting is Albion. The following officers were elected: President, W. Will Morrison, M. A. C.; Vice President, C. W. Macomber, Hillsdale; Secretary, L. W. Anderson, Albion; Treasurer, O. H. Westburg, Olivet. The following Field Day rules were adopted by the board:

**RULE 1.**—All entries shall be in the hands of the secretary by May 30.

**RULE 2.**—No person can be a contestant who has not been a student enrolled in one of the colleges of the association within a year previous.

**RULE 3.**—Any contestant forfeits his right in the contest who is not on the ground when the event is called; provided the event is called according to programme.

**RULE 4.**—But three entries may be sent to the secretary by each college in any given sport. Only the two first named shall become contestants, except one of them shall, either through sickness or injury, be unable to participate.

**RULE 5.**—The limits for weights in boxing and wrestling are as follows: Feather-weight, 120 lbs. and under; Light-weight, 120 lbs. to 140 lbs., inclusive; Middle weight, 140 lbs. to 160 lbs., inclusive; Heavy-eight, 160 lbs. and over.

A tax of \$200.00 will be raised to pay the Field Day expenses, and will be levied per capita on the male students of the four colleges.

The following is a program of the sports, which, with perhaps a few changes, will be adhered to on Field Day:

### THURSDAY AFTERNOON.

Base ball, M. A. C. vs. Albion—Pennant.  
4 P. M., foot ball, M. A. C. vs. Olivet—Foot ball.  
Supper.

Thursday evening reception, in chapel, at 8 P. M. Program, Music, two pieces by each college.

### FRIDAY, 8 A. M.

Lawn tennis, doubles, two courts—Silver Medal.

At the same time the following sports will take place:

Base ball throw—Silver Medal.  
Throwing 16 lb. hammer—Silver Medal.  
Putting 16 lb. shot—Memento.  
Standing hop, step and jump—Silver Medal.  
Running hop, step and jump—Silver Medal.  
Standing high jump—Silver Medal.  
Running high jump—Silver Medal.  
High handspring jump—Memento.  
Broad handspring jump—Silver Medal.  
10 A. M., base ball, Olivet vs. Hillsdale.  
Dinner.

### FRIDAY, 1:30 P. M.

One hundred yards dash—Silver Medal.  
Fifty yards backward dash—Memento.  
Two hundred and twenty yards race—Silver Medal.  
Eight hundred and eighty yards run—Silver Medal.  
Lawn tennis, singles, two courts—Silver Medal.

During tennis contest the following sports will take place:

Stauding broad jump—Silver Medal.  
Running broad jump—Silver Medal.  
Backward jump—Memento.  
Three jumps—Silver Medal.  
Pole vaulting—Silver Medal.  
Running high kick—Silver Medal.  
Hitch and kick—Silver Medal.

4 P. M., base ball, winners of first contest vs. winners of second contest.

Supper.

### FRIDAY EVENING AT 7:30, AT OPERA HOUSE.

Club swinging—Indian Clubs equal to Silver Medal.

Wrestling, Catch-as-catch-can:

Heavy-weight—Silver Medal.

Middle-weight—Silver Medal.

Light-weight—Silver Medal.

Feather-weight—Silver Medal.

Side hold, Middle-weight—Silver Medal.

Græco-Roman, Middle-weight—Silver Medal.

Horizontal bar—Silver Medal.

Parallel bar—Silver Medal.

Boxing:

Heavy-weight—Silver Medal.

Middle-weight—Silver Medal.

Light-weight—Silver Medal.

Feather weight—Silver Medal.

**NOTE**—In wrestling and boxing each contestant is to have but one contest that evening, where there are but three contestants.

### SATURDAY, 8 A. M.

Lawn tennis, doubles, winners of previous contest.

At the same time the following sports will take place:

Four hundred yards Bicycle Race—Fancy Bicycle.

Tug-of-war, Albion vs. M. A. C.—Five Mementoes.

Tug-of-war, Hillsdale vs. Olivet—Five Mementoes.

Three legged race—Two Mementoes.

Relay race, one mile, four in team—Mementoes and Cup.

Tug-of-war, winners of previous contests—Cup.

Finish wrestling.

Finish boxing.

10 A. M., base ball, losers of first and second contests.

### 1:30 P. M.

Tennis, singles, winners of previous contests—Silver Medal.

At the same time the following sports will take place:

Four hundred and forty yards dash—Silver Medal.

Passing Rugby—Silver Medal.

Drop kick Rugby—Silver Medal.

Hurdle race, three and one half foot hurdle—Silver or Gold Medal.

Foot ball, Albion vs. winner of previous game.

In the base ball games the National League rules will prevail.

Our athletes are beginning to hustle to get into training in time for field day. The base ball team is as strong as the M. A. C. teams of other years have been, with the exception perhaps of the batting, which has not been tried as yet. Foot ball is undergoing a decided boom, and much credit is due to the players for



the energy they put into the sport. It is to be hoped that this college will be able to maintain a foot ball team in the future.

As evidence of the fact that the other colleges are hustling in athletic matters the following article from the Free Press of April 14, speaks for itself:

Keep your eye out for Olivet College next June at inter-collegiate field day. The new gymnasium has inspired the boys with new zeal for athletics, and they will make a great showing. Base ball and foot ball teams have been organized and each member of these teams is compelled by written contract with the manager to do a stated number of hours work in the gymnasium each day, besides the regular field work of which there will be plenty. Both teams will be uniformed this spring.

Olivet has had the lead in lawn tennis, since the organization of the inter-collegiate association and will without doubt maintain it this spring.

In the horizontal and parallel bar work, and in all contests which require gymnasium training in order to complete successfully, Olivet has not been heretofore represented, but will be next field day.

## COLLEGES.

Harvard's athletics, in all the branches, cost each student about \$25 last year.

Ann Arbor's Glee and Banjo Club has just returned from a very successful trip.

The first game of foot-ball in America was played in 1867, between Harvard and Yale.

In the class of '89 at Cornell, out of ninety graduates, ten per cent. were ladies, yet they won sixty per cent. of the honors.—Ex. Who says that co-education is not a good thing, for the ladies at least?

Denmark has 1 University, 40 professors and 1,400 students. Russia has 8 Universities, 582 professors and 6,900 students. Spain has 10 Universities, 380 professors and 16,200 students. Austria has 10 Universities, 1,810 professors and 13,600 students. Great Britain has 11 Universities, 334 professors and 13,400 students. The United States of America has 360 Universities, 4,240 professors and 69,400 students.

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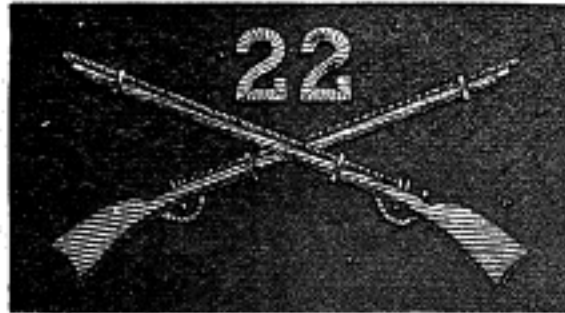
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