There were many confusions and much skepticism as to just what we would do to De Pauw in last Saturday's game, but whatever the result, the home crowd was satisfied, it is quite certain that said result was a surprise to both locals and visitors.

Never has there been such playing on an M. A. C. gridiron as was seen during the first fifteen minutes of the De Pauw game. The visitors were simply played off their feet and left completely in the dust, which may in a measure account for the size of the score. Once, their big tackle stated that in his five years of football, he had never run up against such fast work. In the first ten minutes the visitors did not make a single first down. Their right half and captain, for which, on account of his record as ground gainer, the team had worked up a special formation on defense, was unable to make a single gain.

De Pauw started the game with kick off to Doty, who with the aid of good interference made a good return. M. A. C. lost the ball on a fumble and De Pauw tried for goal, but failed. The locals then started down the field, and Bowditch crossed the line for the first touchdown after ten minutes of play. Small failed goal. The next few minutes was fought stubbornly, but M. A. C. proved her mettle and again sent Mckenna over the line. After a punting duel, Small made 30 yards and Doty with the aid of good interference made a good return. M. A. C. lost the ball on a fumble and De Pauw tried for goal, but failed. The locals then started down the field, and Bowditch crossed the line for the first touchdown after ten minutes of play. Small failed goal.

The cry is now "On to Notre Dame." M. A. C. plays that College next Saturday and it may be that a crowd will accompany the team. M. A. C. has made annual trips to N. D. for six or seven years and has never been able to score on them. The best showing we ever made was in 1903 when they won 11 to 0. Last year the score was 28 to 0. Previous to the big game on Saturday the seniors and freshmen of M. A. C. knew that a game later on where everyone by holding their opponents down to a scoreless tie, while the Greeks and Democrats sub-teams played an equally good game, the former winning on a fumbled ball just before time was called. Sweeney crossed the line, goal was kicked and the game stood 6 to 0 for the sophomores.

The freshmen-senior game will be played again next Saturday and the winner of the two games will play for the championship.

Military Hop.

One of the most enjoyable military hops ever given at the College was held at the armory last Friday evening. About 75 couples were present, and most excellent music was furnished by the De Pauw orchestra. Among those present were Miss Cornelia Fisher, Miss Julia Grant, Hugh Gunnon, '05, Miss Andrews, who was here during the past summer, and Mr. and Miss Erma Brewer, of Owensboro, guests of Director and Mrs. Brewer. Several lasting love people were also present. The patrons of the evening were Director and Mrs. Brewer, instructor and Mrs. Reed and Capt. Fuger. It is to be regretted that so few uniforms are in evidence at social occasions. Uniforms now seem to be the exception, where in years before they were the rule. Watch them come on, and become more in keeping with the term by which this hop is known if uniform forms were worn by a majority.
FORESTRY CLUB.

At the last meeting of the Forestry Club Oct. 16, Prof. Pettit gave a most interesting talk on "Photography." He explained the camera, discussed lenses, plates, diaphragms, over and under exposures, and gave a good general view of the working parts, and manipulation of the instrument. After taking a flash-light of the meeting, Prof. Pettit showed the method of developing and fixing the plate, and gave formulas for developing solutions, and suggested remedies for over or under exposure. The thirty members present enjoyed a highly interesting and instructive lecture, and Prof. Pettit's next talk on the same subject will surely be well attended.

At the next meeting of the club, Mr. Kiefer will tell of personal experiences on the state forest reserve during the past summer. All interested in forestry are cordially invited to be present.

SOILS

In the name of a new book recently placed in the library, it's author is Dr. E. W. Hilgard, Prof. of Botany, University of California. This book is the most comprehensive one yet published in this country, if not in any country, on this subject, and is a very valuable addition to American agricultural literature. The volume contains about six hundred pages of exceedingly valuable and interesting matter.

Dr. Hilgard is best known as an agricultural chemist, living among the farmers of this state, if not in any country, in the midst of his work. It is not generally known, that he may be justly considered the pioneer soil physiologist of the country, his earlier work antedating that of King.

LECTURE ON SOILS.

The most interesting and suggestive address of the Hon. Milton Whitney, Chief of the Bureau of Soils, Washington, D. C., at the chapel on Thursday afternoon, October 11, 1896, naturally commands our attention, and was carefully considered and the discussion so closely knit together that it is impossible to separate them in a resume anything like the substance of the matter presented.

The first suggestion was that soils are differentiated rocks, but not decomposed minerals. The minerals exist in their original condition although more or less finely divided. Rotation of crops used to be explained on the supposition that each plant disturbed the ratio between the mineral elements of the soil. Fertilizers were supposed directly as plant food and thus restore a suitable ratio of the plant food constituents.

Prof. Whitney suggests that soils afford a perfect system for providing plant food for crops in an indefinite period. The solution of finely ground rock is very similar to the solution from the natural condition, and it seems that there is enough plant food in the soil to last for many centuries. It is the satisfaction which the farmer has to consider in the management of his land more than anything else a condition of the soil. Plants excrete materials which are noxious to themselves and poisonous to certain other crops that follow. Rotation of crops is explained therefore, in the theory that the excreta of one kind of crop is poisonous to that crop, or can poison others. A wise farmer is the one that has found out which crops are or are not injurious to the excreta of certain others. He then follows these other crops by the ones not poisoned by such excreta. It is the function of a fertile soil to convert the excreta of plants rapidly into humus. This is natural, and of the simplest way of cleaning the soil. Cultivation, aeration, barnyard manure and commercial fertilizers aid in the conversion of plant food into humus either directly or by putting the soil into physical and chemical condition to do this work. Fertilizers, therefore, act on the soil rather than on plants. We fertilize a soil to rid it of what the previous crop has left rather than to prepare it for the succeeding crop. Fertilizers are to the soil what drugs are to the human system. It is better to keep healthy than to become sick and be cured again by drugs. It would be well therefore, if we could get along without fertilizers but we do not yet know how to treat our soil to keep it from becoming sick. Soil fertility can be temporarily impaired but it is irredeemable. The soil cannot be exhausted, it can become careless, cultivation by erosion and by improper rotation.

The evidences on which the preceding statements were based were then presented. Most of the work done by the Bureau of Soils at least a large part of it have been done with aqueous extracts of the soil. In these water cultures it was found that where crops were made to succeed themselves and the yield was greatly more remarkable, the yield could be restored to its virgin fertility by shaking it up with carbon black or, with pyrogallol. Neither of these materials add soil in the way of plant food but they do remove the excreta. So manure, especially green manures, when plowed under do not add much plant food but they do remove the excreta of the previous crop and in that way make a somewhat worn soil into a fertile one.

To further prove that soil exhaustion is not due to the removal of vital soluble, but to the residue of distilled water to a soil solution which has grown a given crop and which could somehow interfere with the fertility of that solution. So the use of distilled water in making up Knowles' solution was followed by better crops than where soil extract was used showing that the excreta contains principle poisonous to the crop. So boiling this aqueous solution removed the toxic principle and it is possible to develop a soil into a fertile one and secure a crop in intensified form.

Again, in the long boxes corn was planted in one end and wheat in another. Where a partition separated the two classes of plants they were entirely unproductive and where the partitions were removed and the roots were allowed to intermingle no proof was produced as a good crop. So the washings from leaves and from the trunks of trees have proven toxic. Again where seeds were buried by sunlight had no advantage over those buried in the dark atmosphere they would not germinate. Just as soon as the seeds were covered who can be said they continued to die thus removing the phosphates thrown off in germination and removing at the same time the other toxic principles, the seeds germinating sooner.

Many other illustrations and demonstrations were given, all pointing to the same conclusion, that the great problem confronting the American farmer is not the abundance of fertility, but the proper sanitary conditions in the soil.

05

Clarence Reed sends in his subscription to the Raccoon from Col. Mark, Mol, which is connected with the Agricultural College some how or other, it is not clear how it got there, but it is very much. Says he only gets promoted occasionally, but is always within eight shots of the White House, so feels encouraged.

S. F. Gates is running for county surveyor of Ionia on the prohibition ticket.

In speaking of inspection of the Baron de Hirsch agricultural school at Woodbine, N. J., the Bell Exponent says: "They inspected the entire place, the factories, the farms and the agricultural school and found everything in a most satisfactory condition. The school, recently organized under the direction of Mr. Geller, superintendent, and its instructors, is progressing rapidly. Twenty bays could be ready to go out next year, with most promising results. The dormitories have been entirely removed and enlarged. The school building has been entirely removed, and there is every indication of a very large number of applications for next year."

It has always been the policy of the College to extend the privileges of the circulation of books, but certain persons who have at any time been connected with the institution as student or employee. At a recent meeting of the literary committee the following resolution was passed, extending the same privilege to all persons living in the college neighborhood who may wish to call themselves students.

Resolved, That the privilege of taking books from the postoffice to College Hall is hereby revoked. The road from Howard and Terrace is the only one in the campus entirely free from vehicles. Concerning this matter, the committee adopted the well known formulation of Mr. Simonds: "All the great within the area marked with the word Students should be regarded as a sacred space from which all buildings should forever be excluded. The street spoken of follows the main drive around in front of the Women's Hall, B. A. Chemical Building, and crosses by Ablit to the postoffice. It is the purpose of the committee to have all buildings within this area with the single exception of College Hall.""Miss Wellman.—"Is any one familiar with the judge's walking on the gate?" Mc Beth asked it."

Bright Student.—"Yes, ma'am.

Mac Beth wrote it."
The Man

The Man who after is the man who usually patronizes a first class high priced tailor—the man who gives up from thirty to sixty dollars for an overcoat—that this overcoat line is designed for.

We know

The Cloth, Style and Making is equal to that of any reputable tailor and it is our business to see that you shall have a perfect fit. Everything being equal wherein lies the difference except price? We carry all kinds of up-to-date furnishings for College Men.

Elgin Mifflin.

ABOUT THE CAMPUS.

The branch tunnel is being put in to the Engineering building.

W. J. Wright '05 and wife called on college friends Friday of last week.

R. P. Head, '09, spent a couple of days at his home in Midland last week.

Mrs. C. D. Smith left Friday for a visit at her old home in New York state.

H. A. Wright, with '07, is now in attendance at the School of Mines, Houghton.

Prof. Pettit was at Marshall on Oct. 18 looking after reported insect infestations.

A. H. Crosby, '09, attended the funeral of his cousin, H. H. Crosby, on last Thursday.

Congressman Loud and his brother, E. L. Loud, of Au Sable visited the College Friday of last week.

Miss Ethel Goodhue, of Prof. Keizie's office is again at her post Monday with friends.

It has been decided to leave the matter of the memorial building to his address from Oct. 21 to 28.

It has been decided to leave the matter of the memorial building for the summer. They are from the botanic garden of Smith College, Northampton, Mass.

W. H. Anderson with '03 visited Mr. Newman and other friends on the grounds the past week. Mr. Anderson is testing chemist in charge of the Marquette Range of the U. S. Steel Corporation.

M. A. C. will debate Ypsi. again this year, but the question has not yet been selected. Remember the crowd and their opponents furnished last year and let us plan to have M. A. C. as well represented this year. W. J. Fairbanks, '09, was called to his home Thursday evening of last week on account of an accident to his father. As we go to press news comes of the death of Mr. Fairbanks at his home, Holland.

The trees on the campus present a very pretty sight just now on account of the coloring. It is feared, however, that because of the recent severe frost the leaves will be beaten off with the first hard rain.

Pretty Steep.—Prof. K. in senior class, Wednesday evening at 6:30, in the class room, second floor of Dairy building. This meeting was postponed last week on account of the mass meeting.

Mr. A. Anderson of Hubbardston has been employed as assistant in the Farm Mechanics department. He will have charge of the instruction in the forge shop and also all repair work and horse shoeing for the college.

News was received last week of the death of Miss Alice Cimmer's ('00) mother. Her father died only a short time ago, so this last grief is doubly hard to bear. Miss Cimmer is from the Comfort, W. H. Anderson with '99 visited Miss Mary Allen conducted the meeting.

D. J. Crosby, '93, of the Department of Agriculture, reached M. A. C. in time to see the last touchdown on the grounds the past week. Mr. Crosby is in senior class, Wednesday evening at 6:30, in the class room, second floor of Dairy building. This meeting was postponed last week on account of the mass meeting.

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Prof. Smith attended the inaugural ceremony of Pres. K. L. Butterfield at the Massachusetts Agricultural College on the 17 inst. He will remain in the east three or four weeks and study the dairy interests of New England.

It was thought that surely we would be able to publish a list of the names given this week's Record, but the list is a long one and it takes time to secure all addresses. We shall keep working and as soon as the list is complete same will be published.

Quite a number of our junior and senior students are planning to attend the meeting of the State Horticultural Society at Benton Harbor, Dec. 13, 14. They will probably compete for the prizes offered by the Society for identifying and judging varieties of fruits.

In addition to the eight weeks' course in fruit culture to be given this winter, a two weeks' course in fruit culture will be given at the State Horticultural Show at Battle Creek, Oct. 25-27, to attend the meeting of the State Horticultural Society in Benton Harbor, Dec. 13, 14. They will probably compete for the prizes offered by the Society for identifying and judging varieties of fruits.

The report of the Hesperian party was not received in time for publication last week. Mr. L. C. Field held in the armory Oct. 13, which was tastefully decorated the arrangement furnishing many a surprise. These consisted of camp fire, corn shocks, etc., while autumn leaves are evidence of the orchestra furnished music, Director and Mrs. Brewer acting as chaperones.

The Hort. Club are expecting two very interesting meetings on October 24 and 31. Mr. L. Dean, secretary of the Hort. Department, and also superintendent of Michigan fruit exhibit at St. Louis, will give his impressions concerning the relative value of different portions of the state for producing fruit to-morrow evening. On October 31, Hon. C. W. Garfield, of Grand Rapids, will speak concerning the work in horticulture, as noted alumnus, Prof. L. H. Bailey.

Mr. B. F. Hiedrich, father of Prof. W. O. and U. P. Hiedrich, died at his home, east of the College, on last Tuesday morning from heart failure. He had been ill but a few days, and the news of his death came as a shock. The funeral was held from the home Thursday afternoon at 3 o'clock, and interment made at Mt. Hope, where a wife, seven children survive him—four girls and three boys—all of whom were here for the funeral services.

The stone crusher has been set near the site of the old beef barn and the work of crushing the stone formerly used for foundation of the above barn, was begun yesterday. Stone is also being landed on the west of the campus and when properly ground will be used to build the road extending from the north-west corner of the library around to Howard Terence. If the weather is good further work will be extended south and west to Williams Hall.

This will not be strictly a macadam road, but the stone will simply be used for capping the roads which we already have.

The juniors will make their annual visit to Chicago this week, leaving at midnight Wednesday and arriving in Chicago about 12:30 Thursday morning and spending three busy days and nights in the Windy City. The list of plants which the party hope to visit include the following: Ill. Steel Works in South Chicago; International Harvester Works; Pullman Car Works; The Chicago Edison Cos. Harrison St., and First St. Sturgeon power houses; Metropolitan Elevated Co. power house; Chicago Pumping Stations; Allis Chalmers; Rolling Lift Bridges and the Machinery Market on the west side.

A feature of the trip will be to take a cab out to the intakes where the water supply is taken in from the lake. The party will visit the Palace House and will include, Prof. Sawyer, Prof. Babcock and Innes, Palus and Chapelle.

THE M. A. C. RECORD