

# THE SPECULUM.

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WHOLE No. 66.

## The Botanical Laboratory.

G. H. HICKS, '92.

Through the kindness of the State Board, we are enabled this month to present our readers with an excellent cut of the new botanical laboratory, reproduced from a photograph recently taken by Mr. Edger-ton.

On account of the prominence which is rightly given to botanical study at Agricultural Colleges as well as the pre-eminence which that study has always held at this institution, it has been thought proper to furnish a description of this laboratory at the present time.

The building is situated midway between the agricultural and horticultural laboratories, facing the library. It is constructed of red stock brick and trimmed with red Marquette stone, the design being old English. The main entrance is at the northwest corner and consists of a large brick arch, treated by a low roof with English dormer above, which with stone trimmings and chimney combined, gives a very pleasant effect. The roof is of Eastlake shingles. The basement is eight feet high and has in the southwest portion a fire proof vault twenty by twenty-five feet. This is to contain the college herbarium which now numbers twenty-five thousand flowering plants and five thousand cellular cryptogams, which include lichens, liverworts, mosses, algae and fungi. Besides these are several thousand duplicates for study and exchange. The vault is covered with iron beams and brick arches and will prove, it is hoped, absolutely fire proof.

The sad experience gained from the burning of the old laboratory nearly three years

ago when the Wheeler collection of seven thousand species was destroyed, the most complete collection of Michigan plants ever made, warrants the extra precaution taken to prevent a similar loss.

The herbarium room is well heated and the floor is not over three feet in the sand making it higher than many class rooms at Harvard. It is well drained and thought to be sufficiently lighted to admit of use for studying the specimens kept there, while one of its chief advantages will result from the economy of space thus provided.

East of the herbarium and separated by an iron door is another room of the same size. This will be used for sorting, pressing and mounting plants, all the litter made being handy to the furnace which is in the northeast part of the basement.

The furnace consists of a double fire pot made by the Capital Furnace Co., Detroit, and is so arranged that one-half of the entire building may be heated at a time. There are pipes and radiators in every room in the laboratory to heat it with hot water. By means of two flues, fresh air is conducted from a basement window through the building, while the impure air is taken away in such a manner as to render the ventilation complete. A place for storing coal, wash room, etc., finishes the basement which is laid throughout with a floor of the best Portland cement, and entered by a large door on the north side.

On the first floor is a small office in the northwest corner, lighted with stained glass windows and containing a neat mantel and open fire-place. The office opens into an airy hall lighted at the north with a large window of stained glass.

The two south rooms on this floor will

be used for work with the compound microscope, and are provided with excellent slate blackboards four feet deep. They will be supplied with heavy tables, four by two and one-half feet, with plain, unvarnished tops of one and one-half inch white-wood. Each table will contain drawers and a pigeon hole for a microscope, and each advanced student will have a table by himself. In addition both of these rooms will be supplied with revolving book cases for holding duplicate works on botany, also some general tables for use in conducting experiments in plant physiology. Cases to hold re-agents, microscopical accessories, alcoholic specimens, etc., will complete the furniture of these two class-rooms, each of which is provided with a sink.

A complete set of Kny's wall charts, a large number of lantern slides and thin wood sections illustrating various trees and shrubs will be kept in these rooms. An arrangement for supplying gas will also be added.

A smaller room at the northeast of this floor will be used by the professor in charge. It contains a blackboard and sink and will be thoroughly equipped for private investigation and study.

A large stairway conducts to the second floor, the entire south side of which is to be used as a lecture room, also for examination of plants with simple microscopes, of which the department owns thirty. Twenty-five of these are of Bausch & Lomb's latest construction, furnished with the best Zeiss lenses, which were recently imported from Germany; the walls of the lecture room will be adorned with various charts, photographs of distinguished botanists, etc.

Off from this room is a smaller one which will probably be used by the botanist of the Experiment Station. In addition to blackboard, sink and tables, it will contain the books and bulletins belonging to the Botanical Department of the Experiment Station,

a reference herbarium of economic plants and the collection of fourteen hundred seeds of weeds and forage plants from Germany. The fine binocular microscope and Bausch & Lomb's "investigator" microscope belonging to the station may be kept here, together with such other apparatus as may be needed for conducting experiments in this department.

The third floor is suitable for various purposes. It is now used for storing the World's Fair exhibit and may be occupied by the Feronians as a society hall.

Two dark-rooms in the building can be used for purposes of photography. A part of the inside walls of the laboratories are not plastered but are stained with alabastine; the floors are supported by solid beams projecting into the rooms below. Both of these ideas are in accordance with the best buildings now at Harvard and Cornell, the style having originated in German laboratories. All the floors are four inches thick, solid, containing a layer of several inches of grouting with a surface of maple.

The building was designed by E. A. Bowd, Lansing, and built by P. F. Cleveland, Flint, at a cost of about ten thousand dollars. It is believed to be the finest structure in America devoted solely to botanical purposes.

### A Bit of Arizona Scenery.

J. W. TOUMEY, '89.

The natural bridge of Arizona is in the wildest and most rugged mountain scenery of the southwest. Being a hundred miles from the nearest railroad station, it is but little known to the outside world. Few tourists or sight-seekers have ventured so far from railroads or deemed it wise to take the time and risk in passing over so many miles of wild and mountainous country to see this great curiosity of nature. Few writers have given to the people a description of this

massive bridge, moulded and swung into place ages ago, by the hand of nature.

When compared with that historical bridge of the east, the natural bridge of Arizona is a giant. It is a hundred and seventy-two feet from the arch above to the clear, cold water hurrying onward over the rocks and boulders below.

This bridge spans Pine Creek, a small stream whose high cliffs and rock-bound banks are sheltered from the scorching rays of our southern sun by large, tall wide-spreading pines. Here in the cool shade the mountain deer crop the bunches of growing grass or in some secluded spot hide from the sharp eyes and fatal bullet of the western ranger.

The waters of the stream after passing through deep gorges, over precipices, around bold curves and great irregular boulders finally mingle with the waters of the Verde. Where the stream passes through a small, narrow valley, a village is established which bears the same name as the stream, whose waters, guided by intelligence, have made an oasis in the midst of the gray of the surrounding mountains.

The natural bridge is between five and six miles from this village, and can be approached by a fairly good trail winding among the mountains, or by a short-cut, which much to our regret we found to be the longest "short-cut" we ever experienced. It took us up high peaks and down deep ravines, through tangled thickets of stunted oaks and against the sharp spines of the Spanish dagger.

After two hours of hard and difficult climbing we reached a mountain crest where looking beyond we saw a small ranch; a bit of verdure between the mountains; a secluded spot where years before the Apaches raised corn and tobacco and where even to-day we find many evidences of former Indian cultivation. Descending the mountain, no indication of the bridge could be seen, but the rich growth of corn, barley,

beans and garden vegetables made an agreeable contrast with the barren rocks and low bushes at every side. In the center of this little oasis the roof of a small cabin in its dingy brown drew our attention from the surrounding verdure. Toward this we made our way. On reaching the cabin we found the owner, Mr. D. D. Gown, a very genial man, who willingly gave us many interesting facts in regard to the bridge. We were somewhat surprised to find that the arch of the bridge comprised not a little of his cultivated fields and that we were standing many feet above a great opening over the floor of which a mountain stream was hurrying in its irregular course over and around great boulders. Two large springs flow from the mountain side directly by the cabin, out over the fields beyond, making them productive and green.

Leaving the cabin, surrounded by numbers of beautiful and rare wild flowers, we followed the guide along a winding path leading to the lower end of the bridge. Suddenly he called our attention to a small, circular opening almost at our feet, a hole about two feet in diameter through the arch. A thrill passed through us as, peering down, it almost seemed that we were standing on paper with rushing water and jutting rocks nearly two hundred feet below. Turning to the left, a few steps brought us to the end of the bridge where we secured a better view of the deep gorge below and beyond.

Following a dim trail we climbed over great flat limestone rocks down the steep declivity to the bed of the stream. Looking up we beheld one of the most beautiful sights ever seen; a grand arch in its calcic whiteness, studded with stalactites of all forms and sizes, glistening and sparkling in the afternoon sun which cast its soft rays from the further extremity of the arch.

We sprang from rock to rock and made our way underneath this great roof, which is fifty or more feet wide and several rods in length. Pools of water, thirty or more feet

deep are so clear that a stone thrown in can be easily seen between the ripples as it sinks to rest at the bottom.

At either side are caves and grottoes, having white walls beautifully ornamented with all forms of calcic figures, as frail and delicate as frost work. Stalagmites are built up until uniting with stalactites from above, beautifully wrought pillars are formed more artistic in outline and more pleasing to the eye than those moulded by the hand of man. Fragments of reed mats, broken pottery and stone metates plainly indicate that ages ago these high arched walls echoed and re-echoed the human voice, as the Indian children shouted the successful return of the bucks from the chase or scampered to the recesses of their cavern homes.

Ferns, delicate and beautiful, cling in great masses to the rocky walls. Long twining grape vines with dense foliage, show as large, irregular patches against the white limestone. Water sweeping through from the field above came down upon us like great drops of rain. Looking back, the afternoon sun shining through the large drops, faintly shows the colors of the rainbow on the rocks beyond.

If you should ask me in regard to visiting this wonderful bit of nature's handiwork, I could honestly say: sitting on the "rim," I have gazed into the depths of the grand canon; I have stood in that deep gorge and watched the mighty Colorado in its hurried march to the sea; I have ascended the San Francisco mountains, treading over their snow-banks in mid summer. I have traversed over broad mesas of the South and great forests of the North, but nowhere in all this territory have I seen a bit of scenery so beautiful as the natural bridge.

The grand canon is more sublime and fills one with a feeling of awe and sublimity. Its magnitude is what makes it grand. The natural bridge is beautiful. One could sit for hours and admire the water as it glistens and sparkles in its way over the rocks, the

beautifully formed stalactites suspended from the arch above; in short, everything that adds in making this the most beautiful scenery in Arizona.

## Has the Republican Party Outlived its Usefulness?

A. B. COOK, OLYMPIC SOCIETY.

(Winning Oration in the M. A. C. Oratorical Contest, October 29, 1892.)

A few years more and the nineteenth century will live only in history. As we review this epoch of our country's existence, we point with pride to our national achievements. Looking back one hundred years, we find the United States of America a young republic. After a war of seven years, Great Britain had reluctantly conceded the right of an independent government, and with a population of less than three million, and a country devastated by an arduous and protracted war, we began our existence as a free and independent nation.

Every nation has its period of thrift and progress, and from the final severing of all ties with England, the United States, for a period of fifty years, enjoyed apparent prosperity. Our population increased from three million to thirty million. Our country had been enlarged by the acquisition of new territory from 800,000 to 3,000,000 square miles, and thousands of millions of dollars in produce had been given to the world by the energy, economy and thrift of our people.

During this period of peace and progress, there had been an institution burning its way to the very heart of the young republic. The institution of human slavery had disgraced our land almost from its discovery, and now, under the new republic, it grew and prospered.

The ever aggressive South, harrassed by the restrictions of the constitution and embittered by the bold and outspoken denunciation of the North, resolved on an

independent government. You know the result. The republican party was organized, the union was preserved, and slavery was abolished.

The Revolutionary war was glorious, and at thought of it every loyal American heart beats faster. The constitution seems the result of inspiration, as its fruits abundantly prove. But what chapter of our history from 1800 to 1860, that long night of democratic rule, thrills us as we scan its pages? The war of 1812 was important only in showing the world our power and greatness.

The acquisition of Louisiana was accomplished without regard to constitutional right. The war with Mexico was one of conquest, and though grand in its results must make every right-minded American blush as he sees the rights of a weak nation trampled on by her stronger neighbor. The financial policy, with its wildcat currency, in that long era of peace, gave us a treasury worse than empty at the dawn of the civil war; and as the culmination of that long period of democratic authority, we find that horrid blot upon our national escutcheon, accursed slavery.

It is with the formation of the republican party that the bright pages of American history begin. From the election of the martyred Lincoln in 1860, to the present day, our country has been governed in accordance with the highest ideals of such grand republican statesman as Chase, Seward, Sumner and Lincoln, and with the single exception of Cleveland's four years' administration, has had a republican as its chief executive.

With the close of the war, the union was restored and one great purpose of the republican party was accomplished. Now came the question, shall the party that has saved the union, that has loosed the bonds of three million slaves, and has proved itself capable of grappling with the greatest national issues, be given a permanent place in American politics? The people answered by

their support. Whether the republican party has fulfilled its obligations, let history answer. It has taken up and supported that fundamental principle of national progress—protection to home industries, and by it the industries of the North and South have been doubled, tripled, quadrupled. The policy of the democratic party had been to keep the masses of the South dependent and ignorant, and to neglect the manufacturing interests. The protective policy has developed both agricultural and manufacturing industries, and to-day we no longer export the raw material, but employing home labor in our mills, we put the finished product on the market. The protective tariff has fostered industries in their infancy, enabling them to develop, thus furnishing profitable and useful labor to millions, and insuring an independent, a prosperous and a happy people. The last great tariff law was enacted by the last republican congress. The democratic press has been fierce in its denunciation of this enactment, and has declared time and again that it has in no way benefited the laboring classes of America. Yet, within the last six weeks, the democratic labor commissioners of three states have officially announced, that in the last year there has been a large increase in the rate of wages paid for labor and also in the amount of manufactured products. Consider the condition of free trade England, her laboring classes, underpaid, dissatisfied, starving; pauper labor not the exception but the rule. Were there a man in this room so base, an American so unpatriotic as to encourage an exchange of the present prosperous and thrifty condition of American labor, for the pauper labor of England, we would one and all brand him as a traitor to the nation's prosperity.

What free trade has done for England, free trade would do for America. Let the principles of Jefferson and Jackson, of Lincoln and Blaine, be the principles of the next decade. Young men of the nineteenth

century, when you exercise your rights as American citizens, in shaping the future policy of our government, let it be with an eye single to that fundamental principle of our national success, protection to home industries.

As another result of republican administration, we have a sound system of currency. Every dollar, whether it be silver or bank note, is as good as the gold which is ever ready to redeem it, and as long as the republican party continues to control the finances of our government, a sound system of currency is assured. Any American citizen who thinks that a return of the old wildcat system of banking will benefit the nation has an opportunity to express himself through the democratic platform. A repeal of the ten per cent tax on state banks would flood the country with the circulating medium of banks with no substantial backing, and the financial chaos of thirty years ago would again be upon us.

Our civil service, though not what the true patriot would desire, has made vast strides under the republican jurisdiction. Give her a few more years of supremacy and the republican party will complete the work that she has so well begun. The number of partisan offices will be reduced to the minimum, and efficiency will characterize the servants of the nation.

A resumé of republican achievements would be incomplete without a reference to reciprocity. This principle, introduced by the present administration, has proved itself to be based on a logical foundation. Material which we cannot produce in sufficient supply for our home market, is admitted to our ports free of duty, providing a reciprocation is made in favor of some American product. This measure has already opened to us the markets of nearly all of South America and the West Indies, and has removed the pork embargo of Germany and France, and increased the value of our annual exports to the amount of nearly

twenty-three millions of dollars. Given an opportunity to develop, and the reciprocity measure will play an important part in the future of our great national economy. If it is startling in its encouragement of trade to-day, it will be revolutionary in like benefactions to-morrow.

During a speech in the present campaign Senator Hill, of New York, said: "The republican party has outlived its usefulness. Though born of noble minds, it is not the party which should control the nation. The party of the immortal Jefferson and Jackson, the party of Cleveland and Stevenson, is the only party that has a claim on the present generation." The history of the democratic party would seem ill-fitted to instill into the true American heart the sense of obligation. It was through the support and patronage of the democratic party that slavery gained such strength in our nation, and it was this party which led the South in its rebellion against the Union. Since the war the democrats have played a very small part in our national politics. As to the present policy of the party they have taken a position against the tariff which is without parallel in American history. The democratic platform pronounces the republican principle of protection a fraud. Their policy would deprive us of one of the greatest blessings that resulted from the civil war, our national currency. The democratic party, though at first in favor of the system of reciprocal trade, is now loud in its condemnation.

No further arguments are needed to prove that the republican party is the only existing party that will continue the lines of policy which have given to us our proud preëminence as the foremost nation of the globe. The republican party has instituted and carried forward to a grand consummation the principle of international arbitration, and who but she is great enough, wise enough, and noble enough to make this same grand principle equally effective in settling the disputes between labor and

capital? Since slavery was excluded from our borders, intemperance is our greatest evil, our most damning curse. Like slavery it debases manhood and destroys hope. It hangs like a rayless cloud over our entire land, yet can we doubt but that this foul stain will be erased? As slavery was crushed, so must intemperance be eradicated. Only the republican party could crush the mighty demon of the South, and only the same great instrumentality can exterminate this wider curse of intemperance. She has already successfully grappled with it in Maine, Iowa and Kansas, and it will soon be her grander privilege to sweep its blighting presence from our entire land. Until these magnificent achievements are accomplished, and in the place of the grand old party we have a grander party, let it be the sentiment of every true American, the republican party has not outlived its usefulness.

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## SCIENTIFIC.

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### The Study of Systematic Botany.

We shall endeavor to show in this article that the time allotted to systematic botany in most of our agricultural colleges is not at all commensurate with the importance of the subject. We will also present an outline of a course which seems adapted to the student's needs.

We use the term here to include not only plant relationships and distribution, but also the study of the structure and uses of certain groups of plants which are of great economic value to the agriculturist.

At this institution, for example, where botany occupies a more prominent position in the curriculum than in many similar colleges, there is but seven-tenths of a term of twelve weeks devoted to its systematic study. Five-sevenths of this period is given to a single lesson of two hours' length each week, so that not much of lasting value can be obtained by this fragmentary disposition

of time, unless it be devoted entirely to collecting and pressing specimens. We would say, however, that frequently the value of this part of botanical work is underestimated. The greatest scientists are usually the most indefatigable collectors. No well-minded person now-a-days thinks of studying science to any great extent out of a textbook. We must have the specimens themselves. Nor will it do to confine our attention to dried plants or alcoholic bugs; still further, the desired end cannot be reached if the student receives his material solely from the hands of the teacher, even though that material be fresh. The only student of science worthy of the name is he who *studies*, not collects merely, natural objects in their natural homes.

While the college graduate who expects to make a specialty of botany may be content with the brief time paid to its systematic study, as he thereby acquires a good foundation for future work, the great majority of agricultural students who expect to turn their attention in other directions cannot afford to be satisfied with the meagre results to be attained in the usual short course in systematic botany.

A tree is judged by its fruits. What knowledge of plants ought every graduate of an agricultural college to possess? What do the majority of such graduates know about the plants which they meet every day in their farm life? Let us see. There are one hundred and twenty-nine orders of flowering plants in the region covered by Gray's Manual; that is, east of a line drawn through central Dakota and Nebraska to the southern boundary of Virginia and Kentucky. Forty-six of these orders contain plants of paramount importance to the farmer. In the time allotted for their study in the majority of agricultural schools not more than a dozen of these orders can be investigated except in a most superficial and hasty manner.

The graduate should certainly have a

speaking acquaintance with all of the common trees and shrubs, be able to recognize them at sight, understand their value for timber and fruit production, also be conversant with the best methods for preserving and propagating them. His attention should also have been called to such of our wild fruits as are promising for cultivation. He should know our common weeds; some of which are exceedingly difficult for the average botanist to determine. The best methods to eradicate these pests must be understood. A knowledge of many kinds of seeds, especially those which are apt to be found in clover, timothy and other grains, is all important. A general idea of grasses, a whole term's work of itself, is necessary.

In addition to these requisites a knowledge of the structure and development of representative members of the various families which contain the potato, tomato, radish, turnip, celery, parsnip, flax, pumpkin, onion, asparagus, strawberry, currant, etc., is absolutely essential to a farmer who expects to secure the best results from an agricultural course. It is unnecessary to inquire if the average, or even the phenomenal, graduate is prepared to this extent. For that matter many professors who teach science in agricultural colleges are compelled to learn most of their systematic botany after finishing the regular course, and they frequently feel hampered in their work as the consequence. A good knowledge of plants is certainly the foundation of high attainments in agriculture, horticulture, entomology, and organic chemistry.

It is not the purpose of this article to suggest how the proper amount of systematic botany may be squeezed into curriculums already stuffed to suffocation, but merely to indicate its paramount importance to the farmer, and to outline a course that should, in our opinion, be taught in all agricultural colleges.

After the student has finished one term in structural botany, and learned the parts

of plants, dissecting, drawing, and otherwise studying enough of them to represent all the important points of external structure, gross anatomy, he should spend a term in considering their minute anatomy. He will then be ready for systematic botany in its broadest sense. This would include general lectures on systems of classification, on the meaning of such terms as species, variety, etc., and would concern the problem of plant distribution.

Systematic study proper might then be taken up. We would divide the work into three sections, as follows: 1. The study of economic herbs. 2. Trees and shrubs. 3. Weeds. In addition, on account of their structural and systematic importance, some time might be given to the crowfoot family, to ferns, orchids, rushes and sedges. Let us take a brief survey of the orders to be investigated in each of these three groups.

I. The study of economic herbs. The *Leguminosae* would occupy a prominent place, and include the study of the bean, pea, lupines and clovers. If, as suggested, a course in histology had been previously given, special topics might be assigned, as the anatomy and office of the tubercles of the legumes. The parsley family would be represented by the parsnip, carrot, poison hemlock, and celery; the *Solanaceae* by the potato, tomato, pepper and tobacco; the *Linaceae* by flax; the cucurbits by the melon, cucumber, pumpkin and squash; the *Labiatae* by the mints, pennyroyal, sage, thyme and horehound; the lily family by the asparagus, onion and tulip; while of the grasses, at least the most common ones should be studied.

II. Trees and shrubs. Here, among other important things, a knowledge of apetalous plants would be gained, a subject often barely touched in the college course. The *Urticaceae* would include the elms and mulberry; the *Cupuliferae*, oaks, beech, chestnut, hazel, iron-woods and birches; the *Salicaceae*, willows and poplars; the laurel



family would be represented by sassafras; the walnut family by the walnut, butternut, and hickories; the plane-tree family by the sycamore, while the principal members of the cone-bearing trees would also receive careful attention. Turning to the petaloid trees and shrubs the first family in importance would be the *Rosaceae*, including the plum, cherry, raspberry, blackberry, roses, pear, apple, mountain ash, hawthorn, and June-berry. Next worthy of attention, perhaps, would be the *Saxifragaceae*, represented by the currants and gooseberries. Among the *Sapindaceae* should be studied the maples, horse-chestnut, box-elder, and bladder-nut. Among the heath family the huckleberry at the least would deserve attention, while the grape, cornels, witch-hazel, basswood, prickly ash, holly, waahoo, buck-thorn, elder, ashes, St. John's wort and sumacs would represent other important orders.

### III. The study of weeds.

This would embrace so many orders that only a few of the most important can be mentioned here.

The *Cruciferae* would include shepherd's purse, peppergrass, pennycress and hedge mustard. Some economic plants of this family as radish, cress, mustard and rape would also demand attention. The composites would include many of our most common and troublesome weeds, as fleabane ragweed, cocklebur, coneflower, tickseed, bur-marigold, may weed, yarrow, ox-eye daisy, burdock, thistle and dandelion; also a few useful plants as chicory and lettuce. The chickweed family, including cockle and spurry, the purslane family, the plantains, figweeds, amaranths, smartweeds, milkweeds, dogbanes, mallow, nettles, stickseed, docks, sorrel, mullein, toadflax, euphorbias and madders would furnish study of other important orders, many of which are generally omitted in the ordinary course. At the same time the economic members of these families such as rhubarb and buckwheat should not be overlooked.

Professor Bailey and others have pointed out the value of the study of cultivated plants from a botanical standpoint, both from the light thus thrown on questions of origin and descent as well as on account of the practical results to be obtained. Such a course as here recommended would need to be pursued during the spring and summer months, and to extend over a considerable more time than seven-tenths of the college term. While much more practical benefit would accrue than from usual methods, nearly all of the most important orders of our flowering plants would be investigated, thus furnishing the student with an approximately adequate notion of systematic botany.

G. H. HICKS.

## THE SPECULUM.

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AGRICULTURAL COLLEGE, NOV. 10, 1892.

Our readers will notice that this issue is out before the regulation time. The hurry of things in general, and the fact that some of our board expect to leave before the end of the term, makes it more convenient to get this edition out a few days earlier.

WITH this issue we must say good bye to our readers for a short time. Our long winter vacation approacheth, and hence there will not be another paper published until April. Correspondence and business relations will be carried on, and all letters addressed as usual will reach us in due time. We expect to be on hand for the April number, and hope to fulfill the promise of giving as good a paper in the future as in the past.

THE students do not think the faculty considered the question of room inspection in the right light. From the talk lately given to the students on this subject it appeared that about the only time the faculty inquired into the condition of the rooms was during vacation, after the students had gone home. This being about the only time spoken of, it seems that they ought not to take the condition of student's rooms at this time as a representation of the student's house-keeping. At these times every room will be in more or less disorder. Visiting the rooms during the term when it would be expected to find the rooms in good condition was not spoken of except in just one case. The students are not in sympathy with untidy rooms. We are often told that we are men placed upon our honor, but this looks as if our honor were somewhat doubted.

Again we were told that other institutions of similar nature had room inspection, but we were not told by whom this inspection was made, neither were we told any of the conditions regarding said inspection.

If the above points had been satisfactorily settled perhaps there would not be the spirit of unrest regarding inspection that now exists. It seems to us that if the members of the faculty would come to our rooms once in a while, not letting the student know the time he is coming, there would not be the need of the student entering another room on an inspecting tour.

A CHANGE in the manner of conducting the regular term end examinations has been proposed. Instead of having the examination for completing a study at the end of the term, it is proposed that the term be divided into two portions; the examinations to take place at the end of the sixth and twelfth weeks. The examination at the end of the sixth week to be a final one for the first six weeks' work, and the examination at end of the twelfth week to be a final one in last six weeks' work. By this plan the sixth and twelfth weeks of the term would be given up to reviews and examinations. We see but one objection to this plan and that is the difficulty that would arise when a person has to leave two weeks early at the end of the fall term. This would necessitate studying up on one week's advanced work. There are many good points about the plan. The usual mental strain now concentrated at the end of the term would be divided into two portions, thus relieving much hard work when a person feels tired out with the term's work. At present there exists a certain amount of carelessness at the first of the term due to the length of time that will elapse before examination and hence the end of the term finds them "stuffing" for the examination. If for any reason a person was absent one half of the term, he could obtain credit for the portion of time he was here.

The above methods are in use in some of the older colleges and as far as is known they seem to meet with approval here. We hope the faculty will at least give it a trial.

WE were all rejoiced to hear the many comments made upon the exhibit this college had at the Hillsdale fair. It must have been a drawing affair. Considering the fact that so many were enthusiastic over this display, and also the fact that our college is so little known throughout the State, we are led to believe that this would be an excellent means of advertising. This exhibit

was taken to the fair with comparatively no expense to the college; and things were so arranged that all duties went on as usual, thus occasioning no delay. We think a repeating of this would swell the number in the entrance classes. Persons who were unable to make a visit to the college were given an opportunity to get some idea of means of instruction here. Perhaps a few of those who take an occasional drive through the grounds were surprised at the display. "I did not know you had such means of instruction here," is the usual exclamation of all persons visiting here for the first time. Even persons living at a comparatively short distance from the college, know not of the workings of the school.

Realizing then the need of further advertising the school, let the persons having it in charge see to it that the school is better advertised. We know of no better means of advertising than exhibiting at the fairs held at various portions of the State. The winter institutes are good advertisements, but they do not compare with fair exhibits. A larger number of persons are enabled to see the workings of the school, to know of methods of instruction here; and thus the school will become known away from the sight of its buildings.

CONSIDERABLE dissatisfaction has arisen among certain of the students on account of the so-called educational labor. We do not think it policy to continually criticise the labor department of our college; but when such a system of labor is instituted as a portion of the students have just passed, we think it no more than proper that we as students have a word to say in regard to the matter. The students do not disapprove of the regular afternoon labor, but nearly all concede that it is of great value when it is properly systematized. A few of the students have been obliged to spend a couple of hours each afternoon in reviewing cer-

tain lines of study covered by the class in previous terms and this has caused general dissatisfaction to all concerned. If the educational labor had been made of interest and profit no one would have objected, but the students do object to putting in their time on *such* work and thus be cut short on their financial income.

The Agricultural seniors have completed their two years' work required on the departments and now, in taking a retrospective view of labor in general, are led to believe that their afternoon labor when properly systematized is of great value, both to the student and to the department. Give the student a certain line of work and make him responsible for it from start to finish and that student will have pride enough about him to do the work in a satisfactory manner. If the student is given one line of work and then before it is completed taken from that and given another job, all interest is lost. Such work is valueless to the student as far as education is concerned, and the student becomes to the department as a machine for doing work. Let the system introduced by Mr. Davenport be extended and then is the student labor question solved. Students would be willing to work over time if the needs of their experiment required and shirking would be reduced to minimum.

From soul to soul, the shortest line  
At best will bended be;  
The ship that holds the straightest course  
Still sails the convex sea.

—J. B. O'Reilly.

Reproach me not, though it appear,  
While I true doctrine teach,  
I wholly fail in my career  
To practice as I preach.

Yon guide post has through countless days  
"To London" pointed on  
Nor once has quit the angled ways  
And up to London gone.

—D. Robinson.

He makes no friends who never made a foe.

—Tennyson.

## COLLEGE NEWS.

Room inspection still continues.

New stock pens have been built at the stock yards. President Clute will leave for New Orleans in a few days.

W. M. Clute expects to start for the west soon after election.

A new feedwater purifier has been put in at the boiler house.

A Hammond type-writer has been ordered for the librarian's use.

W. D. Groesbeck has been selected as foreman in the iron shop.

A new case has been purchased for the collection of Brazilian butterflies.

A new catalogue case and cards have been added to the library equipments.

Miss Nellie Mayo, Ned's sister, has been visiting Lucy Clute for a few days.

Chase Newman has been acting as the new clerk in the Mechanical Department.

Mr. Curtis has been furnished some rooms in Lansing and has moved thereto.

President Clute attended the opening exercises of the World's Fair, October 21.

Permission has been granted by the faculty for the organization of the fraternity of Tau Beta Phi.

The salary of the librarian has been raised to \$625. She is now to devote her entire time to that work.

Dr. Miles delivered a very interesting and instructive lecture before the students recently, on Nutrition.

The Delta Tau Delta have finished the tower room which adjoins their rooms, for the use of the fraternity.

The Columbian Literary Society has adopted a pin. It is an open book with a small chain and pin attached.

Our new 50-horse power engine is about half completed and will be completed for use by the end of the spring term.

The Agricultural Department has two thoroughbred Brown Swiss calves purchased of E. M. Barden of Hinsdale, Ill.

Be sure to read the description of our new Botanical Laboratory in this issue. You will certainly be interested in it.

Among our many foreign students is one, Mr. Vadim Labennikoff from Russia, who is making a special study of agriculture.

About seventy-five sedges are now growing in the Botanic Garden. When the whole of the garden is completed plans will be made of it.

The stewards for the spring term are, in A, G. E. Simmons; in B, R. S. Welsh; in C, J. B. Dimmick; in D, O. H. Pagelson; in E, J. T. Wight.

The librarian, Mrs. Landon, will have a Miss White of Boston, an expert librarian, to assist her for six months in recataloguing the books.

Enough students will remain at college during the winter, that a club will be opened in the old Club F rooms in Abbot, to continue during the winter.

The class in Veterinary Science are enjoying two hours a day of dissection, under the supervision of Dr. Grange assisted by George Waterman of '91.

What made Professor Noble so smiling on November 3? Oh, it was that young lady who came to make his home an extended visit. Weight, eight pounds.

Mr. Chamberlain, Professor Harwood, President Clute and Mr. Wells will attend the Association of Agricultural Colleges at New Orleans, November 15.

The stomach of a horse that was sent to the Chemical Department to be analyzed, was analyzed by Mr. B. W. Peet, and a considerable amount of arsenic was found.

The Library, Agricultural Laboratory, Horticultural, Zoological and Botanical Laboratory will be open for students this winter, also one-fourth of the rooms in Abbot Hall.

The weather service has been moved from the Military Department to the Agricultural Department, and now the flags are displayed from a new pole on the Agricultural Laboratory.

Col. McCreery has sent a mummy of a female from Brazil to our museum. It is wrapped in a sack cloth and has little earthen jugs and other accouterments with it that were found with it.

Professor Wheeler and Professor Beal have been elected associate members of Academie Internationale de Geographie Botanique. The associate membership of this organization is limited to twenty.

Mr. J. H. Firestone of Kalamazoo addressed the students recently on the accommodations at the World's Fair. He was representing the "South Shore" hotel. His plan seemed a feasible one.

A new mailing table has been added to the equipment of the post office. It is very nicely arranged and just about completes the arrangements and now the boys say they are settled, ready for business.

The Mechanical Department is getting up a set of reamers, standard slugs and rings for the World's Fair exhibit. They are also starting on the exhibition cases to hold drawings and other shop exhibits.

The last *School Moderator* announced that C. W. McCurdy had received the degree Sc. D. from M. A. C. This is a mistake. Mr. McCurdy is an old graduate of M. A. C. but received no degree at the last commencement.

All students should remember that if they desire to hold their old rooms, they should make application for the same at least one week before the opening of the spring term, for it will be remembered the faculty have a rule to this effect.

Our mail route and stage business has changed hands, Mr. Stratton having sold to John Pratt (accommodating John). The boys will not now have reason to complain of not having an accommodating man at the head of the business.

Mr. G. C. Davis will go to Washington to spend a small portion of the winter and the remainder at Philadelphia, where he expects to study especially parasitic hymenoptera. He will take several specimens from here with him.

The Agricultural Department have three daughters of Paul Dekol, the only son of Pauline Paul. This cow has a butter record of 1,153 pounds, 15 $\frac{3}{4}$  ounces in one year, the largest known. The college feels very fortunate in getting this stock.

The Columbian exercises as given in the last SPECULUM, were given in the Armory on October 21. A large number of people were present and all seemed highly interested. The speakers and musicians should all be complimented on their success.

The next report of the State Board of Agriculture will be a Columbian report and will set forth Michigan and its resources. It will contain articles on the various topics of agriculture and horticulture, by the most able and practical men of Michigan.

The pictures taken by Mr. Sesser have been on exhibition in the dining room of Abbot Hall. There are many very nice representations of our work and beautiful surroundings, but one we think that deserves especial mention is of the three teams of horses plowing.

The student's organization has amended its constitution and now a system of book-keeping similar to our club system will be in vogue and the boys will know what becomes of every dollar of their organization money. A much needed reform which should have been adopted long ago.

Halloween with all its usual disturbance has come and gone. Trains of wagons, fastening the bell and all such minor jokes are all right, but when it begins by destroying property, the students as a body do not sympathize with it and so voiced their sentiments at our recent students' organization meeting.

President Clute, Lieutenant Lewis, and Professor Taft have been appointed a committee to go to Chicago and investigate for a site for a camp of M. A. C. A portion of the State Board have already consented to have school close one week earlier and begin one week later and no doubt the remainder will consent.

A bog garden is being built in the wild garden. It is about 25 x 35 feet. An excavation has been made so that sphagnum moss can be placed in it and supplied with water. It is protected by a screen and thatching of brush on sides as well as the top. In it will be grown plants natural to such swamps, such as the pitcher plant and orchids.

There were so many of the boys who wished to show their loyalty to their country and deposit a

ballot for good government, that the faculty kindly voted to give all who desired to go home to election and not return, examination before leaving. The reason for this mainly is that election occurs on the 8th of November and examination begins on the 9th.

For boring of the low pressure cylinder, for our new 50 horse power machine shop engine, something of a drill must be arranged, for the cylinder has a 13 inch diameter and our largest drill was for a two inch diameter. For this purpose the mechanicals constructed a drill bar which drilled it and faced the ends of the cylinder at the same time in the radial drill.

Some very important changes in examination rules have been made. They are: A student whose regular is less than 5.5, will not be allowed to take examination but must take the study again in class. If a student is absent five consecutive recitations, or one-fifth of the entire time he is liable to a special examination on the part gone over in his absence and his mark in this examination is repeated for the number of times he would have recited had he been present, and counts on his regular. Not more than two special examinations will be allowed in any subject. Look out next term.

Dr. Kedzie has been appointed vice president of the American International Medico-Legal Congress for 1893. He will prepare a paper on fracture of glass to determine the direction of the force applied, e. g., to find whether a glass lamp exploded or was broken by a blow. Also a member of the Advisory Council of the World's Congress Auxiliary of the World's Columbian Exposition on a Public Health Congress. He will take a trip to the city of Mexico to attend the annual meeting of American Public Health Association, November 29 to December 3. Will read a paper on the Ground of Safety. Must return by December 31.

There are to be four long institutes, having ten sessions each. They begin at Paw Paw January 16, at St. Louis January 23, at Union City January 30, and at Vassar February 6. There are also to be twelve short institutes of five sessions each, beginning at Hart December 5, at Fremont December 6, at Scotville December 7, and the same week a series in the thumb beginning at Bad Axe December 5, and two others, not located to begin December 6 and 7 respectively. Another series beginning at Benzonia December 20, at Traverse City December 21, at Charlevoix December 22; also another beginning at Midland December 20, at Gladwin December 21, and at Grayling December 22.

Our professors will spend the coming winter as follows: Professor Harwood will remain at college, Professor Beal will remain at college, but will be engaged in work on the second volume of North American Grasses; Professor Kedzie will spend a portion of the winter in Mexico, Professor Edwards will be at college most of the winter, Professor Cook will

be engaged here in preparing the Columbian exhibit, Professor Taft remains here and Dr. Grange at Lansing, Professor Vedder will spend a part of his winter vacation in central N. Y., with his parents, then go to Cornell for a visit and perhaps other eastern colleges, Professor Breckenridge will go to his home in Westfield, Mass., and visit his parents, then go to Lehigh University, and President Clute will remain at college most of the winter.

The sixth annual oratorical contest took place in the chapel Saturday evening, October 29. There were four orators, Mr. A. B. Cook of the Olympic Society; Mr. W. L. Harvey of the Hesperian; Mr. L. J. Briggs of the Union Literary Society; and Mr. A. T. Stevens of the Eclectic Society. Mr. Cook's subject was, "Has the Republican Party Outlived its Usefulness;" Mr. Harvey's subject, "The Tyrannical Majority;" Mr. Briggs' subject, "The Relation of Party to the Republican Form of Government;" Mr. Stevens' subject, "Compulsory Arbitration the Means of Settling Labor Disputes." The gold medal was awarded Mr. Cook and the silver one to Mr. Harvey. The judges were Prof. C. A. Gurney of Hillsdale, Hon. C. A. Gower of Lansing, and Kendall Brooks, D. D., of Alma, on composition, and Rev. W. F. Dickerman, Prof. W. H. Cheever and Hon. Edward Cahill of Lansing, on delivery. Music was furnished by the Flint orchestra, and Lucy M. Clute presented the medals. We are told the whole program was much enjoyed.

The officers for the several societies for next term are, for Delta Tau Delta, president, R. M. Kedzie; vice president, A. W. Chase; secretary, H. M. J. Mulheron; treasurer, W. F. Bernart; for the Phi Delta Theta, president, J. W. Rittinger; secretary, L. H. Baker; treasurer, R. C. Bristol; for the Union Literary, president, O. H. Pagelson; vice president, W. W. Parker; secretary, C. Tallman; treasurer, J. L. Horne; for the Olympic, president, B. A. Stowe; vice president, John P. Churchill; secretary, B. D. Stevens; treasurer, Cyrus Pashby; for the Eclectic, president, J. B. Dimmick; vice president, C. B. Chapin; secretary, W. A. Anson; treasurer, J. R. Petley; for the Hesperian, president, V. L. Steward; vice president, G. W. Benjamin; secretary, M. G. Kains; treasurer, W. F. Wight; for the Columbian Literary, president, M. W. Stutz; vice president, O. S. Grober; secretary, J. W. Graham; treasurer, O. P. West.

The lament of a disappointed wheelman, adapted from Shirley, runs as follows:

"Only when my tire doth bust  
Do I pause and blossom in the dust."

There will be a convention of the classes of '93 from all American colleges at Chicago during the World's Fair.

Seven colleges and universities now publish daily papers. They are Harvard, Yale, Princeton, Brown, Michigan, Cornell and University of Wisconsin.

## 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.

'62.

Frank Hodgman has been re-elected president of the Michigan Engineering Society.

'64.

A recent copy of the *Chicago Elite* contains an engraving of the handsome new residence of Lawyer S. M. Millard, Dearborn Street, Chicago.

'67.

Daniel Strange is getting much honor for his able book "The Farmer's Tariff Manual." The *New York Independent* says of him, "His conclusions are not those at which we have arrived but after having run through his book and noted his skill and point of argument we will say this of the book: That the protectionist who fairly meets him has cleared the whole field. He takes up every point which can interest the farmer, and puts his case with a brevity and point which is brilliant enough to make us wish that he was writing on the other side of the question."

'70.

George A. Farr is proving his patriotism for the G. O. P., by taking the stump in its behalf during the present campaign.

'73.

James L. Morris has been renominated for the office of treasurer of Emmet county.

'78.

Henry V. Clark graduated from Adrian College in June, with the degree of Ph. B., and is now a clergyman at Waller, Ohio. He remains unmarried.

'79.

E. J. Rauchfuss was married October 19, in St. Paul's Lutheran Church, New York City, to Miss Ida B. Winter. At home, after November 7, No. 46 University Place.

Frank Benton was a delegate at the recent bee-keepers' meeting at Chicago, where he delivered an excellent address.

'81.

Prof. Chas. McKinney took the opportunity to visit his Alma Mater, while attending the Y. M. C. A. convention recently held in Lansing.

'82.

L. H. Bailey is busily engaged in revising Gray's *Field, Forest and Garden Botany*. He also has in preparation an embellished *Botanical and Horticultural*

tural work for G. P. Putnam's sons. Prof. Bailey has already written several books relating to horticulture and botany, which are published by The Rural Publishing Co.

'83.

W. H. Bahlke, with his wife, made the college a flying visit during his attendance at the supreme court.

Dr. Clark H. Eldridge, formerly of Toledo, is now practicing medicine in Detroit.

John T. Matthews of Ithaca is the democratic candidate for prosecuting attorney of Gratiot county.

Mr. and Mrs. L. A. Buell rejoice in the arrival of a son, August 21. Unfortunately, it requires a six months' residence in Minnesota to give the right to vote. Consequently, Buell Jr., will lose his vote. Just at present, it is difficult to tell whether he is a "Gold Bug" a "Free Coinage Man" or a "Calamity Howler."

'85.

We are in receipt of the first annual catalogue of the Washington Agricultural College, in which the name of E. R. Lake appears as professor of Horticulture, Forestry and Botany. The *Rural Northwest* for October 15 contains a short but well merited item praising Prof. Lake as a teacher, botanist and horticulturist.

'86.

E. G. Eldridge is married and proprietor of a hotel in Detroit.

C. H. Judson, civil engineer for the L. S. & M. S. R. R. with headquarters at Toledo, visited the college recently. Mr. Judson is making a survey of the Lake Shore property at Lansing, assisted by O. A. Turner, '89 and F. B. Moore, '93.

'88.

The M. A. C. boys at Washington all seem to be doing exceedingly well. H. B. Cannon, private secretary to Secretary Willits, expects to go abroad next spring, to take a two years' course of study in Germany. Rumor says he won't go "alone." A. B. Cordley of the entomological division, lately made a trip to Arizona and New Mexico, in the interests of his department. Glasses give him a professional look—he'd hardly be recognized as the base ball crank of a few years ago. W. A. Taylor, assistant pomologist, is now in the West and attended the meeting of the American Horticultural Society, Chicago, September 26-30, where he read two papers. W. F. Staley, land office department, uses his spare hours in studying law. Staley visited friends at the college recently, while on his way home to perform the duties of citizenship. F. H. Hall is doubly fortunate. He received an appointment in the Record and Pension Bureau, war department, where he began his duties October 15, and now he rejoices over the arrival of a son, born October 22.

L. A. Breggar of Buena Park, Chicago, has just returned from a visit East where he represented Graceland at the convention of American cemetery superintendents at Baltimore.

C. B. Cook visited friends at the college, October 30 and 31. "More" than that, he was accompanied by a particular friend from Owosso.

J. C. Stafford, a Lawrence farmer, visited college friends, October 9. He and his wife now rejoice in the arrival of their son and heir, on October 23.

'89.

Orlando J. Root at present holds a good position with the Lansing Iron Works.

F. N. Clark is clerk in the auditor's office of the F. & P. M. R. R. at Saginaw. He is still the same staunch prohibitionist he was when a college student.

Cards are out announcing the marriage of W. H. VanDervort, on November 9, to Miss Mary M. Smith, also of '89. Congratulations are in order.

R. S. Baker, formerly editor-in-chief of the SPECULUM, is now a member of the editorial staff of the *Chicago News-Record*. As a hustling Chicagoan he is enthusiastic over the World's Fair, and urges M. A. C. men to secure centralized headquarters, where a grand reunion can be held.

A. G. Wilson has accepted the position of assistant principal of the Pullman, Washington, schools, for the ensuing year. He will make a specialty of science teaching, especially botany.

'90.

George E. Hancorne is principal of the Mendon schools, at Mendon, Mich.

'91.

C. T. Cook visited friends at the college recently, while on his way to California where he will make his home in the future.

Samuel C. Dundore is delighted with California, its climate, its people, and a generous share of its crops of which he is the proud possessor this year. For fruit growing he says California offers many advantages. He advises any afflicted with consumption to try California climate as a remedy.

'92.

C. A. Hathaway is principal of schools at Whitmore, Mich.

G. H. Hicks, assistant in botany, will take a course in that study at Ann Arbor this winter.

W. E. Palmer has accepted the position of superintendent and chemist of the Clover Leaf Condensed Milk Co. of Northville, at a salary of \$1,000.

WITH '92.

R. D. Gardner is the republican candidate for surveyor of Allegan county. "Bob" was a good base runner. We predict he will be equally good running for office.

## ATHLETICS.

It is the fashion for the older generation to deprecate the large place given to athletics in the college life of to-day. It is not our province to argue this whole question. We speak of it for the reason that some few of our faculty and State Board have, at times not far in the past, seen fit to discourage athletics at our college. No one doubts that the student who comes to the college for athletics only, is a damage to the institution with which he is connected. No one denies that athletics may be carried to excess. But these are to be numbered among the abuses of athletics and in no wise do they detract from or overbalance the positive benefits that athletics undoubtedly confer.

We have said that it is not our place here to argue this question of college athletics; what is more, the question does not need arguing. It is settled in the minds of the college men of the present generation, and the present system is firmly rooted. The man who is so far from his youth in years or ways of thinking that his heart is not stirred by an exciting ball-game, whose blood does not flow faster as the runners near the finish in the 100-yard dash—such a man is to be pitied. Not only is he deprived of healthy and innocent enjoyment, but he is far behind the times. The "croaker" may "croak" but college athletics are here to stay.

The physical benefits to be derived from athletics are well recognized, but these are among the least. They stimulate a healthy interest, they form an outlet for innocent enthusiasm, they cultivate a most necessary *esprit de corps*; and who will say that these are not valuable elements of college life?

At our institution where the curriculum is already very full, work and drill take up much of the time given to athletics at other colleges. If with them "Field Day" is a good thing, to us with our hard work and crowded curriculum it is almost a necessity. Such a bright day on the college calendar is as needful to our healthy growth and development as examination day.

We usually manage to have a local field day every term. This year the faculty showed their good will, for the majority of the faculty are with us, by requesting the students to prepare an athletic program for the afternoon of Columbus Day. It is to be regretted that Columbus did not land three weeks earlier in the term. Had he done so, he would have made our athletic program of October 21 much more interesting. As it was, most of the time preceding the field day was cold and stormy and a very poor time for athletes to train. Few of the new men entered the contests; of the older ones, those who did so were poorly prepared; all went in with a sort of listless air as if the whole thing were of little importance anyhow. As a consequence the time made in the sprints and bicycle races was slow, and the records made in the other events were not high. The winners in the contests were as follows:

### STANDING BROAD JUMP, Handicap—

Won by Mulheron, scratch. Record 9 ft. 10 in.

Second McElroy, 4 inches. Record 9 ft. 5¼ in.

### BICYCLE RACE, one mile, Handicap—

Won by Cook, scratch.

Second, Petley, scratch.

### RUNNING HIGH JUMP, Handicap—

Won by Ansorge, 6 inches. Record 4 ft. 10 in.

Second, Mulheron, scratch. Record 5 ft.

### POLE VAULT, Handicap—

Won by Laitner, 4 inches. Record 8 ft. 5 in.

Second, Allen, scratch. Record 8 ft. 7 in.

### RUNNING BROAD JUMP, Handicap—

Won by Beauvais, 24 inches. Record 17 ft. 8 in.

Second, Mulheron, scratch. Record 19 ft. 5 in.

### 100 YARDS DASH, Handicap—

Won by Haskin, scratch. Record 10 4-5 sec.

Second, Phillips, 12 yards.

### SLOW BICYCLE RACE—

Won by Cook, 5 yards.

Second, Kanter, scratch.

### RUNNING HOP, STEP AND JUMP, Handicap—

Won by Beauvais, 2 feet. Record 38 ft. 10½ in.

Second, Mulheron, scratch. Record 39 ft. 10 in.

### NOVICE BICYCLE RACE—

Won by Petley.

Second, Kanter.

### PUTTING SHOT, Handicap—

Won by Haskin, scratch. Record 33 ft. 10 in.

Second, Rittinger, scratch. Record, 32 ft. 5 in.

After these sports were over the crowd adjourned to the foot-ball grounds. If some of the contests north of the armory were rather tame, the same cannot be said of the foot-ball game. This was between the Juniors and Sophomores and certainly deserved the large crowd that was in attendance. Of course neither team had the science or training of an Eastern college team of the front rank; that was not to be expected. But they were well matched and the game was interesting from start to finish. When the teams lined up for play the positions were as follows:

POSITIONS.	JUNIORS.	SOPHOMORES.
Center rush,	Simmons,	Colquitt.
Guards,	Walsh,	Ansorge.
	Rittinger,	Mitchell.
Tackles,	Stutz,	Amery.
	Pierce,	Laitner.
Ends,	Allen,	Lamereaux.
	Tracy,	Kimball.
Quarter back,	Chase,	Brown.
Half backs,	Scott,	Fisher,
	Poss,	Goodenough.
Full back,	Beese,	Clute.

Professor Vedder acted as umpire and Professor Woodworth as referee. The Sophomores had the ball at the beginning of the first half but lost it on a fumble. The Juniors carried the ball forward by rushes till they got within a few yards of the goal when Beese took the ball, got around the end and made a



touch down. Chase kicked a goal and the ball went to the Sophomores.

The teams see-sawed back and forth near the center of the field for some time. At length Goode-nough took the ball, got around the end, and well guarded by Fisher and Clute, made a touch down, Clute kicked a most difficult goal.

The Juniors held the ball and made a touch down on three or four wedges and some well guarded end plays. They then made a punt out but failed on the catch. The Sophomores made some slight gain before time was called for the first half. The score was then 10:6 in favor of the Juniors. During this half Mitchell and Lamereaux were ruled out for unnecessary roughness and their places were filled by Quigley and Busch.

In the second half, the Juniors made two straight touch downs, the Sophomores stubbornly disputing every inch of the ground. A goal was kicked each time, and when time was called in the last half the score for the game was 22:6. The Juniors celebrated their victory in the manner usual to college boys. Anyone who has seen a crowd of students celebrating, knows the harmonious discord and wild enthusiasm involved. So ended the day's sport.

The scene during the game as viewed from the east side of the grounds was like some which we see pictured in the illustrated weeklies, but know too little about here. The players in the foreground, the enthusiastic and noisy students along the side lines, the bright costumes and eager faces of the fair spectators in the carriages or on the benches, the afternoon sun of the autumn day, all formed a most pleasing picture. It is to be hoped that the friendly contest did much to awaken our interest and dissipate our prejudice against this—the greatest of college sports.

## COLLEGES AND EXCHANGES.

Yale held entrance examinations at thirty places this year, Harvard at twenty-five, Milwaukee and London being assigned for the first time.

The first issue of the *Daily Palo Alto* of the Leland Stanford Jr. University was published September 19.

Bible study, under the personal supervision of the president, is part of the curriculum at Chicago University.

Amherst has a college senate which co-operates with the faculty in the matter of government. The success of this method is shown by the fact that last year no instance of disciplinary action has been necessary.

The *College Student* contains an article by Professor J. E. Kershner, Ph. D., which very thoroughly discusses the different forms of energy and their transformations.

At the Iowa Agricultural College they have an

Annual Field Day of the Military Department, the main feature of which is a sham battle.

The *College Days* has an excellent editorial on "Courtesy." We copy the following which has food for thought: "One must distinguish between frankness and rudeness. Frankness is a virtue compatible with Christian courtesy; rudeness is a vice which violates the underlying principle of all politeness."

The total membership of Greek letter societies in the American colleges is estimated at 77,000.

The Ex. Ed. of the *Niagara Index* says the following which will be appreciated by some of its exchanges that have in the past been the subject of attacks from that paper:

"To those who in previous years absented themselves through fear of the 'bald-headed, toothless monk' who conducted this column, we offer the assurance that the old gentleman has passed to his reward and is now in better company than that of college exchange editors."

The *Owl*, University of Ottawa, Canada, and the *Vanderbilt Observer* are two exchanges that have interesting and profitable reading.

The *University Magazine*, published at 75 South street, New York, is a publication that is particularly adapted to all college students. The most successful student is not a "one college man," but one who in a measure is in touch with a large number of our institutions of learning. This information can be cheaply obtained through the above publication.

Phi Delta Theta is the first fraternity to establish a chapter in Princeton College.—*Denison Exponent*. The *Denison Exponent* probably is not aware that Princeton has this year renewed her opposition to fraternities and that there are no frats there.

The by its societies and receptions affording splendid opportunities for business and social culture, college life is eminently a period of books; and if the freshmen could see in prospect what the senior retrospect unfolds, not only would lessons be more thoroughly learned but much of the time spent in profitless conversation and other student triflings would be devoted to a careful perusal of "the eternities." However extremes of good are always bad. Time stolen from sleep or needed exercise is worse than lost or wasted.—*Ex*.

The first college paper was issued by the students of Dartmouth in 1800, and was called the *Gazette*. Dan Webster was a contributor under the title of "Icaws."



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