

# THE SPECULUM.

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WHOLE No. 58.

## Agricultural Colleges of Texas, New Mexico, and Arizona.

L. H. DEWEY, '88.

During my southwestern trip last June I visited the agricultural colleges in Texas, New Mexico, and Arizona. Little more than a day was spent at each place, therefore my descriptions may convey the impression of a hasty glance rather than close observation.

The Texas Agricultural and Mechanical College is situated in Brazos county, on the Houston and Texas Central Railroad, 95 miles northwest of Houston. Bryan, the nearest town of any importance, is five miles north of the college. The college farm of 2416 acres is mostly on the level, slightly wooded sandy plain which forms the divide east of the Brazos river. The extreme west end of the farm extends down into the timber bordering on the bottom lands along the river.

The college campus is near the end farthest from the river where it is dryer and there is very little timber but it is more healthful. It is said that white people can not live in the Brazos bottom lands a dozen miles away, while at the college there is not moisture enough to rear mosquitoes and malaria is quite unknown. The railroad and a wagon road running parallel to it cross the farm at the west side of the campus, and the main entrance to the college grounds is near the little railroad station. At a little store opposite the station students may obtain such necessaries as stale confectionery, grocer's ginger snaps, and cigarettes.

The drive from the entrance is nearly straight, leading to the main college building, which occupies the highest point of ground

on the campus. This is about one-fourth of a mile from the entrance but the entire campus is so nearly level that all parts of it can be seen at once, and considerable skill in grading and planting will be required to produce pleasant effects in landscape gardening.

The main building, a rectangular three story brick building resembling College Hall at M. A. C., is used for the same purposes that that was formerly. It contains nearly all the laboratories and class rooms of the college. The wood working shops are in a wooden building at the rear of the main building, and the iron shops in a brick building at the right. The iron shops are quite a source of pride to the friends of the college and well they may be. They are quite similar to those at M. A. C. and the course of instruction is apparently much the same.

The students have been crowded heretofore into three dormitories, none of which are larger than Abbot Hall, and the greater part of one of these buildings is occupied by the mess hall. A large dormitory is being built this summer. The assembly hall or chapel is the most ornamental building on the grounds. The interior is furnished with stage, sloping floor, gallery and opera chairs giving much the effect of a neat little opera house. It makes an excellent place for holding meetings and such public exercises as are necessary at commencement time, except the commencement ball. Eight or ten pleasant dwellings are occupied by the professors. One house is used as a surgeon's residence and hospital, where sickness among the students receives physician's treatment free of charge.

There are about ten professors in the college faculty and a dozen or more assistants.

instructors and foremen. The various professorships are very similar to those at M. A. C. except that botany, horticulture, landscape gardening and entomology are all crowded into one, resulting of course in comparatively little work in any of these lines. Physiology, zoology and geology are not represented at all by professorships, but the subjects are taught to some extent in connection with veterinary science, microscopic botany and mineralogy.

Last year 318 students were enrolled, the freshmen and sophomore classes each numbering more than 100. The students apparently average three years younger than those of the M. A. C., although the catalogue states that students should be fifteen years of age before being admitted, and the courses are all four years long; the average age of the graduating class last June was less than twenty. In spite of the fact that they are young in years, that they do not have the manual labor system, and do not engage much in out-door sport, they are sturdy looking fellows, and, with equal training, would probably compete well with M. A. C. on a field day.

In place of out-door sports they have more military drill. In fact the discipline all through the college is very much the same as that maintained at West Point. The student is required to dress in the gray cadet uniform during all the time he is at college. Quarters in the dormitories are subject to inspection, and neatness in the rooms and in personal appearance is enforced with military severity. The adjutant and officers of the cadet corps have charge of order among students at all times, and delinquents are reported to the commandant of cadets; thus almost the entire discipline is maintained by means of the military organization. The student, to a certain extent, has a hand in the government, but it is military rule or martial law, not civil government. Military drill is compulsory throughout the course, and its effect is seen not only in the excellent

work done on the drill ground, but in the carriage and movements of the students at all times.

The courses during the first year are identical. In the second year they branch into the agricultural and mechanical, and in the third year these sub-divide for the four degrees given. The degrees conferred are B. S. A., B. S. H., B. M. E., and B. C. E. The greater number of students seem to prefer the last degree.

I was fortunate enough to be present at commencement time. No student is permitted to leave the college until the close of the commencement exercises. Instead of a few good speakers in the graduating class being selected to prepare orations instructing their daddies in how to run the government, each one of the seniors is required to write a thesis on the work he has been doing in agriculture, horticulture, mechanics or engineering. One in each course is chosen to read his thesis. Those which I heard showed original and independent thought, and to me it was a pleasant variation from the semi-political philosophy usually heard at commencement time. It indicated that, although they might feel as Farmer's Alliance orators, they would assuredly prove successful among farmers and mechanics who tried to improve themselves by improving their methods of work.

The experiment station is well organized, with the professor of agriculture as director. The experiments carried on are largely in stock feeding, dairying and raising forage crops. In this last line they have decided that for their region, without irrigation, sorghum and corn put up in the silo is the most profitable. The conditions are all so different that few experiments carried on there would be of any value in Michigan.

The New Mexico Agricultural College is situated near Las Cruces in the famous Mesilla (Me-se-a) Valley in southern New Mexico. It is about forty-five miles north of El Paso, Texas. The El Paso branch of

the A., T. & S. Fe R. R. runs about half way between the college and the Rio Grande at this point—about a mile from each. From the car windows I got my first view of this new educational institution. In the foreground are a few houses, surrounded with cottonwood trees and an abundant vegetation. Beyond these is a shallow valley of dark, rich-looking land, under cultivation, where thirty years ago was the bed of the Rio Grande. Beyond this, on gently rising ground, is a rectangular area of ten or fifteen acres perfectly bare of vegetation, which has evidently been recently cleared, as all the surrounding region is covered with a rather sparse growth of mesquite bushes. In the middle of the cleared space is the one college building—a two-story brick structure appearing something like the president's house at M. A. C. Back of this the land rises to the higher mesa, and as a background of all there is the Organ Mountain, standing out clear cut in every outline, beautiful in its massive ruggedness, appearing but a short distance instead of a dozen miles beyond the college building. It was the most interesting bit of mountain scenery that I saw during the entire trip.

The college was not in session. We drove out to it from Las Cruces over three miles of very sandy road. The building is fitted up something like an advanced graded school. The faculty and students live mostly in adobe houses at Las Cruces or Mesilla, each place being distant three miles or more. They go back and forth on horseback, which is the common mode of travelling in this region, therefore a large, comfortable shed is provided for the horses, where all are desired to be kept, even on examination days.

The college being only a year old, the six courses laid out are somewhat tentative. The studies in the regular college course are similar to those in other colleges. Next to English, Spanish receives the chief attention among the languages. Many of the students have had comparatively little opportunity for

study elsewhere, therefore considerable attention is given to the preparatory school.

They have co-education here. Last year twenty of the seventy-five students were ladies. This explains why we find domestic economy and instrumental music in the list of studies. The professor of agriculture is director of the experiment station, and the experiment station work is considered perhaps quite as important as the work of instruction. The chief lines of work taken up so far have been the trying of grasses with and without irrigation, and the study of the entomology and botany of the region.

I need say but little about the Arizona University, as Prof. Toumey has mentioned that in a recent number of THE SPECULUM. When one enters Tucson from the east on the Southern Pacific railroad the University may be seen in plain sight a mile away to the left, toward the Santa Catalina Mountains. The college farm here consists of thirty acres of land under irrigation. On the highest ground near the center of this green spot in the desert is the one large brick building—twice as large as College Hall—containing the class-rooms and laboratories. This building, consisting of a high basement, one rather high story above this, an extra or false roof, and a covered porch "balcony" twenty feet wide extending all around, presents a style of architecture seldom seen in cooler climates. It is quite cool and comfortable in its wide, airy corridors when the mercury indicates 110 degrees in the shade of a mesquite bush outside. A dormitory and some other new buildings were to be added this season.

There are three M. A. C. graduates in the agricultural department of the university, and the best men that can be obtained are being engaged in the school of mines, therefore no fears need be entertained concerning the healthy growth of the institution.

All these new western colleges may be expected to look back to their older eastern

sisters more or less for methods and hints in college work, but at the same time it would be well for those same older colleges to keep an eye on their new neighbors, for, being new throughout, they are full of new ideas, some of which are well worth attention.

Washington, D. C., Oct. 1, 1891.

### Senator Palmer's Log Cabin.

H. R. ALLEN, ECLECTIC SOCIETY.

During my spring vacation, on the morning of Thursday the twenty-first of May, I found myself ready to take the Woodward Avenue street car on the way to Senator Palmer's log cabin.

The cabin is situated about six miles north of Detroit, on the old Pontiac road which is the continuation of Woodward Avenue. The only way to reach it, unless one has a carriage convenient, is to walk, or to take the street car to the Lake Shore railroad crossing and then the electric car, which will take you about two miles from the cabin. We had the good fortune to have a carriage meet us. On reaching the enclosure in which the cabin is situated, we found a nice road leading from the main road up to the cabin.

Arriving at the cabin we descended from the carriage, and while waiting for the key to be brought, we looked over the outside. The main part of it is made of logs laid on top of each other with clay and gravel between them. The cabin is a little longer than it is wide, and the longer sides run almost parallel with the main road. The roof is covered with bark and extends out from the walls about two and a half feet. Up under the eaves are little windows almost hidden from view. The main part of the cabin is very old fashioned, but the little addition or shed in the rear of it is modern.

We entered through the back door; on our right was a case with a few relics in it, and on our left the stair-case, which is a

very modern affair, being made of highly polished oak, hardly in keeping with other surroundings. After ascending the stairs a few feet they take a turn to the left. On the landing stands a high, old fashioned clock with the date 1668 engraved on it.

Before going further up stairs I will attempt to describe the lower part of the house. The hall is broad and contains quite a good many old-fashioned things, such as a bow and arrows in a pouch, an old sword, and a few pictures hanging on the walls, principally of the senator's ancestors. From the ceiling hangs an old tin lantern and a number of other primitive farm utensils. On the right and left of the hall are large arches opening into the library and dining room. We first entered the library; from the top of the arch hangs an old buffalo hide for a curtain, also a lariat or lasso and an Indian riding whip. The walls and ceiling are roughly plastered, and about a foot below the ceiling run slats from which dried corn, dried slices of apples on strings, etc., are hung. A great quantity of yarn hangs from a cord stretched across a corner. Directly opposite the arch is a large fire-place, in which a good sized log, that is, large in diameter, could be placed, or perhaps a half cord of wood at once. In one part of the room, almost hidden from view by a screen, is an old fashioned bedstead, on top of which is an ancient flint-lock pistol. The chairs and almost everything in this room are very quaint. Among other things are the senator's little high chair and cradle.

We next crossed the hall and entered the dining room, in which there is a large fire-place directly opposite the arch. Above it is hung an old flint-lock musket, and by the side of the fire-place stands an old candle mould. On the mantel above the fire-place are quite a number of old pieces of china-ware. In this room stands a spinning wheel, and on the center of the floor is the dining table. A large birch bark canoe is slung up to the ceiling. Off from two

rooms up stairs and two down stairs are little doors leading into closets, and in the center of each floor is a trap door to a cache, into which the family may crawl in case the Indians make a raid on the house. There are three or four bed rooms up stairs, in each of which there is an old fashioned bed, a dressing table and a great many other things that help to make a room look old fashioned.

All the floors in the cabin are made of hard wood, and on most of them is spread a rag carpet. Almost all the things in the cabin are not only old looking, but are very old.

After we had seen about everything in the house we took a stroll around the grounds. Right in front of the cabin on either side of the entrance is a keg with a bottle in the top, for the purpose of turning hard cider into vinegar. A little way from the house, between it and the road, is an artificial lake with one or two flat bottom boats in it. And last but not least is the old well and bucket, which when raised or lowered by a crank peals forth a melancholy squeak. There is a little structure over it which is covered with bark. From this well we took a drink of nice clear, cold well water, preparatory to our return from surroundings of half a century ago, to those of modern civilization.

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## SCIENTIFIC.

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### Improvement of Wheats.

R. S. CAMPBELL.

Professor Davenport's admirable "Work System," in which each student, by personal observation and a direct application of scientific methods to some growing crop, has led to many interesting lines of work on the farm department during the past season, one of which is the improvement of wheat. The principal methods of improving wheats are: First, by selection; second, by crossing;

third, by hybridizing wheat and rye; and fourth, by changing spring into winter wheat. The first two of these methods have been used on the farm the past season with gratifying results.

The method by selection is simple, easily understood, and has the advantage of producing marked improvement much sooner than any of the other methods. Simply stated, the plan is to make a systematic selection of the best seed from some standard variety, and then by culture and thin seeding, stimulate stooling, length of head, and strength of straw. This is to be followed year after year, each time selecting the seed that comes nearest the fixed ideal. Our work this summer has been on the Clawson. From the growing crop last season we made our first selection. This was sown in drills, and in order to promote stooling it was thinned to one plant every six inches. During the growing season the ground was frequently cultivated. The first year's harvest showed an average of more than doubled stooling capacity, length of head, and number of kernels. The selection from this for next year's seed has been much more rigid than before, both in kind and quality. While it is not expected that the results will be as marked as those of the first year, we trust that the "survival of the fittest" may produce an improved Clawson wheat. The value of this method cannot be over-estimated. By it the systematic farmer can, in a short time, develop in a wheat suited to his section of the country an improved variety that in many cases will far surpass the "great wheat" of some other locality.

The second method in which the desirable characteristics of two varieties may be combined in one, is by crossing. The method of crossing, even to those who have been easily successful in such work with other plants, is a delicate operation, and requires patience, great care, and practice. The wheat plant has closed flowers. The anthers, three in number, must be removed

while yet immature, and as they are then below the pistil, careful study and practice are necessary in order that the feathery stigma, or ovary, be not injured. As the anthers begin to mature, the filament elongates and is carried up to the stigma, where it bursts and sheds its pollen, after which the filament elongates still farther, and the pollen sac is forced out of the floral envelope and the wheat is said to be "in bloom," the pollen has been shed, the ovary impregnated, and the wheat cannot then be crossed. It is indispensable that the anthers be removed from the flowers before they have begun to turn yellow. To do this it is necessary to bend back the glume or outer covering (corresponding to calyx in other flowers), and then the pale (corresponding to petal); this must be done without breaking them so that after the anthers are removed they will spring back and cover and protect the pistil. By holding this outer covering steadily open with the thumb and forefinger of the left hand the anthers may be readily removed with a pair of tweezers held in the right hand. After this has been done a careful watch of the adjoining wheat heads will enable one to tell when the stigma in the prepared head has ripened. The flower must then be carefully opened the second time and the pollen from the other variety put upon the stigma. The pollen may be best collected by dusting it out upon a plate and then dropping it on the stigma from the point of a penknife. After the head has been pollenized fine tissue paper should be tied around it in order to protect from insects.

As a rule little can be known of the value of the wheat resulting from a cross the first year it is raised. The plants will vary considerably, though in most cases they have a strong tendency to resemble the female parent. By careful selection, in four to six years distinct varieties may be fixed, though a small per cent of variation is still likely to occur.

The wheat from crosses made this sum-

mer have all been sown, and the result will be a question for further study.

The relative value of the two methods cannot be discussed in this paper. Both have advantages, but to the ordinary farmer selection furnishes a quick and sure method that is pre-eminently ahead of crossing.

### The Relation of Language to Science.

A good workman likes to have good tools. It is true that he can do good work with a poor outfit, but it is equally true that he can do much better with a good one.

The great Dutch microscopist, Leeuwenhoek, who first discovered the compound nature of insects' eyes and the rotation of young water snails within the egg, used a microscope made by himself out of a little globule of glass mounted between two thin plates of metal. Darwin, while making his celebrated trip in the *Beagle*, which was the starting point of his fame, did all his work with the aid of a simple lens and did not even take a compound microscope upon ship-board.

But it is not likely that any naturalist of to-day would wish to imitate either of these examples in the attempt to make scientific discoveries. On the other hand, no student of biology would for a moment think of doing without his Zentmayer, Bausch and Lomb or some compound microscope equally as good.

In fitting young men for successful positions in agricultural science or experiment station work our educators are too apt to slight an equipment, which is well-nigh as essential as the microscope, namely: a good reading knowledge of at least three languages other than our native tongue: Latin, German and French.

In following out their natural American proclivities for making a short cut to wealth and honor many students imbibe the notion that the English tongue will afford them a literature in which sufficient light may be obtained to illuminate all the abstruse ques-

tions which they will surely and very early encounter. To support this notion such students point to plenty of men who have added great stores to scientific discovery without the aid of any language but their own. The best that can be said for such an argument (?) is that it affords an excuse for rushing on towards a college degree or to a position of some kind without the application necessary to overcome the somewhat troublesome matter of foreign etymology and syntax.

May it not very truly be said that the above-mentioned noted men could undoubtedly have accomplished more if they had had access to the foreign literature of their respective lines of study?

What advanced work and study can one expect to do in any of the natural sciences if his reading is confined to English books and journals?

In botany, for instance, the literature of vegetable anatomy and physiology, with the exception of half a dozen important works, parts of which are meagre translations, is largely in German or French.

If the student wishes to become well-posted in the botany of the flowering plants he must be familiar with Bentham and Hooker's "Genera Plantarum," DeCandolle's "Prodromus" and other standard Latin books. In the systematic study of fungi Saccardo's "Sybloge Fungorum" is absolutely essential, as it is the only work giving a description of all the fungi which are known. Would the botanist study grasses, one of the most important of all subjects for the agriculturist? Steudel's "Synopsis Plantarum Graminarum" at once demands his attention.

A knowledge of the life histories of various fungi is second in importance to no other subject which can engage the attention of an agricultural student. The important English literature in this line is, with the exception of a few bulletins and works whose contents consist largely of the translation of foreign research, very scanty. Most of the

literature in this line is the work of such Germans and Frenchmen as Fries, Persoon, Rabenhorst, Winter, the Tulasnes and many others of whose writings little has been translated into English.

The same may be said of the sciences of horticulture, zoölogy, entomology, chemistry and veterinary. The student in any of these lines who reads English only is shut out from the great mass of valuable information which he needs.

In urging the necessity of giving Latin, German and French a prominent place in the curricula of our agricultural colleges I have said nothing of their great value aside from the scientific literature which they embody.

Every student who has tried, without any knowledge of foreign languages, to remember the multitude of technical names which confront him every day of his college course, will readily admit the difficulty of fixing in mind their meaning, a result which is secured only by the most arbitrary acts of memory. A very little knowledge of Latin and Greek would smooth one's way over all such difficulty, and instead of learning a definition for each new term he would readily define these terms for himself. The importance, in fact the absolute necessity, of remembering all these definitions in order to read intelligently any English work in science is too evident to require argument.

An agricultural college is not simply a place where farmers' sons and daughters may get their education more cheaply than elsewhere. It has a much higher mission, namely, to adequately train, not only such young men and women, but also any others who may so desire, in the thorough knowledge of agriculture and its allied sciences. If general culture only is wanted it can likely be attained as easily, perhaps as well, at the high school of one's nearest town.

Professor Bessey, writing on this subject, very pertinently enquires, "Should not every young botanist," (and the same remarks will

apply to the student of any other line of science), "be trained in at least the three languages I have mentioned—German, French, Latin? And is it not the duty of the teachers of botany to see to it that their colleges make provision for such training? When the authorities will not make such provision, is it not the duty of the teacher of botany to candidly advise the young botanist to go to some other college, where necessary preliminary training is not ignored?"

It has been so often stated as to have become trite, that the object of a college course is not to acquire facts, since a careful reading of any good encyclopedia would put one in possession of more facts than any four years of college study is likely to do.

On the other hand the great aim of the true college is to train the mind to think and investigate for itself. In other words to supply it with adequate tools. On this ground some knowledge of the languages named is more essential than many other things which find their way into the curricula of our colleges. And this fact must help furnish a key to the solution of the difficult problem of adding studies to a course that may already be over-crowded. When the patrons of agricultural colleges, and the students therein, come to see the importance of language in its relations to science, they will demand more attention to it, at the expense, if need be, of some other studies, which may for the time be omitted.

It is needless to say that many of our agricultural colleges have already seen this importance and are giving adequate courses in Latin, French and German.

One thing more in this connection. It is not necessary nor best that these languages should be taught in the old way in order to subserve the interests of students of science. Too much time is wasted over classical or literary writings which mirror the language of but few. Thus the scientific student is compelled, by a painful process, to acquire a vocabulary which will be, to a large extent,

laid aside the moment he wants to put it to a practical use.

Scientific Latin is very easy and one may learn to read it as rapidly as English without having marched through all of Cæsar's Gallic campaigns, or translated Cicero's fiery invectives against Catiline, interesting though they may be.

The same remark applies largely to German and French. What the scientific worker wants is a thorough mastery of German and French peculiarities of expression, and a vocabulary of common terms, together with those used in modern science. Antiquated or literary words and phrases can well be dispensed with.

It is to be earnestly hoped that the standard of our district schools may soon be raised so as to do away with the necessity of teaching so many merely elementary studies in our agricultural colleges instead of the languages which should supersede them.

If there is one place more necessary than another to the fitting out of young men and women for successful work in experiment stations it is certainly at our agricultural colleges. In fact, nowhere else can we expect this work to be done.

Owing to the unexpected and urgent demand for such workers when experiment stations were first established in this country, it was necessary to employ some who had not taken the desired course in language.

But the constant improvement in experimental investigation which is taking place, together with the intricacy of many of the problems forced upon our investigators is fast making a knowledge of Latin, German and French one of the first requisites in candidates for such positions. And this demand will increase, else our scientists will find themselves threshing old straw and wasting valuable time in the study of questions which have already been solved by foreigners.

It is time that all our agricultural colleges recognized the important relation which exists between language and economic science.

G. H. HICKS.



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AGRICULTURAL COLLEGE, Nov. 10, 1891.

THE readers of the SPECULUM will notice that the Alumni oration printed in the October SPECULUM had no printed title. Our explanation is, that ye editor was taken sick just before the publication of the last issue and the assistants not being familiar with the work neglected to name the oration.

THE readers will notice in this issue an interesting article by L. H. Dewey, '88. Now we would like to impress upon the Alumni that it would be a great favor to the SPECULUM if you would be as obliging as Mr. Dewey and send us an account of any interesting journey or voyage you might have taken, or any article you think would be of interest to the readers of the SPECULUM. Such articles as Mr. Dewey's create more interest among the Alumni than any other literary productions we receive.

THERE has been considerable said of late of the compensation of our instructors. Many letters come from Alumni urging

that something ought to be done in reference to raising the salaries of our instructors and thus be able to keep able men when we get them. As it is, an assistant no more than becomes proficient in his culture when higher wages call him elsewhere. It is not the purpose of this college to fit young teachers for other colleges.

To show the comparison of wages paid at this college and that of other institutions of similar character, though not so thoroughly established, we present the following: L. H. Bailey, at this college, \$1,500 and house; at present, \$3,000. R. C. Carpenter, here, \$1,800 and house; at present, \$2,500. L. McLouth, here, \$1,800 and house; at present, \$3,000. W. F. Derand, here, \$1,800 and house; at present, \$2,500. E. Davenport, here, \$1,800 and house; at present, \$6,000 and house. G. L. Teller, here, \$500; at present, \$1,500. A. B. Cordley, here, \$500; at present, \$1,200. N. S. Mayo, here, \$500; at present, \$1,800. H. Thurtell, here, \$1,000; at present, \$1,800. F. H. Hillman, here, \$500; at present, \$1,800. A. B. Feebles, here, \$500; at present, \$1,100. L. H. Colburn, here, \$500; at present, \$1,600. E. R. Lake, here, \$500; at present, \$1,800. L. Carpenter, here, \$1,000; at present, \$1,800.

Are we not able to pay as large salaries as other institutions? Michigan is one of the most prosperous and wealthy States in the union. The college is not in the condition it was at its foundation. It is no longer poor.

As evolution teaches us, the world must progress and those who do not follow its teachings must fall in the dimness of the past. We wish to progress and hold the reputation of being at the head of all like institutions in the land. In order to do this, we must pay our officers as large salaries as our competitors or our college will in time deteriorate.

We learn that one of our professors has constructed a plan of lighting the college

grounds and the halls in the dormitories with electricity, the students lighting their own rooms by a branch from the hall wire if they wish.

We think this is an excellent scheme and hope it will be carried into effect. We all realize the need of lighting the college campus. The walk between Wells and Williams halls is a very unpleasant one on a dark night and it is traveled a great deal going to and from supper and the college library. The members of the faculty probably realize the need of lighting the campus farther than this more than the students. Will not some one see that the matter is pushed forward and if possible into effect?

WHAT is the matter with our lecture system? We hear no more lectures from members of the faculty or from great men outside of the college. Are the members of the faculty slighting this duty or do they think the students show lack of interest in their lectures? As a rule, the students are interested in the lectures and are anxious to see them continued. The lecture system has always been considered one of the advantages of the institution, for at such a place the student learns in an hour what otherwise would require several weeks of careful study and deep thought. It seems to us this discontinuance of lectures is a step in the wrong direction. Would it not be still better to hear a lecture once a week, either by a member of the faculty or some intelligent person from outside? What is generally considered an advantage to an institution, let it progress.

We sincerely hope the spring term will commence with a series of lectures telling us how the professors spent the winter and when once started let them continue.

HERETOFORE it has been the general opinion that the Auditing Committee should have more power; that its work at present only serves as a check upon mathematical

errors of the stewards, and does not enough information to ascertain the condition of the club. True, the Student Organization has not, for the past four years at least, been able to tell the stand of the various clubs, but the report of last committee showed that previous committees had not done their duty. It not showed that most of the clubs were in poor condition, but that the stewards are doing their duty. Letting boarders more than one term behind on board show lack of good management. It should be allowed. We are pleased to say through the aid of Secretary Reynolds have a new boarding club constitution which will take effect next spring term. principal features of the constitution are the boarding clubs are to be incorporated thus giving our tradesmen some security that each boarder shall pay twenty dollars on board at the beginning of each term; any member getting more than six weeks arrears for board shall not be constitute member of the association till such debt paid; and best of all, the stewards are bound that they shall have to attend to their duties, keep an exact account, or are subject to removal by the Auditing Committee.

If such a constitution had been adopted many years ago, there would not be large outstanding debts there are to-day. Being incorporated will no doubt cause reduction in the price of board, as the tradesmen are more sure of their pay. We do not make any more comments however we have seen the constitution in operation.

THE Students' Organization voted that the committee to confer with the editor of the *Farmer* send a copy of the editorial in the October SPECULUM to the county paper in this State. Instead of printing the communication, the *Adrian Weekly Press* presents the following editorial:

We are in receipt of a long communication from the students of the Agricultural College, resenting the false statements made

in the *Michigan Farmer*, an alleged agricultural paper, and complaining of the gross injustice and unfairness shown them in not printing their reply. See here, young men, don't you get worried. There is n't a farmer in Michigan who pays any heed to the *Michigan Farmer's* twaddle. It may be that its claims against the college students are true, but no one would believe it because of being in the *Farmer*. Gibbons evidently has been "miffed" at the way something has or has not been done on the farm. He is one of the wise scientific farmers; who advocate feeding Berkshire sheep on ensilage of square roots, and has an improved churn to make butter from milkweed.

Now any farm editor, who sows timothy seed in his hair because he lives in the city and wants to be thought rural, and then sits down and writes articles to prove that a tariff on eggs and wool and wheat and potatoes makes better prices to our farmers, and a tariff on tin and clothing and cutlery makes them cheaper to the agriculturists, can't be expected to grub very near the truth when plowing around the Agricultural College management. Don't give yourself any uneasiness. Robert's brain is busy with great agricultural problems. He has sent to Europe to see if he can't get a player to beat the chess in wheat, and will read an essay before the Hamtramck Green Gage Society next month on "Scientific Horticulture; or the best time to sew buttons and sheep-nose apples." He therefore has not time to pay heed to the students who claim to have been lied about. They are nothing but students, editorial larvæ, as it were, who need to be hoed down and pruned occasionally. And then he feels a little blue. He planted ten acres of Early Rose potatoes down on Mud creek, and discharged the college student who had been cultivating them, because the roses were not of the George the IV. variety, and two weeks ago, when he went down to pick the potatoes, he found the vines dried up and not a potato on them. He told Pat Tiroggen that the pollen of the pistils did n't impregnate the stamen of the umbrageous tuber, and the taters were small and green, and offered him the crop for ten dollars. Pat borrowed the money of a rich printer, and last week Robert went down and saw him digging about 200 bushels to the acre of the nicest potatoes in the world. Then he said he knew all about it, but the tariff on potatoes made 'em so cheap this year they

were not worth picking. Pat said, "Don't ye do it, Mithur Gibbins, the eyes of thim pratees is upon yez."

## COLLEGE NEWS.

The present term closes November 13.

G. F. Emerick left for Missouri October 23.

Several students have already left to begin their winter schools.

A new filing case has been received for the President's office.

There has been considerable excitement of late over the "gun-powder plot."

G. A. Waterman, '91, is assisting Dr. Grange in the veterinary dissection.

J. H. Larabee will spend a two months vacation in various parts of the State.

The new running track around the parade ground is under process of construction.

F. M. Nicholls, who has been ill with typhoid fever for some time, is slowly recovering.

Dr. Beal will have charge of a portion of the botanical exhibit at the World's Fair.

President Clute and Secretary Reynolds attended the funeral of Mrs. Wells at Constantine.

The Military Department was inspected and reviewed by President Clute on October 30.

The office in the mechanical building has been much improved in appearance by needed repairs.

President Clute and Hon. Henry Chamberlain will attend the Farmers Congress at Sedalia, Mo. on Nov. 10.

Owing to various delays it has been decided not to begin the construction of the new Botanical Laboratory until next spring.

Several of our students witnessed the foot-ball game between the Albion and Olivet College elevens at Battle Creek, October 31.

Professor L. R. Taft will act as one of the judges at the Chrysanthemum Show at Bay City. He acted in a similar capacity last year at Detroit.

The lawns have been much improved during the present term. The borders have been carefully trimmed and several bare spots neatly sodded.

Professor P. B. Woodworth left for Europe on October 26. He expects to travel somewhat but during a large part of the time he will study at Berlin.

A late number of the *Grange Visitor* gives a short account of the life and work of Prof. W. J. Beal, which is well worth the time of any person to read.

The greenhouse will be rebuilt during the coming spring. The new building will be larger and much more convenient than the present one and it is hoped that work of considerable value may be successfully carried on.

The stewards of clubs for the coming term are as follows: "A," W. Paddock; "B," A. T. Stevens; "C," A. B. Chase; "D," D. J. Crosby; "E," O. B. Hall.

The new catalogue is by far the most attractive one ever issued from this college. Among other features it contains several views of the college buildings and grounds.

Students from Lansing who drive out are obliged to keep their horses in the grain barn, nearly a quarter of a mile from College Hall. Would it not be possible to provide a nearer and more convenient place for their accommodation?

The *Rural New Yorker* of October 10 contains a biographical sketch and a photographic cut of Professor Eugene Daveport. It speaks in glowing terms of the Professor's work here, and predicts great success for him in the future.

President Clute, accompanied by Messrs Phelps and Chamberlin of the State Board, visited the Agricultural College at Guelph, Ontario, during the first part of October. That institution is one of the most successful and ably conducted of any agricultural college in the country.

About one hundred barrels of apples have been sold from the college orchard. The buyers pronounced the fruit to be the least injured by the Codling moth of any purchased this season. This seems to indicate that spraying with Paris green tends to prevent the ravages of this well known pest.

Several wax models of fruits have been procured by the Horticultural Department for use in the classroom. These, together with finely colored plates of over three hundred vegetables, which have lately been received, should prove a valuable source of instruction, and add much to the interest of the classroom work.

A few days ago Prof. Taft received from Major W. R. King of Washington, D. C., three black walnuts from a tree growing near the tomb of Washington. Major King requests that the nuts be planted and that the trees be named in honor of three of our Agricultural College men—Edwin Willits, Louis McLouth and Charles W. Garfield.

There will be twenty-two farmers' institutes held under the direction of the State Board of Agriculture during the coming winter. As a matter of experiment two of these, in charge of Hon. C. W. Garfield, will continue for four days, and six special topics will be thoroughly discussed. These institutes are becoming more interesting and instructive each year, and will no doubt be largely attended by the farmers of the State.

As soon as the term closes Professor Edwards will sail for Europe, where he will spend the winter studying. He will not return until the beginning of the summer term. President Clute will take a trip through the southern States, or else visit Central America. Professor Cook will spend the winter in

California. On his way there he will attend a bee-keepers' meeting at Salt Lake City. He will also be present at scientific meetings at Sacramento and Los Angeles. Dr. Beal will spend the time at work on his second volume of "The Grasses of North America." Professor Vedder will go to Cornell, and Professors Kedzie, Taft and Breckenridge will remain here.

The fifth annual contest of the Agricultural College Oratorical Association was held in the chapel on the evening of October 30. The four orators and their subjects were as follows: Labor; Its Social Conditions, E. H. Polhemus; Beauty in Evolution, L. W. Watkins; The Harrison Administration, D. N. Stowell; Religion versus Science, T. L. Bradford. The contest was probably the closest one ever held here. Mr. Stowell and Mr. Bradford were tied for first place, while Mr. Polhemus received the second prize. The speeches were all exceedingly well written and delivered, and reflect much credit upon the orators and their respective societies. The judges on composition were Supt. W. H. Cheever of the Lansing High School, Rev. L. D. Temple and Prof. C. H. Gurney of Hillsdale College, and on delivery, Rev. H. S. Jordan, Rev. W. F. Dickerman and J. F. Crotty, of Lansing.

The following rare bit of humor comes from the *Cadillac News and Express*. We publish it with the belief that it will prove amusing to the *SPECULUM* readers:

It is reported that an Englishman is to be imported from Canada to assist the Agricultural College, or the State Board of Agriculture, as the case may be in the matter of experimenting with the so-called pine barrens of Northern Michigan. It may do no good to add an imported idea to the experimental station, but it will do no harm, so far as the pine barrens are concerned. Thus far the net results of the experiments under official auspices has been the production of numerous nice little pamphlets, properly numbered and interestingly interspersed with italic intersections from ancient history, calculated to impress the readers of the bulletin with the idea that the man who prepared the thing knew a great deal more about the *leuconia unipaneta* and the *orthotyglus delicatus* than he did about making practical suggestion as to how to utilize pine barrens. In the meantime the farmers of Northern Michigan have disposed of the question as to whether the pine barrens can be utilized, by utilizing them, leaving the matter of issuing the harmless little pamphlets filled with pictures of the antenna of saw-dust parasites with the Experimental Station of the Agricultural College. In some cases the farmers are raising potatoes, beans, oats, wheat and rye on land adjoining the experimental farms, in spite of the prettily printed report abounding with Latin quotations, in which it was stated that nothing could be produced in that locality. It is a nice thing to have experimented farms and a number of entomology essayists and natural history compilers, for somebody may suggest some use for them sometime, and then we can use them.

We have before mentioned the experimental work that is being carried on by the Agricultural Department. The work the past season has been of such a nature that we are sure that all will be interested in learning something about it. We shall endeavor to

give from time to time such results as may be obtained.

The following is a brief outline of some of the more important lines of investigation which have been pursued by the students this year under the directions of Professor Davenport:

At best the experiments of a single year can be regarded as only indicative, and they must be continued through a series of years before reliable results can be obtained.

To every student of scientific agriculture as well as every progressive farmer, certain questions arise which bear directly upon both the science and the practice of agriculture.

Some of these questions have been investigated by the scientists of Europe; some by other experiment stations of America, but not by our own, others have received no attention at all.

Will the conclusions reached in Europe and at our neighbor stations be reliable for Michigan, under our different conditions of soil and climate?

Myriads of microbes are found in every fertile soil. What is their office? Are these organisms necessary to plant growth, i. e., necessary that plant food may be set free in the soil?

It is possible that exhaustion and unproductiveness are due to their absence.

Does wheat require a particular breed of microbes and corn another?

The effect upon the crop of good or bad cultivation may depend on whether it is favorable or unfavorable to microbe growths.

The importance to agriculture of such questions as these together with others mentioned below, led Professor Davenport to begin the following lines of investigations.

Each student is identified with one or more of these experiments, and his work is not complete until a record of the results together with plans and suggestions for next year's experiments, have been preserved in book form for future use in the department office.

Selection vs. crossing as a method of improving our farm crops is receiving special attention.

The first year may give flattering results from a cross, but new characters have been introduced which destroys the equilibrium, variation is induced and we are not sure of the outcome.

The uncertainty which followed from crossing was shown by the Carmen cross and hybrid wheats grown on the farms this year. Although the crosses were made several years ago, yet the tendency to vary was so great that it was difficult to find two heads alike.

Upon shelling a head it was found that the kernels varied even more than the heads, no two having the same shape and size.

In the case of selection as a means of improvement we have introduced no disturbing element, but have strengthened the characters desired by choosing from year to year those stalks and heads nearest the ideal.

Favorable results have not generally been reached by crossing, and selection has received very little at-

tention by grain breeders. The question most naturally suggests itself, what are the possibilities of selection as a means of improvement of our farm crops? Is it possible in this way to strengthen the straw of the Clawson wheat, increase its yield and perhaps its quality?

During the past season the Clawson wheat was carefully grown and selected from by Mr. Campbell, who deserves much credit for his accurate work. The wheat from these heads has been sown and next year the same rigid selection will be used.

Since corn practices open or free fertilization, the problem becomes more complex. The ear selected may have been fertilized from the pollen of barren stalks.

Mr. Palmer, who has been in charge of this experiment during the season, examined every ear in the field, and one can only realize how rigid was the selection when he knows that he rejected all but two or three ears, which were photographed, measured and weighed, and will be used as a basis of selection for next year.

Before we can feel sure that these characters will be reproduced with certainty heredity must be given time to fix them.

Samples of wheat are frequently sent here for identification. There is no means of naming them as varieties of wheat have never been described.

It is the intention to grow all the varieties and preserve specimens of the stalks and heads for the herbarium as well as samples of the grain for comparison.

It has been suggested by Dr. Beal that there should be a book on wheat with photographs and descriptions of the different varieties. These descriptions should be written by a botanist, hence the attempt of the two departments to make a wheat book. With such a book in the hands of farmers, seedmen would find it more difficult to create a new and wonderful variety when the old one began to fall on the market, by simply giving it another name as has been done so often. To this end over three hundred varieties have been sown this fall by Mr. Briggs, who has had the work in charge.

We might follow out in the same way the object and plans of the other experiments, many of which are of equal importance with those above mentioned, but space prevents anything more than their enumeration.

Experiments have been carried on with corn to determine the best method of planting, the best varieties and the most profitable time for harvesting. Much the same line of work has been followed in regard to oats. There have also been experimental plots of rape, peppermint, sugar beets and flax. The attempt has been made to determine the effect of light, temperature and moisture on different crops and the effect of different periods of harvesting upon the vitality of the seed. We would suggest that any interested person call upon the students who have had the work in charge. We are sure that they will receive descriptions of many interesting and valuable experiments.

## 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.

Mrs. Helen M. Wells, wife of President Wells of the Board of Agriculture, died at her home in Constantine October 22, after a long illness. Dropsy, due to imperfect heart action, was the cause of her death.

Dr. Edwards and family will leave at the close of the term for a stay of seven months in Europe. The Doctor will devote most of his time to the further study of modern languages and philology.

'62.

Prof. A. J. Cook and family will pass the entire winter vacation at Pomona and other California cities.

Mr. and Mrs. Frank Hodgman visited their son at the college October 15th.

Edward M. Preston was recently appointed president of the first board of trustees of a newly founded Widows and Orphans' Home. The Home is under the direction of the California Grand Lodge of Masons, and Mr. Preston was mainly instrumental in securing its establishment.

'69.

Prof. Chas. E. Bessey, University of Nebraska, writes: "I am now hard at work trying to catch up with the work which accumulated in my department during the three years in which I was acting chancellor of the university. Have just completed a bulletin for the experiment station, treating of trees and shrubs of the State. It is intended to be of use to the tree planters of Nebraska. One of my boys, A. S. Hitchcock, has just been appointed Professor of Botany in the Agricultural College of Kansas. He studied with me in the Iowa Agricultural College in 1882, 1883 and 1884."

'78.

A late Benedict is E. D. A. True. Cards received by college friends announce his marriage to Miss Mary Grace Hopkins, October 20th, at Frankfort, Mich. At home, after October 23d at Armada, Mich.

'79.

Prof. L. G. Carpenter, Fort Collins, Colo., writes: "This summer I visited Utah, Nevada, California, Arizona and New Mexico, visiting irrigation works. In San Francisco saw J. P. Finley, '73, who has charge of the weather for the Pacific Slope. This is a prediction office, the first one besides the Washington office established by the Weather Bureau.

"C. L. Ingersoll, '74, has moved his family from Fort Collins to Lincoln, Nebraska.

"W. W. Remington, '80, has gone back to his first love, and is the superintendent of the schools at Boulder, Colo.

"L. W. Hoyt, '82, is practicing law in Denver.

"Fred Herrington, '84, with his brother, E. C., of '78, is doing well in law in Denver.

"My line of work here in irrigation engineering has been the first in the United States, and without precedent, but it has been successful, and has met with wide recognition throughout the arid west. I was offered the acting presidency on the resignation of C. L. Ingersoll, '74, but declined. Was delegate at large to the Irrigation Congress at Salt Lake, and was the chairman of the Colorado delegation, and was made the Colorado member of the National Executive Committee. At the same meeting organized the American Association of Irrigation Engineers, and was made chairman of the Board of Directors, etc."

'81.

Enclosed with outlines of the courses of study in science and a good long renewal of his subscription, Chas. W. McCurdy, Winona, Minn., sends this for the personal department: "Personally I am prospering finely. Am pleasantly situated in every way, and have the finest high school laboratories in this great northwest. The past three summers have been given to post-graduate study in the physical sciences at the University of Wisconsin. During the summer I was invited to go to Wichita, Kansas, and take charge of the arrangement, equipment and teaching force in the new laboratories being erected in connection with the high school. Wichita has some 30,000 people, and 100 teachers, of whom the present secretary of the National Educational Association is the superintendent of schools. It was a flattering compliment and a fine salary; but the Board here promptly increased my salary \$200, so I am teaching my fourth year in this most beautiful city of the great valley. I am in charge of all the science work. Sorry I could not have been at the alumni meeting last summer, but my studies at the University held me there."

'82.

William T. Langley, son of William B. Langley, of Nottawa, is principal of the "Matt Carpenter School" in West Superior, Wisconsin. Professor Langley is a graduate of the Michigan Agricultural College. We presume every citizen of the county will feel an interest in the success of a native and former citizen and graduate of our Agricultural College. Mr. Langley has been at West Superior for three years. He commenced there when the town had a population of less than 2,000, and has seen it grow to a population of more than 30,000. His salary the first year was \$1,000; the second \$1,200; the third year \$1,500, and before the close of last school year he was engaged for the present year at \$1,800. After the commencement exercises the school board called him before them, and gravely stated that a mistake had been made in regard to his salary. Professor Langley said that

matters had not gone so far that mistakes could not be rectified, if a mutual agreeable understanding could be had. Well, said the spokesman of the board, we hired you at \$1,800 for the next year. We are satisfied we made a mistake that will not be overlooked by the patrons of the school. We wish to correct the figures. Instead of \$1,800 we will make your salary \$2,000.—*St. Joseph Co. Advertiser.*

'84.

Chas. Baker, until recently with Stanley Parkhill, Owosso, has been obliged, on account of rheumatic complications, to submit to the amputation of his right leg. He has been for some time under treatment at the Mt. Clemens Sanitarium.

O. L. Herstiser is a Buffalo, N. Y., attorney, having his office with McMillan, Gluck, Pooley and Depew, attorneys for the N. Y. C., M. C., West Shore and L. S. and M. S. railroads. His residence is at Big Tree, N. Y. In a letter to Professor Kedzie, he mentions meeting Prof. Geo. Harrower who now resides at 331 Franklin street, Buffalo.

'86.

Prof. F. B. Woodworth left the college October 23d, for Berlin, Germany, where he will pass the next four months in the study of physics, returning at the opening of the spring term.

'88.

W. J. Hixson died at Harper Hospital, Detroit, Oct. 27, the funeral being held at Amadore, Sanilac Co., Oct. 29.

Prof. F. H. Hillman has just recovered from a rather severe illness. He reports Professor Thurtell as a frequent caller, who comes to while away his bachelor leisure, and who admits that Professor Hillman, Jr. is a "pretty smooth" boy, particularly after he has interviewed the kerosene oil can.

It is always with the greatest reluctance that we announce the death of an alumnus, a duty which has been an unusually frequent one during the last few issues.

He was a member of the first class to graduate from the Mechanical Engineering course of this college. In June of the present year, he graduated from the University and shortly after entered the employ of the Michigan Central R. R. as superintendent of the bridge department, with office at Detroit. Early in October he was taken ill and was soon too low to be removed to his home.

The students of two of Michigan's best colleges join in expressions of sympathy to his parents and relatives.

The SPECULUM was lately honored with this card from F. H. Hall, formerly instructor in our mathematical department:

Married, May E. Avery, Frank H. Hall, October 28, 1891, Tecumseh, Mich. At home, after November 1st, Tecumseh.

WITH '88.

Stephen Monroe has lately opened a law, real-estate

and insurance business at South Haven. He reports flattering success.

'89.

Dr. F. M. Seibert recently went to California in charge of a patient.

W. H. VanDervoort will pass the winter vacation at Cornell, working to secure an M.—S.— He has already solved the problem of the propulsion of bicycles and baby carriages.

J. W. Toumey sends a flattering account of his new laboratory and its equipment at the Tucson Station, everything being "after his own heart." He has just issued Bulletin No. 2, on Grasses and Grazing.

WITH '89.

We are indebted to D. A. Garfield ('89) for the following concerning a former classmate: "W. B. Needham was killed at Arlee, Montana, October 11th. While attempting to draw a coupling-pin between two cars, the train suddenly started and he was thrown beneath the wheels which cut the body completely in two. The remains were brought to Springport, Mich., where the funeral was held October 18, under the auspices of the Knights of Pythias." Mr. Needham was a most jovial acquaintance, and during his stay in college was champion heavy weight wrestler of the inter-collegiate association.

'90.

L. W. Spaulding is teaching in the Casco, Allegan Co., Schools.

O. A. Turner says: "I am working in the Engineer's Department, Michigan Southern Division of the L. S. & M. S. R. R., office at Toledo. Am assistant to C. H. Judson of '86. Things in our gang are done strictly according to Carpentarian Davies principles.

If like causes produce like effects, the personal editor trembles; for the following refers to his immediate predecessor on this department of the SPECULUM:

Mr. and Mrs. J. D. Morse desire you to witness the marriage of their daughter, Ona B. to Alfred R. Locke, Wednesday evening, October 21, 1891, at seven o'clock, Otisco, Mich. Those present report a most enjoyable time. The bride and groom received a large number of valuable and beautiful presents.

'91.

V. S. Hillyer is putting his knowledge of mechanics to a practical test with a Grand Rapids manufacturing firm. He warns the personal editor against laziness, but as he sends several items, we shall overlook the insinuation.

Geo. Monroe has recently visited the noted stock farms of the State with a view of improving the stock, particularly the horses, on his own farm.

WITH '91.

Willis Chapman is taking a medical course at the University.

## WITH '92.

Bert Holmes, now at U. of M., attended the hop given October 30th at the college armory.

## WITH '94.

Sheldon Young is teaching near Inlay City. He will resume his studies next year.

R. S. Woodworth has decided either to say shorter good-byes to his lady friends or to carry an alarm clock with him when he travels. It isn't profitable to pay return fares when he sleeps past his station.

## ATHLETICS.

## Result of the Local Field-day held on the Grounds, October 19th.

## 100-yard Dash.

First heat: Beaver, 2 yds; Clark, 3 yds; Tracy, 5 yds; Poss, 8 yds.

Second: Bernart, scratch; Haigh, 3 yds; Briggs, 5 yds; Beese, 2 yds.

Third: Haskins, scratch; McKinnan, 6 yds.

Final: Bernart, scratch; Haskins, scratch; Bearer, 2 yds.

Haskins won in 10 2-5 by a foot from Bernart, who was second; Beaver, third.

Beaver is improving and will make a 100-yl. man next year, and for relay. Bernart is an extra swift man, and will push Haskins and Mulheron for first place. A splendid chance for a relay team.

## 220-yl. Dash.

There was not 220 yards in a level, straight away course, so the run was but 186 2/3 yards in length.

Bernart, scratch; Haskins, scratch; Haigh, 5 yds; Briggs, 8 yds.

Bernart won, time, 20 3-5. Haigh, second. On account of Haight taking Haskins' track, he was disqualified and second place given to Haskins. Haigh ran a strong dash.

## Fat Man.

Clark, scratch; Pattison, scratch; Niwander, 6 yds; Bateman, 6 yds; Sesser, 8 yds.

Pattison, 1st, Niwander, 2d.

## Short Man.

Dimmick, scratch; Bateman, scratch; Bauerle, scratch; Humphreys, scratch; A. B. Chase, scratch; Wilson, scratch; A. B. Cook, scratch.

Bateman, 1st; Dimmick, 2d.

In the final for the short and fat men, all scratch, Pattison won in 11 3-5. Bateman 2d.

## Bicycle—Safety.

## Once around circuit.

Mitchell, scratch; Hutchins, 200 yds; A. W. Chase, 240 yds; Solle, 275 yds; Chatterton, 275 yds; Baldwin, 240 yds; Reynolds, 300 yds; A. B. Cook, 240 yds.

Chase, 1st; Baldwin, 2d. They were also first and second respectively in the open bicycle race some time after. Mitchell was too heavily handicapped to allow of his winning. Chase and Baldwin were in good shape and rode fast.

## Putting the Shot.

Burnett, scratch; Haskins, 5 in.; Rittinger, 24 in.; Stowe, 24 in.; Fisher, 15 in.; Stowell, 20 in.

Burnett, 1st, 37 ft. 7 in.; Haskins, 2d, 33 ft.

## Standing Broad Jump.

Burnett, scratch; Poss, 3 in.; Haskins, 7 in.; Stowell, 6 in.; Bearer, 9 in.

Burnett, 1st, 10 ft. 5 in.; Bearer, 2d, 10 ft. 3 in.

## Throwing Base Ball.

Burnett, scratch; Fisher, scratch; Mulheron, 22 ft.; Chase, 20 ft.; Bernart, 20 ft.; Stowell, 25 ft.; Haskins, 25 ft.; Naigh, 25 ft.; Pattison, 20 ft.; Potter, 30 ft.

Mulheron, 1st, 342 ft. 4 in. Chase, 2d, 341 ft. 8 in.

Fisher, from scratch, threw 327 feet.

## Running Broad Jump.

Burnett, scratch; Bernart, scratch; Bearer, 20 in.; Poss, 8 in.; Haskins, 18 in.

Bernart, 1st, 18 ft. 3 in. Poss, 2d, 17 ft. 8 1/2 in.

## Standing High Jump.

Burnett, scratch; Potter, 4 in.; Poss, 6 in.; Bradford, 8 in.; Stowell, 6 in.; Hale, 6 in.;

Burnett won, 4 ft. 8 in.

## Pole Vault.

Bradford, scratch; Burnett, 20 in.; Potter, 20 in.; Hale, 12 in.

Potter, first, 3, 11; Bradford, second, 8 ft.

Pole vault high kick by Bradford.

## Running High Jump.

Chase, scratch; Bernart, scratch; Donovan, scratch; Mulheron, 1 inch; Burnett, 1 inch; Sesser, 8 inches; Hawley, 3 inches; Bradford, 3 inches; Poss, 3 inches; Potter 3 inches; Haskins, 3 inches.

Donovan, first, 5 feet; Chase, second, 4, 10.

## Throwing the Hammer.

Burnett, scratch; Stowell, 15 feet; Stowe, 16 feet; Haskins, 16 feet; Rittinger, 16 feet; Patrick, 20 feet.

Burnett, first, 94 feet, 6 inches; Stowe, (15 feet) second; 93 feet, 6 inches.

## Standing Hop, Step and Jump.

Burnett, scratch; Poss, 12 inches; Haskins, 24 inches; Stowell, 28 inches; Winegar, 34 inches.

Stowell, first, 30 feet, 9 inches; Bearer, second, 30 feet, 2 inches; Burnett, third, 29 feet, 9 inches.

Rain stopped the rest of the sports.

Director and referee, Will Clute.

Judges, I. H. Gibbs, J. B. Dimmick, E. McElroy.

Starter, Hugh Mulheron.

Timer, Baker (95.)

Manager, Wm. Clute.

The students concluded their entire roll of sports in the armory on October 24th, the college orchestra filling in the intervals between the contests with music of which a more pretentious school than the "Farmers' College" might well be proud. The result of the contests are as follows:

Heavy weight boxing, between O. R. Pagelson and C. Cook, won by Pagelson.

Middle weight contest, between Burnett and Rittinger, won by Burnett.

Contest between Clinton and Haskins, won by Haskins.

Contest between Chaffee and Haigh, won by Chaffee.

Light boxing won by L. W. Watkins.

Middle weight wrestling, catch as catch can, won by F. S. Payne.



Light weight catch as catch can, won by Sagendorf.  
Standing high kick, H. R. Smith, 1st; E. R. Pierce,  
2d.

Running high kick, H. R. Poss, 1st; Burnett, 2d.  
Record, 8 feet 5 inches.

Hitch and kick, Burnett, 1st; Poss, 2d. Record,  
8 feet 2 inches.

Kick, both feet, Burnett, 1st; Poss, 2d.

Horizontal bar, won by G. E. Mitchell, H. M. Mul-  
heron taking second place.

Besides the contests were exhibitions in Indian club  
swinging, pillow fight, elephant race and juggling,  
which were quite amusing to the audience.

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## COLLEGES AND EXCHANGES.

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We are pleased to at last able to say that our ex-  
change table is well filled. Many college journals  
have been very tardy in publishing their first number.  
The cause of much of this delay lies in the fact that  
most of the magazines begin the year with a new and  
inexperienced staff. It would be a better plan to have  
the new men take hold of the work a month or two  
before the close of the old year. This might avoid  
the appearance of so many September numbers in  
October.

Ann Arbor and Cornell have arranged for a game of  
foot-ball in Detroit, Nov. 21. Cornell's foot-ball team  
has a world-wide reputation, but they say the Ann  
Arbor are the greatest scrapers they have ever met.

The Italian government has ordered English to be  
added to their courses of all the colleges.—*Ex.*

It is reported that William Waldorf Astor intends to  
endow a negro university at Oklahoma with a million  
dollars.—*Ex.*

What sea would prefer a thunder storm in? A-dri-  
atic.—*Ex.*

Five college dailies are now in circulation. Prince-  
ton, Harvard, Yale, Cornell and the University of  
Michigan each publish one.

It is reported as true that the red neckties and large  
checked trousers of the U. of M. students are so loud  
that it is easy to know when the boys are around even  
when they don't yell.

Over fifty per cent of the students of Olivet College  
entered this fall.

Albion College has four hundred and fifty-eight  
students enrolled this term. L. G. Rickerd, their  
famous sprinter, will not return this year but they  
say there is a twenty-two foot jumper in college who  
may help to keep up an interest in athletics.

### HOW ABOUT AARON.

Abou Ben Adham's name led all the rest,  
In the book of those whom God had blessed;  
But yet the names were all, if truth must be confessed,  
Arranged in order of the alphabet.

—*Brannon.*

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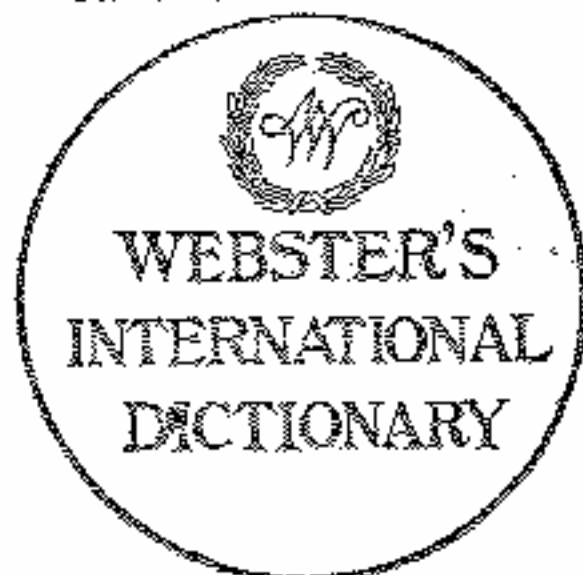
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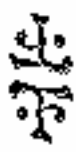
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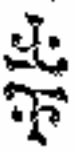
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