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THE STUDENT AND THE LIBRARY.

PROF. A. B. NOBLE.

What use can the student make of the library? It offers him free access to 20,000 or more carefully selected volumes. For four years this privilege is his, without additional expense. What use should he make of it?

He should regard this as an opportunity which he cannot afford to slight or throw away. In order to get most benefit from it, he should have both purpose and plan; purpose, to keep constantly before him the value of the opportunity, and plan, to have a working method for making the best use of the opportunity. Without purpose and plan, many a student has allowed days and months, terms, and even the whole college course to slip away without deriving from the library any real or lasting benefit. It must be understood that I leave out of consideration now such use of the library as results from reference or topical reading assigned by teachers; also, reading in preparation for articles to be read at the literary societies. Great indeed is the benefit derived in each of these ways, but there is another use which is, or ought to be, more beneficial than both of these combined. I refer to reading that is done from a love of reading. It may or may not be supplementary to the studies pursued, but in either case it is self-imposed, or voluntary.

As a rule, the student can make, I believe,

MORE AND BETTER USE OF THE LIBRARY.

than he now does. Spare moments are not always utilized to the best advantage. I would not ask the student to devote all his spare moments to reading, but I would urge him to utilize a part of them in that way. A few minutes each day devoted to some good book will finish the book in a month or two. Six or eight good books a year means something of really great value by the time the senior year is ended.

"But," some say, "we students are too busy; we have no spare moments,—no time at all for reading except such as we are required to do." I know that students are busy, and I know too that this is the honest feeling of many a faithful student. But I believe that a strong purpose and a good plan will enable even the busiest student to do a considerable amount of helpful reading without adding to his burdens or taking from his class standing. If lessons are long and problems hard, constant pegging at them is apt to bring weariness and make them appear a task. Ten or fifteen minutes given each day to reading that is regarded, not as a task, but as a pleasure, will act as a tonic; it will refresh and invigorate the weary student, and enable him to resume his studying with more zest, and thus to accomplish as much, or possibly more, in less time. It is a good thing to be persistent; but it is not a good thing to be so persistent as to lose one's freshness and vigor. Reading thus directed is a double gain, for aside from its own value it does its part toward keeping alive buoyancy of spirit.

I have spoken of purpose and plan applied to reading. I would add to that by saying that every student should strive to

CULTIVATE THE HABIT OF READING.

Now habit implies regularity, and the way to cultivate it is to establish a fixed and regular recurrence of a given operation. One way, therefore, to cultivate a reading habit is to fix, each for himself, a time for reading, which should be of somewhat uniform duration, and which should recur at regular intervals. A short period each day is better, in my judgment, than a relatively longer period once or twice a week, because the shorter interval will fix the habit sooner.

The utilizing of spare moments to the best advantage requires that the book to be read should be near at hand. Likewise, when the student turns to reading as a relief from a taxing lesson, it is a convenience as well as a saving of time to have the book on his own table. Therefore I should recommend the drawing of books from the library, one at a time, and reading in one's own room rather than in the library. The going to and coming from the library takes time, and after the student is there and has selected his reading—which also takes time—he is liable to interruption by some one who, unmindful of library etiquette, cannot resist the temptation to talk and chat, and thus the time that was to have been given to reading is frittered away. Moreover, the best benefits come from reading books, rather than papers or magazines. The reading of bits and fragments may be interesting for the time, but it is likely to leave very little lasting benefit. But a good book, carefully read, is not likely to be forgotten. If worth reading at all, it is worth remembering, and the careful reader will remember it for many a year to come. And if the reading is to be from a book, followed page by page from beginning to end, what a waste of time it would be for the student to go to the library day by day to read what might just as well lie on his own table.

Something has been said of reading as a pleasure. It must be a pleasure if it is to accomplish its mission, and unless it proves to be pleasurable, the attempt to form the reading habit will certainly result in failure. Therefore, one essential step in the formation of the reading habit is to find, each for himself, some particular class of reading which will afford pleasure. What one enjoys another may not, but there are surely enough kinds of good, helpful reading matter to furnish something to suit the taste of every thoughtful person who cares to read.

A FEW CLASSES OF HELPFUL READING.

Perhaps it would not be out of place to suggest here a few classes of reading matter which are usually found both pleasurable and profitable. First of all, I would mention biography. To those who are just preparing for active life, I believe there is no other class of reading matter which is so uniformly helpful. It sets before them high ideals, and makes them dissatisfied with an aim that is low or sordid. It shows them that with energy and perseverance these worthy ideals are attainable. It brings them into sympathy with men who were pure and earnest and steadfast. The men whose lives are worth writing about were men who accomplished something, and about every successful man there is something attractive, something to stimulate toward similar aims and similar exertions. If a student aspires to be a scientist, what better reading for a time than the lives of the great scientists, such as Gray and Agassiz, Darwin and Huxley? If he would be a writer, let him read the lives of Johnson and Carlyle and Macaulay, of Hawthorne and Emerson and Lowell. If a teacher, of Froebel and Dr. Arnold and Horace Mann. If he has aspirations towards politics and statesmanship, Jefferson and Hamilton, Clay and Webster, Washington and Lincoln, may well claim his atention. Our library is well equipped in biography, and any student may well devote his spare time for a year or more to reading of this sort.

Next, I would mention history. After the course in history has covered all the ground it can, much remains untouched. It is possible for the student to supplement his course in this subject by reading one or more of the great histories, such as Gibbon's, Macaulay's, Motley's, or Prescott's. Or, he may make a study of some particular nation or of some great event, as, for instance, the French Revolution. For further discussion of this topic, I beg leave to call on Prof. Hedrick.

In the next place, I would speak of fiction. The common experience of librarians is that there are more readers of fiction than of any other class of reading. It is also true that no other class of reading needs to be selected with the same care. A very fortunate thing about most college libraries is that trashy fiction finds no place upon its shelves. Although our fiction list is not very extensive, it is large enough to contain every—or at least nearly every—novel that has a valid claim to a place among the classics. It contains very few books that are trashy. Of second and third rate novels it contains, of course, a considerable number. I have sometimes been foolish enough to wish that they might be consigned to the fire; but when I have recalled the genuine pleasure and the real benefit that I have derived from some of these second rate novels, I have always relented, and said, "No, let them stay where they are." And when I have reflected further that many excellent people who have voted George Eliot tiresome and Thackeray dull and Hawthorne uninteresting, have yet found food for serious thought and reflection, glimpses of a higher ideal, and incentives to a worthier life in the pages of some minor novelist, I have said, "Yes, let us keep on our shelves the works of the second rate and even third rate novelists, for they too have a mission, and the world would be poorer without them."

I shall not attempt to say anything about science, and the essay, and poetry. For one who is prepared to read them understandingly they offer delight and profit almost without measure. For the fullest enjoyment they each require some degree of preparation, and when once that preparation has been made, they may be left to take care of themselves.

In conclusion I would say to every student: Resolve to make the best use you can of the library. Select your reading with care, and pursue it with diligence. Try to find something you like, but try also to like what is good. Utilize spare moments, rest at times from a taxing lesson, and have a good book always on your table ready to be picked up whenever opportunity may offer. A college course supplemented by the careful reading of even twenty well selected books is worth considerably more than the same course supplemented by spasmodic, fragmentary, haphazard reading.

English Department.

DYNAMOMETER TESTS.

M. W. FULTON.

Accurate figures on the draft of farm wagons and machinery under actual farm conditions have long been needed. They are needed not only in a scientific way, but for the solution of many practical problems constantly arising. The economy of new appliances for farm implements and machinery, the work required in operating under different conditions, the relative merits of different makes; these are a few of the important facts which may be ascertained by the use of the dynamometer.

A dynamometer is simply an appliance for measuring force. A spring balance is a dynamometer, but for measuring the varying force exerted in pulling a load there must also be a registering apparatus to furnish a record of the force applied during a given length of time. This constitutes a self-registering dynamometer. The particular form used in our experiments consists of a steel link-shaped spring, to which the force is applied longitudinally. To this spring is connected a system of levers communicating with a pointer carrying a pencil. This, with a clock-work attachment for drawing a strip of paper across the face of the dynamometer, completes the mechanism. During the pull the sides of the link approach each other and this movement, transmitted to the pointer and pencil, is recorded on the moving paper, thus giving a complete record of the force applied during the trial.

An important point in dynamometer tests is the attachment of the dynamometer to the wagon or machine to be tested. The point of attachment should be the same as nearly as possible as it is during actual use. Just the difference in draft arising from different points of attachment has not been determined, but it is quite likely that there would be an appreciable difference between the draft from the ordinary point of attachment and from the end of the tongue. The latter attachment is sometimes used, but at best it is very awkward. It requires more help in making the test, and often it cannot be used at all from the difficulty in guiding the wagon or machine. Another method is to attach the dynamometer to the axle, thus enabling the team to guide the wagon in the ordinary way. There is one serious objection to this method. The time during which the pull is exerted is an indispensable factor in determining the force applied. In order to get this the dynamometer must be under the immediate control of the operator, and when it is attached to the axle it is so far back under the load that it can scarcely be reached during the trial.

After considering these difficulties, an attachment between the two mentioned was hit upon. A false

tongue about five feet long with two clips for attaching it to the tongue was made. With this the tongue of any wagon or machine can be lengthened and the dynamometer attached to the usual point of draft. This arrangement leaves the conditions of draft very nearly the same as usual and gives a space between the team and the load for the operator to walk, thus giving him complete control of the test.

The work we have already done is simply preliminary. The grades of several suitable stretches of road on the College farm have been ascertained for comparison of draft on different grades, and as data in other road tests, duplicate tests have been made, also some tests of farm machinery.

July 10, after a heavy rain, a duplicate test on a gravel road resulted as follow s: Test I, pull 325 pounds, horse power 2.73. Test II, pull 321 pounds, horse power 2.73. The road was a little soft, but not muddy. A wide-tired wagon was used, and the entire load, including wagon, was 5,290 pounds.

Below is the result of a test on different grades of a gravel road. In this case a wide-tired wagon was used and the total load was 4,450 pounds.

	PULL.	H. P.
Test I—Level road	242 lbs.	2.04
Test II—Down grade. Fall 4.1 ft. in 300 ft.	120 lbs.	1.04
Test III—Up grade. Rise 13.8 ft. in 300 ft.	448 lbs.	3.70

A test lasts one minute and the distance traversed is usually a little less than 300 feet.

We wish to ascertain as opportunity permits the draft of wagons on sandy roads, on muddy roads, on grades, and the comparative draft of wide and narrow tired wagons under different conditions. Farm machinery also offers an extensive field for investigation.

Farm Department.

AT THE COLLEGE.

Mrs. R. S. Baker, '90, is spending a week at M. A. C.

Street cars began running again last Friday evening.

Dr. Beal has a class of sixteen ladies in beginning botany.

E. W. Ranney ,'00, spent Sunday at his home in Belding.

The seniors in botany are working on wheat and oat rusts.

Gordon H. True returned from Menominee last Wednesday.

A pit has been put in the foundry for pit moulding and sweeping.

D. A. Seeley, 27 Williams, is the College agent for W. S. Bailey, Lansing.

Mr. Dean's grandfather, Mr. H. Dean, of Napoleon, visited at M. A. C. last week.

F. V. Young, 18 Williams, is repairing clocks, watches and jewelry for college people.

The sophomores defeated the seniors in a game of base ball last Saturday to the tune of 20 to 3.

Items and articles for the Record should be put in the "Record Box" at the door of the Secretary's office.

Nearly every door in every building on the grounds is swelled so by the damp weather that it will not shut.

R. L. Griswold, '90, visited at his home in Vermontville, and attended the Eaton county fair several days last week.

L. J. Bolt, '99, has been confined to his room the past week, suffering from the effects of a fall received during vacation.

J. W. Thomson, '00, who sprained his ankle quite badly in the game of foot-ball with Lansing, is getting around nicely.

F. L. Woodworth, '98, has returned to college. He was two weeks late, having remained at home to help his father on the farm.

Lost on the Campus during the first week of vacation, a plain barrel, Waterman's "Ideal" fountain pen. Finder please leave at the secretary's office or room 118.

Miss Hannah Brookfield and Miss Addie Lithgow, of Philadelphia, are spending a few days at Dr. Beal's. They are on their way to Colorado for the winter.

A few of the union lits entertained lady friends at their society rooms last Friday evening. A candy-pull, games, and dancing were the features of the evening.

Last week, instead of running off a large heat to test new pig iron, the mechanical department tried successfully the experiment of running of a small test-heat from the crucible.

Miss Elizabeth Hedrick, sister of Prof. W. O. Hedrick, and Miss Margaret Crosby, cousin of D. J. Crosby, both of Harbor Springs, have been spending a week at the College and in Lansing.

The largest puff ball ever seen at M. A. C. was found on the farm last Wednesday, and is now in the botanical laboratory. It weighs 7 pounds 10 ounces, has a circumference of 45 inches and a height of 9 inches.

The Y. W. C. A. holds its regular weekly meetings on Wednesday evenings, and the hour has been fixed at 8 o'clock so that all ladies on the campus can attend. On Sunday evenings they will unite with the Y. M. C. A.

M. P. Thompson, with '96*m*, and his wife, visited at M. A. C. Tuesday and Wednesday of last week. Mr. and Mrs. Thompson live in Grand Rapids, and have been bicycling for several weeks. They came here from Battle Creek.

We have on our table a Turkish daily paper which was printed on the Sultan's accession day. It was presented to us by Bodourian, one of our Armenian students. We notice among the advertisements Ayer's Hair Vigor; the rest of the paper we are unable to translate.

The "Brackett Trophy," which was presented to the students of the M. A. C. by R. E. Brackett, Jr., of Lansing, is again occupying a conspicuous place in the library. This trophy is contested for each year at Field day, and is held by the class winning the greatest number of points in field day sports. The names of the successful contestants are each year engraved upon the trophy. It was held by the class of '96 for three successive years but was taken from them last year by the class of '98. To this class at least, it will be an object of interest until forfeited to more successful contestants. It has for several months been at the jewelry store of Mr. Brackett, where it was taken soon after field day, that the engraving might be done. We are glad to have it back. The names of the members of the class who gained the important victory are as follows:

A. C. Krentel, Lundy, Thompson, Marsh, Becker, Brown, Warren, A. B. Krentel, Ainger, Corey, Kling, Lapham, and Woodworth.

NATURAL HISTORY SOCIETY.

The exercises Friday evening, Oct. 4, consisted of a lecture on bacteriology by Chas. E. Marshall. The lecturer began by describing the various forms of bacteria, the leading types of which are:

1. Rod-shaped forms, bacilli.
2. Spherical forms, micrococi.
3. Screw-shaped forms, spirilla.

In addition, the bacteriologist has to do with the yeast plant, which though not stictly a bacterium, produces similar results to many of the bacteria. The main distinction between the yeast plant and bacteria lies in the fact that the former propagates by budding and the latter by division or fusion. Most bacteria have motion, and these species are provided with whips or tails which are supposed to be the organs of locomotion. Some kinds have a single filament or whip at each end, some a bunch of whips at each end and some, as in the case of the typhoid fever bacillus, have these threads or filaments proceeding from all parts of their surface. Perhaps the feature of greatest practical importance in connection with bacteria is their spores or special reproductive bodies. These are more dense in structure than the ordinary growing form of the organism, and better able to resist destructive agencies. A short exposure to a temperature of 80 to 90° centigrade will kill most growing bacteria, but their spores will often resist twelve hours or more of steam heat. These spores are a vegetative formation, one of which is produced under certain conditions in each bacterial cell, the first process in spore formation consisting in the gathering together of the granular matter present in the cell.

The manifestations of bacteria are seen on every hand, though the minute plants themselves are individually visible only with the higher powers of the microscope. Thus, the red and yellow spots sometimes seen on bread and other food left too long in a damp place are produced by colonies of bacteria; the souring of milk, fermentation in the silo and many important operations which take place in the soil are due to bacteria. Nearly all contagious diseases are now known to be of bacterial origin, each disease due to a different species. The symptoms and injurious effects in any disease are not, however, usually directly due to the bacteria themselves but rather to certain poisons which the bacteria secrete. An important discovery has been made that in many instances if this poisonous material secreted by the disease germ be introduced into the animal body in small quantities the animal is thereby rendered insusceptible to the attack of that disease, and even if administered in the early stages of the disease itself the virulence of the attack is greatly mitigated. Diphtheria, lockjaw, and the bites of poisonous reptiles are now successfully treated by this method.

Election of officers for the ensuing term resulted in the selection of Homer E. Skeels for president, H. W. Hart, vice president, and Roscoe Kedzie, secretary.

FOOTBALL.

W. R. VANDERHOEF, '97*m*.

We can point to Greece as the birthplace of nearly all our sports, and especially that of football. The Romans learned it from the Greeks, and when they gained possession of the British Isles they naturally instituted the game on the island.

Nothing is heard of it from the time of the Roman invasion until 1175, when the game is mentioned by Fitzstephens in his history of London. Yet it is thought that the game must have been played during the intervening time. Alexander Barclay in 1550 sang its praises in one of his poems thus:

"The sturdy plowman, lustie, strong and bold,
Overcometh the winter with driving the foot-ball,
Forgetting labour and many a grievous fall."

The game in those early days was played by rival villages, and every able-bodied person participated. As there were no rules and no umpire it must have been an interesting sight. Imagine on a level plot of ground a mob of men, women, and children, screaming and struggling for a chance at an opponent who has the ball, and you have a vague picture of the ancient game. It is no wonder that James I. prohibited the game being played during his reign.

There are two distinct games of foot-ball, as it is played in modern times—Rugby and Association. In Association foot-ball the ball must be kicked or thrown forward, and no running with or holding the ball is allowed, while in Rugby the ball is carried forward by a runner and only kicked occasionally. We need not concern ourselves with the Association game as it is not played in the United States to any great extent.

About 1870 the students at Yale became interested in foot-ball and started a series of games. Rugby was and is the basis of the American game, but as there are few traditions preserved here to hold students to the ways of former generations, as there are in English schools, the game has become somewhat modified. In the short time since its introduction foot-ball has become so popular that it now arouses more interest than all other college sports combined. One of the reasons for this is that it gives every opportunity for the display of generalship. The captain and coach can devise as many systems of attacks and defense as can a chess player.

Within the last six years there have been three styles of play, first solid line with speedy backs and only such influence as they could give each other; next the momentum mass play, and lastly, the open line formed into the interference. This last style is the more open and much more interesting to watch. To give an accurate description of this year's style of playing would be impossible for the foot-ball season has not fairly opened.

Foot-ball requires of its players two things, a well developed body and a clear head. There is no other game that gives development to every muscle in the body as does foot-ball. Not only does it develop every muscle, but no particular set of muscles are over-developed and the lungs are not enlarged by it to an extent dangerous to the individual after the game is over.

A player must retain perfect control of his temper under trying circumstances, and must learn to make hasty decisions, and with equal rapidity act upon them. This training is invaluable to any one as it gives self-control and confidence in his judgment and physical strength.

The moral side of the player is also trained. Indulgence in tobacco and other vices, to which students especially are prone, is rigidly prohibited by the trainer. He must also be temperate in eating and drinking, and regular in the hours he keeps.

Unfortunately at M. A. C. foot-ball has had to combat not only the unfavorable conditions of past school teams, but many prejudices of those who were unwilling to inform themselves about the game. This, however, is happily past, and the game will, we hope, take the position it deserves in our list of sports. Knowledge and experience are necessary to success in this game, so we must not expect too much of our present team, but support and encourage them to form a solid foundation for future successes of the M. A. C. foot-ball teams.

FOUR AND SIX HORSE TEAMS ON THE FARM.

Above is the title of a thesis for the degree of Master of Agriculture presented by E. D. A. True of Armada, Mich., of the class of '78. The paper is based on fifteen years' experience in the use of such teams, and is so timely and practical that we present herewith an abstract for readers of the RECORD. At the present time, when farm labor is high, the price of horses low, and the price of farm products extremely low, anything that will enable the farmer to utilize horse power to a greater extent and dispense with some of his hired help is a long step in the direction of economy, and this Mr. True shows can be done by the use of four and six horse teams for a large portion of the heavier farm work.

Our first systematic use, he says, of four horses began before the general introduction of the spring-tooth harrow, when the wheel-cultivator was almost universally used in the spring for working up fall plowing. Cultivating was such heavy work that when the ground was at all hard the horses were overworked, or the work was poorly done, or the cultivator and man had to stand idle much of the time while the horses were resting. We undertook to remedy this by putting a span of horses on each side of the pole of our cultivator and found as a result that the work was thoroughly done, while one man one cultivator and four horses would cultivate as much as two men, two cultivators and four horses in the old way. From that time forward we always did our cultivating with four horses. Our next step was to couple two harrows together and try four horses on them. Two harrows, however, when coupled together, proved to draw much harder than when separate. So, with some misgivings as to whether we were not overstepping the bounds of prudence, we applied six horses abreast, with such satisfactory results that six horses abreast became thereafter a regular institution with us, for though two harrows together drew harder than when separate, the work was so much more effectively done that we considered it no waste of energy. After this we used various combinations of tools, as for instance a roller with a harrow hitched behind. Finally we purchased a gang plow which turns two large furrows and requires six horses to draw it, and with which one man plows four acres a day.

The use of such large teams is not to be undertaken without proper precautions. One man cannot manage two runaway horses, much less half a dozen, and the danger in case of a general runaway of course increases the number of horses involved. Farm horses are, however, as a rule very docile, and if properly fed and managed rarely give any trouble. If I have to hitch in a horse that I think is inclined to run, I put him on the outer side and hitch him to the hame of the next horse by his tie strap; then I put my safest horse on the opposite side of the team, and if the fractious horse starts to run and I cannot hold him I hold back the safe side of my team, and the result is a circle. I never had but one runaway in all my experience with wide teams, and that I stopped by the above tactics.

Six horses abreast make a rather loose-jointed team and one must not expect to hold them as strictly to place as if driving two, and if they get out of the proper course they are not to be brought back suddenly by a sharp pull, but gradually by an easy curve. Guiding six abreast is much like steering a large boat, the man at the wheel never stops turning it, first a little to the right, then to the left, so the driver must be constantly touching this rein, then that, nipping in the bud each incipient curve. A light whip, long enough to reach the remotest horse, is an essential part of the driver's outfit. When unhitching large teams the driver will necessarily out of reach of several horses most of the time, and they are apt to take advantage of this and begin to stray away. To prevent this have a light strap or rope ready and pass it through a bit-ring of each horse, snapping it to the two outside ones. My manner of hitching four horses abreast is to hitch up two span of horses as if they were to work separately, drive them side by side and fasten the two inside horses loosely together by a strap three or four feet long passing between the two inside breast-strap rings. If I use a neckyoke this strap is not needed. Hired men are apt to want to tie the inside horses together by their heads, as it releaves them of some trouble in driving, but this I never allow. In hitching six abreast I follow the same plan, first hitching up two independent three-horse teams. The object of fastening the two inside horses together is simply to keep the two teams from straying apart. The reins will generally do this, in fact I used to drive with nothing else to hold my horses together. This is unsafe, however, as the driver is apt accidently to pull the wrong rein and drive the two teams apart, or a line may become foul and produce the same result. The handling of the lines is easily learned with a little practice, though for wide teams certain modifications of the ordinary form of lines are necessary.

Mr. True gives various illustrations of forms of lines used, of whiffletrees and neckyokes for use with large teams, and of methods of attachment to various farm implements. In conclusion he recommends the more frequent use of four horse teams on the road, a practice seldom seen in this state, but common in some parts of the east and in certain foreign countries.

WILLIAM HAMILTON GIBSON.

Within the past few weeks America has lost from among her artists two of the most remarkable workers in "black and white" that she has yet produced, Wm. Hamilton Gibson and Chas. A. Reinhart.

They are spoken of as "black and white" men because, though both were very successful painters, and the latter at least had an international reputation as such, their productions that reached the masses came through periodicals and books as the result of drawings in some of the numerous black and white mediums known to illustrators.

Their work is of such surpassing excellence that one is not overstepping the bounds of sage judgment in saying that in their special lines they have left us no equals.

The material for the study of these artists is always accessible, the mass of their best work having appeared in Harper's periodicals. Of course they were not confined to these publications, but in Harper's Monthly, beginning with the early 80's, may be found many of their finest drawings.

It is of Mr. Gibson that I wish at this time to write.

What a treat it is to go into the alcove in the library, where the bound volumes of Harper's are kept, take out almost any one of the 80's and look through it for some of Mr. Gibson's articles, with his own inimitable illustrations. Here you find him to be an artist with the pen as well as with the pencil. You will soon be able to tell any of his pictures at sight. No other artist has at all the same style. Certainly he had this particular field almost entirely to himself. No one else has brought us into such intimate relation with everything that pertains to the woods and fields of the eastern states.

This man must have known all forms of vegetable and animal life, all the trees, flowers, fungi, birds and insects of New England with an intimacy only to be accounted for by a daily life among them.

To this artist, this form interpreter of nature, belong all seasons of the year, all hours of the day and night. Late winter with the flowers blooming beneath the white mantle, their presence unsuspected except by a few enthusiastic friends. The spring with its disappearing snow, the moist earth appearing to push through it. The swelling buds bursting into tender leafage. The beautiful trees with their airy leaves becoming the rich masses of foliage of the summer time. The autumn with its glory of color and falling leaves. And then the winter, with the trees showing to better advantage than at any other time their fine anatomy. And the flowers, always in their proper season, expressed with that grace and ease and subtlety of touch known to no other hand. The birds, insects and smaller animals, which in so many pictures seem to be "lugged in" bodily, are in Mr. Gibson's drawings so thoroughly a part of the picture that no one thinks of doubting their propriety.

Much of the work of illustrators, especially the early ones, suggests the expression, "made out of their heads," but Mr. Gibson's never does. His work is invariably the faithful and loving transcript of a keen and ever-watchful observer of nature. He never had to go far afield to find a subject. His eyes were lifted and there before him was something well worth studying and drawing. And how dainty and exquisite the result! As you have walked through the fields and knocked the dew out of the cobwebs in the grass, have you ever thought how they would look in a picture? Mr. Gibson has shown you. Few of us, even the enthusiastic botanist, take our walks at midnight in the heart of the woods, especially in winter time. But when you see some of the artist's wood interiors at night, with, perhaps, the moon casting the shadows of the trees across the snow, you cannot help feeling the verity of the work. Don't you know that the "Midnight Tragedy" was seen by human eyes? How else could the movement, the action of the poor little beggar of a field mouse as he makes his frantic, flying leaps over the white snow, pursued by the owl, have been obtained.

Beside the articles scattered through the magazines, the College has in the library two of Mr. Gibson's books, "Our Edible Toadstools and Mushrooms," illustrated with beautiful colored plates and numerous small pictures in the text, and "Sharp Eyes." This latter book, with its subtitle of "A Rambler's Calendar, or Fifty-two Weeks Among Insects, Birds and Flowers," gives an idea, though an inadequate one, of the work of the artist.

The engravings are all "process" work, and in many cases give unmistakable clues as to the mediums used in making the original drawings. Some are done in body color—in which the tones are produced by mixing the black water color with a white having a thick body, such as Chinese white, and they may be thinned with water to suit the artist. These drawings, as in fact almost all those made for process reproduction, are much larger than the engravings, and have generally the bold, strong look of an oil painting. Here are some done in pen and ink, every line showing sharp and clean. I think some of Mr. Gibson's best pen drawings appear in an article, "Here and There in the South." Others are a combination of drawing with crayon on stippled paper and pen and ink, while some are done by the former method alone. Here is one done in charcoal, the ribs on the paper showing distinctly, while another is a combination of a charcoal drawing, with a spray of flowers done in water color, by its side, and partly overlapping it. This work alone furnishes to the student of illustrating and process engraving a fine text book. And the text! In the charm of these short stories of nature one almost forgets the pictures, beautiful as they are. The articles are all short. A few paragraphs, or at most a few pages, and you are done. A charming book to take up for a few minutes, and most restful.

The article on the south mentioned above should not be overlooked. In the drawings for this Mr. Gibson is taken out of his accustomed haunts, but how thoroughly and characteristically he has entered into the spirit of the occasion. Where some would shirk the labor of a careful drawing of the luxurient and varied vegetation of the south and give you an "impression," here we have pictures in which one may botanize, yet done with a certain breadth and freedom.

A line of work taken up by Mr. Gibson in recent years was popular lectures on various subjects in the botanical field, such as "Cross fertilization of plants." Doubtless some of you have heard this lecture, but those who have not can get an account of it from Mr. Gunson, with a description of the beautiful illustrations, pictorial and mechanical. Certainly people in a school like ours have special reason to keenly regret the premature death of Wm. Hamilton Gibson. We should be doubly grateful to the publishers who make it possible for us to know his work so well.

It has frequently been asserted that the brilliant colors of many flowers serve to attract bees and butterflies to them. Experiments recently reported to the Belgian Academy of Sciences seem to show that the perfume rather than color of the flowers is the real attraction. Bright-colored blossoms were covered with leaves and papers pinned closely about them; yet the insects not only visited the hidden flowers, but endeavored to force their way under the papers in order to reach the blossoms which they could not see.

He (playfully)—"How old are you, Miss Browne?" She—"I cannot tell a lie. I—" "Oh, if that is the case, I will not take a mean advantage of you. I withdraw the question."—*Cincinnati Enquirer*.

The M. A. C. Record.

PUBLISHED WEEKLY BY THE

MICHIGAN AGRICULTURAL COLLEGE

EDITED BY THE FACULTY,

ASSISTED BY THE STUDENTS.

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

HARRY EDMUND SMITH.

The subject of our sketch was born twenty-eight years ago in North Lansing where he now resides with his mother. Through the loss of his father at the early age of 4 years the care of the homestead gradually developed on the youth as he grew older. Still he was able to remain in the city high school till 17 years of age, and spent another year at Rork's Business College in the city. He decided to learn a trade and engaged with Whitley Bros., machinists, in Lansing, at fifty cents per day of eleven hours. Later a desire for a higher education budded while at E. Bement & Son's works in Lansing. He applied for a rise and was informed that a dozen Poles would gladly take his place at less pay.

Better work was obtained at the new wheelbarrow works, and still later a position as apprentice to P. F. Olds & Sons was secured. Here his pay was soon advanced to that usually paid in the second year. With the exception of a winter spent in Central America, he remained with this firm till the fall of '93, when he entered M. A. C. with the class of '97.

During the four years of waiting he had prepared himself for examination at three different times. Algebra had been acquired with book beside his machine at Olds'.

Mr. Smith made an enviable record as a student. At the opening of his junior year he was elected to Tau Beta Pi as the man standing highest in his class. Twelve special examinations count the terms of work he made up outside of class. In the spring of this year he crossed the middle line of the chapel and in August he received his degree of B. S. in mechanical engineering.

His election to the instructorship in mechanical engineering followed in vacation. C. C. P.

A SOCIETY FEATURE OF THE COLLEGE.

S. H. FULTON, '97, PRESIDENT OF Y. M. C. A.

The period of college training is pre-eminently a time of fixation of ideas and principles in the mind of a young man. Coming among new surroundings and influences, he is naturally very readily impressed with all that constitutes his environment. Not only does he incorporate into his mind knowledge imparted by instructors and ideas formulated by himself as he pursues his course of study, but also many of the views of his fellow students, particularly those relating to features of society. He is easily led by prevailing sentiment. Desirous of appearing well in society, of having the good will of all those with whom he comes in contact, of being popular, he may erroneously consider it necessary to conform to existing social customs, the propriety of which he questions from the standpoint of an earlier training. Naturally he looks about for a manifestation of some opposition to these customs, and if there is none to be found it is not at all improbable that he will overcome his scruples and no longer feel under the obligation of conforming to his earlier teachings.

At this college many good influences are exerted by a faculty who earnestly desire the best welfare of the students, by religious exercises, and by christian associations. But here, as in every community, evils do exist, and one of these in particular is felt to be detracting more or less from the greatest amount of good to be derived from a college training.

For some time past there has been a growing belief in the minds of a number of the students and others connected with the college that the popular amusement, dancing, has become a hindrance to the best development in the lives of many of the students, that as an over prominent society feature it is detracting from the literary training of the societies, and that it also interferes seriously with the spiritual growth in the college.

Until recently there has been no disapproval of the custom openly expressed. A student entering college might entertain the conviction that dancing would be to him an injury, that it would handicap him in attaining the fullest degree of benefit possible in his college course. Learning of the popularity of the amusement and hearing of no opposing sentiment, not even from those whose influence he believes to be for the best, it is more than likely that he will soon come to think that his old idea was an erroneous one, and will number himself among those who dance, or at least, will stamp the practice with the seal of his approval. True, dancing may do him no especial injury in college, but the fact of his having learned to dance may lead him to approve of the amusement in lower classes of society in which he may sometimes find himself. And even if he took no part himself yet if he still entertained these views they might be the means of leading into error, others who look to him for his opinion.

At all events, even though dancing may not be considered a positively injurious amusement by them who take part in it, it has, at least, conclusively proven itself to be a great hindrance to individuals who engage in christian work.

Knowing these facts, the Young Men's Christian Association, which should stand as an educator in the spiritual school of college life, has become firmly convinced that it no longer has any right to sanction a custom which is known to exert an influence counteracting the spiritual welfare of the student body, and has come to consider it a duty to give expression to sentiments which shall make it known to the whole college population that there is a feeling in opposition to the practice.

With this end in view resolutions unanimously passed the association at the business meeting of last Thursday night, setting forth the opinions of the association as a body and declaring the sentiment of the association to be in opposition to the custom.

These resolutions do not take on the nature of a pledge binding on members of the association, but passed that body simply as a sentiment which is the outgrowth of firm conviction, expressed through a conscientious sense of duty.

REPORT OF BASE BALL MANAGER.

RECEIPTS.

CONTRIBUTIONS.

J. L. Snyder	$10 00
Howard Edwards	5 00
C. D. Smith	5 00
Walter B. Barrows	5 00
L. R. Taft	5 00
E. A. A. Grange	5 00
H. K. Vedder	5 00
Chas. L. Weil	5 00
E. A. A. Lewis	5 00
I. H. Butterfield	5 00
Frank S. Kedzie	5 00
C. C. Pashby	1 50
W. Babcock, Jr.	3 00
B. O. Longyear	1 00
C. F. Wheeler	2 50
Herbert M. Mumford	3 00
A. A. Crozier	1 00
Gordon H. True	2 00
M. W. Fulton	1 00
J. S. Conway	1 50
Chase Newman	1 00
H. M. Howe	1 00
Thorn Smith	1 00
W. O. Hedrick	5 00
V. V. Newell	3 00
P. B. Woodworth	3 50
H. B. Noble	2 00
H. P. Gladden	2 00
M. L. Dean	1 00
E. S. Good	1 00
Fred C. Kenney	2 00
R. Harrison	1 00
G. C. Davis	2 50
K. L. Butterfield	2 00
Thos. Gunnison	2 50
A. L. Westcott	1 00
T. A. Durkin	1 00
Geo. M. Phelps	1 00
R. C. Kedzie	5 00
	$115 00

GATE RECEIPTS.

Game with Albion	$14 80
" " M. M. A.	16 55
" " Olivet	14 65
Two games with Kalamazoo	38 33
Game with Hillsdale	9 65
" " Orients	7 65
" " Orients	7 23
" " Holt	3 40
	$112 26

RECEIVED FROM CLUBS.

Club D.	$1 76
Club E.	2 09
Club B.	1 75
	$5 60

EXPENSES.

To Albion team	$19 71
" Orchard Lake team	42 55
" Bus fare	1 20
" Printing and dis. bills	2 00
" Ann Arbor game	5 40
" Expenses at Hillsdale	5 13
" Street car L. H. S.	50
" Olivet team	16 04
" Locks on lockers	2 75
" Kalamazoo team	43 60
" Hillsdale team	40 20
" Street car for team	70
" Telegram M. M. A.	55
" 1 doz Spaul. balls	12 60
" Body protector	6 50
" 5 bats	2 25
" ½ doz. Victor balls	13 50
" Printing and dis. bills	2 00
" One bat	75
" Postage	1 48
" Sewing 4 balls	50
" Account book	15
" B. B. Guides	95
" 4 pair stockings	82
" Sewing three bases	25
" Deficit on vacation games	2 58
" Two bats	1 25
" Railway Guide	10
" 26 yards cotton	1 56
" Gum and lemons	2 04
" Bats and balls, Elliott & Stocum	5 00
	$234 61

Summary.

To total receipts	$232 86	
By total expenses		$234 61
To balance	1 75	
	$234 61	$234 61
By balance		1 75

The above statement is a true account of all moneys received and disbursed by us.

FRED C. KINNEY, *Act. Treasurer*,
CHAS. F. HERRMANN, *B. B. Mngr.*

NEW STUDENTS.

Appleyard, Louis L., Lansing, Mich.
Avery, Jno. R., Three Rivers, Mich.
Arney, W. H., Lansing, Mich.
Banghart, Florence, Lansing, Mich.
Banghart, Bessie, Lansing, Mich.
Banghart, Leonard, Lansing, Mich.
Ball, Wm., Grand Rapids, Mich.
Bement, Frank, Lansing, Mich.
Bishop, J. E., Dimondale, Mich.
Bissell, Florence, Z., Lansing, Mich.
Bodourian, A. G., Necomodia, Ismid, Turkey.
Brainard, W. K., Brady, Mich.
Brooks, T. B., Vernon, Mich.
Burt, Frank W., Ransom, Mich.
Bristol, Tressie, Almont, Mich.
Cannell, Winnifred, Lansing, Mich.
Calkins, Ruby, Agricultural College, Mich.
Chadsey, Chas., Thompsonville, Mich.
Church, W. L., Detroit, Mich.
Chase, Hattie, South Haven, Mich.
Clark, Homer B., Allen, Mich.
Cockrell, E. D., Cadillac, Mich.
Cook, Arthur, Harbor Springs, Mich.
Collins, C. P., Detroit, Mich.

DeFrenn, Albert, Owosso, Mich.
Dodge, Frederick W., Lansing, Mich.
Eckenfels, Frank J., Lewiston, Mich.
Fitch, C. W., Grand Rapids, Mich.
Fisher, C. V., Crystal Valley, Mich.
Flannagan, J. A., Orleans, Mich.
Foster, Fred H., Clarkston, Mich.
Georgia, Alice C., St. Johns, Mich.
Glasgow, W. J., Logan, Mich.
Goldsworthy, L. D., Hancock, Mich.
Griswold, R. L., Vermontville, Mich.
Graham, A. E., Grand Rapids, Mich.
Gunn, F. S., Holt, Mich.
Gunnison, E. J., DeWitt, Mich.
Harris, H. K., Toledo, O.
Hammond, M. H., Vermontville, Mich.
Harrison, May, Lansing, Mich.
Hilton, Chas. H., Benton Harbor, Mich.
Howard, S. E., Belding, Mich.
Houk, Geo. M., Bell Branch, Mich.
Jacobs, Miss M., Grand Rapids, Mich.
Jewell, D. B., Assyria, Mich.
Johnson, L. E. W., Lansing, Mich.
Kennedy, S. J., Crawford, Mich.
Lickly, H. M., Lickly's Corners, Mich.
Longyear, Frank, Lansing, Mich.
Lundy, Grace M., Agricultural College, Mich.
Lyons, Arthur E., Lansing, Mich.
Malone, Bertha E., Lansing, Mich.
Marshall, Grace L., Lansing, Mich.
Monroe, Lucy, South Haven, Mich.
Morgans, Morgan, Pontiac, Mich.
Mundon, Florence, Lansing, Mich.
Nottingham, Bret, Lansing, Mich.
O'Connor, Harriet, Lansing, Mich.
O'Dell, C. E., Jones, Mich.
Parker, John P., Fowlerville, Mich.
Pashby, Eliot, Constantine, Mich.
Packard, Harold, Toledo, O.
Parks, W. T., Pipestone, Mich.
Pierson, D. C., Hadley, Mich.
Peek, J. S., Jackson, Mich.
Phelps, Ella, Pontiac, Mich.
Prentiss, R. A., Allen, Mich.
Price, Eugene, Ithaca, Mich.
Plummer, Copeland, Lansing, Mich.
Ranney, E. W., Belding, Mich.
Reed, C. H., Howell, Mich.
Richmond, M. J., Smyrna, Mich.
Rice, J. A., Lawrence, Mich.
Ring, F. H., Chicago, Ill.
Robson, Harriet, Lansing, Mich.
Rose, Sanford C., Clinton, Mich.
Rupert, Harry, Ft. Wayne, Ind.
Sedgwick, L. A.,
Smith, Edith A., Lewiston, Mich.
Stevens, F. G.,
Stocking, F. H., Detroit, Mich.
Tindall, R. D., Davisburg, Mich.
Thomson, John W., Saginaw, Mich.
Thompson, Irma, Lansing, Mich.
Thayer, Paul,
Triplett, J. A., Lickley's Corners, Mich.
True, C. W., Jackson, Mich.
Truesdale, Wm. T., Lansing, Mich.
Underwood, Mertie, Lansing, Mich.
Vaughn, Amy B., Ionia, Mich.
Warren, C. A., Grand Rapids, Mich.
West, F. E., Attica, Mich.
Wells, Geo. B., Ithaca, Mich.
Whitney, F. W., Allen, Mich.
Weigman, H. W., Jr., Holt, Mich.
Wing, G., Ludington, Mich.
Wilmarth, H. C., Lansing, Mich.
Woodworth, Robt., Lansing, Mich.

The mother of two of our alumni writes: "Now that the College is offering a course of study for young women, I wish to suggest that the making of wax models of fruit would be a suitable industry for girls and one not overdone in this country. Models for the classroom, and for the preservation of perishable fruits would have a real value."

The following quoted by the Lansing Republican of Oct. 2, from Atty.-Gen. Maynard, will interest friends of one of our old alumni:

"I want to tell you, your man Collingwood is one of the best speakers on the financial question it has been my fortune to be associated with this campaign. I can say without any hesitancy that no man in Michigan can make a more able or convincing argument, showing the fallacy of the free silver theory than can Prof. Collingwood."

ON THE RIVER.

[By B. Barlow, '99, in Freshman Rhetoric.]

Two summers ago we were rafting lumber down Flat River from Watson's mill to Greenvile,l a distance of about five miles. The country through which the river flows was once covered with pine, but it was cut long ago, and the thin, sandy soil nourishes the farmer's straggling wheat or stands with only the stumps and stubs to remind us what it once was.

But the river valley itself is quite different, it is a strip of greenest verdure winding through a gray level tract. From our raft, however, nothing could be seen but the dense woods on either side and a strip of blue sky above. The forest rises in solid ranks—silver maple, ash, elm, linden, and all those trees that love a river bank. Most of the way the great trees crowd close to the brink, but in places there are marshy meadows of coarse grasses and rank sedges, bordered with alders and willows and dogwood.

In places the wild grape weighs down large trees with its luxuriant masses of growth, or on sunny banks the wild morning glory spreads its screen over the bushes. The humming bird darts here and there, poising before the cardinal flowers, whose intense red almost rivals his flashing breast.

There are a hundred bright flowers, of different kinds, a hundred wild birds; the fish dart in the water below, the trees overhang on either side and the sun pours down between. It is altogether a beautiful haunt of nature and I hope I may see it again.

Prof. (in literature.)—Why are such works as Homer, Virgil, etc., called classics?

Bright One.—Because they are enough to make any class sick.—*Ex.*

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Hon. Chas. F. Moore.....St. Clair.
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Hon. W. E. Boyden.....Delhi Mills.
Gov. John T. Rich..... } *Ex-Officio.*
The President of the College..... }
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FRANK S. KEDZIE, M. S.,
Adjunct Professor of Chemistry.
WILLIAM S. HOLDSWORTH, M. S.,
Assistant Professor of Drawing.
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Instructor in Agriculture.
BURTON O. LONGYEAR,
Instructor in Botany.
CYRUS C. PASHBY, B. S.,
Instructor in Mathematics.
GORDON H. TRUE, B. S.,
Instructor in Dairying.
CHARLES E. MARSHALL, PH. B.,
Instructor in Bacteriology.
H. E. SMITH, B. S.
Instructor in Mechanical Engineering.
D. B. BALDWIN,
Engineer.
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Foreman of Greenhouse.
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Foreman of the Farm.
W. S. LEONARD.
Foreman of Machine Shop.
THOMAS DURKIN,
Foreman of the Horticultural Department.
CHARLES E. HOYT,
Foreman of the Wood Shops and Foundry.
E. S. GOOD.
Clerk to President.
CHACE NEWMAN,
Clerk of Mechanical Department.

Aside from the State Board of Agriculture given above, the following are the officers of the Experiment Station:

STATION COUNCIL.

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Jonathan L. Snyder, Ph. D., Pres.....Ex-officio.
L. R. Taft, M. S.....Horticulturist.
Robert C. Kedzie, M. A., M. D.....Chemist.
Ira H. Butterfield.....Secretary and Treasurer.

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A. A. Crozier, M. S.....Assistant in Agriculture.
Herbert W. Mumford, B. S..Assistant in Agriculture.
H. P. Gladden, B. S.....Assistant in Horticulture.
M. L. Dean.....Assistant in Horticulture.
Thorn Smith, B. S.....Assistant in Chemistry.
E. A. A. Grange, V. S.....Consulting Veterinarian.
G. C. Davis, M. S.....Consulting Entomologist.
Chas. F. Wheeler, B. S.....Botanist.
Mrs. L. E. Landon.....Librarian.
T. T. Lyon, So. Haven.....In charge of Sub-Station.
R. L. Taylor, Lapeer.....In charge of Apiary.

SUB-STATIONS.

Grayling, Crawford county, 80 acres deeded.
South Haven, Van Buren county, 10 acres rented; 5 acres deeded.

OFFICIAL DIRECTORY.

Sunday Chapel Service—Preaching at 2:30 P. M.

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.

Y. W. C. A. regular weekly meetings for all ladies on the campus Wednesday evenings at 8 o'clock, in the ladies' parlors. Meetings on Sunday evenings with the Y. M. C. A.; Miss Edith F. McDermott, president; Miss Alice Georgia, 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. Rigterink, 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-President. H. L. Becker, Secretary.

Columbian Literary Society—Regular meeting every Saturday evening in their rooms in the middle ward of Wells Hall, at 7:00. E. H. Sedgwick, President. C. F. Austin, Secretary.

Delta Tau Delta Fraternity—Meets Friday evenings in the chapter rooms on fourth floor of Williams Hall, at 7:00. W. Judson, President. C. P. Wykes, Secretary.

Eclectic Society—Meets on fourth floor of Williams Hall every Saturday at 7:30 P. M. C. D. Butterfield, President. Manning Agnew, Secretary.

Feronian Society—Meets every Friday afternoon at 2:30 in U. L. S. Hall. Miss Sadie Champion, President. Miss Marie Belliss, Secretary.

Hesperian Society—Meetings held every Saturday evening in the society rooms in the west ward of Wells Hall at 7:00. J. D McLouth, President. R. H. Osborne, Secretary.

Olympic Society—Meets on fourth floor of Williams Hall every Saturday evening at 7:00. H. W. Hart, President. C. J. Perry, Secretary.

Phi Delta Theta Fraternity—Meets on Friday evening in chapter rooms in Wells Hall, at 7:00. W. G. Amos, President. F. H. Smith, Secretary.

Union Literary Society—Meetings held in their Hall every Saturday evening at 7:00. E. A. Robinson, President. S. F. Edwards, Secretary.

Tau Beta Pi Fraternity—Meets every two weeks on Thursday evening in the tower room of Mechanical Laboratory. G. A. Parker, President. E. H. Sedgwick, Secretary.

Club Boarding Association—I. L Simmons, President. H. A. Dibble, Secretary.

Try and Trust Circle of King's Daughters—Meets every alternate Wednesday. Mrs. W. B. Barrows, President. Miss Lilian Wheeler, Secretary.

NEWS FROM GRADUATES AND STUDENTS.

M. W. Stutz, with '96*m*, is teaching at Flat Rock.

V. S. Hillyer, 91*m*, has sent for his standings at M. A. C., to be used in entering the Michigan mining school this fall.

Leander Burnett, '92, R. L. Reynolds, '95*m*, and M. G. Kains, '95, are planning a visit to M. A. C. next June, if the triennial reunion is held at that time.

Guy Baldwin, with '94*m*, is at Cornell taking work in electrical engineering. Though he spent but five terms at M. A. C. he thinks it the finest place on earth.

R. L. Reynolds, '95*m*, and Leander Burnett, '92, have entered the senior class at Cornell for advanced work in electrical engineering. They room together at 75 East Buffalo street, and have a climb of about 400 feet before they reach the level of the campus.

The Record comes on Friday evenings and everything is dropped until the items under "At the College," and "News from Graduates" are devoured. I don't see how an alumnus can exist without his Record.—M. G. Kains.

L. H. Bailey, '82, professor of horticulture in Cornell University, has just issued a bulletin on "Suggestions for the Planting of Shrubbery." It is designed to give "suggestions for the betterment of home grounds in rural communities," and contains nearly thirty excellent illustrative cuts and drawings. The text contains not only general hints about planting, but specific descriptions of well ordered home yards: and is a valuable little work to place in the reach of the husbandman.

FILING SCRAPS.

M. G. Kains, '95.

In answer to the article entitled "Keep a Scrap Book," quoted in the Record of Sept. 22, I wish to offer two other methods of filing newspaper clippings. A scrap book is certainly a good thing when only a few clippings are made, or when kept only for the "fun of it;" but, when kept for practical purposes there is hardly a more effectual way of burying information. The article wanted must be searched for among a heterogeneous mass of disjointed sundries; time is lost.

The first method is by means of envelopes in a portfolio scrap book. This is made by binding a number of strong manilla envelopes in book form, with their flaps on the outside or at the top. Each envelope is for clippings of a particular class, and are dropped in loose. When necessary they are folded so as to show the head-line of the article. The topic, name, and the number of the envelope are written on the outside and indexed both by topic and number. To get a desired clipping, all that is necessary is to hunt up the envelope by number and look over the papers inside.

The second method is even better. The clippings are carefully arranged according to topic and are pasted on sheets of common yellow paper of any desired size. Eight by ten and one-half inches is a standard size and more convenient than if larger. These sheets are placed loosely in manilla folders labelled on the outside and arranged in alphabetical order. The method is the same as for dried plants in an herbarium. The great advantage of this method is economy of time in hunting up desired articles. In this respect it is superior to either the scrap book or the envelope portfolio.

Often the student will meet with an article he cannot cut out. In such a case an abstract or commonplace book is very convenient. Use an address book with printed marginal alphabet (5 x 9 inches is a good size) to write, in abbreviated form, the important points of the article, giving reference to the place where found and the date. The amount of useful knowledge that can be boiled down into a small space is wonderful, and the owner of such a book would find it invaluable. Moreover, the effort to condense the good points and cull out the superfluous words is good mental training in itself.

If I have not made the matter clear with regard to the portfolio and to the commonplace book, I am sure Mr. Wheeler will be glad to explain anything to any student who asks him. He has both. I take this opportunity of again thanking him for such valuable adjuncts to my reference library.

TOO MUCH FOR THEM.

"Professor, why are prize fighters never found in foot-ball teams?"

"They can't stand the punishment."—*Free Press.*

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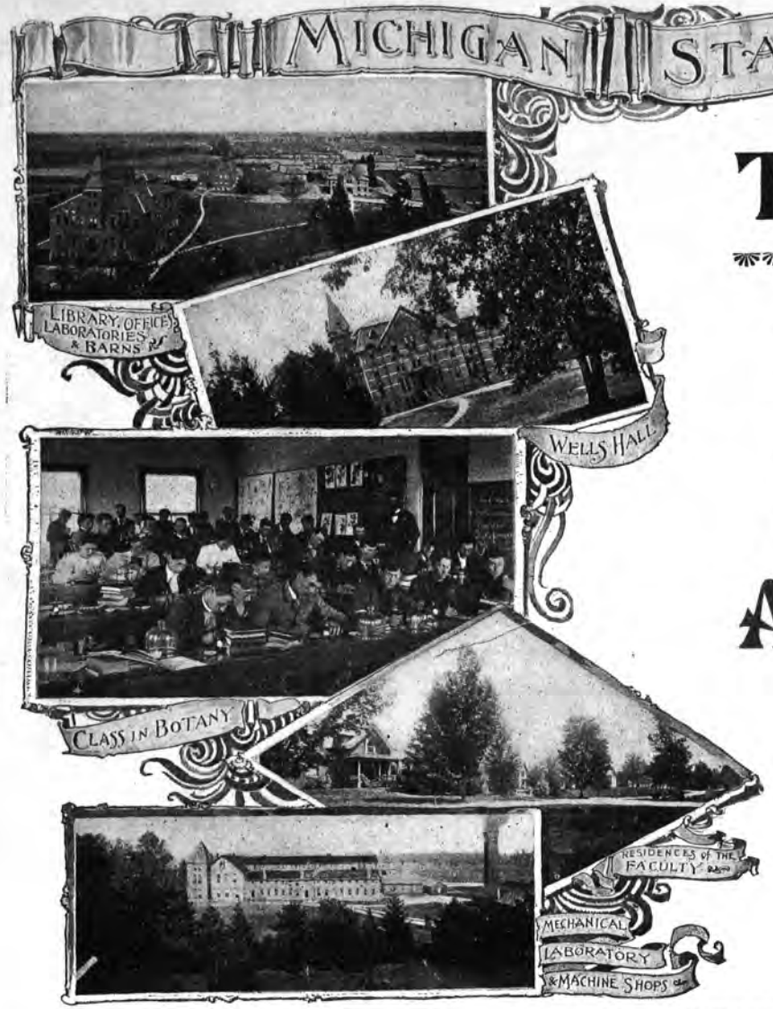

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