

## NUMBER 7.

Alvah M. A. C. Johnson has received a well-deserved promotion. Mr. C. M. Connor, D2, for several years assistant in horticulture at the Missouri Agricultural College, has assumed the position of assistant horticulturist at the South Missouri Agricultural College. Mr. Connor has an excellent reputation. He is well known in the horticultural circles and his position is one of the best in the horticultural line. He will be able to fill the shoes of the late Mr. Johnson.



# The M. A. C. Record.

PUBLISHED WEEKLY BY THE

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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 postoffice, for no charge will be made for it. The only way, however, to secure the RECORD regularly is to subscribe.

## Self Education.

It is doubtless true in last analyses that all education is self-education. "The harmonious development of all our faculties," which Sir John Lubbock terms education, may receive encouragement and direction from teacher or school, but is dependent ultimately for advancement upon oneself. Rightly considered the true relation between teacher and scholar should oblige the student to see what he can get out of his instructor rather than compel the teacher to reverse the process.

To minister to his development, then, toward the end asserted by Herbert Spencer of knowing "how to use all his faculties to the best advantage for himself and others—of knowing how to live completely," is the chief business of the student. We have sometimes thought that familiarity with the equipment and methods of a college dulled students to the exceptional means of self education around them, and hence the enumeration of these means might be justifiable.

The various laboratories are perhaps the peculiar avenues of self development afforded the student by this College. Rightly persuaded that self-education is the most worthy sort, desirous of giving his faculties the exactness found in scientific study or the information therein contained what possibility is not open to the student in the facilities and accessibility of the laboratories around him? This opportunity is enhanced in value to the College student through its absence elsewhere. Few can afford the most modest means of scientific study. Nowhere, practically, except at a college or university can an equipment for all kinds of scientific investigation be found.

A most generally useful means of self education is the library. In all times the most available means of self education have been books. "The better part of every man's education," says Lowell, "is what he gives himself, and it is for this a good library should furnish the opportunity and means." To the extremely limited (though trustworthy) information obtained from our own experience there is added the information derived from all other men's experiences by means of books. A library may not only, however, afford increased knowledge to a student and materials for developing his faculties, but it may furnish encouragement as well. "There are books of knowledge and books of power." It would doubtless be gratifying to the student to testify how amply books are provided in the library on

every subject of interest, or how abundantly accessible they are made to him. The material is at hand to enlighten him upon the whole range of his interests if he simply be so inclined.

Not less valuable are the possibilities of development to the student on the farm or garden or in the work shop. Their materials are so disposed as to be most useful to him, and they may, indeed, furnish education in convenience or physical skill not obtainable from other sources. The student comes into his inheritance, only when he begins to utilize opportunities like those around him toward his self improvement. His awakening is to the materials and spirit which will go far toward equipping him for "complete right living."

## The Special Courses.

We are glad to notice that the special-course students have finished their work well pleased. The only criticism heard has been that the courses were not long enough. Most of the students say that they could have attended if the courses had been longer. The faculty will have occasion to consider this point in planning for the next winter's courses.

The program was carried out essentially as advertised, together with several additional features. One of the most helpful features of these courses was the talks by prominent men in the various lines of farming from this and adjoining states. Many suggestive details were brought out in these talks bearing on the successful conduct of the business of farming under varied circumstances. Throughout these courses the students have been brought into touch with the best thought of the day in the different branches considered, and if these lines of thought are followed up as opportunity permits, much more will ultimately be gained from the courses than the information that could be imparted in the brief period of six weeks. In fact, it is believed that during their short stay a broader outlook has been gained by these young men, which will make it much easier for them to keep to the front in their chosen calling.

Although their stay with us has been so short, it is hoped that these new friends will not forget the College. The special courses will undoubtedly be given again next winter, with perhaps some enlargement and improvement, and the extent to which they are patronized will largely depend on the activity of those who are just leaving us, in calling the attention of their friends to the matter. If it is a good thing, we trust they will pass it along, and tell other young men, and ladies too, of these opportunities. The College desires especially to commend these young men for the industry they have invariably shown while here and the excellent quality of their work. It speaks well for the future success of courses of this character.

## Scale-Insects or Bark-Lice.

R. H. PETTIT.

A group of insects full of interesting surprises to the student is the family of bark-lice or scale insects. This family, taken as a whole, contains a large number of smaller natural groups, but only two of them are likely to be found in any numbers on our outdoor plants. These two groups contain many kinds or species, each of which is limited to one or more host-plants.

The members of the first group, which are by far the most numerous and important, are always very small, seldom more than an eighth of an inch

in length. We are all familiar with the small papery scales to be found on the skins of oranges and lemons. Each of these is the covering of a still smaller insect, which is easily seen if one take the trouble to lift up the snug little dwelling with a pin.

The history of the growth of these scales is, briefly, as follows: The tiny eggs give forth delicate little beings so small as to be seen with difficulty by the unaided eye, but nevertheless very active. They are usually oval and have feelers and six legs just like other insects. This stage usually lasts only a few hours or days, according to the species, and during this time they are liable to be transported from one locality to another on the bodies and feet of insects, birds, etc. Although this method of transportation may seem to be very uncertain, their extreme minuteness renders it quite easy. In their wanderings they can easily crawl upon the foot of a bee or other insect and be carried to a neighboring tree, or, if they chance to attach themselves to the foot or plumage of a bird, they may be carried miles before alighting.

If the tiny passenger happens to alight on the proper food-plant it runs about and soon selects a fit place to pass the remainder of its life. The young louse settles down, inserts its beak and, finding plenty of food, its growth is rapid. In a short time there appears over its body a slight covering of waxy or cottony material, which serves both for protection and for concealment. Soon after this the larva commences to secrete a firm, papery, shield-like covering, which in time becomes the scale or covering giving the name to the insect.

Now comes the strange part of the story. The female keeps on growing and changes into a mere sac, losing her legs, eyes, antennae, and almost everything but her long, thread-like mouth parts. These are never removed from the plant, and in some species a poison seems to be injected into the host, which has the effect of increasing the flow of sap to that point. While in most cases the mere abstraction of enough sap to support the life of so small a parasite would hardly be likely to seriously injure the host-plant, still this constant drain, together with the effect of the injected poison, often results in its death.

The male, on the other hand, develops into a delicate winged creature somewhat resembling a very small gnat. It is brightly colored and very dainty in appearance. However, its career is soon cut short, for its life usually lasts only a few hours. The male is furnished with two wings, six legs, antennae, and with two sets of eyes. As its life is too short to require food, the mouth is replaced by another pair of eyes. It seems strange that among these insects the males have no mouth, but an extra pair of eyes in its place; while the females lack eyes and are provided with a long, tube-like mouth, much longer than the entire body.

The eggs, sometimes very many of them, are laid under the scale, the mother meanwhile shriveling up and making room for them. As soon as the eggs are laid the mother dies.

The members of the second group of scale-insects are not furnished with coverings or scales, such as are found among those just described, but the insect is naked. They are larger than those belonging to the first group, being often one fourth inch in diameter and sometimes even one-half inch in size. They vary in form from nearly spherical to quite flat. While quite

soft before maturity, later the skin develops into a hard and leathery shell, inside of which the eggs are laid. The males of these insects resemble those of the first group, so far as known. In many species of bark-lice the males are unknown, although the females have reproduced for many generations in confinement.

Many of these scale-insects are to be found on our native trees and shrubs. Those belonging to the second group, the large fleshy ones, are usually confined to the branches, but the true scale-forming species, such as first described, may be seen on leaves and fruit as well. Some are to be found under the ground on roots, and some form galls. Our white pine furnishes a very pretty example of a leaf-inhabiting form in the small white scale usually found on the needles or leaves. To this first group belong also the oyster-shell bark-lice of the apple and the dreaded San José scale which has proved so destructive in California and some of the eastern states.

Beside the insects included in the two groups under discussion, many others are to be found in our green-houses, such as mealy-bugs, etc.

Although the members of this large family may be regarded as either mainly destructive or harmless, some are very beneficial to us, the cochineal and shellac of commerce are the products of scale-insects, china-wax is secreted by a bark-lice, and manna is the dried honey-dew secreted by a member of this family.

Zoological Department, Feb. 11, 1897.

## Lecture Course.

The Y. M. C. A. has arranged with members of the faculty the following course of Friday evening lectures:

1. "The Greek Literature," Dr. Edwards—Feb. 19.
2. "The Beginnings of Science," Prof. Wheeler—Feb. 26.
3. "Three Unsolved Problems," Prof. Smith—Mar. 12.
4. "The History of the Roentgen Ray, Illustrated," Prof. Woodworth—Mar. 19.
5. "Heredity, Environment, Will," Pres. Snyder—April 9.

In addition to these, Profs. F. S. Kedzie, Barrows, Holdsworth, Noble, and Hedrick have agreed to lecture next term, the themes and dates of which lectures will be published later.

The above, with the exception of the 4th, will be delivered in the College chapel, and will begin promptly at 7 o'clock. Let everybody come and show their appreciation of this effort in behalf of Friday evening instruction and entertainment.

## A Beet Harvester.

A Stanton county, Nebraska, man has invented a machine to top and dig beets. He claims for his invention that with it a man and two horses can top and dig four acres of beets per day. It is so arranged that the beets are delivered upon the ground in one place and the tops in another. It also is so adjusted that it works automatically and tops the beet at the right place, regardless of the height at which they stand out of the ground, thus obviating any waste of beets. The patentee has written to the Omaha Commercial Club to inquire about the advisability of establishing a small factory in Omaha for the manufacture of the machine.

That woman has no aim in life.

A thoughtful person owns:

And if you don't believe it, sir.

Just watch her throwing stones.

—Ex.



## At the College.

A. S. Eldridge, of '99m, spent Sunday in Detroit with H. M. Howe.

The senate College committee visited the College one day last week.

New steam pipes have been placed in the foundry, suitable for either live or exhaust steam heating.

The meeting of the King's Daughters tomorrow will be at Mrs. Babcock's. Lesson, Luke viii. Text "Riches;" Leader, Mrs. Gunson.

W. J. Merkel, '98m, left Friday for Detroit, from whence he will go to Mt. Clemens Sanitarium, where his mother is quite sick with cancer.

A meeting of the State Board of Agriculture has been called for Thursday, Feb. 25, in the board rooms at the agricultural laboratory.

The Feronian Society entertained about a dozen of the faculty ladies in the Hesperian rooms at their regular literary meeting Friday afternoon.

The board of student editors will meet every Monday evening at 7:30 in the English class room. All the student editors are urged to be present at these meetings.

Last Saturday evening, the members of the Union Literary Society entertained their lady friends with a fine literary program which was followed by games and dancing.

The Department of Agriculture has just presented the College a bust of Senator Morrill, which occupies a place in the library. It is a cast from a marble bust made in Italy.

A half dozen of the coeds returned the compliment of a week ago by taking six of the Union Lit boys for a sleighride last Friday evening. Prof. and Mrs. Woodworth chaperoned the party.

Prof. Clinton D. Smith, director of the Experiment Station and professor of agriculture, was in Saginaw Friday evening, where he lectured before the board of trade on "Beets—Their Use and Cultivation."

Mrs. J. D. Kenney of Port Huron, accompanied by her son, Guy Kenney, assistant bookkeeper of the asylum for the insane at Traverse City, has been spending a week with her son, Mr. F. C. Kenney. Mrs. Kenney returned home Saturday.

Prof. Woodworth tendered a pleasing entertainment to the special students on Thursday evening. The various interesting effects of the X rays were clearly shown and explained. Several selections from the phonograph completed the evening's program.

Prof. Westcott is preparing a catalog of machine tools for use in the designing room. The illustrations of the various tools are to be arranged, according to their use, on stiff paper, and bound in a form similar to that of the engine catalog now in use.

Drs. Kedzie and Edwards and Prof. Holdsworth were appointed a committee to secure a speaker at M. A. C. for Washington's birthday. They have secured the services of Hon. Washington Gardner, who will speak in the chapel at 10:20 o'clock on the morning of Feb. 22.

The Olympics gave a pleasant social party in their rooms last Friday evening. Quite a large number attended and enjoyed an evening of dancing, among them being V. J. Willey, '93, N. M. Morse, '94, and Mr. Morey of Lansing. About 12 the party ceased dancing and enjoyed a midnight ride to Lansing after Mr. Palmer's "grays."

The Leopold Cassella Co., Frankfort, O. M., through their American

agents, Wm. J. Matheson & Co., New York, have presented the chemical department a complete set of samples of their aniline dye stuffs. The set is very complete, containing nearly one thousand samples of cotton and woolen stuffs artistically arranged and giving the formula for each tint.

It is quietly hinted that the way in which some of the "old boys" led forth the winsome lassies to the quadrille at the Grange party the other night was a revelation to the younger generation. To see them cut the pigeon-wing, chassé around the room, execute the double-shuffle, and end up with the dizzy pirouette, one would think the shade of St. Vitas were master of ceremonies.

While the Dairy school was in progress the Farm department worked up such a demand for their butter that now they are entirely unable to supply this demand. Several grocers of Lansing have sent out, urging that they be kept supplied with M. A. C. butter. This proves to us that there is certainly a great and constant demand for first-class butter and that this demand is much in excess of the supply.

The agricultural freshmen finished a course of six weeks in the wood shops last Friday. The work has been very valuable to those who took an interest in it. It included the making of various kinds of joints—mortise, stub, dovetail, miter, and half joints—dovetail boxes, and patterns, for those who showed proficiency in the other work. Saw-filing and tool-grinding also made up a part of the work, and two days were spent at the lathes doing plain turning.

On Wednesday evening, Feb. 11, the Capitol Grange of Lansing held a social at the home of G. M. Towar, near the College. The College was represented by Messrs. Newman, True, Longyear, Durkin, Earl, Thompson and Pashby and by students Crosby and Sibley and the Misses Banghart and Mundon. Music was on hand, and nearly all were attracted to the hall on the second floor. Pancakes and maple syrup were served with coffee for refreshments. It was a late hour when the one hundred fifty guests took leave of their genial host and went away feeling that the evening had been a very enjoyable one.

## A Parody.

ELMORE M. HUNT, '99.

(Read before the Columbian Literary Society, Jan. 30, 1897.)

A Freshman, on a summer's day,  
Worked on the Hort. for the usual pay  
Beneath his straw hat glowed the wealth  
Of Freshman innocence combined with health.  
He sang as he worked in his merry glee,  
While a Sophomore mocked him from under a tree.  
But when he glanced back at old Williams Hall,  
With its bell on top that looked so small,  
He forgot the leet, and a vague unrest  
And a nameless longing filled his breast,  
A wish he hardly dared to own,  
For something better than he had known.

A Senior came slowly down the lane,  
Twirling his 'stache in a manner quite vain.  
He stopped for a moment under the trees  
To greet the Freshman down on his knees.

Who was picking the berries, luscious and red.  
He wanted some of the berries, he said.

The Freshman quickly sprang to his feet  
And gave him a squirt or more in each.  
He blushed as he gave them, and looking away,

He thought of the stack he got yesterday.  
"Thanks!" said the Senior, "no better lot  
I never had from Taff's whole crop."

He talked of the Hort., of the Farm,  
and of Drill;  
He talked of the Abbey, as all Seniors will;

Then spoke of the benefits of taking  
the Ag. course,  
And of streams of cold water with

Sophs. at the source,  
Till the Freshman forgot his awkward ways,  
His homesick feelings, and his lonesome days.

At last, like one who for delay  
Seeks a vain excuse, he walked away.  
The Freshman looked and sighed: "Ah me!

That I a Senior too might be!  
"I would have lots of time to fool away.

"I'd go down town most every day,  
"I'd wear a starched shirt, and all of that,  
And I'd crease my trousers to make 'em look flat.

"I'd shine my shoes and get a kink in my back,  
"Oh, I'd be a fine Senior if I once got the knack!"

The Senior looked back as he went on his way,  
While the Freshman worked on for eight-cent pay.

"A face more innocent and disposition more sweet,  
Ne'er hath it been my lot to meet.  
"His modest answer, and awkward style

Prove him a Freshman in whom is no guile.  
"Oh, that I could be as I was then,  
An innocent Freshman and bashful again,

"With none of the cares that a Senior has,  
But more of the fun of the Freshman class.

"No doubtful standings with numberless wrongs,  
No lectures from Profs. with endless tongues,  
"But Physics, Rhetoricals, and all such stuff,

That for the Freshman is easy enough."  
The Senior left college the following June,  
And, with his diploma, he got a job soon.

He used his knowledge in such a wiser way  
That, in less than a year, they raised his pay.  
But oft he would dream, as he stepped from his toll,

Of his days on the Hort., when he tilled the soil;  
And the graduate sighed, with a secret pain.

"Ah, that I were in school again!  
"In school as I was on that hot summer's day,  
When I met that Freshman, who was working his way."

The Freshman looked up and smiled at last,  
And now he regretted that time flew so fast.

He, too, thought of the days he had spent on the Hort.,  
When he had picked those berries in two cents per quart.

When Commerce came and over, and he was on his way home.

Did not the Senior he had formerly known,  
They talked of old times at M. A. C.,  
And hoped that the future and they would agree.

Success to that Senior, and Graduate, too,  
May prosperity follow in whatever they do.

God help them both, and help us all,  
Who strive for success in old College Hall.

May we not have to say: "It might have been?"  
For these words are the saddest of tongue or pen.

Ah, well! for us all some sweet hope lies  
Deeply buried from human eyes;  
And, in the hereafter, angels may  
Roll the stone from its grave away.

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## News from Graduates and Students.

Will W. Morrison, '90, is cashier of the First National bank of Bryan, O.

W. L. Cummings and E. M. McElroy, both of '93, room together at 51 Packard street, Ann Arbor.

Prof. W. W. Tracy, '67, is the prohibition candidate for regent to the University of Michigan.

R. E. Doolittle, '96, was reappointed last Wednesday to his position in the laboratory of the Dairy and Food Commissioner.

Prof. L. H. Bailey, '82, and family expect to take a trip abroad this coming summer, where his family will remain for about two years.

W. A. Dobany, '84, Detroit, says a word for the Record that gladdens our hearts: "Am well pleased with it, and you can place me on the continuous subscription list."

D. D. McArthur, '94, writes from Omaha, Neb.: "I am always glad to receive the Record; and usually turn first to 'News from Graduates and Students.' I am anticipating a visit to M. A. C. next July or August."

F. E. Scott of Romeo writes us that Nathan Mussey, with '01, who was reported in the Record of Jan. 19 as residing near Romeo, moved to Los Angeles, California, several years ago. He is in the employ of the Southern Pacific Railroad company.

Miss Bertha Wellman, '90, returned home from Ypsilanti, Saturday, having finished the necessary work for graduation from the normal school. Miss Wellman entered at M. A. C. with '97, so it has taken her less than four years to graduate from both institutions.

P. H. Felker, '71, is president of the Shultz Publishing company of St. Louis, Mo., and publisher of the St. Louis Dry Goods Reporter. In response to our call for alumni publications, he contributed a copy of "The Grocers' Manual," of which he is the author. The Manual contains descriptions of all the articles handled in the grocers' trade and also many valuable tables.

Hon. H. S. Hampton, '70, Albion, Idaho, has won the reputation of being one of the brightest and ablest representatives in the Idaho legislature, and also one of the strongest friends of education. He moved to Idaho in '81, was a member of the constitutional convention in '89, served one term as district attorney of Cassia county and one term as probate judge of Logan county.

Our thanks are due Frank Hodgman, '92, for several contributions to our alumni library. The list includes Hodgman's Land Surveying, ten copies of Michigan Engineer's Annual, three poems, "How St. Peter Lost His Job," "A Tale of the Early Settlement of New Hampshire," and "Our Village," and two songs, "What I Would Be" and the well known song "For Our College Days."

Prof. Charles W. McCurdy, '81, professor of chemistry in the University of Idaho, now writes the R. after his name. He has recently published an unique work on "Embalming and Embalming Fluids," which has received considerable favorable criticism. It presents all the leading facts of interest connected with the art of embalming, and also a complete bibliography of embalming. Prof. McCurdy writes: "The M. A. C. representatives regularly to hand and to pass thoroughly appreciated. Several M. A. C. men are here and all are very interested in the work." We hope the M. A. C. men will find the book of value.

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