

The M. A. C. Record.

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THE INFANT SCIENCE.

DR. E. A. A. GRANGE.

The above title is often applied at this time to Bacteriology, of course, on account of its extreme youth, for it has only been regarded in the light of a separate science for about ten years; and owes its existence, as such, mainly to the meritorious efforts of Louis Pasteur, a French chemist, and Robert Koch, a rural physician of Germany.

From an historical point of view it may be said to date back about 200 years, when a Hollander, by the name of Leuwenhoeck, in 1680, discovered through the aid of lenses, serpentine looking objects in the saliva of the mouth, which are supposed to be the first bacteria seen by man. But little importance was attached to this discovery, and owing to the imperfect instruments which were used at that time, little progress was made in this kind of investigation. It was not until about a hundred years after, that really progressive work in this line was inaugurated, when much was done to stimulate investigation, by Linnaeus, the great botanist. About this time also, the idea seems to have dawned upon Plenciz, of Vienna, that diseases originated from specific causes, for he reasoned that as plants and trees had each their specific seeds or germs to grow from, so might diseases have each their own specific seeds or germs to cause them; and the followers of Plenciz tried for a long time to connect the microscopic objects which were being discovered at that time with the disease. But the proof of the theory could not be established, and the many germs which were embraced by the science of Bacteriology, remained interesting microscopic curiosities, as far as disease is concerned, until a comparatively recent date. Indeed it was not until 1865 that a connection between these organisms and disease was established.

At this time Pasteur practically restored the silk worm industry to France, through his brilliant scientific investigations into the cause of a silk worm disease called pebrine, which killed the worms and caused the industry to sink into insignificance, thus producing national disaster for many years, or until it was successfully combatted and exterminated by the above savant. It was done by patient and careful investigation, leading to the discovery of the cause, which proved to be certain bacteria, which were afterwards kept away from the worms, or rather the silk worms were kept away from them, and by this means health was maintained.

Owing to the important role which these minute objects, bacteria, play in the romance of disease, they naturally attracted the attention of physicians and veterinarians with more force than perhaps any other class of people. As a consequence we find chairs of Bacteriology have been for some little time established in Medical and Veterinary Colleges in every direction. The broad field which Bacteriology offers for study has also attracted the Agriculturist, and we now find him studying the sources of those elements which furnish food to his plants according to Bacteriological methods, and his pupils are to be found everywhere searching for fresh information.

The advanced dairyman of today is much interested in those germs which curdle his milk, flavor his butter, or poison his cheese, as the case may be. Then

the Horticulturalist and the Florist are to be found discussing the cause of disease in the products of their institutions, and getting much valuable information from the domains of this infant science.

On the other side of the house, we find the good wife grappling with the perplexing problems of culinary Bacteriology, and inquiring in every direction for information relative to the proper manipulation of her vinegar, the fermentation of her preserves, the souring of her bread, the decomposition of her meat, the turning of her custard, and so on, and on nearly every occasion, echo answers, germs, germs, germs. Indeed, the more we study the science, the more difficult it is to find an occupation which is not influenced in one way or another by the eccentricities of these little workers.

As an illustration, let us briefly inquire into the functions of some of those which have been most studied. Some germs attack a man or animal, as the case may be, and cause the creature to become sick, perhaps by forming a poison in the interior of the body, which will so interrupt its vital organs in performing their respective duties, that they are incapable of maintaining the existence of the animal. Take the germ of diphtheria and follow it through the investigations of the Bacteriologist, and it will be found that this germ produces a poison in the body of the sick person, which if given to a healthy subject, without the germ, would cause symptoms similar to those of diphtheria produced in the ordinary way.

The same may be said of the germ of anthrax, found in the lower animals. What is true of these germs is true of many others, and here the physician as well as the veterinarian finds much room for investigation.

Another group of Bacteria may produce a poison without ever entering the body of a man or an animal, but elaborate the same in material which people eat; and thus we get poisonous cheese, poisonous sausage, poisonous ice cream, as well as other things commonly used as articles of diet. Surely this in itself is a plea for the study of Bacteriology by those who prepare these articles of diet, because by having an intelligent knowledge the conditions which are favorable or unfavorable to the growth of these poison makers, their work can be prevented to a large extent.

Notwithstanding the fact that germs are so destructive to human and animal life, yet we are often much benefited by them, because they cause fermentation and decomposition of so many different kinds and thus become manufacturers of numerous most useful articles. Acids which delight the chemist are the result of their work.

Bread as well as butter are flavored by them. Pleasant as well as disagreeable odors are caused by them, valuable medicines are made by them, beautiful colors are produced by them, and light itself is given off by some few varieties, in some instances to such an extent that the time of day can be told with a watch in a room which has previously been darkened by the exclusion of sunlight, and photographs have been made of them while they were growing, by the light which they themselves have produced.

It would be interesting to follow some of these germs through special branches of their life history, and thus more emphatically illustrate the practical importance of the subject, would time and space per-

mit. Suffice it to say, however, that Pasteur, who has immortalized himself by his work, says in his writings: "Man has it in his power to cause parasitic (contagious) diseases to disappear from the surface of the earth, if, as we firmly believe, the doctrine of spontaneous generation is a delusion."

With such a thought, coming from such a source, before us, surely it is our duty to push investigation along these lines to the limit of our ability, and to educate those who are to follow us in the mysteries of Bacteriology.

Veterinary Department.

FIELD MEETING OF THE MICHIGAN ACADEMY OF SCIENCE.

W. B. BARROWS.

A goodly number of the members of the Michigan Academy of Science gathered at the College on Friday and Saturday to enjoy the second annual field meeting of the Academy. The weather was perfect and the College campus and farm have never been in better condition, nor been inspected by more appreciative visitors. A majority of them were more specially interested in the various branches of biology, and while indoors spent most of the time in the general Museum, the Zoological Laboratory, and the Botanical and Veterinary departments. Other branches of science were well represented, however, and we were pleased to welcome to the grounds Dr. A. C. Lane, of Houghton, Asst. State Geologist; Dr. Henry B. Baker, of Lansing, vice president of the Section of Sanitary Science; as well as representatives from Alma, Adrian, Ypsilanti and Detroit.

An hour or two was spent most pleasantly in a drive over the grounds and through the College woods, after which most of the members strolled through the Botanic garden under the efficient guidance of Dr. Beal and Prof. Wheeler; while smaller parties dredged the river for shells, and compared birds and eggs in the Zoological department. This meeting being primarily a social one, no formal papers were presented, but members and their friends discussed informally any and all subjects of mutual interest, and the day was spent quietly and profitably for all. At the brief business meeting held after lunch and presided over by President Wm. H. Scherzer, of Ypsilanti, the Academy gave formal permission for the organization of a Section of Agriculture, with Prof. C. D. Smith, chairman, and A. A. Crozier, secretary, and a sub-section of Zoology to be known as the sub-section of Conchology was also recognized, with Bryant Walker, of Detroit, as chairman.

After the election of twelve new members the business meeting was adjourned, and the members scattered to examine subjects of special interest in various parts of the grounds. The next regular meeting, the annual meeting for presentation of scientific papers, will be held at Ann Arbor in April, 1897.

Zoological Department.

ENTOMOLOGICAL NOTES FOR THE WEEK.

G. C. DAVIS.

According to letters received from Jackson, Livingston, Ingham, Allegan and Grand Traverse counties this week, grasshoppers are appearing in swarms and doing much injury to crops. They are migrating from the pastures to the meadows and wheat, and in Allegan county, are advancing on the peppermint fields. Gardens and small fruit patches are also being stripped. The hopper dozer, where practicable, and sweetened bran containing arsenic, have been recommended as aids in protection.

Dr. Snyder, of Grand Rapids, sends us specimens of a "robber fly," *Asilus sericeus*, Say., which he says are killing and feeding on the cabbage butterflies in his garden. A fly that will destroy the imago of our cabbage-worms, is deserving of special attention. The fly, however, is not entirely beneficial, as the larva of it feeds on the roots of the rhubarb. The whole family of "robber flies" preys upon flies, bees and moths in a similar manner. A recent record states that a single individual killed 141 honey bees in one day.

From Charlotte come samples of the raspberry cane-girdler, *Oberia bimaculata*, with girdled rose and raspberry shoots. Much harm to the new growth is reported. The cane-girdler deposits an egg in the tender

shoot, then girdles the bark about half an inch above and below. This causes the top of the plant to wilt and die, and saves the egg from being crushed by the rapid growth of the shoot.

Experiment Station.

AT THE COLLEGE.

Making hay from tall oat grass began on the farm last Thursday.

Mrs. Mary E. Green, M. D., visited her daughter at M. A. C. last Thursday.

F. M. Van Auken, '98 m. went to Allegan last week to attend the wedding of a sister.

Carpenters have just completed a new hardwood floor in the Olympic Society rooms.

G. A. Parker, '97, was made a member of Tau Beta Pi at the last meeting of that fraternity.

A cluster of bananas from blossoms, which appeared last summer, is soon to mature in the greenhouse.

L. J. Cole, with '98, attended the meeting of the Michigan Academy of Sciences at the College last week.

H. L. Becker, '98, has been ill for a week with pleurisy. He has been quite low, but is now slowly improving.

Profs. Taft and Wheeler attended a meeting of the State Horticultural Society at South Haven, the latter part of last week.

W. R. Fox, president of the Fox Machine Co., Grand Rapids, made a thorough inspection of our shops a week ago yesterday. His visit was the result of last winter's institute in Grand Rapids.

Fortunately, dame nature has so far this year attended well to the sprinkling of strawberries, lettuce, onions and squashes, so that the extensive equipment at the College for irrigation has scarcely been needed.

The shrewdest farmers who live near the College know a good thing when they see it or hear about it. As frequently happens they drive for a considerable distance, one or more miles, for some special purpose. They seek advice on the selection of a churn, the best strawberries to plant, how to use certain spraying apparatus, what to sow and when to sow it to secure the best pasture or meadow. Thousands of questions are answered in a year by letter. Why should not this be so? Every man to his specialty. No one knows it all. Let us make the best use of our opportunities.

The botanic garden is improving rapidly and recovering much that it lost last year by the very dry weather. Nothing has ever called forth so many exclamations of delight in this portion of the College domain as the Cape Cod water lilies in the ponds. It is a variety of one of our common water lilies that produces pink flowers, and was discovered years ago in a pond at Cape Cod, Mass. In Boston there is an excellent market for them. Inquiries from those wishing to buy them at the garden are frequent. Why should not some owner of a shallow lake or pond go to raising them?

Two parties of prosperous farmers from neighboring towns picnicked at the College last Wednesday. One was from Aurelius and Vevay, and included the families of Mrs. Robert Bell, Mrs. L. Dibble, Mrs. S. Towle, and F. A. Herzig, W. A. Peck, L. B. Sibley, J. Sitts and V. Sitts. The other, representing West Benton Grange, included about twenty-five persons. The following are the family names: J. W. Heller, Myron McConnel, W. C. Mitchell, W. R. Quantrell, Jacob Upright, and J. Woodworth. Small parties, coming in this way, have an excellent opportunity of seeing M. A. C. at her best.

Thorough cultivation of garden and orchard is still too often the exception instead of the rule in our State. It is very often supposed that cultivation is to keep the weeds down, whereas the man who has an eye to successful crops will cultivate during most of the growing season about once a week anyway, regardless of weeds. To a man with this habit, there can be no danger from quack grass, Canada thistles, Russian thistles, prickly lettuce or narrow dock. We are led to make the above comment, having taken frequent strolls through the orchards and gardens of the College, where Prof. Taft directs the movements of plow and harrow and cultivator.

By accident, in not receiving the seed of June grass for lawn, but instead seed of orchard grass, we have through the weed garden three paths seeded to the latter named grass. For a lawn it is far from a success, as it is too coarse, and reminds us of what Alexander Hyde, of Massachusetts once wrote, "We advise no man to sow it on his lawn, for it would need

cutting every day before breakfast. When cut or grazed it starts up with the vigor of the fabled hydra. It is the first to furnish a bite for the cattle in the spring, is little affected by the [ordinary] droughts of July and August, and continues growing until the severe cold of November locks up the sources of nourishment."

Among the relics of the great Fair held at Chicago in 1893, is a Sedan chair, presented to the College, and now in the Museum. In presenting it, probably no one ever mentioned the nature of the materials of which it is made. While the chair may be strictly in Oriental style, the materials are apparently all of Western origin, possibly excepting one of the curtains which is made of silk, or partially of silk. The long poles are made of white ash, as are also the window sash, the top is the wood of our tulip tree. White pine is used for some of the other parts. The hinges, catch and knob of the door, the screws, nails, brads and glass are such as can be bought at almost any of our stores. A peculiar moulding on the door is such as can be found at a factory in Grand Rapids, of this State.

MEETING OF THE BOARD OF AGRICULTURE.

Kalamazoo, Mich., June 8, 1896.

Present at the meeting: President Wells, Secretary Butterfield, Messrs. Chamberlain, Garfield, Moore, Monroe, Boyden, and Pres. Snyder.

Pres. Snyder reported the resignation of Mr. Edgerton, engineer, and recommended the appointment of Mr. V. V. Newell to fill the vacancy. The matter was referred to the committee on employees to report at the next meeting.

The course of study for ladies, substantially the same as published in the last RECORD, was adopted.

The purchase of a new Babcock tester at a cost of \$25 was authorized; also the purchase of a desk for the Consulting Entomologist, at a cost of \$25.

The following resolution was adopted: "Whereas, By reason of the courtesy of the leading railroads of this State in granting free transportation to the Superintendent of Farmers' Institutes, he is enabled to study thoroughly the agricultural conditions in the various counties of the State, and to personally supervise the institute work, greatly to the advantage of the same, therefore

"Resolved, That we express our appreciation of the favors shown and request the Secretary of this Board to transmit a copy of this resolution to each railroad granting said transportation."

WHY TURKISH FARMERS DO NOT USE FARM MACHINERY.

BY H. CARAMANIAN, '99.

In conversation with a young Turkish farmer of my country, who was known as the lord of thousands of acres of fertile land, I asked him: "Why don't you use the European plow and other improved farm implements? If you should, I believe you would have five times the advantages you now have." He gazed on me with a strange look and said in a solemn manner: "You are not an Islam (Mohametan), hence you do not know the contents of our Holy Books. Then I tell you, when God sent out Adam and Eve from the blessed Garden of Eden He pitied them and, for the purpose of getting them bread, sent them, by His Archangel Gabriel, the plough and ox which we now use. Then how can a true Islam change these and use the implements which are made by Giavours (Infidels)?"

Indeed, a Holy Book to check progress, and a correct logic to get rid of improvements!

THE HONEY BEE—A MANUAL OF INSTRUCTION IN APICULTURE.

BY FRANK BENTON, B. S. '79, M. S. '86.

Many young persons are at a loss to know what pursuit to select for the work of a life-time, but occasionally one makes a selection very early in life and makes it without any hesitation or mistake. When a young man of this College, before graduating, visits the world's fair in Philadelphia for two weeks, spending all of his spare time in the art gallery, there could be no mistake if he selected drawing and painting as his life work. In 1875-79, there was a quiet, industrious young man of this College who spent all the time he could spare from his other duties in the study and manipulation of bees. He even went so far as to try to induce humble bees to abandon their straw nests in the ground, adopt the habits of honey bees, become

civilized, live in hives, make comb and fill it with honey. The bumble bees were slow to respond to his fostering care. From an early date Frank Benton was bent on just the kind of work mentioned. We are not sufficiently familiar with all the details of his career to do him justice, but soon after graduation, he began spending his time and money in travel in Southern Europe, Asia and Borneo, searching for new species of honey bees. He endured all sorts of hardships from exposure to malaria, climbing trees, getting stung almost to death, in his eagerness to solve some of the important problems of bee culture.

For some years past, Mr. Benton has been an assistant in the United States Department of Agriculture, Division of Entomology, engaged for most of the time in his special work.

We have just received Bulletin No. 1, new series, with the heading given above.

It is well illustrated, and is designed to make the practical management of an apiary plain to those whose acquaintance with the subject is limited. He notices the several species and races of honey bees and their peculiarities, their diseases and enemies; the best plants for producing honey, kinds of hives, etc., etc.

W. J. B.

FROM CORNELL.

The following extracts from a private letter to Prof. Kedzie will be interesting to many of our readers:

THE RECORD has just come and I have, as usual, been reading it in preference to other mail matter. I have had to call a halt at the tailless calf. Whether dehorning or curtailing would be efficacious or not remains for your correspondent to decide. I think it lies beyond the legitimate bounds of the College duties, though they would, I am sure, be ready to disseminate any breed of bob-tailed hornless cattle coming up to the requirements of the "triangular milk type," or the "rectangular beef type" so much in vogue. But I have an item worth noting by all dairy-men troubled with switching cows. In a recent horticultural trip our class spent an afternoon on the farm of Yeomans Brothers, at Walworth, N. Y. In addition to their celebrated orchards, they have a Holstein ranch. Here the cows in the stables are not allowed to switch their tails. A wire running from end to end of the stable is supplied with rings from which depend stout cords which hold the cows' tails off the ground, keep them clean and prevent the objectionable switching. This is effective, certainly; but it has the added advantage of being readily applied to every cow—except those born stub-tailed. The rings allow of easy motion of the tail, and the strings do not hold it up so high that the animal cannot comfortably lie down.

Doubtless you would like to know of my good fortune. Prof. Bailey offered me a position for the summer and of course I've accepted. I will have a good deal of experimental work, gain a good deal of experience, and be in a place where I have ready access to the finest horticultural library in America—Prof. Bailey's. * * *

I graduate here June 18th with the degree of B. S. A. Next year my M. S.

I had hoped to pay the College a good visit this summer, but am agreeably disappointed. My position here will preclude my leaving Ithaca. I remain, yours truly,

MAURICE G. KAINS, '95.

THESES.

Before he is granted a degree each student must prepare a thesis. This work is intended to be of the nature of original research and as far as possible must be without aid from instructors. A written report of all work done is required, accompanied by drawings when necessary. All these are to be handed in by the middle of July, and when accepted they are to be written upon a uniform size of paper, bound, and left at the College for future reference.

The following is the list of seniors for this year with the titles of their theses:

W. T. Barnum, "Bacteria of the soil."

J. T. Berry, "The amount of lime sulphate washed out of soils by drainage water."

B. A. Bowditch, "Feeding pigs to determine the relative values of corn and peas for feeding purposes."

C. H. Briggs, "Analysis of ashes from saw-mills to determine their value as fertilizers."

J. H. Briley, "Experiments with Conn's Bacillus."

R. B. A. Buek, "Experiments with reference to learning the relative profits of selling milk products in the three forms—milk, cream, butter."

R. L. Clute, "Bacteria of the air."

R. E. Doolittle, "Experiments to learn the loss of plant food by percolation of water through the soil."

L. P. Frinple, "The amount of bacteria in milk."

E. N. Jaques, "A study of June grass in various stages of growth."

C. A. Jewell, "A study of orchard grass in various stages of growth."

L. R. Love, "Making a collection and description of the flowers and foliage of some of the principal trees and shrubs growing on the Campus."

W. J. McGee, "Find the ammonia content of water from the wells in this vicinity."

N. M. Morse, "A study of the size of the fat globules in milk."

L. D. Sees, "Our bird population."

A. F. Hughes, "The fertilization of the flowers of drupes—peaches, plums, cherries."

L. J. Hughes, "The fertilization of the flowers of pomes—apples, pears, quinces, service berries."

J. E. W. Tracy, "Experiments with insecticides and fungicides."

S. W. Tracy, "The determination of the preserving qualities of milk."

Miss Bertha M. Wellman, "A study of carnations and their cultivation."

O. P. West, "The bacteria found in water."

S. B. Young, "The value of salt as a fertilizer."

Those named above are taking the Agricultural course. The following take the mechanical course:

G. N. Eastman, "Design on alternating system of electric lighting for the grounds and buildings of M. A. C."

C. E. Meyers, "Make an efficiency test of the engine and boiler of the Portland Milling Co., at Portland, Mich."

E. D. Partridge, "Build and test an hydraulic ram."

H. H. Smith, "Test several forms of calorimeters."

Vadim Sabennikoff, "Investigate oil engines as prime motors."

J. H. Steele, "Test the strength of semi-steel."

G. W. Williams, "Design a boiler plant and building suitable for M. A. C."

OUR CAMPUS.

The chief glory of a park or the surroundings of a home are trees and grass, and now on the Campus of M. A. C. we have them both in great profusion and luxuriance. The area of that portion of "the state farm," as some of our older friends still call it, which contains the buildings, consists of about one-hundred acres. The surface is gently rolling with the Red Cedar river on the south. The stream was long since deprived of its floodwood, the banks cleared of old logs and rubbish, leaving nearly all the woody growth as nature planted.

A good many native trees of the original "oak opening" are still standing where they stood when the wild land was purchased for the use of the college, while large numbers of trees and shrubs, both native and exotic, have been planted. In many places some were removed, as they always should be if removed at all, before they were spoiled by crowding, while in certain other places groups have been allowed to grow with the branches intermingling. Broad open areas are seen here and there, suitable for play grounds and views of buildings, but every year some favorite tree-tops narrow the openings. Unquestionably the most enduring and valuable trees for planting are those found in our own country, most of which are natives of our own state. We have in the state nearly seventy kinds of native trees and as many shrubs, all of which deserve notice for parks of considerable size. One of the attractive features of the Campus is the thrifty trees of many kinds, not all sugar maples and American elms which too often are about the only ones selected as at all suitable for planting.

A large percentage of the older exotic trees on the Campus are failing in one way or another. Most of the Austrian pines and Scotch pines, so often purchased of nurserymen, though only twenty to thirty years old, have become shabby and have been cut down. The white birch of Europe, including the cut-leaved weeping variety, are dead or dying; European larches are failing; many Norway spruces are past their prime. These trees have had as good a chance as we were able to give them here, in soil and exposure of great variety.

The grass is frequently mowed and that near the building is kept closely cut. There are some two miles of drives and two or more of paths, the latter covered with artificial stone. The fifty or more buildings are nicely distributed with plenty of room for each. No one claims that our Campus is kept as well as those of Hunnewell and of Sargent in Massachu-

setts, where wealth and labor without stint have made the details most complete, but we can justly claim the finest Campus, all things considered, of any institution of learning in North America.

Now and then a person viewing our beautiful and extensive grounds deplores the fact, saying that it is a poor example to set our students, none of whom can ever hope to possess anything approaching it; but most people think the delightful surroundings cannot help exerting a healthful influence on the life of those who remain here for some time. In a recent address on "Our City's Breathing Places," Hon. C. W. Garfield, '70, says: "A child born into an environment of art, with lovely things to look at from his earliest babyhood, will have his nature materially affected by the beautiful associations and will grow into a 'delicacy of texture,' if I may be allowed the expression, that can be imparted in no other way. Often a single picture upon the wall of the living room directs a career."

Any one with the least spark of love for the beautiful in nature, for the first time seeing the Campus from the hill in the vicinity of the President's house or on coming from the east along the highway, invariably makes use of one or more of the following: "This is grand, nice, inspiring, beautiful, magnificent, a lovely place;" and even one daily accustomed to the view, if he stops to think of it, will be found using some of these exclamations; while there can be no doubt that after an absence of a few weeks, months or years, the former student finds these views one of the chief attractions of the dear old College. The scene varies. In winter, it is the gentle undulations in the surface of the ground, the evergreens and the views of the distant buildings made clearer by the absence of the broad leaves which fell in autumn; in spring, it is the early flowers of elms, maples, and later the new and tender leaves, the fresh grass, the light new growth of spruce and pine which contrast with the old; in autumn, it is the contrast of evergreens with the fading lawn, the leaves of the trees changing to brown, red, scarlet and yellow.

A REMINISCENCE.

Janitor Elderkin, who is responsible for the care and cleanliness of so much of M. A. C., relates an experience in which his action in a dangerous situation makes him something of a hero and which contains some material for a lecture on social science.

Some nine years ago Mr. Elderkin acted as night-watch in the Industrial school, then the Reform school, in Lansing. A young man who had been released from the school, returned one night to attack an officer whose earlier treatment of the student aroused the latter's hatred. Filled with a desire for revenge, the young man attempted to force an entrance to one of the Reform school buildings, but was prevented from doing so by Mr. Elderkin, who was on duty there as watch. He fought desperately, twice firing a revolver at Mr. Elderkin, but was finally ejected. The bullets from his revolver were afterwards dug from the door posts.

The young man's actions later in the same evening and his subsequent career, complete a strange story. He proceeded to rob a citizen, at the point of the revolver, was caught, and sent to Jackson prison. Here he learned some of the principles of mechanical and electrical engineering, so that when pardoned a few years later, he easily found employment in these lines. A partnership in the business and a matrimonial alliance with the employer's family follow just as in the story books.

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We gratefully acknowledge the receipt of the *Honey Bee*, from its author, Frank Benton, '79, for our alumni library.

THE University of Idaho graduated four at its first annual commencement last week. We acknowledge with thanks the receipt of her announcement.

Our exchange list already includes nearly two hundred local papers of this State. These papers are filed by counties in a neat case in the College library, and are highly appreciated, especially by students, who find in the list the papers of their own locality. Usually, the first thing a student does upon entering the library, is to look for his home paper, which, with its familiar names and its account of events around home, serves as well, in some respects, as a weekly visit from a friend. It is not quite so good, however, as a letter from home, or from some fellow playmate, or some fellow playmate's sister.

What school to enter, or what course of study to pursue, are questions which very often worry and perplex the young man who has an ambition to get on in the world. He does not know for what calling or profession he is best fitted, and he often feels that it would be better not to make a start than to push forward only to fail. For all those who are thus hesitating, there is one safe road, and that lies along the line of practical education—such an education as is offered at the M. A. C. If, after one or two years the student can go no farther, he takes back to the farm with him, not a little Latin and Greek, which are useless to him, but a knowledge of such practical subjects as he will be required to use daily.

If he takes the full course and then desires to study medicine or read law, he will be as well prepared to do so as if he had taken the course of study offered in any of our other Colleges.

To be firmly convinced of this, it is only necessary to note the success of the graduates of this College who have entered these professions. While the education we offer is thoroughly practical, yet it is education of the highest type and gives to the mind such strength and discipline as will enable it to master the most difficult problems. If you have any desire to know more do not hesitate. Make the start. Go ahead until you are compelled to stop. An education is within the grasp of the poorest boy in the land, if he has the snap to work for it. Brace up. "He is not worthy of the honeycomb who shuns the hive because the bees have stings."

FIELD DAY NOTES.

DR. H. EDWARDS.

"Through indignities men came to dignities," says Bacon. If there is any one "lesson" conspicuous and unmistakable in the events of Field Day, it is that training tells. It may not always give victory, but it will invariably prevent defeat from being embittered with ignominy, both for himself and for the College. The man who is unwilling to deny himself, to hold himself well in hand, to be patient, persistent, determined, deserves the taunts and jeers of the on-lookers, when in competition with men of sterner mould, he reveals his fatal deficiencies. It has always been held, and justly, too, that one of the best features of the athletic sports was the training it gave in self-control, in steadiness, in continued effort and the like. If the Field Day sports prove no incentive to such training, they have failed utterly, and the time and money spent upon them is thrown away.

On the other hand, it would seem that the College is expecting too much of its students when it makes no especial provisions for this important and valuable training, and gives it no official position in its scheme of work. We need a suitable place for such work and

a competent person to direct it the year round. The College has no right to depend in this matter exclusively on the enthusiasm of the students. There is here a proper and legitimate field of College work, and the College which neglects it is not doing its whole duty to its students. Let us wisely seek to learn by our failures. The lesson has been a painful one, but it will not have been too costly if it teaches us, students and College authorities alike, to see our faults and mend our ways.

It would seem that such an assemblage of College men might be made useful in more ways than one. Why should not some sort of social function constitute a scheduled feature of such gatherings? An opportunity to cultivate purely social relations between the students and teaching bodies of the different Colleges in the State would seem to be a desirable thing in itself, and would constitute a pleasant diversion on the somewhat monotonous course of events at the sports. And if a Michigan Inter-Collegiate Athletic Association, why not a Michigan Inter-Collegiate Oratorical Association? The contests, it seems to me, could be held at the same time as the sports, with manifest advantage to both. In Greece, in ancient days, the Olympic games were also the favorite opportunity for the production of great literary works. The two kinds of work went hand in hand, and happy was he who could win in either contest. Why should not we recombine these two great realms of effort, so admirably combined in the infancy of the world? Both give the same training and demand the same virtues, only along different lines. Let us have some discussion of this proposition.

The suggestion has been made, also, that a formal organization of representatives from the faculties of the different Colleges constituting the association, could with profit be brought about. Such a body, while having no direct control over affairs, could with advantage discuss abuses or seek to enlarge advantageous features; and arrive at some degree of uniformity in feeling and action on questions connected with Field Day affairs when they come before the various faculties for adjudication.

Where so large a body of persons from different organizations are brought together, a demand for a code of ethics either formally adopted or tacitly understood, soon makes itself felt. Courtesy is the lubricant that enables the different parts of the social machine to work upon each other without destructive friction—that renders intercourse among men possible. Whenever a new relation among men is established, it creates a demand for new rules of procedure, new and specialized laws of good taste and courtesy. Good common sense and a kindly heart are the best and only guide in settling what constitutes "good form" under the new relations, but common sense is the very rarest of human possessions, and until the few who possess it have passed on and settled the new "good form," the mass of us are apt to commit gross errors. It is for this reason that much of our best Western society is such an odd compound of old world elegance and cow-boy crudity. Two criticisms in the matter of good taste have been made upon the Field Day proceedings, and as it seems to me, justly made. One is that it is not in good taste for a school, any more than an individual, to make itself conspicuous with strange and grotesque devices. If these call attention to elements of real strength, they provoke hostile criticism because of a lack of graceful and becoming modesty, as if a beautiful woman should placard her beauty; if they advertise only weakness, they become the fool's cap and bells, a source of derision and contempt.

The other criticism is that it shows a lack of good sense, a want of appreciation of the proprieties of the occasion for one College to make a movement upon, or in any way humiliate the emblems of another College. All would very much regret it, should the events of Field Day be stained with rows and perhaps serious injury to one or more persons. Yet this is just what such conduct tends directly to provoke. Assemble a thousand students from different Colleges in a little town like Albion; engender a little bad blood; flaunt disfigured emblems; start a rush; and you are far on the way to turn healthy rivalry of the sports into the mad fury of unrestrained passion.

I cannot refrain from adding that our boys showed very great moderation and good sense under excessively irritating provocation.

English Department.

"Never permit your check-rein to be so tight that your horse cannot put his head where he wants to when pulling up hill. How would you like to have your head tied up with a tight check-rein?"—*Our Dumb Animals.*

FERONIAN SOCIETY.

It was in the spring of 1891 that the project of a ladies' society at the College was first talked of. At first all were skeptical as to the success of the plan, but vigorous pushing by a few brought the scheme to a head, and on March 20, 1891, a permanent organization was effected, with eighteen charter members. Mrs. Fred Hillman, '91, was unanimously chosen first president of the society.

Through the kindness of the Union Literary Society, we were enabled to hold our meetings in their pleasant rooms. From this beginning the society has lived and flourished and, while it has not been possible to grow much in numbers, the quality of the work done has bettered with the age of the society. It was about two years before we were recognized by the other societies as an organization that had come to stay, but we are now received on equal footing with them all.

With the advent of the new year and the ladies' course, we look forward to having new strength and vigor added to the society, which will carry us still further forward on the road to success. But, however this may be, we may well be proud of the fact that with the small number of ladies that have been in attendance at the College, we have supported a society of which we have no cause to be ashamed.

THE UNION LITERARY SOCIETY.

This society was founded in 1876 by members of the classes of '76, '77, and '78. It is thus the oldest literary society of the College, and since its foundation it has striven to maintain the highest standard of excellence.

For some years the members held their meetings in class room A, in College Hall. They then secured the rooms under the west ward of Wells Hall, where they remained until the summer of 1890, when the U. L. S. hall, between Wells and the greenhouse, was dedicated. Since that time the members have met in these rooms every Saturday night of the term for literary advancement and to enjoy the society of their fellow members.

The society numbers among her alumni men who are prominent in business and scientific circles.

The Union Literary Society is the only society at this College possessing a building of its own. It is a home for the members during College life, and after one has left College, should he return, even though he find there no familiar faces to greet him, he is sure to find a welcome within those walls.

HESPERIAN SOCIETY.

The officers of the Hesperian Society for the summer term are W. T. Barnum, President; H. E. Van Norman, Vice President; J. A. Elliot, Treasurer; H. A. Eldridge, Secretary.

The society rooms are very pleasant and beautiful. During the spring term a fine, hard wood floor was laid, the ceilings and walls decorated and the rooms refitted throughout.

The literary work for this term consists, as usual, of the study of noted writers, besides declamations, essays, debates, orations and three-minute impromptu speeches. Good earnest work is done in this literary study and each member receives a great amount of benefit from it that he cannot get in any other way.

It has always been the aim of the Hesperian Society to secure as members earnest, industrious students of the highest moral character.

OLYMPIC SOCIETY.

Location—Fourth floor of Williams Hall. Organized in 1885. Though called a literary society, its whole purpose as expressed in the constitution, is to improve the intellectual, moral and social qualities of its members. Each of these objects receives due attention, as is shown by its record both present and past.

Its Saturday evening meetings consist of a program prepared along the line of debates, speech-making, essays, current events, and declamations, together with vocal and instrumental music.

This gives each member ample need for culture along the line of a literary training. Its moral efforts are exercised through a strict standard of membership, wherein each member is subject to penalties for immorality.

Its rooms have recently undergone a system of repairs, and much is being done to make them a "home" for its members, both before and after graduation, in order that its social benefits may be appreciated and maintained.

Following each literary meeting, is the regular busi-

ness meeting, which is conducted according to "Roberts' Rules of Order."

Much practical knowledge regarding parliamentary proceedings and extemporaneous speaking is obtained from this session. Visitors are always welcome at the literary meeting, which begins at 7:30 p. m. during the summer term, and at 7 p. m. during other terms.

TAU BETA PI CONVENTION.

C. C. PASHBY.

The annual convention of Tau Beta Pi Association for '96 was called at Buffalo, N. Y., May 23, and a word concerning the society, in addition to the mention to be found in the Speculum (summer of '94) and elsewhere, may not be out of place at this time.

It should be understood that the object of the association is to foster superior scholarship and liberal culture in the technical schools of the United States. To this end it draws its active membership only from those who have shown by their attainments during the under class-men years of their course that they are intellectual leaders among their fellows. Thus, as it will appear, the success of the society must be contingent upon the prosperity of the Colleges in which it has chapters installed. Large classes of energetic students permit a strong, enthusiastic membership. This reacts to the farther advantage of the home of the chapter by furnishing a goal towards which all enterprising students push, but which only a limited number can enter.

The past year has been one of general growth and prosperity. A signal victory was won before the faculty of the Purdue University, by the Indiana Alpha Chapter, in the permission to hold their meetings on the College campus, a privilege denied to fraternities not honorary in their character. A chapter has been installed at Stevens' Institute of Technology, and the presidents of Lehigh University and University of Utah have accepted honorary membership with the Pennsylvania Alpha chapter.

The most urgent need of the association at present is a method of choosing candidates for membership that will be at once easy of application and unquestionably just to all upper classmen in those institutions where the percentage system of marking still obtains.

The reports from the chapters gave promise of continued growth and usefulness during the coming year.

Mathematical Department.

The following reminds us of the man who could lay tile by the eye. He didn't want any man with a level to work for him:

"Only a short time ago on a piece of road improvement near Grand Rapids, through a very level tract, the cost of drainage was a very important consideration and the property owners had not attempted the improvement owing to the heavy outlay needed to get rid of the water. After many years of discomfort a surveyor was employed and it was found, contrary to the emphatically expressed convictions of all the neighbors, that the water could be drained off very cheaply. They declared it would be forcing it to flow up hill. The drain, at slight cost, was turned through a culvert at what had been supposed to be the highest spot, but the water flowed readily that way. The surveyor's level decided this and not only saved a lot of money, but secured an immediate improvement that otherwise would have been still longer neglected."—HON. C. W. GARFIELD, '70, in *Michigan Cyclist*.

"The most important of all the lessons of childhood—the habit of work, the disposition to work with the hands—has no place in the curricula of the schools. On the contrary, the tendencies have set powerfully in the opposite direction; holidays are multiplied inordinately, and more play in the shape of additional immunity from work, is the recognized reward for all forms of meritorious conduct in the schools. In view of these facts, which I believe will not be questioned, the universal distaste of colonial youth of the better sort for industrial pursuits ought not to surprise us. In the meantime, and despite the hard times and the numerous unemployed, all forms of amusements—the various clubs, games, races, sweeps and lotteries—receive wholesale patronage; and we have today the spectacle of the entire nation holding its breath over the outcome of a game of cricket."—E. M. SHELTON, '70, now and for some years past employed by the government of Queensland, Australia, to superintend Agricultural Education.



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Y. M. C. A.—Holds regular meetings every Thursday
 evening at 6:30 and Sunday evenings at 7:30. S. H.
 Fulton, President. C. W. Loomis, Cor. Secretary.

Natural History Society—Regular meeting second
 Friday evening of each month in the chapel at 7:30.
 L. R. Love, President. J. W. Rigtterink, Secretary.

Botanical Club—Meets first and third Friday of each
 month in Botanical Laboratory at 7:30. C. F. Wheeler
 President. B. Barlow, Secretary.

Dante Club—Meets every Wednesday evening at 7:30
 in Prof. W. O. Hedrick's office, College Hall. Prof. A.
 B. Noble, President.

Students' Organization—S. H. Fulton, Vice-Presi-
 dent. H. L. Becker, Secretary.

Columbian Literary Society—Regular meeting every
 Saturday evening in their rooms in the middle ward of
 Wells Hall, at 7:30. F. N. Jaques, President. T. C.
 Chittenden, Secretary.

Delta Tau Delta Fraternity—Meets Friday evenings
 in the chapter rooms on fourth floor of Williams Hall,
 at 7:30. A. C. Krentel, President. J. M. Barnay,
 Secretary.

Eclectic Society—Meets on fourth floor of Williams
 Hall every Saturday at 7:30 P. M. W. R. Vanderhoof,
 President. W. Newman, Secretary.

Feronian Society—Meets every Friday afternoon at
 2:30 in U. L. S. Hall. Miss Bertha Baker, President.
 Miss Ellen Vaughn, Secretary.

Hesperian Society—Meetings held every Saturday
 evening in the society rooms in the west ward of Wells
 Hall at 7:30. W. T. Barnum, President. D. J. Hale,
 Secretary.

Olympic Society—Meets on fourth floor of Williams
 Hall every Saturday evening at 7:30. C. A. Jewell,
 President. F. J. Kling, Secretary.

Phi Del'a Theta Fraternity—Meets on Friday even-
 ing in chapter rooms in Wells Hall, at 7:30. C. K.
 Chapin, President. J. W. Michen, Secretary.

Union Literary Society—Meetings held in their Hall
 every Saturday evening at 7:30. J. T. Berry, President.
 F. V. Warren, Secretary.

Tau Beta Pi Fraternity—Meets every two weeks on
 Thursday evening in the tower room of Mechanical
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NEWS FROM GRADUATES AND STUDENTS.

Report has it that W. Chase, '99, will return to M. A. C. next term.

O. B. Hall, '93, will graduate from Detroit Medical College this month.

Harry Goss, '93, expects to make a bicycle ride to M. A. C. next week.

J. McCurdy, '88, was recently appointed Professor of Chemistry at University of Idaho.

Lee Chapman, '97, who did not return this term, is very sick at present with rheumatic fever.

S. P. Orth, with '94, gives the Class Introduction on the occasion of his graduation from Oberlin next Tuesday.

J. W. Perrigo, '93 m, is in the draughting room of the Western Electric Co., Chicago, and resides at 382 Jackson Boulevard.

Joseph Foster, '90, assistant to Dr. Carrow, of the U. of M., came to Lansing last week and operated on the eyes of several of the students at the School for the Blind.

J. B. Phillips, with '86, Ann Arbor, through his article, Prosperity and Prices, has been awarded a \$500 fellowship in Political Economy and Finance at Cornell University.

Prof. Smith called on Frank Hodgman, '62, Climax, Mich., one day last week. Mr. Hodgman regretted very much that Memorial Day came on Saturday, so that he could not visit M. A. C. at that time.

Perry G. Towar, '85, is president and general manager of the Century Cycle Co., Y. M. C. A. building, Franklin and Grand avenues, St. Louis, Mo. He writes to know if any M. A. C. alumni are coming to the National Republican convention.

A. E. Smith, B. S., '81, M. D., as reported in the *Evening Herald*, Olean, N. Y., succeeded in supplying an upper lip and a palate to a child born without these important organs. These operations in plastic surgery are very difficult and delicate, but in this case both were satisfactory in all respects.

News comes from Bellaire, Mich., that Dr. C. V. Hinman [M. A. C., '78.], formerly of Portland, was married June 3 to Miss Leola L. Hemstreet, of that town. Aside from caring for an extensive practice, Mr. Hinman is also associated with a brother of the bride, in the grocery business.—*Review*, Portland.

In THE M. A. C. RECORD of April 28, mention was made of the candidacy of E. R. Lake, '85, for representative. The following from the *Gazette*, Corvallis, Ore., shows his success: "E. R. Lake knocked the wind out of the big fusion proposition, and will ably represent Benton and Lincoln counties in the next legislature."

A. C. Burnham, '93 m, instructor in mathematics at the University of Illinois, writes a very encouraging letter. He has been granted a year's leave of absence to study in Europe. Tomorrow he sails from Baltimore, Md., for Bremen, Germany. He will spend one semester in Leipzig and one in Göttingen. September of this year will find him in Switzerland; Christmas, in Paris; Easter, in Italy. His return trip will include a visit to England and Scotland. He says, "Long live M. A. C.! We think more of her as the years go by."

THE RECORD extends hearty congratulations to the writer of the following letter:

The school board here has been kind enough to raise my wages and to offer me the position of Science teacher in the schools here for next year. I have accepted and will remain here another year.

I was much pleased with the last issue of the RECORD, and I was more than delighted with the announcement of the Women's Course, as I have an 8½ lb girl, whom I wish to send to M. A. C., not next fall, but some time in the near future. She arrived on the 28th of last month and has decided to permanently take up her abode with us.

Wishing M. A. C. and the RECORD abundant success, I am most truly yours, ROBERT S. WELSH, '94.
"Soo," Mich.

On May 14, 1886, a genuine tornado of limited extent started north of Lansing and continued north of east for several miles, coming within four miles of the College.

"President Willits hit the nail on the head, when in chapel recently he advised the students of this College to avoid unnecessary expenses, especially during commencement, when the tendency is to go to extremes in class dances, banquets, and other like indulgences."—*Speculum*, in 1885.

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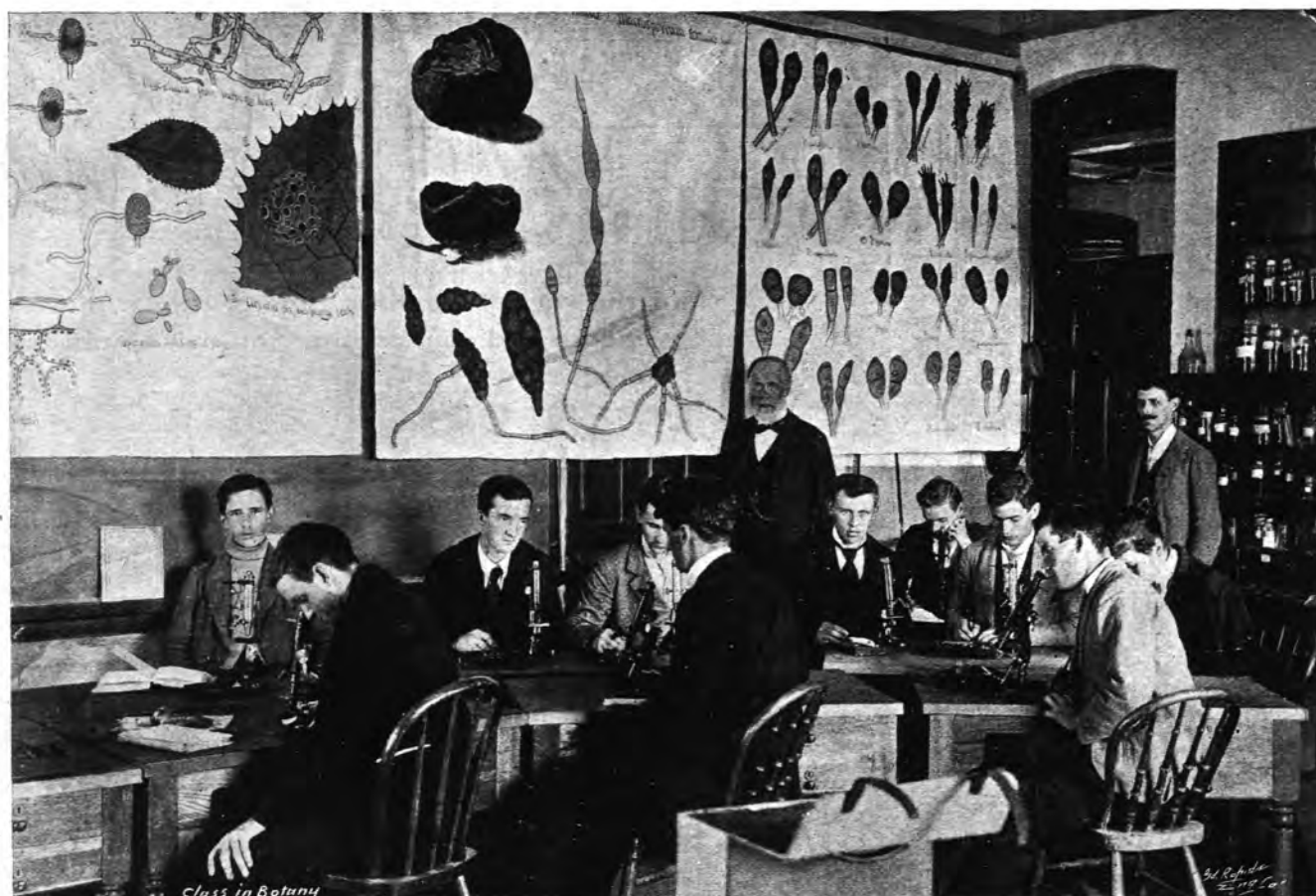
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